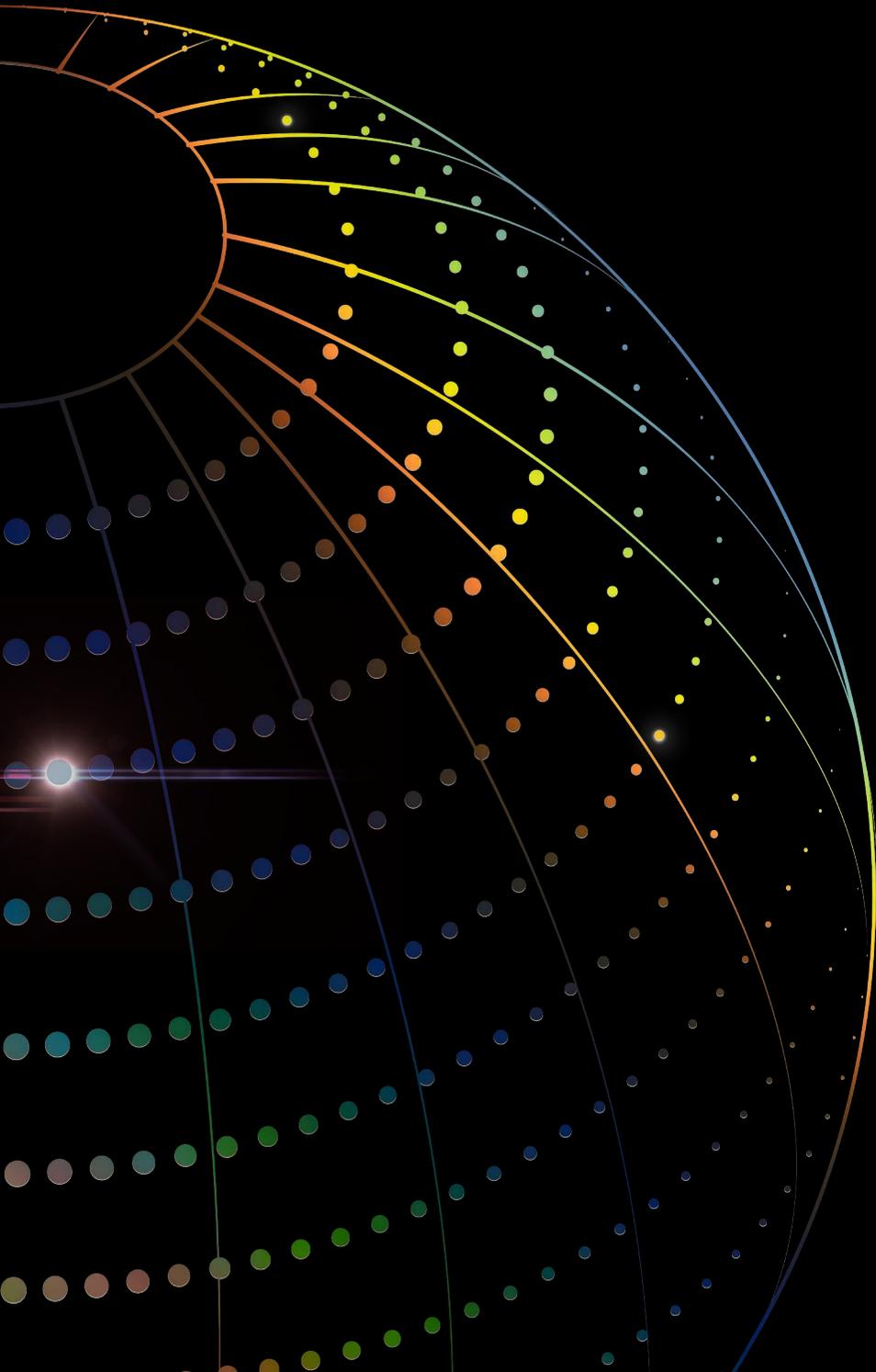
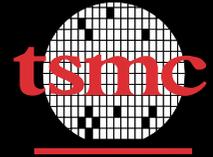


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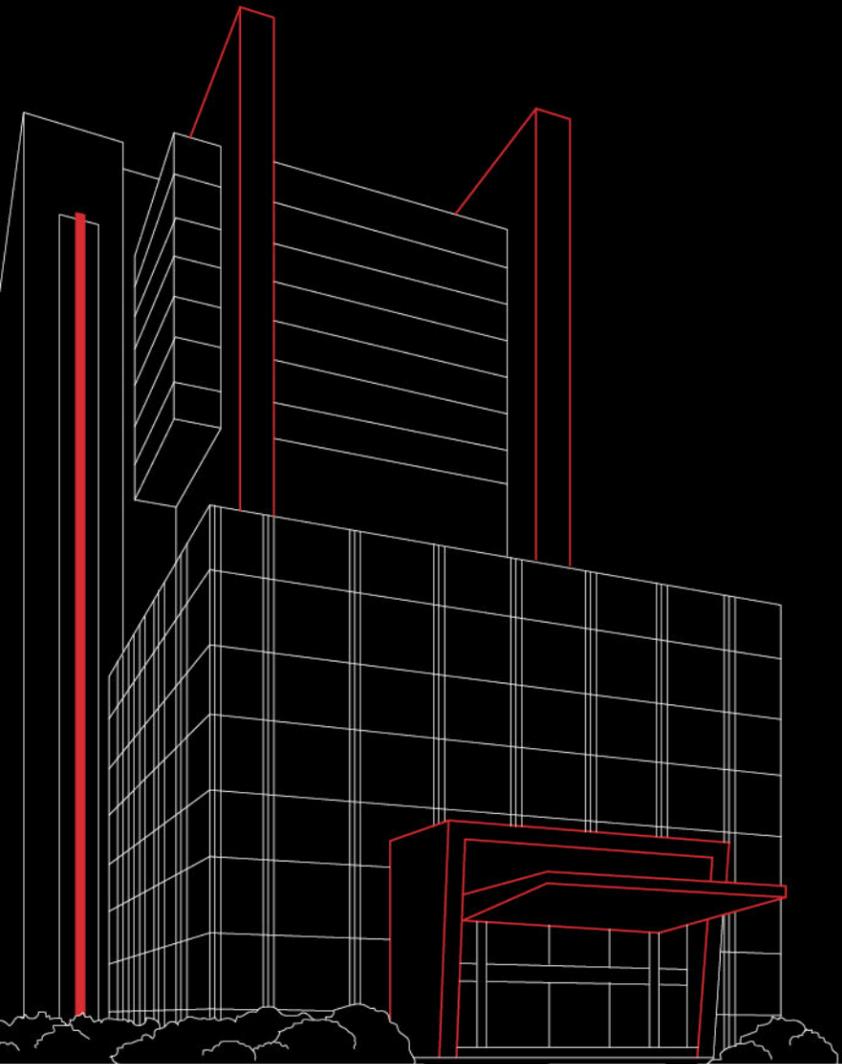
Printed on: March 12, 2023



Taiwan Stock Exchange Market Observation
Post System: <https://mops.twse.com.tw>
TSMC annual report is available at:
<https://investor.tsmc.com/english/annual-reports>

TSMC

VISION, MISSION & CORE VALUES



TSMC's Vision

Our vision is to be the most advanced and largest technology and foundry services provider to fabless companies and IDMs, and in partnership with them, to forge a powerful competitive force in the semiconductor industry.

To realize our vision, we must have a trinity of strengths:

1. Be a technology leader, competitive with the leading IDMs
2. Be the manufacturing leader
3. Be the most reputable, service-oriented and maximum-total-benefits silicon foundry

TSMC's Mission

Our mission is to be the trusted technology and capacity provider of the global logic IC industry for years to come.

TSMC's Core Values

INTEGRITY

Integrity is our most basic and most important core value. We tell the truth. We believe the record of our accomplishments is the best proof of our merit. Hence, we do not brag.

We do not make commitments lightly. Once we make a commitment, we devote ourselves completely to meeting that commitment. We compete to our fullest within the law, but we do not slander our competitors and we respect the intellectual property rights of others. With vendors, we maintain an objective, consistent, and impartial attitude. We do not tolerate any form of corrupt behavior or politicking. When selecting new employees, we place emphasis on the candidates' qualifications and character, not connections or access.

COMMITMENT

TSMC is committed to the welfare of customers, suppliers, employees, shareholders, and society. These stakeholders all contribute to TSMC's success, and TSMC is dedicated to serving their best interests. In return, TSMC hopes all these stakeholders will make a mutual commitment to the Company.

INNOVATION

Innovation is the wellspring of TSMC's growth, and is a part of all aspects of our business, from strategic planning, marketing and management, to technology and manufacturing. At TSMC, innovation means more than new ideas, it means putting ideas into practice.

CUSTOMER TRUST

At TSMC, customers come first. Their success is our success, and we value their ability to compete as we value our own. We strive to build deep and enduring relationships with our customers, who trust and rely on us to be part of their success over the long term.

1 LETTER TO SHAREHOLDERS *pg. 004*

2 COMPANY PROFILE *pg. 014*

- 2.1 An Introduction to TSMC *016*
- 2.2 Market/Business Summary *016*
- 2.3 Organization *021*
- 2.4 Board Members *024*
- 2.5 Management Team *032*

3 CORPORATE GOVERNANCE *pg. 040*

- 3.1 Overview *042*
- 3.2 Board of Directors *043*
- 3.3 Major Decisions of Shareholders' Meeting and Board Meetings *052*
- 3.4 Taiwan Corporate Governance Implementation as Required by the Taiwan Financial Supervisory Commission *053*
- 3.5 Code of Ethics and Business Conduct *056*
- 3.6 Regulatory Compliance *061*

4 CAPITAL AND SHARES *pg. 068*

- 4.1 Capital and Shares *070*
- 4.2 Issuance of Corporate Bonds *078*
- 4.3 Preferred Shares *084*
- 4.4 Issuance of American Depositary Shares *084*

- 3.7 Internal Control System Execution Status *064*
- 3.8 Status of Personnel Responsible for the Company's Financial and Business Operation *065*
- 3.9 Information Regarding TSMC's Independent Auditor *065*
- 4.5 Status of Employee Stock Option Plan *086*
- 4.6 Status of Employee Restricted Stock *086*
- 4.7 Status of New Share Issuance in Connection with Mergers and Acquisitions *090*
- 4.8 Funding Plans and Implementation *090*

5 OPERATIONAL HIGHLIGHTS *pg. 092*

- 5.1 Business Activities *094*
- 5.2 Technology Leadership *096*
- 5.3 Manufacturing Excellence *102*
- 5.4 Customer Trust *106*

- 5.5 Information Security Management *108*
- 5.6 Human Capital *109*
- 5.7 Material Contracts *116*

6 FINANCIAL HIGHLIGHTS AND ANALYSIS *pg. 118*

- 6.1 Financial Highlights *120*
- 6.2 Financial Status and Operating Results *126*
- 6.3 Risk Management *131*

7 ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) *pg. 148*

- 7.1 Overview *150*
- 7.2 Environmental, Safety and Health (ESH) Management *154*
- 7.3 TSMC Education and Culture Foundation *168*
- 7.4 TSMC Charity Foundation *170*
- 7.5 TSMC i-Charity Platform *171*
- 7.6 Social Responsibility Implementation Status as Required by the Taiwan Financial Supervisory Commission *172*

8 SUBSIDIARY INFORMATION AND OTHER SPECIAL NOTES *pg. 174*

- 8.1 Subsidiaries *176*
- 8.2 Status of TSMC Common Shares and ADRs Acquired, Disposed of, and Held by Subsidiaries *181*
- 8.3 Special Notes *181*

Dear Shareholders,

The year 2022 was a landmark year for TSMC. Supported by our strong technology leadership and differentiation, we delivered a thirteenth-consecutive year of record revenue, with strong profitable growth. Our 2022 annual revenue increased 33.5% year-over-year in U.S. dollar terms, while our EPS rose to NT\$39.20, nearly tripling over the past three years.

These achievements were earned in the face of considerable economic, human and geopolitical challenges across the world. The year started with continued COVID-19 lockdowns, conflict in Ukraine, and geopolitical tensions and trade restrictions that severely disrupted global supply chains. Retreat of globalization and free trade fueled inflationary pressure around the world, increased macroeconomic uncertainty, and impacted consumer confidence. In the second half of the year, pandemic-related demand, such as remote working and remote learning, receded as many parts of the world began to re-open, and the semiconductor industry entered an inventory correction mode.

The world also began to focus more intently on the importance of the semiconductor industry, as it suddenly recognized the critical role semiconductors play in a modern economy. The rising tensions in geopolitics also accentuated the attention on a resilient semiconductor supply chain, and the key role it plays in their economic and national infrastructure security.

For TSMC, we continued to focus on the fundamentals of our business. We enriched our R&D intensity and worked diligently on our technology development, especially 2-nanometer, to deliver full node strides in performance and power benefits to our customers, while offering the industry's most advanced transistor scaling. We also increased our productivity and fab operations quality, while successfully bringing our industry-leading 3-nanometer to high volume manufacturing in 4Q'22. We deepened our service and expanded our capacity to support our customers' growth, further earning their trust, as evidenced by higher scores in our annual customer survey. We enhanced our cybersecurity systems and measures continuously, to rigorously protect customers' IP and our proprietary information. As we entered our third year of digital transformation, we accelerated the pace to keep our employees connected and productive in a flexible work environment, while protecting them from COVID infection with stringent anti-pandemic measures.

Despite the recent macroeconomic uncertainties around the world, the fundamental structural growth trajectory in the long-term semiconductor demand remains strong, underpinned by the industry's multi-year megatrends of 5G and High Performance Computing (HPC)-related applications. Therefore, we continuously work closely with our customers in a disciplined manner to plan our capacity, based on the long-term market demand profile, and investing in leading edge and specialty technologies, to support their structural growth.

As geopolitical tensions have arisen in different parts of the world, our customers also start to value more geographic manufacturing flexibility, in addition to technology leadership, manufacturing excellence, low cost and trust of service quality.

Under this environment, based on customers' request, we are expanding our global manufacturing footprint, to increase customer trust, to expand our future growth opportunities, and to reach for global talents.

In Taiwan, our N3 has just entered volume production in Tainan Science Park. We are also preparing for N2 volume production starting in 2025, which will be located in Hsinchu and Taichung Science Parks.

In the U.S., we are in the process of building two advanced semiconductor fabs in Arizona, with N4 and N3 process technology, respectively. We are also building a 12-inch specialty technology fab in Kumamoto, Japan.

These investment decisions are based on our customers' needs in each region, and a necessary level of government support. We believe this is a necessary step to maximize value for our shareholders.

Our pricing will remain strategic to reflect our value, which also includes the value of geographic manufacturing flexibility. At the same time, we will continue to leverage our competitive advantages of large volume, economies of scale and manufacturing technology leadership, to continuously drive costs lower. We will also continue to work closely with all the regional governments, to secure their support.

Combining such actions, TSMC will have the ability to absorb the higher costs of overseas fabs, while remaining the most efficient and cost-effective manufacturer, no matter where we operate. Thus, even as we increase our capacity outside of Taiwan, we can continue to earn a sustainable and healthy return, while delivering long-term profitable growth for our shareholders.

To address the insatiable demand for energy-efficient computing power, customers rely on TSMC not only for reliable capacity, but also a predictable cadence of technology development.

We continued to extend our technology leadership, as our 3-nanometer technology entered volume production in 2022, and is the most advanced semiconductor technology in both PPA and transistor technology.

We are building a strong foundation for the next generation technology to follow. N2 technology development is on track, with risk production scheduled in 2024 and volume production in 2025. Our 2-nanometer technology will be the most advanced semiconductor technology in the industry in both density and energy efficiency when it is introduced.

Highlights of TSMC's accomplishments in 2022:

- Total wafer shipments were 15.3 million 12-inch equivalent wafers as compared to 14.2 million 12-inch equivalent wafers in 2021.
- Advanced technologies (7-nanometer and beyond) accounted for 53 percent of total wafer revenue, up from 50 percent in 2021.
- We deployed 288 distinct process technologies, and manufactured 12,698 products for 532 customers.
- TSMC produced 30 percent of the world semiconductor excluding memory output value in 2022, as compared to 26 percent in the previous year.

2022 Financial Performance

Consolidated revenue reached NT\$2,263.89 billion, an increase of 42.6 percent over NT\$1,587.42 billion in 2021. Net income was NT\$1,016.53 billion and diluted earnings per share were NT\$39.20. Both increased 70.4 percent from the 2021 level of NT\$596.54 billion net income and NT\$23.01 diluted EPS.

TSMC generated net income of US\$34.07 billion on consolidated revenue of US\$75.88 billion, which increased 59.6 percent and 33.5 percent respectively from the 2021 level of US\$21.35 billion net income and US\$56.82 billion consolidated revenue.

Gross profit margin was 59.6 percent as compared with 51.6 percent in 2021, while operating profit margin was 49.5 percent compared with 40.9 percent a year earlier. Net profit margin was 44.9 percent, an increase of 7.3 percentage points from 2021's 37.6 percent.

In 2022, the Company further raised its total cash dividend payments to NT\$11.0 per share, up from NT\$10.25 a year ago.

Technological Developments

In 2022, we continued to increase our investment in R&D to US\$5.47 billion to extend our technology leadership and differentiation. We also work closely with our customers to enable the global pool of innovators, to unleash their innovations and create greater value for the semiconductor industry.

In its third year of ramp, our 5-nanometer family of technologies contributed 26% of TSMC's revenue. We continued to enhance our N5 family's performance, power and density, and N4 started volume production in 2022. We also introduced N4P and N4X technologies, targeting next wave 5nm products. N4P technology development is well on track, and volume production is scheduled in 2023. N4X is TSMC's first HPC-focused, workload-intensive technology, with customers' product tape-outs in 2023.

After N3 technology entered volume production in 2022, N3E will further extend our N3 family, with enhanced performance, power, and yield. Volume production of N3E is scheduled for 2H'23. We are working on a high level of customer engagement at both N3 and N3E, with the number of tape-outs more than 2x that of N5 in its first and second year. We expect our N3 family to be another large and long-lasting node for TSMC.

Our 2-nanometer technology will adopt nanosheet transistor structure, and deliver full-node performance and power efficiency gains, with 10-15% speed improvement at the same power or 25-30% power improvement at the same speed as compared to N3E, to address the increasing need for energy-efficient computing. N2 will provide our customers with the best performance, cost and technology maturity, and extend our technology leadership position well into the future.

As TSMC pushes the envelope of transistor scaling, we also continue to expand our TSMC 3DFabric™ design solutions, as another dimension to improve system-level performance. TSMC 3DFabric™ consists of both wafer-level 3D and advanced packaging technologies. For our 3D technologies, TSMC-SoIC® Chip-on-Wafer (CoW) technology successfully entered volume production in 2022, demonstrating significant performance improvement by stacking SRAM chips on logic wafers. TSMC-SoIC® Wafer-on-Wafer (WoW) technology demonstrated superb system performance enhancement for HPC products in 2022 by stacking 7nm logic wafer on deep trench capacitor wafer. For our advanced packaging technologies, the CoWoS®-S technology that integrates multiple system-on-chip (SoC) chips, high bandwidth memory stacks, and a 3-reticle size silicon interposer successfully entered volume production for customer HPC products in 2022. For InFO advanced packaging technology, TSMC successfully entered volume production of Integrated Fan-Out on Substrate (InFO_oS) that integrates multiple SoC chips in a 2-reticle size fan-out package.

To help customers unleash their product innovations with fast time-to-market, TSMC provides customers with comprehensive infrastructure needed to optimize design productivity and cycle times. TSMC continues to expand our Open Innovation Platform® (OIP), providing over 55,000 items of libraries and silicon IP portfolio, more than 43,000 technology files, and over 2,900 process design kits, from 0.5-micron to 3-nanometer in 2022.

Environmental, Social and Governance

As a responsible global corporate citizen, TSMC is focused on driving changes in Green Manufacturing, establishing a Responsible Supply Chain, Talent Development, Inclusive Workplace, and Caring for the Underprivileged. In 2022, we published our first UN SDGs (United Nations Sustainable Development Goals) Action Report and Materiality Analysis Report to enhance the transparency of our sustainability progress.

Green Manufacturing is the cornerstone of our sustainability management. TSMC strives to be a global standard of an eco-friendly corporation, and we integrate green management into all aspects of our daily operations, both in Taiwan and overseas. In 2022, TSMC's Reclaimed Water Plant commenced operations in the Southern Taiwan Science Park and began water supply of 10,000 metric tons of water per day, with the goal of reaching 36,000 metric tons per day by 2026. At TSMC Arizona, we plan to build an Industrial Water Reclamation Plant, which would allow us to reach "Near Zero Liquid Discharge."

In our supply chain, TSMC is actively working with our suppliers to drive low-carbon emissions management, a key component of our roadmap to Net Zero Emissions by 2050. We continue to expand carbon capture opportunities in our supply chain management, and encourage our suppliers to set up carbon capture facilities to reduce carbon emissions.

Talent is critical to the global semiconductor industry's success. We believe TSMC's global footprint expansion not only enables us to better support our customers, but also gives us more opportunities to reach global talent. To attract more talent and create a sustainable recruitment pipeline for the semiconductor industry, TSMC continues to invest in semiconductor related research through close collaboration with top universities including National Taiwan University, National Tsing Hua University, National Yang Ming Chiao Tung University, National Cheng Kung University, MIT, Stanford University, UC Berkeley, Arizona State University, Tokyo University, and other prestigious institutions around the world.

In order to deepen employee awareness and practice of Diversity and Inclusion, TSMC focuses on enhancing employees' awareness of respecting individual differences and its unique values in the workplace. TSMC has designed a course on unconscious bias to help employees identify and respond to biases in the right way. Employees can also use intercultural assessment tools to evaluate themselves and learn how to work with colleagues from diverse backgrounds in their teams.

The TSMC Education and Culture Foundation and the TSMC Charity Foundation have long been invested in driving positive changes towards a better society, by focusing on caring for the disadvantaged and helping youth education. In 2022, the TSMC Charity Foundation assisted 6,358 students at 134 rural care institutes and collaborated with TSMC volunteers to produce tutorial videos for scientific experiments and science education. TSMC also partnered with SEMI to hold a session at 2022 SEMICON Taiwan, promoting a matching platform that offered 600 jobs opportunities from 30 different companies to rural vocational students.

Corporate Developments

In December 2022, TSMC announced that, in addition to TSMC Arizona’s first fab, which is scheduled to begin production of N4 process technology in 2024, the Company has also started the construction of a second fab in Arizona to begin production of 3nm process technology in 2026. The overall investment for these two facilities will be approximately US\$40 billion. When completed, TSMC Arizona’s two fabs will manufacture over 600,000 wafers per year.

In February 2022, TSMC, Sony Semiconductor Solutions Corporation (SSS) and Denso Corporation jointly announced a joint venture of Japan Advanced Semiconductor Manufacturing (JASM). In addition to the previously announced 22/28 nanometer process, TSMC will also enhance JASM’s capabilities with 12/16 nanometer FinFET process technology, and increase monthly production capacity to 55,000 12-inch wafers. With the additional capacity, the total capital expenditure for JASM’s Kumamoto fab is estimated to be approximately US\$8.6 billion with strong support from the Japanese government.

Honors and Awards

TSMC received recognition for achievements in innovation, corporate governance, sustainability, investor relations and overall excellence in management from organizations including *Forbes*, *Fortune Magazine*, *Asiamoney*, *The Asset*, *CommonWealth Magazine*, Taiwan Stock Exchange, and Taiwan Institute for Sustainable Energy. For innovation, TSMC was recognized as 3rd in IFI Claims Patent Services’ “2022 Top 50 US Patent Assignees.” TSMC was also recognized by *Fortune Magazine* as “2022 World’s Most Admired Companies.” In sustainability, we were chosen once again as a component of the Dow Jones Sustainability Indices, becoming the only semiconductor company to be selected for 22 consecutive years. We also received MSCI ESG Research’s AAA Rating, CDP’s “2022 CDP Supplier Engagement Leader,” Sustainalytics’ “Company ESG Risk Ratings-Low ESG Risk” rating, ISS ESG’s “Prime” status in the ESG Corporate Rating, and *Corporate Knight’s* “2022 Global 100 Most Sustainable Corporations.” Meanwhile, we remained a major component in various MSCI ESG and FTSE4Good indices. In investor relations, TSMC continued to receive multiple awards from *Institutional Investor Magazine*.

Outlook

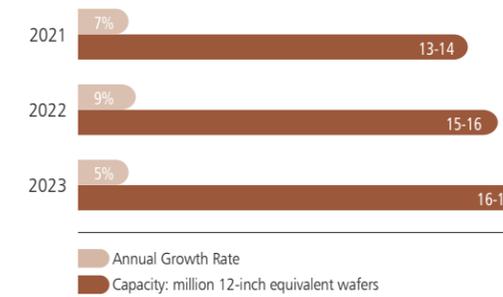
Entering 2023, macroeconomic and geopolitical uncertainties persist. As global COVID-19 pandemic subsides, we have entered a more intelligent and connected world. As semiconductors become increasingly essential and ubiquitous to every part of our daily lives, semiconductor technology is becoming a foundational technology for the modern digital economy. The semiconductor value in the global supply chain continues to increase, creating greater value opportunities for our customers, and greater value opportunities for TSMC.

It is more important than ever for TSMC to fulfill our mission to be the trusted technology and capacity provider for the global logic IC industry for years to come. We will uphold our Trinity of Strengths of Technology Leadership, Manufacturing Excellence, and Customer Trust, to address and capture the strong growth opportunities.

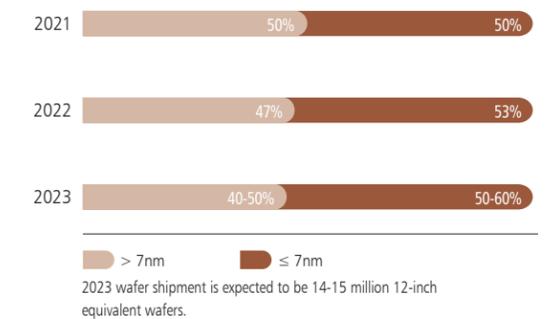
We are increasing our investments in R&D, to continue to extend our overall competitiveness and technology leadership. With our leadership in both leading edge process technologies and 3DIC solutions, TSMC’s technology cadence remains constant, to deliver the value of our technology platform, and to help our customers to enhance their product competitiveness and to grow their markets well into the future.

We continue to focus on optimizing our manufacturing operations to drive greater efficiency and productivity, including “digitalization” of our fabs, to support high volume ramp of N3 in 2023 and beyond.

Capacity Plan



Wafer Sales Plan



We are increasing our capacity beyond Taiwan to expand our future growth potential, to reach for global talent, and to further increase our customer trust. As we expand our global footprint, and recruit people from around the world, our priority is to identify, attract and hire talent whose core values and principles are aligned with TSMC’s, so that we can establish TSMC culture in all our employees, no matter where we operate.

We recognize the increasingly important role of TSMC in the global semiconductor industry, our impact to many of the world’s economies, and the responsibilities that come with our position. We remain steadfast to our dedicated foundry business model, and will continue to work as One Team to support all the IC innovators and enable their success. We will hold ourselves to rigorous standards of corporate governance, and adhere to our core values of Integrity, Commitment, Innovation and Customer Trust, while pursuing a sustainable future. We are honored to earn your trust in TSMC through the challenges of 2022. We are more excited about our future, and are even more firmly committed to earning good returns for our shareholders in the years to come.



Mark Liu
Chairman

C.C. Wei
Chief Executive Officer

TSMC FINANCIAL, OPERATIONAL, AND SUSTAINABILITY PERFORMANCE HIGHLIGHTS



Recorded a **13th** consecutive year of record revenue

Annual revenue increased **33.5%** YoY in U.S. dollar terms

EPS nearly **tripled** over the past 3 years

Received Alliance for Water Stewardship (AWS) platinum certification with the highest score for **3** consecutive years

N3 technology entered volume production in 2022

Total wafer shipments were **15.3 million** 12-inch equivalent wafers

Manufactured **12,698** different products using **288** distinct technologies for **532** different customers

Net Zero

Emissions by 2050

The only semiconductor company to be selected as a component of the Dow Jones Sustainability Indices for **22 consecutive years**

TSMC S.T.S.P. Reclaimed Water Plant commenced operation, becoming the world's first industrial reclaimed water plant for advanced semiconductor processes

Increased investment in R&D to **US \$5.47 billion**

TSMC produced **30%** of the world's semiconductor output value (excluding memory) in 2022

Consolidated revenue increased by **42.6 %**

2022 | NT\$2,263.89 B
2021 | NT\$1,587.42 B

Net income & EPS increased **70.4 %**

	Net Income	EPS
2022	NT\$1,016.53 B	NT\$39.20
2021	NT\$596.54 B	NT\$23.01

RECOGNITION FOR ACHIEVEMENTS IN INNOVATION, CORPORATE GOVERNANCE, SUSTAINABILITY, AND OVERALL EXCELLENCE IN MANAGEMENT

INNOVATION

3rd in IFI Claims Patent Services, "**2022 Top 50 US Patent Assignees**"

2022 **Top 100 Global Innovators** by Clarivate

Innovators by Clarivate Innovation Momentum 2022: The Global Top 100 by LexisNexis

GOVERNANCE

Most Honored Company by Institutional Investor Magazine

2022 **World's Most Admired Companies** by Fortune Magazine

World's Best Employers by Forbes

SUSTAINABILITY PERFORMANCE

MSCI ESG Research's **AAA Ratings**

CDP's "**2022 CDP Supplier Engagement Leader**"

Sustainalytics' "**Company ESG Risk Ratings-Low ESG Risk**" rating

"**Prime**" Rated by ISS ESG Corporate Rating

Corporate Knight's **2022 Global 100 Most Sustainable Corporations**

SDG 2000 **The 2,000 Most Influential Companies**

2 COMPANY *Profile*



TSMC's total wafer shipments were 15.3 million 12-inch equivalent wafers in 2022.

2.1 An Introduction to TSMC

Established in 1987 and headquartered in Hsinchu Science Park, Taiwan, TSMC pioneered the pure-play foundry business model with an exclusive focus on manufacturing its customers' products. By choosing not to design, manufacture or market any semiconductor products under its own name, the Company ensures that it never competes with its customers. Based on this founding principle, the key to TSMC's success has always been to enable its customers' success. TSMC's foundry business model has led to the rise of the global fabless industry, and, since its inception, TSMC has been one of the world's leading semiconductor foundries. In 2022, the Company manufactured 12,698 different products using 288 distinct technologies for 532 different customers.

TSMC-made semiconductors serve a global customer base that is large and diverse entailing a wide range of applications. These products are used in a variety of end markets including high performance computing, smartphones, the Internet of Things (IoT), automotive, and digital consumer electronics. Such strong diversification helps to smooth fluctuations in demand, which in turn allows TSMC to maintain high levels of capacity utilization and profitability, and generate healthy returns for future investment.

The annual capacity of the manufacturing facilities managed by TSMC and its subsidiaries exceeded 15 million 12-inch equivalent wafers in 2022. These facilities include four 12-inch wafer GIGAFAB® fabs, four 8-inch wafer fabs, and one 6-inch wafer fab – all in Taiwan – as well as one 12-inch wafer fab at a wholly owned subsidiary, TSMC Nanjing Company Limited, and two 8-inch wafer fabs at wholly owned subsidiaries, WaferTech in the United States and TSMC China Company Limited.

In December 2022, TSMC announced that, in addition to TSMC Arizona's first fab, which is scheduled to begin production of N4 process technology in 2024, the Company has also started the construction of a second fab in Arizona to begin production of 3nm process technology in 2026. The overall investment for these two facilities will be approximately US\$40 billion. When completed, TSMC Arizona's two fabs will manufacture over 600,000 wafers per year, with estimated end-product value of more than US\$40 billion. At the same time, the Company continues to execute its plan for a fab in Kumamoto, Japan, with production targeted for 2024.

TSMC provides customer support, account management and engineering services through offices in North America, Europe, Japan, China, and South Korea. At the end of 2022, the Company and its subsidiaries employed more than 73,000 people worldwide.

The Company is listed on the Taiwan Stock Exchange (TWSE) under ticker number 2330, and its American Depositary Shares (ADSs) are traded on the New York Stock Exchange (NYSE) under the symbol TSM.

2.2 Market/Business Summary

2.2.1 TSMC Achievements

In 2022, TSMC maintained its leading position in the foundry segment of the global semiconductor industry by accounting for 30% of the worldwide semiconductor market excluding memory, an increase from 26% in 2021. TSMC's growth was mainly driven by the continued expansion of 5G and high performance computing (HPC)-related applications.

The Company's strong market position stems in great part from its leadership in advanced process technologies. In 2022, 53% of TSMC's wafer revenue came from advanced manufacturing processes – defined as geometries of 7nm and smaller – up from 50% in 2021.

TSMC offers comprehensive technology portfolio and continues to invest in advanced technologies, specialty technologies, and advanced packaging and silicon stacking technologies, to provide customers more added value.

In addition to its leadership in advanced process and specialty technologies, TSMC offers TSMC 3DFabric™, a comprehensive family of 3D silicon stacking and advanced packaging technologies to complement its process technology offerings. TSMC 3DFabric™ provides customers greater chip design flexibility to unleash innovation and is another differentiating competitive advantage for the Company.

2.2.2 Market Overview

TSMC estimates that the worldwide semiconductor market excluding memory reached US\$492 billion in revenue in 2022, representing a 10% increase from 2021. In the foundry segment of the semiconductor industry, total revenue rose to US\$130 billion in 2022, a robust growth of 28% over 2021.

2.2.3 Industry Outlook, Opportunities and Threats

Foundry Industry Demand and Supply Outlook

In 2022, TSMC's solid growth in the foundry segment was fueled by strong, broad based market demand. Industry megatrends, such as 5G, artificial intelligence (AI) proliferation, and the accelerating digital transformation, drove increased demand across all major markets: smartphones, high performance computing, Internet of Things, and automotive. However, the electronics supply chain was also carrying high levels of excess inventory, accumulated over the past two years due to supply uncertainties. Hence, in the second half of 2022, the electronics supply chain entered an inventory correction period, which impacted the foundry segment and TSMC growth.

Looking ahead, TSMC expects the inventory correction to continue into 2023, primarily in the first half of the year. Furthermore, concerns about inflation and slowing economic growth will likely have a dampening impact on discretionary consumer spending, reducing overall demand for electronic devices. Against these two headwinds, TSMC projects mid-single-digit decline for the worldwide semiconductor market excluding memory in 2023. For the longer term, driven by increasing semiconductor content in most electronic devices, continued market segment share gains by fabless companies, increases in integrated device manufacturer (IDM) outsourcing, and the expanding use of in-house application-specific integrated circuits (ASIC) by systems companies, TSMC expects foundry segment revenue to outpace the mid-single-digit compound annual growth rate projected for the worldwide semiconductor market excluding memory from 2022 through 2027.

As an upstream supplier in the semiconductor supply chain, the foundry segment is tightly correlated with the market health of all major platforms including smartphones, HPC, the IoT, automotive, and digital consumer electronics (DCE).

• Smartphones

Due to the combined impact of the COVID-19 pandemic, the Russo-Ukrainian war and generally higher inflation, smartphone unit shipments declined 11% in 2022, reflecting a slowdown in the pace of 5G commercialization and thus prolonging the replacement of 4G. As this situation is likely to persist, TSMC projects a continued low-single-digit decline for the smartphone market in 2023. Over the longer term,

however, the inevitable migration to 5G, together with improved performance, longer battery life, biosensors and more AI features, will all continue to propel smartphone sales going forward.

High performance and power efficient IC technologies are essential requirements among handset manufacturers, and highly integrated chips and advanced 3D packaging designs are the preferred solutions to optimize cost, power and form factor (IC footprint and thickness). The migration to advanced process technologies will certainly continue spurred by the need for higher performance chips to run AI applications and various complex software computations as well as higher resolution video. TSMC is an acknowledged leader in process technology for manufacturing highly integrated chips and advanced 3D packaging designs and as such is very well positioned to serve the evolving smartphone market.

• High Performance Computing (HPC)

The HPC platform includes PCs, tablets, game consoles, servers, base stations and more. Major HPC unit shipments declined 11% in 2022 due to prolonged high inflation, macro-economic uncertainty and inventory overbuilt, all resulting in weak demand on the consumer side. Meanwhile, the server and data center upgrade cycle remained relatively healthy to accommodate rapidly growing data traffic and to fulfill the expanding needs of AI applications and continued 5G base station deployment.

Although the trend toward accelerated digitalization stimulated by the COVID-19 pandemic has induced a structural increase in HPC-related semiconductor demand, the economic headwinds cited above will increasingly dampen demand on both consumer and enterprise sides and, as a result, TSMC projects another year of low teens decline in HPC unit shipments in 2023. Longer term, an increasingly intelligent and more connected 5G world will fuel massive requirements for computation power as well as a great need for energy-efficient computing. These require higher performance and more power-efficient CPUs, GPUs, NPUs, AI accelerators, and related-ASICs, which will drive the overall HPC platform towards richer silicon content, more advanced process technologies and advanced 3D packaging. These trends are all favorable to TSMC given our technology leadership in these areas.

● Internet of Things (IoT)

The IoT platform includes various types of “smart” connected devices ranging from wearables, health monitors and speakers to home automation devices, city and manufacturing automation devices. As the COVID-19 pandemic changed individual life and work styles and accelerated the digital transformation in enterprises, IoT unit shipments grew 18% in 2022, with smart health devices, smart retail, and smart manufacturing as the major growth drivers.

While these trends remain strong, TSMC believes demand for consumer-related IoT devices will be somewhat tempered by high inflation and projects unit shipment growth in the low teens in 2023. Overall, as IoT devices take on more AI functions, they will require higher performance but lower power controllers, connectivity ICs and various types of sensors. TSMC offers the industry's most advanced technologies in these areas including ultra-low power (ULP) and various specialty process technologies to help customers meet demand, fulfill ESG requirements and succeed in the marketplace

● Automotive

With generally improving chip availability, worldwide car unit sales grew 7% in 2022 but was still held back by supply chain disruptions caused by the Russo-Ukrainian war and sporadic lockdowns due to the spread of COVID-19 particularly in China. The ongoing headwinds of high inflation and macro-economic uncertainty are expected to hold global car unit sales to low-single-digit growth in 2023 as well.

The entire automotive industry is moving toward “greener, safer and smarter,” which will accelerate the adoption of electric vehicles (EVs), advanced driver assistance systems (ADAS) and smart cockpit/infotainment systems, along with new electrical/electronic (E/E) architecture. All these will lead to increased demand for AP/MCU/ASIC processors, in-car networking, sensors, and power management ICs, thus continuously increasing the silicon content per car. TSMC offers a wide variety of relevant process technologies to enable customers to deliver competitive products in the automotive market.

● Digital Consumer Electronics (DCE)

Logistical disruptions such as port congestion led to prolonged lead times in the TV supply chain causing major electronics retailers to over-order and create excess inventory in 2022. At the same time, inflation, rate hikes and the China lockdown due to its zero-COVID policy weakened demand for TVs, set-top boxes (STB) and other consumer products. As a result, the total DCE market fell by 11% in 2022.

While some high-end areas such as large screen, 120Hz/144Hz high frame rate TV, voice AI control and WiFi 6 connectivity will continue to show good growth, fears of economic recession may stifle overall recovery. As a result, TSMC forecasts a low-single-digit decline in global DCE unit shipments in 2023. Regardless of the timing of the recovery, TSMC advanced technologies will continue to enable DCE customers to create and differentiate their innovative products.

Supply Chain

The electronics industry features a long and complex supply chain, the elements of which are correlated and highly interdependent. At the upstream manufacturing level, IC vendors need to have sufficient, flexible supply deliveries to handle fluctuating demand dynamics. Foundry vendors play an important role in maintaining the health and effectiveness of the supply chain. As a leader in the foundry segment, TSMC provides advanced technologies and large-scale capacity to complement and support the innovations created in the downstream chain.

2.2.4 TSMC Position, Differentiation and Strategy

Position

TSMC is a global semiconductor foundry leader in advanced, specialty and advanced packaging technologies. In 2022, TSMC accounted for 30% of the worldwide semiconductor market excluding memory, an increase from 26% in 2021. Net revenue by geography, calculated mainly on the country in which customers are headquartered, was: 68% from North America; 11% from the Asia Pacific region, excluding China and Japan; 11% from China; 5% from Europe, the Middle East and Africa; and 5% from Japan. Net revenue by platform was: 41% from high performance computing; 39% from smartphones; 9% from the Internet of Things; and 5% from automotive. In addition, 3% came from digital consumer electronics, while others accounted for the remaining 3%.

Differentiation

TSMC's leadership position is based on three defining competitive strengths and a business strategy rooted in the Company's heritage. The Company distinguishes itself from the competition through its technology leadership, manufacturing excellence and customer trust.

As a technology leader, TSMC is consistently first among dedicated foundries to provide next-generation, leading-edge technologies. The Company also maintains a leadership position in more mature technologies by applying the lessons learned in developing leading-edge technologies to enrich its

specialty technologies. Beyond process technology, TSMC has established frontend and backend integration capabilities to create the optimum power/performance/area “sweet spot” to help customers achieve faster time-to-production.

Well known for industry-leading manufacturing capabilities, TSMC extends its leadership through its Open Innovation Platform® (OIP) and Grand Alliance initiatives. The OIP initiative accelerates the pace of innovation in the semiconductor design community and among the Company's ecosystem partners, as well as in its own IP, design implementation and design for manufacturing capabilities, process technology and backend services. A key element is a set of ecosystem interfaces and collaborative components initiated and supported by the Company that more efficiently empower innovation throughout the supply chain and drive the creation and sharing of new revenue and profits. The TSMC Grand Alliance is one of the most powerful forces for innovation in the semiconductor industry, bringing together customers, electronic design automation (EDA) partners and IP partners, along with the partners in the new 3DFabric Alliance, officially announced in October 2022, and key equipment and material suppliers – all to achieve new, higher levels of collaboration. Through this collaboration, the Grand Alliance's objective is to help customers, alliance members and TSMC win business and improve competitiveness.

The foundation for customer trust is a commitment TSMC made when it opened for business in 1987 to never compete with its customers. In keeping this commitment, the Company has never designed, manufactured or marketed any integrated circuits under its own name, but instead has focused all of its efforts and resources on becoming the trusted foundry for its customers.

Strategy

TSMC is confident that its competitive advantages will enable it to prosper from the foundry segment's many attractive growth opportunities. For the five major markets, namely smartphones, high performance computing, the Internet of Things, automotive, and digital consumer electronics, and in response to the fact that the focus of customer demand is shifting from process-technology-centric to product-application-centric, the Company has constructed five corresponding technology platforms to provide customers with comprehensive and competitive logic process technologies, specialty technologies, IPs and packaging and testing technologies to shorten customers' time to design and time to market. These five platforms are:

High Performance Computing (HPC): Driven by data explosion and application innovation, HPC has become one of the key growth drivers for TSMC's business. TSMC provides customers, including both fabless IC design companies and system companies, with leading-edge process technologies such as 3nm FinFET (N3), 4nm FinFET (N4), 5nm FinFET (N5), 6nm FinFET (N6), 7nm FinFET (N7), and 12nm/16nm FinFET, as well as comprehensive IPs including high-speed interconnect IPs, to meet customers' product requirements for transferring and processing vast amounts of data anywhere and anytime. In particular, TSMC introduced its first HPC focused technology, N4X, representing the ultimate performance and maximum clock frequencies in TSMC's 5-nanometer family. Based on advanced process nodes, a variety of HPC products have been launched, such as personal computer central processing units (CPUs), graphics processor units (GPUs), field programmable gate arrays (FPGAs), server processors, accelerators and high-speed networking chips, etc. These products can be used in current and future 5G/6G infrastructures, AI, cloud, and enterprise data centers. The Company also offers multiple advanced TSMC 3DFabric™ packaging and silicon stacking technologies, such as CoWoS®, InFO, and TSMC-SolC®, to enable homogeneous and heterogeneous chip integration to meet customers' requirements for high performance, high compute density and high energy efficiency, low latency and high integration. TSMC will continue to optimize its high performance computing platform and strengthen collaboration with customers to help them capture market growth in HPC markets.

Smartphone: For customers' premium product applications, TSMC offers leading logic process technologies such as N3, N4 and N5, as well as comprehensive IPs to further enhance chip performance, reduce power consumption, and decrease chip size. For mainstream product applications, the Company offers a broad range of logic process technologies, including N6, 7nm FinFET Plus (N7+), N7, 12nm FinFET compact plus (12FFC+), 12nm FinFET compact (12FFC), 16nm FinFET compact plus (16FFC+), 16nm FinFET compact (16FFC), 28nm high performance compact (28HPC), 28nm high performance mobile compact plus (28HPC+), and 22nm ultra-low power (22ULP) logic process technologies, in addition to comprehensive IPs, to satisfy customer needs for high performance and low power chips. Furthermore, for premium and mainstream product applications, the Company offers highly competitive, leading-edge specialty technologies to deliver specialty companion chips for customers' logic application processors, including RF, embedded flash memory, emerging memory technologies, power management

ICs, sensors, and display chips, as well as advanced TSMC 3DFabric™ packaging technologies, such as industry-leading Integrated Fan-Out (InFO) technology.

Internet of Things: TSMC provides leading, comprehensive and highly integrated ultra-low power (ULP) technology platforms to enable innovation in artificial intelligence of things (AIoT) applications. The Company's offerings include the new FinFET-based 12-nanometer technology – N12e™ featuring energy efficiency with high performance that results in more computing power and AI inferencing, 22nm ultra-low leakage (ULL), 28nm ULP, 40nm ULP, and 55nm ULP technologies, which have been widely adopted by various edge AI system-on-a-chip (SoC), and battery-powered applications. TSMC has also extended its low operating voltage (Vdd) offerings, providing simulation program with integrated circuit emphasis (SPICE) models with a wide-range of operating voltages for extreme low-power applications. In addition, the Company offers competitive and comprehensive specialty technologies in RF, enhanced analog devices, embedded flash memory, emerging memory, sensors and display chips, power management ICs, as well as multiple TSMC 3DFabric™ advanced packaging technologies, including InFO technology to support the fast-growing demand in AIoT edge computing and wireless connectivity.

Automotive: TSMC offers a comprehensive spectrum of technologies and services to support the automotive industry's three megatrends: safer, smarter and greener. The Company is also an industry leader in providing a robust automotive IP ecosystem, which covers 5nm FinFET, 7nm FinFET, and 16nm FinFET technologies, for advanced driver-assistance systems (ADAS), advanced in-vehicle infotainment (IVI), as well as zonal controllers for new electrical/electronic (E/E) architecture for the automotive industry. In addition to its advanced logic platform, TSMC offers a broad array of competitive specialty technologies including 28nm embedded flash memory, 28nm, 22nm, and 16nm mmWave RF, high sensitivity CMOS Image/LiDAR (light detection and ranging) sensors, and power management ICs. The emerging technology of magnetoresistive random access memory (MRAM) has demonstrated automotive Grade-1 capability on 22nm and is under development with good progress on 16nm to meet automotive Grade-1 requirements. All these technologies are applied to TSMC's automotive process qualification standards based on AEC-Q100 standards or meeting customers' technology specifications.

Digital Consumer Electronics (DCE): TSMC provides customers with leading, comprehensive technologies to deliver AI-enabled smart devices for DCE applications, including

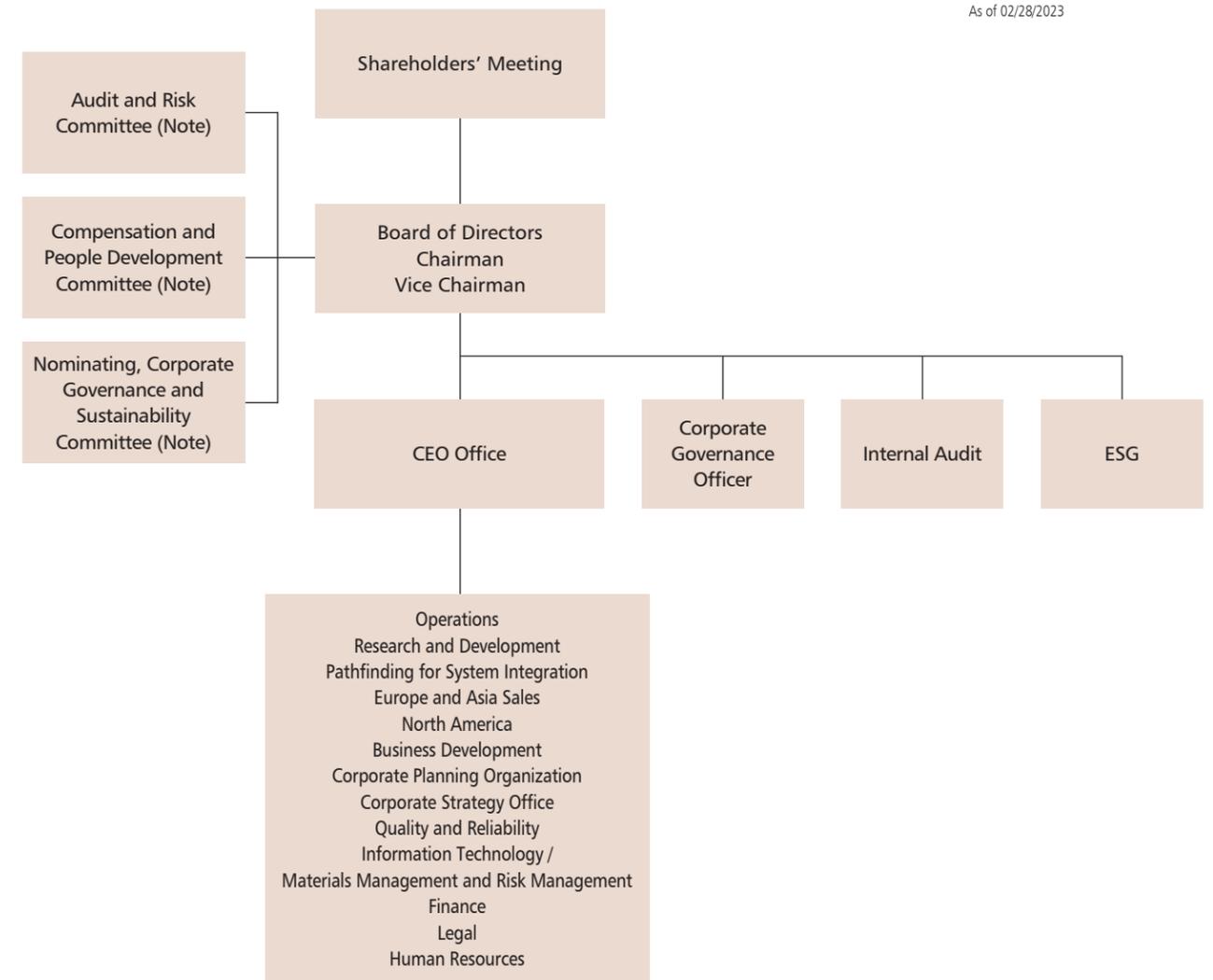
smart digital TV (DTV), set-top box (STB), AI-embedded smart camera and associated wireless local area network (WLAN), power management ICs (PMIC), timing controller (T-CON) and so on. The Company's leading 7nm FinFET (N7), 16FFC/12FFC, 22ULP/22ULL and 28HPC+ technologies have been widely adopted by leading global makers of 8K/4K DTV, 4K streaming STB/over-the-top (OTT), digital single-lens reflex (DSLR) devices, and so on. TSMC will continue to make these technologies more cost competitive through die size shrink for customers' digital intensive chip designs and to drive lower power consumption for more cost-effective packaging.

TSMC continually strengthens its core competitiveness and deploys both short- and long-term plans for technology and business development and assists customers in taking on the challenges of short product cycles and intense competition in the electronic products market to meet return on investment (ROI) and growth objectives.

- **Short-Term Semiconductor Business Development Plan**
 1. Substantially ramp up the business and sustain advanced technology market segment share by continually increasing capacity and R&D investments.
 2. Maintain mainstream technology market segment share by expanding business to new customers and market segments.
 3. Continue to enhance the competitive advantages of the Company's technology platforms in HPC, smartphones, IoT, automotive, and digital consumer electronics to expand TSMC's dedicated foundry services in these product applications.
 4. Further expand TSMC's business and service infrastructure into emerging and developing markets.
- **Long-Term Semiconductor Business Development Plan**
 1. Continue developing leading-edge technologies at a predictable pace to elevate energy-efficient compute.
 2. Broaden specialty business contributions by further developing derivative technologies.
 3. Provide more integrated services, covering system-level integration design, design technology definition, design tool preparation, wafer processing, TSMC 3DFabric™ advanced packaging and silicon stacking technologies, and testing services, and so on, all of which deliver more value to customers through optimized solutions.

2.3 Organization

2.3.1 Organization Chart



Note: On February 14, 2023, the Board approved the renaming of "Audit Committee" to "Audit and Risk Committee", and the renaming of "Compensation Committee" to "Compensation and People Development Committee", and the establishment of "Nominating, Corporate Governance and Sustainability Committee".

2.3.2 Major Corporate Functions

Operations

- Includes managing all fabs in Taiwan and overseas; manufacturing technology development; product engineering, advanced packaging technology development, production and service integration

Research and Development

- Advanced technology development, exploratory research, and design and technology platform development, specialty technology development

Pathfinding for System Integration

- System Integration Technology Pathfinding

Europe and Asia Sales

- Customer business, technical marketing, and regional market development in Europe and Asia (China, Japan, South Korea and Taiwan); immediate and comprehensive technical support, as well as customer service including customers in North America.

North America

- Sales and market development, field technical solutions and business operations for customers in North America

Business Development

- Identification of market trends and new applications that shape the technology roadmap and portfolios for the Company; also provides key support in strengthening customer relationships along with Company branding management

Corporate Planning Organization

- Planning for operational resources, as well as for production and demand; integration of business processes, corporate pricing, market analysis and forecasting

Corporate Strategy Office

- Corporate strategy formation and implementation

Quality and Reliability

- Assurance of the quality and reliability of the Company's products by resolving issues at the developmental stage; improving and managing product quality at the production stage; providing solutions to customers' quality related issues; and providing services for advanced materials and failure analysis

Risk Management

- Implementation of Enterprise Risk Management, Business Continuity Management and Crisis Management

Corporate Environmental, Safety and Health

- Environmental protection, safety and health management and strategy formulation

Information Technology / Corporate Information Security

- Integration of the Company's technology and business IT systems; infrastructure development; communication services and assurance of IT security and service quality; implementing big data and machine learning to improve the Company's productivity and accelerate R&D delivery

Materials Management

- Procurement, warehousing, import and export, and logistics support

Finance and Spokesperson

- Corporate finance, accounting and corporate communications; with the head of the organization also serving as the Company Spokesperson

Legal

- Corporate legal affairs including regulatory compliance, commercial transactions, patents and management of other intellectual properties, and litigation

Human Resources

- Personnel management, organizational development, physical security management, employee services and wellness management

Internal Audit

- Inspection and review of the Company's internal control system, its adequacy in design and effectiveness in operation, with independent risk assessment to ensure compliance with the Company's policies and procedures as well as with external regulations

ESG

- Identify ESG issues in relation to the Company's operations and stakeholders' concern, frame sustainability strategies, goals, action plans and track implementation results, continuing to create sustainability value

2.4 Board Members

2.4.1 Information Regarding Board Members

As of 02/28/2023

Title/Name	Gender Age	Nationality or Place of Registration	Date Elected	Term Expires	Date First Elected	Shares Held When Elected		Shares Currently Held		Shares Currently Held by Spouse & Minors		Selected Education and Professional Qualification Past Positions Current Positions at Non-profit Organizations	Selected Current Positions at TSMC and Other Companies
						Shares (Note 1)	%	Shares (Note 1)	%	Shares (Note 1)	%		
Chairman Mark Liu	Male 66-70	U.S.	07/26/2021	07/25/2024	06/08/2017	12,913,114	0.05%	12,916,216	0.05%	-	-	<p>Selected Education and Professional Qualification Bachelor Degree in Electrical Engineering, National Taiwan University Master Degree and Ph.D. in Electrical Engineering & Computer Science, University of California, Berkeley, U.S. Laureate, Industrial Technology Research Institute (ITRI)</p> <p>Past Positions President, Worldwide Semiconductor Manufacturing Corp. Senior Vice President, Advanced Technology Business, TSMC Senior Vice President, Operations, TSMC Executive Vice President and Co-Chief Operating Officer, TSMC President and Co-CEO, TSMC</p> <p>Current Positions at Non-profit Organizations Chairman, Taiwan Semiconductor Industry Association (TSIA) (Note 2)</p>	None
Vice Chairman C.C. Wei	Male 66-70	R.O.C.	07/26/2021	07/25/2024	06/08/2017	7,179,207	0.03%	6,346,207	0.02%	700,261	0.00%	<p>Selected Education and Professional Qualification Bachelor and Master Degrees in Electrical Engineering, National Chiao Tung University Ph.D. in Electrical Engineering, Yale University, U.S. Laureate, Industrial Technology Research Institute (ITRI)</p> <p>Past Positions Senior Vice President, Technology, Chartered Semiconductor Manufacturing Ltd., Singapore Senior Vice President, Mainstream Technology Business, TSMC Senior Vice President, Business Development, TSMC Executive Vice President and Co-Chief Operating Officer, TSMC President and Co-CEO, TSMC Chairman, Taiwan Semiconductor Industry Association (TSIA)</p>	CEO, TSMC
Director F.C. Tseng	Male 76-80	R.O.C.	07/26/2021	07/25/2024	05/13/1997	34,472,675	0.13%	29,472,675	0.11%	5,132,855	0.02%	<p>Selected Education and Professional Qualification Bachelor Degree in Electrical Engineering, National Cheng Kung University Master Degree in Electrical Engineering, National Chiao Tung University Ph.D. in Electrical Engineering, National Cheng Kung University Honorary Ph.D., National Chiao Tung University Honorary Ph.D., National Tsing Hua University</p> <p>Past Positions President, Vanguard International Semiconductor Corp. President, TSMC Deputy CEO, TSMC Vice Chairman, TSMC Independent Director, Chairman of Audit Committee & Compensation Committee member, Acer Inc. Director, National Culture and Arts Foundation, R.O.C.</p> <p>Current Positions at Non-profit Organizations Chairman, TSMC Education and Culture Foundation Director, Cloud Gate Culture and Arts Foundation Director, Zu-Ming Medical Foundation</p>	Chairman of: - TSMC China Company Ltd. (a non-public company) - Global UniChip Corp. Vice Chairman, Vanguard International Semiconductor Corp.
Director National Development Fund, Executive Yuan (Note 3) Representative: Ming-Hsin Kung	Male 56-60	R.O.C.	07/26/2021	07/25/2024	12/10/1986	1,653,709,980	6.38%	1,653,709,980	6.38%	-	-	<p>Selected Education and Professional Qualification B.A., Statistics, Fu Jen Catholic University M.A., Economics, National Taiwan University Ph.D., Economics, National Chung Hsing University</p> <p>Past Positions Adjunct Assistant Professor, Tamkang University Deputy Executive Secretary, Industrial Development Advisory Council, Ministry of Economic Affairs Research Fellow, Science and Technology Advisory Group, Executive Yuan Research Fellow, Taiwan Institute of Economic Research Vice President, Taiwan Institute of Economic Research Advisory Committee Member, Mainland Affairs Council, Executive Yuan Consultant, Ministry of Economic Affairs Member, National Stabilization Fund Management Committee, Executive Yuan Deputy Minister, National Development Council & concurrently Executive Secretary, National Development Fund, Executive Yuan Deputy Minister, Ministry of Economic Affairs Minister without Portfolio, Executive Yuan</p> <p>Current Positions at Non-profit Organizations Minister without Portfolio, Executive Yuan & concurrently Minister, National Development Council The Convener of the National Development Fund</p>	Director, Taiwan Capital Management Corp. (a non-public company) (Representative of the National Development Fund)

(Continued)

Title/Name	Gender Age	Nationality or Place of Registration	Date Elected	Term Expires	Date First Elected	Shares Held When Elected		Shares Currently Held		Shares Currently Held by Spouse & Minors		Selected Education and Professional Qualification Past Positions Current Positions at Non-profit Organizations	Selected Current Positions at TSMC and Other Companies
						Shares (Note 1)	%	Shares (Note 1)	%	Shares (Note 1)	%		
Independent Director Sir Peter L. Bonfield	Male 76-80	UK	07/26/2021	07/25/2024	05/07/2002	-	-	-	-	-	-	<p>Selected Education and Professional Qualification Bachelor and Honours Degrees in Engineering, Loughborough University Fellow of the Royal Academy of Engineering Knighted, 1996 Awarded Commander of the Order of the British Empire (CBE), 1989 Awarded the Order of the Lion of Finland Awarded the Gold Medal from the Institute of Management Awarded the Mountbatten Medal from the National Electronics Council Awarded the FT ODX Outstanding Director Award, 2019</p> <p>Past Positions Chairman and CEO, ICL Plc, UK CEO and Chairman of the Executive Committee, British Telecommunications Plc Vice President, the British Quality Foundation Director, Mentor Graphics Corp., U.S. Director, Sony Corp., Japan Director, L.M. Ericsson, Sweden Chairman, GlobalLogic Inc., U.S. Senior Advisor, Hampton Group, London Chair of Council and Senior Pro-Chancellor, Loughborough University, UK Board Member, EastWest Institute, New York</p>	Chairman, NXP Semiconductors N.V., the Netherlands Non-Executive Director of: - Imagination Technologies Group Ltd., UK (a non-public company) - Darktrace Plc, UK Advisory Board Member, The Longreach Group Ltd., HK (a non-public company) Senior Advisor, Alix Partners LLP, London Board Mentor, Chairman Mentors International (CMI) Ltd., London (a non-public company)
Independent Director Kok-Choo Chen	Female 71-75	R.O.C.	07/26/2021	07/25/2024	06/09/2011	-	-	-	-	-	-	<p>Selected Education and Professional Qualification Inns of Court School of Law, England Barrister-at-law, England Advocate & Solicitor, Singapore Attorney-at-law, California, U.S.</p> <p>Professional Experience Lawyer, Tan, Rajah & Cheah, Singapore (1969-1970) Lawyer, Sullivan & Cromwell, New York, U.S. (1971-1974) Lawyer, Heller, Ehrman, White & McAuliffe, San Francisco, California, U.S. (1974-1975) Partner, Ding & Ding Law Offices, R.O.C. (1975-1988) Partner, Chen & Associates Law Offices, R.O.C. (1988-1992) Vice President, Echo Publishing, R.O.C. (1992-1995) President, National Culture and Arts Foundation, R.O.C. (1995-1997) Senior Vice-President and General Counsel, TSMC (1997-2001) Founder and Executive Director, Taipei Story House (2003-2015) Advisor, Executive Yuan, R.O.C. (2009-2016) Director, National Culture and Arts Foundation, R.O.C. (2011-2016) Chairman, National Performing Arts Center (2014-2017) Founder and Executive Director, Museum207, Taipei (2017-2022)</p> <p>Academic Experience Lecturer, Nanyang University, Singapore (1970-1971) Associate Professor, Soochow University, (1981-1998) Chair Professor, National Tsing Hua University (1999-2002) Professor, National Chengchi University (2001-2004) Professor, Soochow University (2001-2008)</p> <p>Current Positions at Non-profit Organizations Director, Republic of China Female Cancer Foundation Founder and Chairman, Artspace K, Hong Kong (2020-)</p>	None
Independent Director Michael R. Splinter	Male 71-75	U.S.	07/26/2021	07/25/2024	06/09/2015	-	-	-	-	-	-	<p>Selected Education and Professional Qualification Bachelor and Master Degrees in Electrical Engineering, University of Wisconsin-Madison Honorary Ph. D in Engineering, University of Wisconsin-Madison Awarded 2013 Robert N. Noyce Award by Semiconductor Industry Association Recognized as NACD (National Association of Corporate Directors) Directorship Certified™, 2020 Member of the National Academy of Engineering, 2017</p> <p>Past Positions Executive Vice President of Technology and Manufacturing group, Intel Corp. Executive Vice President of Sales and Marketing, Intel Corp. CEO, Applied Materials, Inc. Chairman, Applied Materials, Inc. Director, The NASDAQ OMX Group, Inc. Director, Silicon Valley Leadership Group Director, Semiconductor Equipment and Materials International (SEMI) Director, Meyer Burger Technology Ltd., Switzerland Director, University of Wisconsin Foundation, U.S. Chairman of the Board, NASDAQ, Inc. Chairman of the Board, US-Taiwan Business Council</p> <p>Current Positions at Non-profit Organizations Chair of Industrial Advisory Committee, National Institute of Standards and Technology, Department of Commerce, U.S.</p>	Lead Independent Director, NASDAQ, Inc. Independent Director and Compensation Committee Chair, Gogoro Inc., Cayman Islands Director of: - Pica8, Inc., U.S. (a non-public company) - Tigo Energy, Inc., U.S. (a non-public company) - Kioxia Holdings Corp., Japan (a non-public company) General Partner of: - WISC Partners LP, U.S. - MRS Business and Technology Advisors, U.S. (a non-public company)

(Continued)

Title/Name	Gender Age	Nationality or Place of Registration	Date Elected	Term Expires	Date First Elected	Shares Held When Elected		Shares Currently Held		Shares Currently Held by Spouse & Minors		Selected Education and Professional Qualification Past Positions Current Positions at Non-profit Organizations	Selected Current Positions at TSMC and Other Companies
						Shares (Note 1)	%	Shares (Note 1)	%	Shares (Note 1)	%		
Independent Director Moshe N. Gavrieli	Male 66-70	U.S.	07/26/2021	07/25/2024	06/05/2019	-	-	-	-	-	-	<p>Selected Education and Professional Qualification Bachelor Degree in Electrical Engineering, Technion - Israel Institute of Technology Master Degree in Computer Science, Technion - Israel Institute of Technology</p> <p>Past Positions In a variety of engineering and engineering management positions, National Semiconductor Corp. and Digital Equipment Corp., U.S. In a variety of executive management positions, LSI Logic Corp. for nearly 10 years, U.S. CEO, Verisity, Ltd., U.S. Executive Vice President and General Manager of the Verification Division, Cadence Design Systems, Inc., U.S. President and CEO, Xilinx, Inc., U.S. Director, Xilinx, Inc., U.S. Executive Chairman, Wind River Systems, Inc., U.S. (2018-2022)</p> <p>Current Positions at Non-profit Organizations Director, San Jose Institute of Contemporary Art, U.S.</p>	Chairman of: - SiMa Technologies, Inc., U.S. (a non-public company) - Foretellix, Ltd., Israel (a non-public company)
Independent Director Yancey Hai	Male 71-75	R.O.C. U.S.	07/26/2021	07/25/2024	06/09/2020	-	-	-	-	-	-	<p>Selected Education and Professional Qualification M.A., International Business Management, University of Texas at Dallas Laureate, Industrial Technology Research Institute (ITRI)</p> <p>Past Positions Country Manager, GE Capital Taiwan Vice Chairman and CEO, Delta Electronics, Inc. Chair, Strategic Steering Committee, Delta (2012-2021)</p> <p>Current Positions at Non-profit Organizations Senior Strategy Consultant, Cloud Computing & IoT Association in Taiwan Director, Taiwan Business Council for Sustainable Development Director, Delta Electronic Foundation Director, Felix Chang Foundation Director and Finance Committee Member, Chiang Ching-Kuo Foundation for International Scholarly Exchange Chairman, Taiwan Climate Partnership</p>	Chairman, Delta Electronics, Inc. (Delta), 2012- Chair of ESG Committee, Delta Director of Delta's subsidiaries: - Delta Electronics (Shanghai) Co., Ltd. (a non-public company) - Delta Networks, Inc. (a non-public company) - Delta Electronics Capital Company (a non-public company) - Cyntec Co., Ltd. (a non-public company) Independent Director, Audit Committee member, ESG Committee member and Convener of Remuneration Committee, USI Corporation Director and Commissioner of ESG & Net Zero Committee, CTCL Corporation
Independent Director L. Rafael Reif	Male 71-75	U.S.	07/26/2021	07/25/2024	07/26/2021	-	-	-	-	-	-	<p>Selected Education and Professional Qualification Ingeniero Eléctrico Degree, Universidad de Carabobo, Valencia, Venezuela Master Degree and Ph.D. in Electrical Engineering, Stanford University Honorary Doctor of Laws degree, The Chinese University of Hong Kong (2015) Honorary Doctorates from Tsinghua University (2016), the Technion (2017), Arizona State University (2018) and University of Miami (2022) Member of Tau Beta Pi, the Engineering Honor Society Member of the Electrochemical Society Fellow of the Institute of Electrical and Electronics Engineers (IEEE) Member of the American Academy of Arts and Sciences, the National Academy of Engineering and the Chinese Academy of Engineering Fellow of the National Academy of Inventors Awarded with United States Presidential Young Investigator Award (1984) Awarded with the Semiconductor Research Corporation's Aristotle Award (2000) Awarded the Tribeca Disruptive Innovation Award (2012) Awarded the Frank E. Taplin, Jr. Public Intellectual Award by the Woodrow Wilson National Fellowship Foundation (2015) Awarded with Engineer of the Year from Great Minds in STEM (2018) Awarded the Simon Ramo Founders Award by the U.S. National Academy of Engineering (2022) Inventor or co-inventor on 13 patents, editor or Co-editor of 5 books, and supervisor to 38 doctoral theses</p> <p>Past Positions Assistant Professor, Universidad Simón Bolívar, Caracas, Venezuela Visiting Assistant Professor of Electrical Engineering, Stanford University Faculty, Massachusetts Institute of Technology (MIT), since 1980 IBM Faculty Fellowship, MIT Center for Materials Science and Engineering Analog Devices Career Development Professorship, MIT Electrical Engineering Fariborz Maseeh Professor of Emerging Technology, MIT (2004-2012) Director of Microsystems Technology Laboratories, MIT Associate Department Head of Electrical Engineering, MIT Head of the Department of Electrical Engineering and Computer Science (EECS), MIT Provost, MIT Board Director, Schlumberger Limited President, MIT (2012-2022)</p> <p>Current Positions at Non-profit Organizations President Emeritus, MIT, since 2023 Member of Board of Trustees, Carnegie Endowment for International Peace Director, Council on Foreign Relations, U.S.</p>	Co-Chair of Growth Technical Advisory Board, Applied Materials, Inc.

Remarks:

1. No member of the Board of Directors held TSMC shares by nominee arrangement.
2. Managers or Directors who are spouses or within second-degree relative of consanguinity to the directors: None.
3. Chairman and President (or someone with an equivalent job responsibility, i.e. the highest ranking manager of the company) are not (1) the same person, (2) in a marital relationship with each other, or (3) within one degree of consanguinity.

Note 1: Does not include shares held in the form of ADSs.

Note 2: Chairman Dr. Mark Liu retired from his current position as the Chairman of Taiwan Semiconductor Industry Association (TSIA) on March 30, 2023.

Note 3: Major Shareholders of the Institutional Shareholder

Institutional Shareholder	Major Shareholders (Top 10 Shareholders) of the Institutional Shareholder
National Development Fund, Executive Yuan	Not Applicable

Note 4: Mr. Ming-Hsin Kung was appointed as the representative of National Development Fund on July 24, 2020.

2.4.2 Remuneration Paid to Directors and Independent Directors (Note 1)

Unit: NT\$

Title/Name	Director's Remuneration								(A+B+C+D) as a % of Net Income		Compensation Earned by a Director Who is an Employee of TSMC or of TSMC's Consolidated Entities								(A+B+C+D+E+F+G) as a % of Net Income (Note 4)		Compensation Paid to Directors from Non-consolidated Affiliates or Parent Company
	Base Compensation (A)		Severance Pay and Pensions (B) (Note 2)		Compensation to Directors (C)		Allowances (D) (Note 3)				Base Compensation, Bonuses, and Allowances (E) (Note 3)		Severance Pay and Pensions (F) (Note 2)		Profit Sharing (G)						
	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC		From All Consolidated Entities		From TSMC	From All Consolidated Entities	
															Cash	Stock (Fair Market Value)	Cash	Stock (Fair Market Value)			
Chairman Mark Liu	50,905,192	50,905,192	214,206	214,206	579,536,780	579,536,780	1,418,210	1,418,210	0.0622%	0.0622%	-	-	-	-	-	-	-	-	0.0622%	0.0622%	-
Vice Chairman C.C. Wei	-	-	-	-	-	-	-	-	-	-	353,404,118	353,404,118	214,206	214,206	289,768,390	-	289,768,390	-	0.0633%	0.0633%	-
Director F.C. Tseng	-	-	-	-	10,560,000	10,560,000	1,324,440	1,324,440	0.0012%	0.0012%	-	-	-	-	-	-	-	-	0.0012%	0.0012%	16,904,548
Director National Development Fund, Executive Yuan Representative: Ming-Hsin Kung	-	-	-	-	10,560,000	10,560,000	-	-	0.0010%	0.0010%	-	-	-	-	-	-	-	-	0.0010%	0.0010%	-
Independent Director Sir Peter L. Bonfield	-	-	-	-	15,767,972	15,767,972	-	-	0.0016%	0.0016%	-	-	-	-	-	-	-	-	0.0016%	0.0016%	-
Independent Director Kok-Choo Chen	-	-	-	-	13,200,000	13,200,000	-	-	0.0013%	0.0013%	-	-	-	-	-	-	-	-	0.0013%	0.0013%	-
Independent Director Michael R. Splinter	-	-	-	-	15,767,972	15,767,972	-	-	0.0016%	0.0016%	-	-	-	-	-	-	-	-	0.0016%	0.0016%	-
Independent Director Moshe N. Gavrielov	-	-	-	-	15,767,972	15,767,972	-	-	0.0016%	0.0016%	-	-	-	-	-	-	-	-	0.0016%	0.0016%	-
Independent Director Yancey Hai	-	-	-	-	13,200,000	13,200,000	-	-	0.0013%	0.0013%	-	-	-	-	-	-	-	-	0.0013%	0.0013%	-
Independent Director L. Rafael Reif	-	-	-	-	15,767,972	15,767,972	-	-	0.0016%	0.0016%	-	-	-	-	-	-	-	-	0.0016%	0.0016%	-
Total	50,905,192	50,905,192	214,206	214,206	690,128,668	690,128,668	2,742,650	2,742,650	0.0732%	0.0732%	353,404,118	353,404,118	214,206	214,206	289,768,390	-	289,768,390	-	0.1365%	0.1365%	16,904,548

*Other than disclosure in the above table, Directors remunerations earned by providing services (e.g. providing consulting services as a non-employee of parent company/all consolidated entities/non-consolidated affiliates) to TSMC and all consolidated entities in the 2022 financial statements: Dr. F.C. Tseng for NT\$17,750,609.

Note 1: Directors and Independent Directors' remuneration policies, procedures, standards and structure, as well as the linkage to responsibilities, risks and time spent:

- According to TSMC's Articles of Incorporation, the Board of Directors is authorized to determine the salary for the Chairman, Vice Chairman and Directors, taking into account the extent and value of the services provided for the management of the Corporation and the standards of the industry within the R.O.C. and overseas.
- The Articles of Incorporation also provide that the compensation to directors shall be no more than 0.3% of annual profits and directors who also serve as executive officers of TSMC are not entitled to receive compensation to directors. According to TSMC's Compensation Committee Charter, the distribution of compensation to directors shall be made in accordance with TSMC's "Rules for Distribution of Compensation to Directors" based on the following principles: (1) directors who also serve as executive officers of the Company are not entitled to receive compensation; (2) the compensation for independent directors may be higher than the other directors, as all independent directors also serve as members of the Audit Committee and the Compensation Committee and thus participate in the discussions as well as resolutions of related committee meetings in accordance with the charter of each committee; and (3) the compensation for overseas independent directors may be higher than domestic independent directors, as they require additional time to attend quarterly meetings in Taiwan.

Note 2: Pensions funded according to applicable law.

Note 3: The above-mentioned figures include expenses for Company cars and related reimbursements, but do not include compensation paid to Company drivers (totaled NT\$5,205,050).

Note 4: Total remuneration paid to the directors from TSMC and from all consolidated entities in 2021, including their employee compensation, both accounted for 0.1521% of 2021 net income.

2.5 Management Team

2.5.1 Information Regarding Management Team

As of 02/28/2023

Title Name (Note 1)	Gender	Nationality	On-board Date (Note 2)	Shares Held		Shares Held by Spouse & Minors		Shares Held in the Name of Others		Education and Selected Past Positions	Selected Current Positions at Other Companies	Managers Who are Spouses or within Second-degree Relative of Consanguinity to Each Other (Note 4)		
				Shares (Note 3)	%	Shares (Note 3)	%	Shares (Note 3)	%			Title	Name	Relation
Chief Executive Officer C.C. Wei	Male	R.O.C.	02/01/1998	6,346,207	0.02%	700,261	0.00%	-	-	Ph.D., Electrical Engineering, Yale University, U.S. President and Co-Chief Executive Officer, TSMC Executive Vice President and Co-Chief Operating Officer, TSMC Senior Vice President, Business Development, TSMC Senior Vice President, Mainstream Technology Business, TSMC Senior Vice President, Chartered Semiconductor Manufacturing Ltd.	None	None	None	None
Senior Vice President Human Resources Lora Ho	Female	R.O.C.	06/01/1999	4,399,342	0.02%	2,059,530	0.01%	-	-	Master, Business Administration, National Taiwan University, Taiwan Senior Vice President, Europe and Asia Sales, TSMC Senior Vice President, Chief Financial Officer/Spokesperson, TSMC Senior Director, Accounting, TSMC Vice President & CFO, TI-Acer Semiconductor Manufacturing Corp.	Director and/or Supervisor, TSMC subsidiaries	None	None	None
Senior Vice President Research and Development Wei-Jen Lo	Male	R.O.C.	07/01/2004	1,441,127	0.01%	-	-	-	-	Ph.D., Solid State Physics and Surface Chemistry, University of California, Berkeley, U.S. Vice President, Technology Development, TSMC Vice President, Manufacturing Technology, TSMC Vice President, Advanced Technology Business, TSMC Vice President, Operations II, TSMC Director, Advanced Technology Development and CTM Plant Manager, Intel Corp.	None	None	None	None
Senior Vice President Corporate Strategy Office CEO & President TSMC AZ Rick Cassidy	Male	U.S.	11/14/1997	-	-	-	-	-	-	Bachelor, Engineering Technology, United States Military Academy at West Point, U.S. Chief Executive Officer, TSMC North America President, TSMC North America Vice President, TSMC North America	President and CEO, TSMC subsidiary (Note 5)	None	None	None
Senior Vice President Operations Y.P. Chin	Male	R.O.C.	01/01/1987	4,920,122	0.02%	4,191,107	0.02%	-	-	Master, Electrical Engineering, National Cheng Kung University, Taiwan Senior Vice President, Product Development, TSMC Vice President, Advanced Technology and Business, TSMC	Director, TSMC subsidiaries	None	None	None
Senior Vice President Research and Development Y.J. Mii	Male	R.O.C.	11/14/1994	1,002,419	0.00%	-	-	-	-	Ph.D., Electrical Engineering, University of California, Los Angeles, U.S. Vice President, Technology Development, TSMC Senior Director, Platform I Division, TSMC	None	None	None	None
Senior Vice President Chief Information Security Officer Information Technology and Materials Management & Risk Management J.K. Lin	Male	R.O.C.	01/01/1987	12,648,251	0.05%	1,047,961	0.00%	-	-	Bachelor, Science, National Changhua University of Education, Taiwan Vice President, Mainstream Fabs and Manufacturing Technology, TSMC Senior Director, Mainstream Fabs, TSMC	None	None	None	None
Senior Vice President Europe & Asia Sales and Research & Development/ Corporate Research Cliff Hou	Male	R.O.C.	12/15/1997	404,575	0.00%	60,802	0.00%	-	-	Ph.D., Electrical Engineering, Syracuse University, U.S. Senior Vice President, Technology Development, TSMC Vice President, Design and Technology Platform, TSMC Senior Director, Design and Technology Platform, TSMC	Director and/or President, TSMC subsidiaries Director, TSMC affiliate	None	None	None
Senior Vice President Business Development Kevin Zhang	Male	U.S.	11/01/2016	105,000	0.00%	-	-	-	-	Ph.D., Electrical Engineering, Duke University, U.S. Vice President, Design and Technology Platform, TSMC Vice President, Technology and Manufacturing Group, Intel Corp.	None	None	None	None
Vice President and General Counsel Corporate Governance Officer Legal Sylvia Fang	Female	R.O.C.	03/20/1995	700,285	0.00%	67,906	0.00%	384,000	0.00%	Master, Comparative Law, School of Law, University of Iowa, U.S. Attorney-at-law, Taiwan Associate General Counsel, TSMC Senior Associate, Taiwan International Patent and Law Office (TIPL)	Director and/or Supervisor, TSMC subsidiaries	None	None	None
Vice President Operations/Fab Operations I Y.L. Wang	Male	R.O.C.	06/01/1992	218,535	0.00%	1,135,529	0.00%	-	-	Ph.D., Electrical Engineering, National Chiao Tung University, Taiwan Vice President, Fab Operations, TSMC Vice President, Technology Development, TSMC Vice President, Fab 14B, TSMC Senior Director, Fab 14B, TSMC	Director, TSMC subsidiary (Note 5)	None	None	None
Vice President and TSMC Distinguished Fellow Pathfinding for System Integration Douglas Yu	Male	R.O.C.	12/28/1994	250,000	0.00%	-	-	-	-	Ph.D., Materials Engineering, Georgia Institute of Technology, U.S. Vice President, Integrated Interconnect & Packaging, TSMC Senior Director, Integrated Interconnect & Packaging Division, TSMC	None	None	None	None
Vice President and TSMC Fellow Operations/Advanced Technology and Mask Engineering T.S. Chang	Male	R.O.C.	02/06/1995	173,781	0.00%	-	-	-	-	Ph.D., Electrical Engineering, National Tsing Hua University, Taiwan Vice President, Product Development, TSMC Vice President, Fab 12B, TSMC Senior Director, Fab 12B, TSMC	None	None	None	None
Vice President Research and Development/Platform Technology Michael Wu	Male	R.O.C.	12/09/1996	485,501	0.00%	198,943	0.00%	-	-	Ph.D., Electrical Engineering, University of Wisconsin-Madison, U.S. Senior Director, Platform Development, TSMC	None	None	None	None
Vice President Research and Development/Pathfinding Min Cao	Male	U.S.	07/29/2002	363,152	0.00%	34,470	0.00%	-	-	Ph.D., Physics, Stanford University, U.S. Senior Director, Pathfinding Division, TSMC	None	None	None	None

(Continued)

Title Name (Note 1)	Gender	Nationality	On-board Date (Note 2)	Shares Held		Shares Held by Spouse & Minors		Shares Held in the Name of Others		Education and Selected Past Positions	Selected Current Positions at Other Companies	Managers Who are Spouses or within Second-degree Relative of Consanguinity to Each Other (Note 4)		
				Shares (Note 3)	%	Shares (Note 3)	%	Shares (Note 3)	%			Title	Name	Relation
Vice President Operations/Fab Operations II Y.H. Liaw	Male	R.O.C.	08/03/1988	370,000	0.00%	-	-	430,000	0.00%	Master, Chemical Engineering, National Tsing Hua University, Taiwan Vice President, Fab Operations, TSMC Vice President, Fab 15B, TSMC Senior Director, Fab 15B, TSMC	Director, TSMC subsidiaries Director, TSMC affiliate (Note 6)	None	None	None
Vice President Research and Development/Advanced Tool and Module Development Simon Jang	Male	R.O.C.	09/01/1993	351,695	0.00%	663	0.00%	-	-	Ph.D., Materials Science & Engineering, Massachusetts Institute of Technology, U.S. Senior Director, Advanced Tool and Module Development Division, TSMC	None	1. Deputy Director 2. Manager	1. Sharon Jang 2. Jimmy Hu	1. Sister 2. Brother in law
Vice President and Chief Financial Officer Spokesperson Finance Wendell Huang	Male	R.O.C.	05/03/1999	1,651,924	0.01%	-	-	-	-	Master, Business Administration, Cornell University, U.S. Deputy Chief Financial Officer, TSMC Senior Director, Finance Division, TSMC Vice President, Corporate Finance, ING Barings Vice President, Corporate Finance, Chase Manhattan Bank Vice President, Corporate Finance, Bankers Trust Company	Director, Supervisor, and/or President, TSMC subsidiaries Director, TSMC affiliate	None	None	None
Vice President Research and Development/More than Moore Technologies C.S. Yoo	Male	R.O.C.	06/16/1988	1,703,690	0.01%	219,924	0.00%	851,908	0.00%	Ph.D., Chemical Engineering, Worcester Polytech. Institute, U.S. Vice President, Europe & Asia Sales, TSMC Senior Director, Office of Strategy Customer Program, TSMC Senior Director, E-Beam Operation Division, TSMC	None	None	None	None
Vice President Quality and Reliability and Operations/Advanced Packaging Technology and Service Jun He	Male	U.S.	05/22/2017	28,371	0.00%	-	-	-	-	Ph.D., Materials Science and Engineering, University of California, Santa Barbara, U.S. Senior Director, Quality and Reliability, TSMC Senior Director, Head of Quality and Reliability for Technology & Manufacturing Group, Intel Corp.	Director, TSMC subsidiaries	None	None	None
Vice President Research and Development/Platform Technology Geoffrey Yeap	Male	U.S.	03/21/2016	58,000	0.00%	-	-	-	-	Ph.D., Electrical and Computer Engineering, University of Texas-Austin, U.S. Senior Director, Platform Development, TSMC Senior Director, Advanced Technology, TSMC Vice President, Engineering, Silicon Technology, Qualcomm	None	None	None	None
Vice President and Chief Information Officer Information Technology and Materials Management & Risk Management/Corporate Information Technology Chris Horng-Dar Lin	Male	U.S.	01/04/2021	16,000	0.00%	-	-	-	-	Ph.D., Electrical Engineering and Computer Science, University of California, Berkeley, U.S. Vice President, Information Technology, Mozilla Director, Enterprise Platform Infrastructure, Facebook	None	None	None	None
Vice President Corporate Planning Organization Jonathan Lee	Male	R.O.C.	05/28/2007	368,604	0.00%	6,000	0.00%	-	-	Master, Business Administration, City University of New York, Baruch College, U.S. Senior Director, Strategic Planning Division, TSMC	None	None	None	None
Vice President Operations/Facility Arthur Chuang	Male	R.O.C.	01/17/1989	2,602,981	0.01%	1,993,040	0.01%	-	-	Ph.D., Civil Engineering, National Taiwan University, Taiwan Senior Director, Facility Division, TSMC	None	Section Manager	Gavin Chuang	Brother
Vice President and TSMC Fellow Research and Development/Design & Technology Platform L.C. Lu	Male	R.O.C.	08/01/2000	175,227	0.00%	15,000	0.00%	-	-	Ph.D., Computer Science, Yale University, U.S. Senior Director, Digital IPs Solution Division, TSMC	None	None	None	None
Vice President Research and Development/Integrated Interconnect & Packaging K.C. Hsu	Male	R.O.C.	11/01/2021	60,000	0.00%	-	-	-	-	Master, Technology Management, National Chiao-Tung University, Taiwan Taiwan Country Manager, Micron Technology Inc. President, WaferTech, LLC	None	None	None	None

Note 1: Senior Vice President Mr. J.K. Wang retired, effective May 7, 2022. Vice President Ms. Connie Ma retired, effective November 1, 2022. Vice President Dr. Marvin Liao retired, effective November 11, 2022.

Note 2: On-board date means the official date joining TSMC.

Note 3: Does not include shares held in the form of ADSs.

Note 4: President (or someone with an equivalent job responsibility, i.e. the highest ranking manager of the company) and Chairman are not (1) the same person, (2) in a marital relationship with each other, or (3) within one degree of consanguinity.

Note 5: Effective April 1, 2023, Mr. Rick Cassidy was appointed as Chairman of the Board of Directors and Mr. Y.L. Wang was appointed as CEO of TSMC Arizona Corporation.

Note 6: Effective April 1, 2023, Mr. Y.H. Liaw was appointed as CEO of Japan Advanced Semiconductor Manufacturing, Inc., in addition to his current position as Representative Director of the Company.

2.5.2 Compensation Paid to CEO and Vice Presidents (Note 1)

Unit: NT\$

Title	Name	Salary (A)		Severance Pay and Pensions (B) (Note 3)		Bonuses and Allowances (C) (Note 4)		Profit Sharing (D)				(A+B+C+D) as a % of Net Income (Note 5)		Compensation Received from Non-consolidated Affiliates or Parent Company
		From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC	From All Consolidated Entities	From TSMC		From All Consolidated Entities		From TSMC	From All Consolidated Entities	
								Cash	Stock (Fair Market Value)	Cash	Stock (Fair Market Value)			
Chief Executive Officer	C.C. Wei	14,185,740	14,185,740	214,206	214,206	339,218,378	339,218,378	289,768,390	-	289,768,390	-	0.0633%	0.0633%	-
Vice President, Chief Financial Officer/Spokesperson	Wendell Huang	5,684,782	5,684,782	85,841	85,841	59,631,853	59,631,853	50,691,071	-	50,691,071	-	0.0114%	0.0114%	-
Senior Vice President	Lora Ho	139,283,107	156,214,664	2,103,179	2,498,979	1,549,049,735	1,679,252,719	1,311,694,719	-	1,311,694,719	-	0.2953%	0.3098%	-
Senior Vice President	Wei-Jen Lo													
Senior Vice President/CEO & President of TSMC Arizona	Rick Cassidy													
Senior Vice President	Y.P. Chin													
Senior Vice President	Y.J. Mii													
Senior Vice President/Chief Information Security Officer	J.K. Lin													
Senior Vice President	J.K. Wang (Note 2)													
Senior Vice President	Cliff Hou													
Senior Vice President	Kevin Zhang													
Vice President and General Counsel/Corporate Governance Officer	Sylvia Fang													
Vice President	Connie Ma (Note 2)													
Vice President	Y.L. Wang													
Vice President and TSMC Distinguished Fellow	Douglas Yu													
Vice President and TSMC Fellow	T.S. Chang													
Vice President	Michael Wu													
Vice President	Min Cao													
Vice President	Marvin Liao (Note 2)													
Vice President	Y.H. Liaw													
Vice President	Simon Jang													
Vice President	C.S. Yoo													
Vice President	Jun He													
Vice President	Geoffrey Yeap													
Vice President and Chief Information Officer	Chris Horng-Dar Lin													
Vice President	Jonathan Lee													
Vice President	Arthur Chuang													
Vice President and TSMC Fellow	L.C. Lu													
Vice President	K.C. Hsu													
Total		159,153,629	176,085,186	2,403,226	2,799,026	1,947,899,966	2,078,102,950	1,652,154,180	-	1,652,154,180	-	0.3700%	0.3846%	-

Note 1: Compensation policy, standards/packages, procedures, the linkage to operating performance and future risk exposure: The total compensation paid to the executive officers is based on their job responsibility, contribution, company performance, and projected future risks the Company will face. It is reviewed by the Compensation Committee then submitted to the Board of Directors for approval.

Note 2: Senior Vice President Mr. J.K. Wang retired, effective May 7, 2022. Vice President Ms. Connie Ma retired, effective November 1, 2022. Vice President Dr. Marvin Liao retired, effective November 11, 2022. The pension payment to Mr. J.K. Wang, Ms. Connie Ma and Dr. Marvin Liao amounts to NT\$34,518,105.

Note 3: Pensions funded according to applicable law.

Note 4: The above-mentioned figures include the expense for the business performance bonuses distributed in May, August, November 2022 & February 2023, and Company cars and gasoline reimbursements.

Note 5: Total compensation paid to the executive officers from TSMC in 2021 accounted for 0.3788% of 2021 net income. Total compensation paid to the executive officers from all consolidated entities in 2021 accounted for 0.3987% of 2021 net income.

Compensation Paid to CEO and Vice Presidents

	2022	
	From TSMC	From All Consolidated Entities and Non-consolidated Affiliates
NT\$0 ~ NT\$999,999	Rick Cassidy	None
NT\$1,000,000 ~ NT\$1,999,999	None	None
NT\$2,000,000 ~ NT\$3,499,999	None	None
NT\$3,500,000 ~ NT\$4,999,999	None	None
NT\$5,000,000 ~ NT\$9,999,999	None	None
NT\$10,000,000 ~ NT\$14,999,999	None	None
NT\$15,000,000 ~ NT\$29,999,999	None	None
NT\$30,000,000 ~ NT\$49,999,999	J.K. Wang (Note 2)	J.K. Wang (Note 2)
NT\$50,000,000 ~ NT\$99,999,999	Connie Ma (Note 2), Marvin Liao (Note 2), Y.H. Liaw, Simon Jang, C.S. Yoo, Jun He, Geoffrey Yeap, Chris Horng-Dar Lin, Jonathan Lee, Arthur Chuang, L.C. Lu, K.C. Hsu	Connie Ma (Note 2), Marvin Liao (Note 2), Y.H. Liaw, Simon Jang, C.S. Yoo, Jun He, Geoffrey Yeap, Chris Horng-Dar Lin, Jonathan Lee, Arthur Chuang, L.C. Lu, K.C. Hsu
Over NT\$100,000,000	C.C. Wei, Wendell Huang, Lora Ho, Wei-Jen Lo, Y.P. Chin, Y.J. Mii, J.K. Lin, Cliff Hou, Kevin Zhang, Sylvia Fang, Y.L. Wang, Douglas Yu, T.S. Chang, Michael Wu, Min Cao	C.C. Wei, Wendell Huang, Lora Ho, Wei-Jen Lo, Rick Cassidy, Y.P. Chin, Y.J. Mii, J.K. Lin, Cliff Hou, Kevin Zhang, Sylvia Fang, Y.L. Wang, Douglas Yu, T.S. Chang, Michael Wu, Min Cao
Total	29	29

2.5.3 Employees' Profit Sharing Paid to Management Team

Unit: NT\$

Title	Name	Stock (Fair Market Value)	Cash	Total	Total Profit Sharing Paid to Management Team as a % of Net Income
Chief Executive Officer	C.C. Wei	-	289,768,390	289,768,390	0.0285%
Vice President, Chief Financial Officer/Spokesperson	Wendell Huang	-	50,691,071	50,691,071	0.0050%
Senior Vice President	Lora Ho				
Senior Vice President	Wei-Jen Lo				
Senior Vice President/CEO & President of TSMC Arizona	Rick Cassidy				
Senior Vice President	Y.P. Chin				
Senior Vice President	Y.J. Mii				
Senior Vice President/Chief Information Security Officer	J.K. Lin				
Senior Vice President	J.K. Wang (Note)				
Senior Vice President	Cliff Hou				
Senior Vice President	Kevin Zhang				
Vice President and General Counsel/Corporate Governance Officer	Sylvia Fang				
Vice President	Connie Ma (Note)				
Vice President	Y.L. Wang				
Vice President and TSMC Distinguished Fellow	Douglas Yu				
Vice President and TSMC Fellow	T.S. Chang	-	1,311,694,719	1,311,694,719	0.1290%
Vice President	Michael Wu				
Vice President	Min Cao				
Vice President	Marvin Liao (Note)				
Vice President	Y.H. Liaw				
Vice President	Simon Jang				
Vice President	C.S. Yoo				
Vice President	Jun He				
Vice President	Geoffrey Yeap				
Vice President and Chief Information Officer	Chris Horng-Dar Lin				
Vice President	Jonathan Lee				
Vice President	Arthur Chuang				
Vice President and TSMC Fellow	L.C. Lu				
Vice President	K.C. Hsu				
Total		-	1,652,154,180	1,652,154,180	0.1625%

Note: Senior Vice President Mr. J.K. Wang retired, effective May 7, 2022. Vice President Ms. Connie Ma retired, effective November 1, 2022. Vice President Dr. Marvin Liao retired, effective November 11, 2022.

3 CORPORATE *Governance*



TSMC continuously strengthens board of directors functions to enhance corporate governance and competitiveness.

3.1 Overview

TSMC advocates and acts upon the principles of operational transparency and respect for shareholder rights. We believe that the basis for successful corporate governance is a sound and effective Board of Directors. In line with this principle, TSMC Board of Directors set up the “Audit Committee” and the “Compensation Committee” in 2002 and 2003 respectively. To continue to make our corporate governance more comprehensive, the TSMC Board took a step further in February 2023 to expand and strengthen the functions and responsibilities of its committees, including renaming the “Audit Committee” to the “Audit and Risk Committee”, and the renaming the “Compensation Committee” to the “Compensation and People Development Committee”. In addition, in order to strengthen the selection mechanism for directors, build diversified and professional board, TSMC’s Board of Directors approved the establishment of the “Nominating, Corporate Governance and Sustainability Committee” referencing international practices. Each Committee supports the Board to fulfill its responsibilities and each Committee’s chairperson regularly reports to the Board on its activities and recommendations.

2022 Corporate Governance Awards and Ratings

Organization	Awards
Dow Jones Sustainability Indices (DJSI)	Dow Jones Sustainability World Index for the 22 nd consecutive year Dow Jones Sustainability Emerging Markets Index
MSCI ESG Indexes	MSCI ACWI ESG Leaders Index component MSCI ESG Research – AAA Ratings MSCI ACWI SRI Index component MSCI ACWI Islamic Index component MSCI Emerging Markets ESG Leaders Index
Sustainalytics	Company ESG Risk Ratings: Low ESG Risk – Semiconductor Industry
ISS ESG	“Prime” Rated by ISS ESG Corporate Rating
FTSE4Good Index	FTSE4Good Emerging Index component FTSE4Good All-World Index component FTSE4Good TIP Taiwan ESG Index component
Corporate Knights	2022 Global 100 Most Sustainable Corporations Semiconductor Company Top 100
Taiwan Stock Exchange	Top 5% in Corporate Governance Evaluation of Listed Companies for the 8 th consecutive year
CommonWealth Magazine	Excellence in Corporate Social Responsibility Award – Honorable Legion of Corporate Sustainability Semiconductor Company Top 100
Institutional Investor Magazine	Most Honored Company (Technology/Semiconductors) – All-Asia Best Overall ESG (Technology/Semiconductors) – 1 st Place (buy-side and sell-side) – All-Asia
Forbes	The World’s Top 10 Largest Technology Companies in 2022 World’s Best Employers
FORTUNE	2022 World’s Most Admired Companies Fortune Global 500
Asiamoney	2022 Asia’s Outstanding Companies – Semiconductors & Semiconductor Equipment Sector for the 5 th consecutive year
Taiwan Institute of Sustainable Energy	Taiwan Top 10 Sustainability Exemplary Awards for the 7 th consecutive year
IFI Claims Patent Services	Ranked as 3 rd in 2022 Top 50 US Patent Assignees

3.2 Board of Directors

Board Structure

TSMC’s Board of Directors consists of ten distinguished members with a great breadth of experience as world-class business leaders or professionals. We deeply rely on them for their diverse knowledge, personal perspectives, and solid business judgment. Six of those ten members are Independent Directors: former British Telecommunications Chief Executive Officer, Sir Peter L. Bonfield; former Chairman of National Performing Arts Center and former Advisor of Executive Yuan, R.O.C., Ms. Kok-Choo Chen; former Chairman of Applied Materials, Inc., Mr. Michael R. Splinter; former Chief Executive Officer of Xilinx, Inc., Mr. Moshe N. Gavriellov; currently Chairman of Delta Electronics Inc., Mr. Yancey Hai; and former President of MIT, Mr. L. Rafael Reif.



TSMC’s Board is comprised of a diverse group of professionals from different backgrounds in industries, academia, law, etc. These professionals include citizens from Taiwan, Europe and the U.S. with world-class business operating experience, one of whom is female. Independent Directors constitute 60% of the Board.

Board Responsibilities

Inheriting the spirit of TSMC’s Founder, Dr. Morris Chang’s philosophy on corporate governance, under the leadership of Chairman Dr. Mark Liu and CEO & Vice Chairman Dr. C.C. Wei, TSMC’s Board of Directors takes a serious and forthright approach to its duties and is a dedicated, competent and independent Board.

The Board’s primary duty is to supervise the Company’s compliance with relevant laws and regulations, financial transparency, timely disclosure of material information, and maintaining of the highest integrity. TSMC’s Board of Directors strives to perform these responsibilities through its Audit Committee and the Compensation Committee, the hiring of a financial expert consultant for the Audit Committee, and coordination with our Internal Audit department.

The second duty of the Board of Directors is to appoint and dismiss officers of the Company when necessary, to evaluate the management’s performance and to review the succession plan for senior executives. TSMC’s management has maintained a healthy and functional communication with the Board of Directors, has been devoted in executing guidance of the Board, and is dedicated in running the business operations, all to achieve the best interests for TSMC shareholders.

The third duty of the Board of Directors is to resolve critical matters, such as capital appropriations, investment activities, dividends, etc.

The fourth duty of the Board of Directors is to provide guidance to the Company’s management team and risk management. In each quarter, TSMC’s management reports to the Board on various subjects (including ESG programs) and strategies, and spends substantial time and effort to communicate with the Board. The Board would comment on the risk and probabilities for success of the proposed corporate strategies. The Board also periodically oversees those strategies’ implementation and outcomes, and may suggest the management team to make adjustments to the strategic goals and objectives if necessary.

Nomination and Election of Directors

TSMC envisions the membership of its esteemed Board of Directors to be composed of highly ethical professionals with the necessary knowledge, experience as world-class business leaders and understanding from diverse backgrounds. TSMC establishes the “Guidelines for Nomination of Directors” that set out the procedures and criteria for the nomination, qualification and evaluation of Director candidates to be nominated by the Board of Directors, and provide that “Nominating, Corporate Governance and Sustainability Committee” will propose independent director candidates to the Board of Directors. The independence of each independent director candidate is also considered and assessed under relevant laws.

Directors shall be elected pursuant to the candidate nomination system specified in Article 192-1 of the R.O.C. Company Law. The tenure of office for Directors shall be three years. The independence of each independent director candidate is also considered and assessed under relevant law such as the Taiwan “Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies”. Under R.O.C. law, in which TSMC was incorporated, any shareholders holding one percent or more of our total outstanding common shares may nominate their own candidate to stand for election as a Board member. This democratic mechanism allows our shareholders to become involved in the selection and nomination process of Board candidates. The final slate of candidates is put to the shareholders for voting at the relevant annual shareholders’ meeting.

There are no limits on the number of terms that a director may serve. We believe the Company benefits from the contributions of directors who have over their years of dedicated service acquired unique insights into the operations and financial developments of the Company. The Company reviews the appropriateness of each director’s continued service to ensure there are new viewpoints available to the Board.

Directors’ Compensation

According to TSMC’s Articles of Incorporation, the Board of Directors is authorized to determine the salary for the Chairman, Vice Chairman and Directors, taking into account the extent and value of the services provided for the management of the Corporation and the standards of the industry within the R.O.C. and overseas.

TSMC’s Articles of Incorporation also state that not more than 0.3 percent of our annual profits may be distributed as compensation to our directors. In addition, directors who also serve as executive officers of the Company are not entitled to receive any director compensation. According to TSMC’s Compensation Committee Charter, the distribution of compensation to directors shall be made in accordance with TSMC’s “Rules for Distribution of Compensation to Directors” based on the following principles: (1) directors who also serve as executive officers of the Company are not entitled to receive compensation; (2) the compensation for independent directors may be higher than other directors, as all independent directors also serve as members of the Audit Committee and Compensation Committee and thus participate in the discussions as well as resolutions of related committee meetings in accordance with the charter of each committee; and (3) the compensation for overseas independent directors may be higher than domestic independent directors, as they require additional time to attend quarterly meetings in Taiwan.

Directors’ Professional Qualifications and Independent Directors’ Independence Status

Name/Title	Criteria	Professional Qualification and Experience	Independent Directors’ Independence Status	Number of Other Taiwanese Public Companies Concurrently Serving as an Independent Director
Mark Liu Chairman		For Directors’ professional qualification and experience, please refer to “2.4.1 Information Regarding Board Members” on page 24-29 of this Annual Report. None of the Directors has been in or is under any circumstances stated in Article 30 of the Company Law. (Note 1)	Not Applicable	0
C.C. Wei Vice Chairman				0
Ming-Hsin Kung Director				0
F.C. Tseng Director				0
Sir Peter L. Bonfield Independent Director			All of the following situations apply to each and every of the Independent Directors: 1. Satisfy the requirements of Article 14-2 of “Securities and Exchange Act” and “Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies” (Note 2) issued by Taiwan’s Securities and Futures Bureau 2. Independent Director (or nominee arrangement) as well as his/her spouse and minor children do not hold any TSMC common shares 3. Received no compensation or benefits for providing commercial, legal, financial, accounting services or consultation to the Company or to any its affiliates within the preceding two years, and the service provided is either an “audit service” or a “non-audit service”	0
Kok-Choo Chen Independent Director				0
Michael R. Splinter Independent Director				0
Moshe N. Gavrielov Independent Director				0
Yancey Hai Independent Director				1
L. Rafael Reif Independent Director		0		

Note 1: A person shall not act in a management capacity for a company, and if so appointed, must be immediately discharged if they have been:

1. Convicted for a violation of the Statutes for the Prevention of Organizational Crimes and: has not started serving the sentence; has not completed serving the sentence; or five years have not elapsed since completion of serving the sentence, expiration of probation, or pardon;
2. Convicted for fraud, breach of trust or misappropriation, with imprisonment for a term of more than one year, and: has not started serving the sentence; has not completed serving the sentence; or two years have not elapsed since completion of serving the sentence, expiration of probation, or pardon;
3. Convicted for violation of the Anti-Corruption Act, and: has not started serving the sentence; has not completed serving the sentence; or two years have not elapsed since completion of serving the sentence, expiration of probation, or pardon;
4. Adjudicated bankrupt or adjudicated to commence a liquidation process by a court, and having not been reinstated to his or her rights and privileges;
5. Sanctioned for unlawful use of credit instruments, and the term of such sanction has not expired yet;
6. if she/he does not have any or limited legal capacity; or
7. if she/he has been adjudicated to require legal guardianship and such requirement has not been revoked yet.

Note 2: 1. Not a governmental, juridical person or its representative as defined in Article 27 of the Company Law.

2. Not serving concurrently as an independent director on more than three other Taiwanese public companies in total.

3. During the two years before being elected and during the term of office, meet any of the following situations:

- (1) Not an employee of the company or any of its affiliates;
- (2) Not a director or supervisor of the company or any of its affiliates;
- (3) Not a natural-person shareholder who holds shares, together with those held by the person’s spouse, minor children, or held by the person under others’ names, in an aggregate amount of one percent or more of the total number of issued shares of the company or ranks as one of its top ten shareholders;
- (4) Not a spouse, relative within the second degree of kinship, or lineal relative within the third degree of kinship, of any of the officer in the preceding (1) subparagraph, or of any of the above persons in the preceding subparagraphs (2) and (3);
- (5) Not a director, supervisor, or employee of a corporate/institutional shareholder that directly holds five percent or more of the total number of issued shares of the company, ranks as of its top five shareholders, or has representative director(s) serving on the company’s board based on Article 27 of the Company Law;
- (6) Not a director, supervisor, or employee of a company of which the majority of board seats or voting shares is controlled by a company that also controls the same of the company;
- (7) Not a director, supervisor, or employee of a company of which the chairman or CEO (or equivalent) themselves or their spouse also serve as the company’s chairman or CEO (or equivalent);
- (8) Not a director, supervisor, officer, or shareholder holding five percent or more of the shares of a specified company or institution that has a financial or business relationship with the company; and
- (9) Other than serving as a compensation committee member of the company, not a professional individual who, or an owner, partner, director, supervisor, or officer of a sole proprietorship, partnership, company, or institution that, provides commercial, legal, financial, accounting services or consultation to the company or to any affiliate of the company, or a spouse thereof, and the service provided is an “audit service” or a “non-audit service which total compensation within the recent two years exceeds NT\$500,000”.

Board Diversity and Independence

TSMC establishes the “Guidelines for Nomination of Directors” that set out the procedures and criteria for the nomination, qualification and evaluation of candidates for Directors. The members of TSMC Board of Directors are nominated via rigorous selection processes. It not only considers background diversity, professional competence and experience, but also attaches great importance to his/her personal reputation on ethics and leadership. The Company aims to have at least of 50% independent directors and at least one female director to serve on the Board. Presently, the ten members of the Board of Directors represent diversified perspectives, including a complementary mix of skills, experiences, and backgrounds such as that from the industry, academia, and in law. These professionals, including a female board member, are citizens from Taiwan, Europe and the U.S. with world-class business operating experiences. The six Independent Directors constitute 60% of the Board, and there is no marital or is within the second degree of kinship relationship between or among the Directors. As such, the Board of Directors carries independence. The following table demonstrates the implementation of the diversity policy for Board members:

Implementation of the Diversity Policy for Board Members

Title	Chairman	Vice Chairman	Director		Independent Director					
Name	Mark Liu	C.C. Wei	F.C. Tseng	Ming-Hsin Kung	Sir Peter L. Bonfield	Kok-Choo Chen	Michael R. Splinter	Moshe N. Gavriellov	Yancey Hai	L. Rafael Reif
Gender	Male	Male	Male	Male	Male	Female	Male	Male	Male	Male
Nationality	U.S.	R.O.C.	R.O.C.	R.O.C.	UK	R.O.C.	U.S.	U.S.	R.O.C./U.S.	U.S.
Age	66-70	66-70	76-80	56-60	76-80	71-75	71-75	66-70	71-75	71-75
Employed by TSMC		✓								
Professional Knowledge and Expertise										
Business	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Technology	✓	✓	✓		✓		✓	✓	✓	✓
Finance/Accounting				✓					✓	
Legal						✓				
Sales and Marketing	✓	✓	✓		✓	✓	✓	✓	✓	
Cybersecurity					✓					
Others										Innovation/ R&D/ Education/ Training
Skills and Experience										
Leadership Skill	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Strategic Decision-making	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Global Market Perspective	✓	✓	✓	✓	✓		✓	✓	✓	
Industry Experience	✓	✓	✓		✓	✓	✓	✓		✓
Financial	✓	✓	✓	✓	✓		✓	✓	✓	✓
Operating and Manufacturing	✓	✓	✓		✓		✓	✓	✓	
Business Development	✓	✓	✓		✓	✓	✓	✓	✓	
Risk/Crisis Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Environmental Sustainability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Social Engagement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

3.2.1 Audit Committee

The Audit Committee assists the Board in fulfilling its oversight of the quality and integrity of the accounting, auditing, reporting, and financial control practices, as well as risk management of the Company.

The Audit Committee is responsible to review the following major matters:

- Financial reports;
- Auditing and accounting policies and procedures;
- Internal control systems and related policies and procedures;
- Material asset or derivatives transactions;
- Material lending funds, endorsements or guarantees;
- Offering or issuance of any equity-type securities;
- Derivatives and cash investments;
- Legal compliance;
- Related-party transactions and potential conflicts of interests involving executive officers and directors;
- Ombudsman reports;
- Fraud prevention and investigation reports;
- Corporate information security;
- Corporate risk management;
- Performance, independence, qualification of independent auditor;
- Hiring or dismissal of an attesting CPA, or the compensation given thereto;
- Appointment or discharge of financial, accounting, or internal auditing officers;
- Assessment of Committee Charter and fulfillment of Audit Committee duties;
- Self-assessment of the Committee's performance; and
- Any other matters that shall be reviewed by the Audit Committee Meeting as required by relevant laws and regulations or the Audit Committee Charter, or that are deemed to be material by the regulatory authorities.

Under R.O.C. law, the membership of Audit Committee shall consist of all independent directors. TSMC's Audit Committee satisfies this statutory requirement. The Committee also engaged a financial expert consultant in accordance with the rules of the U.S. Securities and Exchange Commission. The Audit Committee annually conducts self-evaluation to assess the Committee's performance and identify areas for further attention.

TSMC's Audit Committee is empowered by its Charter to conduct any study or investigation it deems appropriate to fulfill its responsibilities. It has direct access to TSMC's internal auditors, the Company's independent auditors, and all employees of the Company. The Committee is authorized to retain and oversee special legal, accounting, or other consultants as it deems appropriate to fulfill its mandate.

3.2.2 Compensation Committee

The Compensation Committee assists the Board in discharging its responsibilities related to TSMC's compensation and benefits policies, plans and programs, and in the evaluation and compensation of TSMC's directors of the Board and executives.

The members of the Compensation Committee are appointed by the Board as required by R.O.C. law. According to its charter, the committee shall consist of no fewer than three independent directors of the Board, whereas the actual committee is comprised of all six independent directors. The Chairman of the Board and the Chief Executive Officer are invited by the committee to attend all meetings and are excused from the committee's discussion of their own compensation.

TSMC's Compensation Committee is authorized by its charter to retain an independent consultant to assist in the evaluation of CEO's or executive officer's compensation.

Information Regarding Compensation Committee Members

Name/Title	Criteria	Professional Qualification and Experience	Independent Directors' Independence Status	Number of Other Taiwanese Public Companies Concurrently Serving as a Compensation Committee Member
Michael R. Splinter (Chair) Independent Director	TSMC's Compensation Committee is comprised of all six independent directors. For members professional qualification and experience, please refer to "2.4.1 Information Regarding Board Members" on page 24-29 of this Annual Report.	All the Compensation Committee members meet any of the following situations: 1. Satisfy the requirements of Article 14-6 of "Securities and Exchange Act" and the requirements of "Regulations Governing the Appointment and Exercise of Powers by the Compensation Committee of a Company Whose Stock is Listed on the Taiwan Stock Exchange or the Taipei Exchange" (Note) issued by Taiwan's Securities and Futures Bureau 2. Independent Director (or nominee arrangement) as well as his/her spouse and minor children do not hold any TSMC common shares 3. Received no compensation or benefits for providing commercial, legal, financial, accounting services or consultation to the Company or to any its affiliates within the preceding two years, and the service provided is either an "audit service" or a "non-audit service"		0
Sir Peter L. Bonfield Independent Director				0
Kok-Choo Chen Independent Director				0
Moshe N. Gavriellov Independent Director				0
Yancey Hai Independent Director				1
L. Rafael Reif Independent Director				0

Note: During the two years before being elected and during the term of office, meet any of the following situations:

- (1) Not an employee of the company or any of its affiliates;
- (2) Not a director or supervisor of the company or any of its affiliates;
- (3) Not a natural-person shareholder who holds shares, together with those held by the person's spouse, minor children, or held by the person under others' names, in an aggregate amount of one percent or more of the total number of issued shares of the company or ranks as one of its top ten shareholders;
- (4) Not a spouse, relative within the second degree of kinship, or lineal relative within the third degree of kinship, of any of the officer in the preceding (1) subparagraph, or of any of the above persons in the preceding subparagraphs (2) and (3);
- (5) Not a director, supervisor, or employee of a corporate/institutional shareholder that directly holds five percent or more of the total number of issued shares of the company, ranks as of its top five shareholders, or has representative director(s) serving on the company's board based on Article 27 of the Company Law;
- (6) Not a director, supervisor, or employee of a company of which the majority of board seats or voting shares is controlled by a company that also controls the same of the company;
- (7) Not a director, supervisor, or employee of a company of which the chairman or CEO (or equivalent) themselves or their spouse also serve as the company's chairman or CEO (or equivalent);
- (8) Not a director, supervisor, officer, or shareholder holding five percent or more of the shares of a specified company or institution that has a financial or business relationship with the company; and
- (9) Other than serving as a compensation committee member of the company, not a professional individual who, or an owner, partner, director, supervisor, or officer of a sole proprietorship, partnership, company, or institution that, provides commercial, legal, financial, accounting services or consultation to the company or to any affiliate of the company, or a spouse thereof, and the service provided is an "audit service" or a "non-audit service which total compensation within the recent two years exceeds NT\$500,000".

3.2.3 Corporate Governance Officer

The Board of Directors appointed Ms. Sylvia Fang, the Vice President of Legal and General Counsel of TSMC, as the Corporate Governance Officer responsible for corporate governance matters, including handling of matters relating to Board, Audit Committee, Compensation Committee and Shareholders' meetings in compliance with law, assistance in onboarding and continuing education of directors, provision of information required for performance of duties by directors, and assistance in directors' compliance of law, etc.

For details on performance of duties by the Corporate Governance Officer, please refer to "3. Corporate Governance" on page 40-66 of this Annual Report.

3.2.4 Director and Committees Members' Attendance

Each Director is expected to attend every Board meeting and the committees meeting on which he or she serves. In 2022, the average Board Meeting attendance rate was 100% and the attendance rate for the Audit Committee and Compensation Committee's Meetings were 93% and 97% respectively.

Board of Directors Meeting Status

Tenures of the Board of Directors members are from July 26, 2021 to July 25, 2024. Dr. Mark Liu, TSMC's Chairman of the Board of Directors convened four regular meetings and one special meeting in 2022. The directors' attendance status is as follows.

Title	Name	Attendance in Person	By Proxy	Attendance Rate in Person (%)	Notes
Chairman	Mark Liu	5	0	100%	None
Vice Chairman	C.C. Wei	5	0	100%	None
Director	Ming-Hsin Kung (Representative of National Development Fund, Executive Yuan)	5	0	100%	None
Director	F.C. Tseng	5	0	100%	None
Independent Director	Sir Peter L. Bonfield	5	0	100%	None
Independent Director	Kok-Choo Chen	5	0	100%	None
Independent Director	Michael R. Splinter	5	0	100%	None
Independent Director	Moshe N. Gavriellov	5	0	100%	None
Independent Director	Yancey Hai	5	0	100%	None
Independent Director	L. Rafael Reif	5	0	100%	None

Annotations:

- A. (1) Matters listed in the Securities and Exchange Act §14-3: The Securities and Exchange Act §14-3 is not be applicable because the Company has established the Audit Committee. For relevant information, please refer to the "Audit Committee Meeting Status" in this Annual Report.
- (2) There were no other written or otherwise recorded resolutions on which an independent director had an objection or reservation.
- B. Recusals of Directors due to conflicts of interests: Directors recused themselves from the discussion and voting of their compensation resolution.
- C. Measures taken to strengthen the functionality of the Board:
 - TSMC's Directors are composed of diverse backgrounds, including professional backgrounds in different industries, academic and legal, etc.; nationalities in different countries in Taiwan, Europe and the U.S.; world-class business operating experience; and one Director is female. Our Board has six independent directors who constitute 60% of the Board.
 - The Chairman of the Board of Directors is not executive officer of the Company.
 - TSMC established "Guidelines for Nomination of Directors", which describes the procedures and criteria for the nomination, qualification and evaluation of candidates for Directors.

Audit Committee Meeting Status

Tenures of the Audit Committee members are from July 26, 2021 to July 25, 2024. Sir Peter L. Bonfield, Chairman of the Audit Committee, convened four regular meetings in 2022. In addition to these meetings, he also convened one special meeting and three telephone conferences to discuss the Company's Annual Report to be filed with the Taiwan and U.S. authorities and investor conference materials with management. The Committee members and consultant's attendance status is as follows.

Title	Name	Attendance in Person	By Proxy	Attendance Rate in Person (%)	Telephone Conferences	Attendance Rate of Telephone Conferences (%)	Notes
Chair	Sir Peter L. Bonfield	5	0	100%	3	100%	None
Member	Kok-Choo Chen	5	0	100%	3	100%	None
Member	Michael R. Splinter	5	0	100%	2	67%	None
Member	Moshe N. Gavriellov	5	0	100%	3	100%	None
Member	Yancey Hai	5	0	100%	3	100%	None
Member	L. Rafael Reif	3	2	60%	2	67%	None
Financial Expert Consultant	Jan C. Lobbezoo	5	0	100%	3	100%	None

(Continued)

Annotations:

A. (1) Resolutions related to Securities and Exchange Act §14-5:

Audit Committee Meeting Date	Resolution
2022 1 st Regular Meeting February 14	<ul style="list-style-type: none"> •2021 annual financial statements •2021 business report •2021 fourth quarter earnings distribution •Amendments to TSMC's "Procedures for Acquisition or Disposal of Assets" •Issuance of total 1,387,000 shares of 2021 employee restricted stock awards •Issuance of 2022 employee restricted stock awards •Ratification of the comfort letter service already provided for the 3.5 billion U.S. bond issuance by Deloitte •Additional 2022 service fees to Deloitte for TSMC Japan 3DIC R&D Center •2021 Statement of Internal Control System
2022 1 st Special Meeting April 12	<ul style="list-style-type: none"> •Amendments to the issuance of 2022 employee restricted stock awards
2022 2 nd Regular Meeting May 9	<ul style="list-style-type: none"> •2022 first quarter financial statements •2022 first quarter business report •2022 first quarter earnings distribution •Amendments to TSMC's internal control related policies and procedures
2022 3 rd Regular Meeting August 8	<ul style="list-style-type: none"> •2022 second quarter financial statements •2022 second quarter business report •2022 second quarter earnings distribution •Ratification of TSMC's security investments classified as non-current assets •Ratification of additional 2022 service fees and out-of-pocket expenses to Deloitte for Global Employee Stock Purchase Plan and TSMC Nanjing •The comfort letter service, and the additional service & service fee for the review of IFRS interim financial statements by Deloitte for the planned U.S. bond issuance
2022 4 th Regular Meeting November 7	<ul style="list-style-type: none"> •2022 third quarter financial statements •2022 third quarter business report •2022 third quarter earnings distribution •Mr. Jimmy Wu as the new engagement partner of Deloitte for TSMC starting from 2023, and 2023 service fees and out-of-pocket expenses for Deloitte
Independent directors' objections, reservations or major suggestions: None.	
Resolution of the Audit Committee and the Company's response to the Audit Committee's Opinion: The members of the Audit Committee unanimously approved all the resolutions, and the Board of Directors approved all such resolutions recommended by the Audit Committee.	

(2) There were no other resolutions which was not approved by the Audit Committee but was approved by two thirds or more of all directors in 2022.

B. There were no recusals of independent directors due to conflicts of interests in 2022.

C. Descriptions of the communications between the independent directors, the internal auditors, and the independent auditors in 2022 (which should include the material items, channels, and results of the audits on the corporate finance and/or operations, etc.):

(1) The internal auditors have sent the audit reports to the members of the Audit Committee periodically and presented the findings of all audit reports in the quarterly meetings of the Audit Committee. The head of Internal Audit will immediately report to the members of the Audit Committee any material matters. During 2022, the head of Internal Audit did not report any such material matters. The communication channel between the Audit Committee and the internal auditor functioned well.

(2) The Company's independent auditors have presented the findings of their quarterly review or audits on the Company's financial results. Under applicable laws and regulations, the independent auditors are also required to immediately communicate to the Audit Committee any material matters that they have discovered. During 2022, the Company's independent auditors did not report any irregularity. The communication channel between the Audit Committee and the independent auditors functioned well.

The communications between the independent directors, the internal auditors, and the independent auditors are listed in the table below.

Audit Committee Meeting Date	Communications between the Independent Directors and the Internal Auditors	Communications between the Independent Directors and the Independent Auditors
2022 1 st Regular Meeting February 14	<ul style="list-style-type: none"> •Internal Auditor's report (Closed Door Session) •Report on SOX 404 self-testing results for the year 2021 (Closed Door Session) •2021 Statement of Internal Control System (Closed Door Session) 	<ul style="list-style-type: none"> •External auditor relationship (i.e. qualification, performance and independence) •Report of regulatory developments •Any audit problems or difficulties and management's response in connection with 2021 annual financial statements (Closed Door Session)
2022 2 nd Regular Meeting May 9	<ul style="list-style-type: none"> •Internal Auditor's report (Closed Door Session) •Amendments to TSMC's internal control related policies and procedures (Closed Door Session) 	<ul style="list-style-type: none"> •The result of 2021 CPA evaluation questionnaire •Report of regulatory developments •Any review problems or difficulties and management's response in connection with 2022 first quarter financial statements (Closed Door Session)
2022 3 rd Regular Meeting August 8	<ul style="list-style-type: none"> •Internal Auditor's report (Closed Door Session) 	<ul style="list-style-type: none"> •Report of regulatory developments •Any review problems or difficulties and management's response in connection with 2022 second quarter financial statements (Closed Door Session)
2022 4 th Regular Meeting November 7	<ul style="list-style-type: none"> •Internal Auditor's report (Closed Door Session) •2023 internal audit plan (Closed Door Session) 	<ul style="list-style-type: none"> •Report of regulatory developments •Any review problems or difficulties and management's response in connection with 2022 third quarter financial statements (Closed Door Session)

Result: all of the above matters were reviewed and/or approved by the Audit Committee whereupon independent directors raised no objection.

Compensation Committee Meeting Status

Tenures of the Compensation Committee members are from July 26, 2021 to July 25, 2024. Mr. Michael R. Splinter, Chairman of the Compensation Committee, convened four regular meetings and one special meeting in 2022. Committee member attendance is as follows.

Title	Name	Attendance in Person	By Proxy	Attendance Rate in Person (%)	Notes
Chair	Michael R. Splinter	5	0	100%	None
Member	Sir Peter L. Bonfield	5	0	100%	None
Member	Kok-Choo Chen	5	0	100%	None
Member	Moshe N. Gavriellov	5	0	100%	None
Member	Yancey Hai	5	0	100%	None
Member	L. Rafael Reif	4	1	80%	None

Annotations:

A. In 2022, the Compensation Committee conducted four regular meetings on February 14, May 9, August 8 as well as November 7. The Committee also conducted one special meeting on April 12. The discussion items were as follows:

- Report on matters related to employee compensation
- Total amount of quarterly business performance bonus
- Total amount of annual profit sharing
- The amount of quarterly business performance bonus for executive officers, CEO and Chairman
- The annual compensation of directors and executive officers, and the disclosure of same in the Annual Report
- Grant of Employee restricted stock awards for 2021
- Employee restricted stock awards rules for 2022
- Global Employee Stock Purchase Plan
- Organization and Succession Discussion

All of the above matters were reviewed and/or approved by the Compensation Committee.

B. The Board of Directors adopted all recommendations of the Compensation Committee without modification.

C. There were no written or otherwise recorded resolutions on which any member of the Compensation Committee had an objection or reservation opinion.

Board of Directors' Performance Evaluation Implementation Status

Evaluation Cycle	Evaluation Period	Evaluation Scope	Evaluation Method	Evaluation Aspect
Annual	From January 1, 2022 to December 31, 2022	<ul style="list-style-type: none"> •The Board of Directors as a whole •The individual directors •The Audit Committee 	<ul style="list-style-type: none"> •Internal assessment of the Board •Self-assessments by each board member 	<p>The Board of Directors are assessed on the following five aspects:</p> <ol style="list-style-type: none"> 1. Involvement in the Company's operation 2. Enhancement of the quality of the board's decision-making 3. Makeup and structure of the board 4. Election of board members and continuing knowledge development 5. Internal controls <p>The individual directors are assessed on the following six aspects:</p> <ol style="list-style-type: none"> 1. Understanding of the Company's goals and mission 2. Awareness of director's duties 3. Involvement in the Company's operations 4. Internal relationship and communication 5. Director's professionalism and continuing knowledge development 6. Internal controls <p>The Audit Committee is assessed on the following five aspects:</p> <ol style="list-style-type: none"> 1. Involvement in the Company's operation 2. Awareness of the audit committee's duties 3. Enhancement of the quality of the audit committee's decision-making 4. Makeup of the audit committee and election of its members 5. Internal controls

The Company completed self-assessments of Board performance in 2022 and reported the results to the Board of Directors at its first quarter meeting in 2023 for review and improvement. The weighted average score for the overall performance of the Board of Directors is 4.76 out of 5, that included an average score of 4.9 on a particular assessment item "The board has sufficient discussions over the Company's involvement in the implementation of ESG programs". The weighted average score for the performance of the individual directors is 4.9 out of 5. As demonstrated, the overall board's operation has been effective. Members of the Audit Committee's self-assessment results also 100% satisfied with the evaluation criteria.

3.3 Major Decisions of Shareholders' Meeting and Board Meetings

3.3.1 Major Resolutions of Shareholders' Meeting and Implementation Status

TSMC held 2022 Annual Shareholders' Meeting in Hsinchu, Taiwan on June 8, 2022. At the meeting, shareholders present in person or by proxy approved the following resolutions:

- (1) The 2021 Business Report and Financial Statements. Consolidated revenue totaled NT\$1,587.42 billion and net income was NT\$596.54 billion, with diluted earnings per share of NT\$23.01;
- (2) The revisions to TSMC's Articles of Incorporation; and
- (3) The issuance of employee restricted stock awards for year 2022.

Implementation Status

All the resolutions of the Shareholders' Meeting have been fully implemented in accordance with the resolutions.

3.3.2 Major Resolutions of Board Meetings

During 2022 and as of the date of this Annual Report, major resolutions approved at Board meetings are summarized below:

- (1) Board Meeting of February 14 & 15, 2022:
 - approving the 2021 Business Report and Financial Statements;
 - approving the distribution of a NT\$2.75 per share cash dividend for the fourth quarter of 2021, and setting June 22, 2022 as the record date for common stock shareholders entitled to participate in this cash dividend distribution;
 - approving distribution of employees' business performance bonus and profit sharing for 2021;
 - approving capital appropriations of approximately US\$20,944.17 million for purposes including: 1. Installation and upgrade of advanced technology capacity; 2. Installation of mature and specialty technology capacity; 3. Installation of advanced packaging capacity; 4. Fab construction, and installation of fab facility systems; 5. Second quarter through fourth quarter 2022 R&D capital investments and sustaining capital expenditures;
 - approving the issuance of unsecured corporate bonds in the domestic market for an amount not to exceed NT\$60 billion, and the issuance of US dollar-denominated unsecured corporate bonds in Taiwan's International Bond Market for an amount not to exceed US\$1 billion, to finance TSMC's capacity expansion and/or pollution prevention related expenditures;
 - approving the issuance of 1,387,000 shares of 2021 employee restricted stock awards (RSAs). In order to offset dilution from the increase of outstanding shares due to the above-mentioned issuance, the board approved a share buyback program for TSMC to buy back its common shares on the Taiwan Stock Exchange. In addition, approving the issuance of no more than 2,960,000 common shares of RSAs for the year 2022, which will be submitted to the 2022 Annual Shareholders' Meeting for approval; and
 - convening the 2022 Annual Shareholders' Meeting.
- (2) Regular Board Meeting of May 9 & 10, 2022:
 - approving the distribution of a NT\$2.75 per share cash dividend for the first quarter of 2022, and setting September 21, 2022 as the record date for common stock shareholders entitled to participate in this cash dividend distribution;
 - approving capital appropriations of approximately US\$16,757.67 million for purposes including: 1. Installation and upgrade of advanced technology capacity; 2. Installation of mature and specialty technology capacity; 3. Installation and upgrade of advanced packaging capacity; 4. capitalized leased assets; and
 - approving the Global Employee Stock Purchase Plan which applies to all regular employees of TSMC and its wholly owned subsidiaries.
- (3) Regular Board Meeting of August 8 & 9, 2022:
 - approving the distribution of a NT\$2.75 per share cash dividend for the second quarter of 2022, and setting December 21, 2022 as the record date for common stock shareholders entitled to participate in this cash dividend distribution;
 - approving capital appropriations of approximately US\$9,234.73 million for purposes including: 1. Installation and expansion of advanced technology capacity; 2. Installation of mature and specialty technology capacity; and
 - approving the provision of a guarantee to TSMC Arizona, a wholly-owned subsidiary of TSMC, for its issuance of US dollar-denominated senior unsecured corporate bonds for an amount not to exceed US\$4 billion, to finance TSMC's capacity expansion.

(4) Regular Board Meeting of November 7 & 8, 2022:

- approving the distribution of a NT\$2.75 per share cash dividend for the third quarter of 2022, and setting March 22, 2023 as the record date for common stock shareholders entitled to participate in this cash dividend distribution; and
- approving capital appropriations of approximately US\$5,717.19 million for purposes including: 1. Installation and upgrade of advanced technology capacity; 2. Installation of specialty technology capacity; 3. Fab construction, and installation of fab facility systems; 4. 2023 R&D capital investments and sustaining capital expenditures; 5. 2023 capitalized leased assets.

(5) Regular Board Meeting of February 13 & 14, 2023:

- approving the 2022 Business Report and Financial Statements;
- approving the distribution of a NT\$2.75 per share cash dividend for the fourth quarter of 2022, and setting June 21, 2023 as the record date for common stock shareholders entitled to participate in this cash dividend distribution;
- approving distribution of employees' business performance bonus and profit sharing for 2022;
- approving capital appropriations of approximately US\$6,959.5 million for purposes including: 1. Installation and upgrade of advanced technology capacity; 2. Installation of specialty technology capacity; 3. Fab construction, and installation of fab facility systems;
- approving the capital injection of not more than US\$3.5 billion to TSMC Arizona, a wholly-owned subsidiary of TSMC;
- approving the issuance of unsecured corporate bonds in the domestic market for an amount not to exceed NT\$60 billion to finance TSMC's capacity expansion and/or pollution prevention related expenditures;
- approving the issuance of 2,110,000 shares of 2022 employee restricted stock awards (RSAs). In addition, approving the issuance of no more than 6,249,000 common shares of RSAs for the year 2023, which will be submitted to the 2023 Annual Shareholders' Meeting for approval; and
- convening the 2023 Annual Shareholders' Meeting.

3.3.3 Major Issues of Record or Written Statements Made by Any Director Dissenting to Important Resolutions Passed by the Board of Directors in 2022 and as of the Date of this Annual Report: None.

3.4 Taiwan Corporate Governance Implementation as Required by Taiwan Financial Supervisory Commission

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Explanation	
1. Does Company follow "Taiwan Corporate Governance Implementation" to establish and disclose its corporate governance practices?		V	TSMC has always followed excellent corporate governance practices, provided the utmost in operational transparency and safeguarded shareholders' equity. Although the Company does not have a formal code of practice for corporate governance, however TSMC has always been highly regarded as an industry leader in implementing comprehensive corporate governance practices. In addition, the Company also has a world-class Board of Directors. The Company believes that corporate governance is based on integrity, professional management and implementation. TSMC has been proving its excellent corporate governance in its operating performance and continued winning of domestic and international awards on best corporate governance company.	Same as explanation
2. Shareholding Structure & Shareholders' Rights				None
(1) Does Company have Internal Operation Procedures for handling shareholders' suggestions, concerns, disputes and litigation matters. If yes, has these procedures been implemented accordingly?	V		(1) TSMC has designated appropriate departments, such as Investor Relations Division, Public Relations Division, Shareholders Services & SEC Compliance Department, Legal, etc., to handle shareholder suggestions, concerns, disputes or litigation matters.	
(2) Does Company possess a list of major shareholders and beneficial owners of these major shareholders?	V		(2) TSMC tracks the shareholdings of directors, officers, and top ten shareholders.	
(3) Has the Company built and executed a risk management system and "firewall" between the Company and its affiliates?	V		(3) TSMC has set up internal rules in the Company's Internal Control System and Affiliated Corporations Management.	
(4) Has the Company established internal rules prohibiting insider trading on undisclosed information?	V		(4) TSMC has established its "Insider Trading Policy" that applies to all employees, officers and members of the Board of Directors of the Company and to any other person having a duty of trust or confidence, with respect to transactions in the Company's securities. This policy prohibits any insider trading and the Company regularly provides internal training on this issue.	

(Continued)

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Explanation	
3. Composition and Responsibilities of the Board of Directors (1) Has the Board of Directors established a diversity policy, set goals, and implemented them accordingly? (2) Other than the Compensation Committee and the Audit Committee which are required by law, does the Company plan to set up other Board committees? (3) Has the Company established methodology for evaluating the performance of its Board of Directors, on an annual basis, reported the results of performance to the Board of Directors, and use the results as reference for directors' remuneration and renewal?	V		(1) Please refer to "3.2 Board of Directors – Board Diversity and Independence" on page 46 of this Annual Report. (2) Audit Committee (founded in 2002); Compensation Committee (founded in 2003); Nominating, Corporate Governance and Sustainability Committee (founded in 2023); ESG Steering Committee (founded in 2019): is formed by the Company's management team and chaired by Chairman Mark Liu; ESG Committee (founded in 2011): is formed by the Company's executive team and reports quarterly to the Board of Directors on the implementation of plans and results. (3) As TSMC's corporate governance concept, the Board of Director's primary responsibility is to supervise, evaluate the management's performance and dismiss officers of the Company when necessary, resolve the important, concrete matters and provide guidance to the management team. TSMC's Board of Directors consists of distinguished members with a great breadth of experience as world-class business leaders or professionals and adhere high ethical standards and commitment to the Company. Each quarter's Board Meeting is last for two days. Company's resolutions are determined in board meeting, also business strategy and future orientation are discussed in the meeting, in order to create best interest for shareholders. Based on TSMC's operating performance and local/international awards of best corporate governance, it certainly proves the Company's excellent performance of Board of Directors. Each year, TSMC conducts regular Board performance self-evaluation in form of written questionnaires for the Board, individual directors, and the Audit Committee. The Board of Directors are assessed on the following five aspects: 1. Involvement in the Company's operation 2. Enhancement of the quality of the board's decision-making 3. Makeup and structure of the board 4. Election of board members and continuing knowledge development 5. Internal controls The individual directors are assessed on the following six aspects: 1. Understanding of the Company's goals and mission 2. Awareness of director's duties 3. Involvement in the Company's operations 4. Internal relationship and communication 5. Director's professionalism and continuing knowledge development 6. Internal controls The Audit Committee is assessed on the following five aspects: 1. Involvement in the Company's operation 2. Awareness of the audit committee's duties 3. Enhancement of the quality of the audit committee's decision-making 4. Makeup of the audit committee and election of its members 5. Internal controls The Company completed self-assessments of Board performance in 2022 and reported the results to the Board of Directors at its first quarter meeting in 2023 for review and improvement. The weighted average score for the overall performance of the Board of Directors is 4.76 out of 5, that included an average score of 4.9 on a particular assessment item "The board has sufficient discussions over the Company's involvement in the implementation of ESG programs". The weighted average score for the performance of the individual directors is 4.9 out of 5. As demonstrated, the overall board's operation has been effective. Members of the Audit Committee's self-assessment results also 100% satisfied with the evaluation criteria.	None
(4) Does the Company regularly evaluate its external auditors' independence?	V		(4) The Audit Committee annually evaluates the independence of external auditors and reports the same to the Board of Directors. Please refer to "3.9.4 Evaluation of the External Auditor's Independence and Suitability" on page 66 of this Annual Report.	
4. Does the Company appoint competent and appropriate corporate governance personnel and corporate governance officer to be in charge of corporate governance affairs (including but not limited to furnishing information required for business execution by directors, assisting directors' compliance of law, handling matters related to board meetings and shareholders' meetings according to law, and recording minutes of board meetings and shareholders' meetings)?	V		The Board of Directors appointed the Vice President of Legal and General Counsel of TSMC as the Corporate Governance Officer. TSMC's Corporate & Compliance Legal Division, which directly reports to the General Counsel, is in charge of assisting in related affairs, including handling of matters relating to Board, Audit Committee, Compensation Committee and Shareholders' meetings in compliance with law, assistance in onboarding and continuing education of directors, provision of information required for performance of duties by directors, and assistance in directors' compliance of law, etc.	None

(Continued)

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Explanation	
5. Has the Company established a means of communicating with its Stakeholders (including but not limited to shareholders, employees, customers, suppliers, etc.) or created a Stakeholders Section on its Company website? Does the Company respond to stakeholders' questions on corporate responsibilities?	V		Depending on the situation, the Company's Investor Relations Division, Public Relations Division, Shareholders Services & SEC Compliance Department, Human Resources Organization, Customer Service Department, Procurement Department and ESG will communicate with stakeholders. We also have publicly disclosed the contact information of our corporate spokesperson and relevant departments. Also, we have a stakeholder section on our corporate website to address our sustainability and any other issues. For details, please refer to "7. Environmental, Social and Governance (ESG)" on page 148-173 of this Annual Report and "Materiality Analysis and Stakeholder Communication" of TSMC's Sustainability Report.	None
6. Has the Company appointed a professional registrar for its Shareholders' Meetings?	V		We have appointed China Trust as registrar for our Shareholders' Meetings.	None
7. Information Disclosure (1) Has the Company established a corporate website to disclose information regarding its financials, business and corporate governance status? (2) Does the Company use other information disclosure channels (e.g. maintaining an English-language website, designating staff to handle information collection and disclosure, appointing spokespersons, webcasting investors conference etc.)? (3) Does the Company announce and report the annual financial statements within two months after the end of the fiscal year, and announce and report the first, second, and third quarter financial statements as well as the operating status of each month before the prescribed deadline?	V		(1) TSMC discloses its financials business and corporate governance status on its website at http://www.tsmc.com (in Chinese and English). TSMC's American Depository Receipt (ADR) is listed on the New York Stock Exchange (NYSE). As a foreign issuer, TSMC must comply with NYSE's rules. We have been operating in accordance with NYSE listing standards, and have been disclosing the major differences between our corporate governance practices and U.S. corporate governance practices. Please see https://www.tsmc.com/download/ir/NYSE_Section_303A.pdf . (2) TSMC has designated appropriate departments (e.g. the Investor Relations Division, Public Relations Division, Shareholders Services & SEC Compliance Department, etc.) to handle the collection and disclosure of information as required by the relevant laws and regulations of Taiwan and other jurisdictions. TSMC has designated Spokesperson and Deputy Spokesperson as required by relevant regulations. TSMC provides live audio webcasts and replays of investor conferences on its website. (3) TSMC follows relevant laws and regulations to announce and report the annual financial statements within two months after the end of the fiscal year, and announce and report the first, second, and third quarter financial statements as well as the operating status of each month before the prescribed deadline. Please refer to Market Observation Post System for the aforementioned disclosure.	None
8. Has the Company disclosed other information to facilitate a better understanding of its corporate governance practices (e.g. including but not limited to employee rights, employee wellness, investor relations, supplier relations, rights of stakeholders, directors' training records, the implementation of risk management policies and risk evaluation measures, the implementation of customer relations policies, and purchasing insurance for directors)?	V		(1) For employee rights and employee wellness, please refer to "5.6 Human Capital" on page 109-116 of this Annual Report. (2) For investor relations, supplier relations and rights of stakeholders, please refer to "7. Environmental, Social and Governance (ESG)" on page 148-173 of this Annual Report. (3) For Directors' training records, please refer to "Continuing Education/Training of Directors in 2022" on page 55-56 of this Annual Report. (4) For Risk Management Policies and Risk Evaluation, please refer to "6.3 Risk Management" on page 131-146 of this Annual Report. (5) For Customer Relations Policies, please refer to "5.4 Customer Trust" on page 106-108 of this Annual Report. (6) TSMC maintains D&O Insurance for its directors and officers.	None
9. The improvement status for the result of Corporate Governance Evaluation announced by Taiwan Stock Exchange			TSMC was ranked in top 5% in Corporate Governance Evaluation over the years. The improvement status in 2022 is as follows: (1) The TSMC Board set up the "Audit Committee" and the "Compensation Committee" in 2002 and 2003 respectively. In order to make our corporate governance more comprehensive, the TSMC Board took a step further in February 2023 to expand and strengthen the functions and responsibilities of its committees, including renaming the "Audit Committee" to the "Audit and Risk Committee", and the renaming the "Compensation Committee" to the "Compensation and People Development Committee". It also established a "Nominating, Corporate Governance and Sustainability Committee" of the Board of Directors. (2) ESG Quarterly Report: Regularly report to the Board of Directors on a quarterly basis.	

Continuing Education/Training of Directors in 2022

The major training methods of Directors include:

- At quarterly Board meetings, TSMC management presents updates on the Company's business, regulatory developments and other information;
- The Company arranges speeches on politics, economics, and regulatory compliance, etc.;
- At quarterly Audit Committee meetings, TSMC's General Counsel and the Company's independent auditors provide regulatory update reports and legal compliance status; and
- Directors participate in externally-provided training courses as needed.

In addition, from time to time, Directors are invited by other parties to give speeches on corporate governance and related topics.

Name	Date	Host by	Training/Speech Title	Duration
Mark Liu (Note)	03/16	East Asia Economic Caucus (EAEC)	Global Semiconductor Industry Trends and TSMC's Development in Japan	0.75 hour
	05/19	Taiwan Semiconductor Industry Association (TSIA)	2022 World Semiconductor Council (WSC) Meeting	2 hours
	07/13	SEMI	SEMICON West 2022 Hybrid – Global Sustainability Summit	0.25 hour
	11/30	The Third Wednesday Club	Opportunities and Challenges for Taiwan Semiconductor Industry	1 hour
F.C. Tseng	04/28	Taiwan Corporate Governance Association	Making Sustainability the New Normal	3 hours
	12/13	Taiwan Corporate Governance Association	The Risk and Opportunities of Climate Change	3 hours
Michael R. Splinter	06/13	SolarEdge Technologies	Executive Training – Leadership (Note)	2 hours
	06/15	NASDAQ	Regulation and Governance Trends	4 hours
	11/02	NASDAQ	Director Knowledge Exchange – Trends in Boardroom (Note)	2 hours
Moshe N. Gavriellov	09/21-23	McKinsey & Company	T-30 Semiconductor Executive/Board Member Event	16 hours
Yancey Hai	02/24	Taiwan Corporate Governance Association	Latest Developments and Legislative Amendment Trends in International and Domestic Tax	3 hours
	07/28	Taiwan Corporate Governance Association	Net-zero Emissions, Carbon Neutrality, and Corporate Compliance	3 hours

Note: Selected speeches on corporate governance and related topics.

Continuing Education/Training of Corporate Governance Officer in 2022

Name	Date	Host by	Training/Speech Title	Duration
Vice President and General Counsel Corporate Governance Officer Sylvia Fang	04/22	Taiwan Corporate Governance Association	Net-zero Emissions, Carbon Neutrality, and Corporate Compliance	3 hours
	10/19	Taiwan Corporate Governance Association	The 18 th Corporate Governance Summit Forum – Boosting Board Directors' Competencies for Effective Sustainable Corporate Governance	6 hours
	12/21	Taiwan Corporate Governance Association	Introduction of Hostile Takeovers and Regulation Compliance	3 hours

3.5 Code of Ethics and Business Conduct

Ethics at TSMC

"Integrity" is TSMC's most important core value. TSMC strictly adheres to the highest standards of integrity and promotes good ethical behavior to sustain the hard-earned trust and confidence of its shareholders, customers, suppliers, employees and the general public – constantly and vigilantly promoting integrity, fairness, and transparency in all that we say and do. We have zero tolerance for corruption, refrain from bribery, fraud, abuse or embezzlement of corporate assets, and prohibit the advancement of personal interests at the expense of or in conflict with TSMC. At the heart of our corporate governance culture is the "TSMC Ethics and Business Conduct Policy" (Ethics Code). The Ethics Code requires that each employee bear a heavy personal responsibility to preserve and to protect TSMC's ethical values and reputation. At the same time, we have formulated the "TSMC's Supplier Code of Conduct" as well to ensure our suppliers understand and follow the Ethics Code and together fulfill our corporate social responsibilities.

Specifically, every TSMC employee must adhere to the following:

- Do not advance personal interests at the expense of or in conflict with the Company;
- Refrain from corruption (including collusion with others), bribery, unfair competition, fraud, extortion, embezzlement, and waste or abuse of corporate assets;
- Avoid any improper efforts to influence the decisions of anyone, including government officials, agencies, as well as TSMC's customers and suppliers;
- Do not undertake any practices detrimental to TSMC, to the environment, or to society;
- Procure all of our raw materials from socially responsible sources;
- Protect proprietary information of TSMC, our customers and suppliers; and
- Abide by the letter of all applicable laws, rules and regulations.

The protection of intellectual properties is also an important part of the Ethics Code. In order to build and sustain an environment of innovation, technology leadership, and sustainable profitable growth, the Ethics Code requires that TSMC promotes business relationships founded upon an unwavering respect for the intellectual property rights, proprietary information and trade secrets of TSMC, our customers, and others.

With regarding to public disclosures, TSMC's officers, especially our CEO, CFO, and General Counsel, with oversight from our Board, are responsible for the full, fair, accurate, timely, and understandable financial accounting and financial disclosure in reports and documents filed by the Company with securities authorities and in all TSMC public communications and disclosures. TSMC has a variety of measures in place to ensure compliance with these disclosure obligations.

Any modification to the Ethics Code requires the approval of our Audit Committee to ensure our ethics compliance program is independently reviewed against corporate best practices.

Ethics Code Implementation

High Standard of Ethics Culture: Our ethics program is implemented in four ways by all of TSMC's Board members, officers, and employees. First, the TSMC management team sets the "tone from top" by acting in accordance with the Ethics Code so that they will be an example to all stakeholders. Second, working-level managers are responsible for ensuring their staff's understanding of and compliance with applicable rules and regulations. Third, TSMC encourages an environment of open communications in discussing any questions related to the Ethics Code. Any employee may consult his or her direct supervisors, Human Resources or Legal to obtain timely advice. Lastly, TSMC requires all employees to stay vigilant and report any noncompliance by anyone to their supervisors, the function head of Human Resources, the responsible corporate senior management appointed by CEO that oversees the Ombudsman system, or to the Chairman of the Company's Audit Committee directly.

Self-Assessment of All Departments and Employees: Self-assessment of all departments and employees is an important part of our ethics compliance program. All TSMC departments and subsidiaries are required to conduct Control Self-Assessment (CSA) tests annually in reviewing employees' awareness of the Ethics Code, and to evaluate and strengthen the effectiveness of internal control related to the Ethics Code. The CSA results are reviewed to track the results of our compliance program. In addition, all employees must disclose any matters that cause, or may cause, actual or potential conflict of interest. In addition to this proactive disclosure requirement, employees with specific job grades or job responsibilities must annually declare any relationships that may constitute a conflict of interest, which enables TSMC to take necessary arrangements and report the results to the Audit Committee.

Internal Auditing: The Internal Auditor of TSMC plays a critical role in ensuring the Company's compliance with the Ethics Code and relevant rules and regulations. To ensure that our financial, managerial, and operating information is accurate, reliable, and timely and that our employees' actions are in compliance with applicable policies, standards, procedures, laws and regulations, our Internal Auditor conducts audits of various control points within the Company in accordance with its annual audit plan approved by the Board of Directors and subsequently reports its audit findings and remedial issues to the Board and management on a regular basis.

Training and Promotion: To promote awareness to our employees of their responsibilities under the Ethics Code, we publish our Ethics Code and related policies and documents on our intranet and, provide training courses, posters, emails, and other diversified ways to advocate the Company's core values and compliance system. In terms of training courses, TSMC not only provides annual online course on the Ethics Code and requires all employees to complete the training, as well as face-to-face training courses delving into more specific ethics-related topics for targeted employees. In 2022, there were 67,922 attendances that completed the "Annual Ethics and Compliance Training Course" (mandatory 0.5 hour online course) at TSMC and its subsidiaries, reaching 99.9% completion rate.

In addition to our internal compliance efforts, we expect and assist our business partners such as customers and suppliers, and any other entities with whom we deal (include consultants or third party agents who act for or on behalf of TSMC) to recognize and understand TSMC's ethical standards to fulfill our responsibilities as a corporate citizen. For instance, we require all of our suppliers to declare in writing that they will respect and comply with TSMC's ethical standards and culture. TSMC is a full member of the Responsible Business Alliance (RBA, formerly the (Electronic Industry Citizenship Coalition, EICC)), dedicated to global supply chain sustainability. In addition to adopting the RBA Code of Conduct at all of its facilities, TSMC applied the RBA's standards to enhance our audit program of our suppliers and relevant business partners. We provide training and communicate our ethical culture to our suppliers through live seminars and online programs to prevent any unethical conduct and detect any sign of Ethics Code violations. In 2022, we held a sustainable supply chain ESH forum to share/exchange practical experiences on topics such as the Ethics Code, environmental protection, and occupational safety. We also exchange views on appropriate business conduct and TSMC's ethical standards and implementation status with our customers as part of customer audit programs.

Reporting Channels and Whistleblower Protection

TSMC has established and published its "Complaint Policy and Procedure for Certain Accounting & Legal Matters" and pledges to comply with the relevant regulations in the policy. Open and multiple reporting channels are available for internal and external voices to protect the rights and interests of stakeholders and the Company. All reported incidents collected from reporting channels inside or outside of TSMC are properly recorded and traced. TSMC also prohibits any form of retaliation by providing proper protection for any individual who in good faith reports a suspected violation or participates in an investigation. In 2022, the Ethics Committee held a total six meetings to examine major reported incidents under investigation.

TSMC investigates each individual case according to its characteristics through specific divisions, and treats every received case seriously, carefully, and effectively to ensure the accuracy of the investigation. The TSMC Ethics Committee will evaluate each case to determine whether it is an exceptional case or whether it results from systemic issues of insufficient awareness in ethics. This allows TSMC to continue evaluating whether it is necessary to improve its management and internal control procedures. Awareness such as emails to employees describing the violations and disciplinary actions in each quarter are conducted to promote employees' awareness and avoid recurrence of similar incidents.

In 2022, TSMC did not receive any reports related to finance, accounting or antitrust matters, nor did we receive any complaints concerning breach of customer privacy and loss of customer data, or any material regulatory violations (where a fine exceeds NT\$1 million), including non-monetary sanctions.

In 2022, the incidents reported through the Audit Committee Whistleblower System, Ombudsman System, and Irregular Business Conduct Reporting System totaled 335. Among them, 217 cases were related to people management/employee relations, 107 cases were categorized as others (e.g., asking personal questions or private matters), and 11 cases were related to ethics. Four incidents were verified upon investigation and determined for disciplinary action by the Ethics Committee. In 2022, TSMC leveraged the four violations to strengthen ethics promotion for all employees in supplier-related activities. Below is a summary of reported incidents.

Year	FY2018	FY2019	FY2020	FY2021	FY2022
Total reported cases	150	205	246	327	335
Ethics-related cases	14	26	22	17	11
Cases investigated and verified as ethics violations	1	2	6	4	4 (Note 1)
Sexual Harassment Investigation Committees Formed	3	4	4	14	19
Cases investigated and verified as violations	3	4	2	11	14 (Note 2)

Note 1: Of the four verified cases: One incident involved employees who failed to notice the price listed on order was different from the Company's quotation and one employee received major demerit and one employee received warning. One incident involved employees who approached vendors for business without authorization in pursuit of personal interest. The Company took progressive disciplinary actions according to the nature and severity of each misconduct, including dismissal for one employee. One incident involved an employee who engaged in inappropriate interactions and received a probation. One incident involved an employee who asked vendor to provide services for personal benefit and received warning.

Note 2: Employees who violated Company sexual prevention policy (the "Policy") were disciplined by the Company based on the case-by-case nature and severity of the verified misbehaviors. Since these violations involved various inappropriate behaviors, the Company leveraged the violations and summarized the Policy to educate employees what kinds of behaviors could be viewed as sexual harassment and the consequences in 2022 TSMC annual sexual harassment prevention training so as to raise employees' awareness.

Ethics Code Violation Disciplinary Action

We do not tolerate any violation of the Ethics Code and treat every possible violation incident seriously. Each violator of the Ethics Code (or relevant regulations) will be severely disciplined to the full extent of our policies and the law, up to and including immediate dismissal, termination of business relationship, and judicial prosecution as appropriate.

3.5.1 Taiwan Corporate Conduct and Ethics Implementation as Required by the Taiwan Financial Supervisory Commission

Assessment Item	Implementation Status			Causes for the Difference
	Yes	No	Summary	
1. Establishment of Corporate Conduct and Ethics Policy and Implementation Measures (1) Does the company have a clear ethical corporate management policy approved by its Board of Directors, and bylaws and publicly available documents addressing its corporate conduct and ethics policy and measures, and commitment regarding implementation of such policy from the Board of Directors and the top management team? (2) Whether the company has established an assessment mechanism for the risk of unethical conduct; regularly analyzes and evaluates within a business context, the business activities with a higher risk of unethical conduct; has formulated a program to prevent unethical conduct with a scope no less than the activities prescribed in paragraph 2, Article 7 of the Ethical Corporate Management Best Practice Principles for TWSE/GTSM Listed Companies? (3) Whether the company has established relevant policies that are duly enforced to prevent unethical conduct, provided implementation procedures, guidelines, consequences of violation and complaint procedures, and periodically reviews and revises such policies?	V		(1) Integrity is the most important core value of TSMC's culture. TSMC is committed to acting ethically in all aspects of our business. We have established TSMC Code of Ethics and Business Conduct (the "Ethics Code") to require that each employee bears a heavy personal responsibility to uphold TSMC's ethics value. For more details on the Ethics Code and the measures that TSMC Board of Directors (the "Board") and the management team take to ensure compliance of the Ethics Code please refer to TSMC's Annual Report and the Sustainability Report. (2) At the heart of our corporate governance culture is the Ethics Code that applies to TSMC and its subsidiaries, and this Ethics Code requires that each employee bears a heavy personal responsibility to preserve and to protect TSMC's ethical values and reputation and to comply with various applicable laws and regulations. Specific requirements under the Ethics Code could be found in our Annual Report. In addition, to educate and remind our employees of their responsibilities under the Ethics Code, we publish our Ethics Code, relevant policies and documents on our intranet and promote its awareness through training courses, posters, emails, and other diversified ways to advocate the company's core values and compliance. Furthermore, to ensure that our conduct meets relevant legal requirements and the highest ethical standards under the Ethics Code, TSMC provides multiple channels for reporting business conduct concerns. Please refer to Assessment Item 3 for details. We do not tolerate any violation of the Ethics Code and treat every possible violation incident seriously. Each violator of the Ethics Code (or relevant regulations) will be severely disciplined to the full extent of our policies and the law, up to and including immediate dismissal, termination of business relationship, and judicial prosecution as appropriate. (3) Under the framework of the Ethics Code, TSMC has established a regulatory compliance program that includes policies, guidelines and procedures in other policy areas, including: Corporate Governance, Securities Laws, Anti-corruption, Anti-harassment, Anti-discrimination, Labor Laws, Antitrust (fair competition), Environmental Protection, Safety and Health, Export Control, Financial Reporting, Insider Trading, Intellectual Property, Proprietary Information Protection, Personal Data Protection, Record Retention and Disposal, as well as procuring certain raw materials from socially responsible sources (Conflict-free Minerals). The above-mentioned policies are crucial in facilitating overall compliance with the Ethics Code. TSMC provided an "Annual Ethics and Compliance Training Course"(mandatory 0.5 hour online course) covering various important regulatory compliance topics and a total of 67,922 employees (including employees in subsidiaries) completed this training course, 99.9% completion rate. TSMC, its employees and its subsidiaries are expected to fully understand and comply with all laws and regulations that govern our businesses, as well as relevant policies, guidelines and procedures, and make ethical decisions in every circumstance. The Internal Auditor of TSMC also plays a critical role in ensuring the Company's compliance with the Ethics Code and relevant rules and regulations. To ensure that our financial, managerial, and operating information is accurate, reliable, and timely and that our employee's actions are in compliance with applicable policies, standards, procedures, laws and regulations, our Internal Auditor conducts audits of various control points within the Company in accordance with its annual audit plan approved by the Board of Directors and subsequently reports its audit findings and remedial issues to the Board and Management on a regular basis.	None

(Continued)

Assessment Item	Implementation Status			Causes for the Difference
	Yes	No	Summary	
<p>2. Ethic Management Practice</p> <p>(1) Whether the company has assessed the ethics records of whom it has business relationship with and include business conduct and ethics related clauses in the business contracts?</p>	V		(1) We expect and assist our customers, suppliers, business partners, and any other entities with whom we deal (such as consultant or third party agents who act for or on behalf of TSMC) to understand and act in accordance with TSMC's ethical standards. For instance, we require all of our suppliers to declare in writing that they will respect and comply with TSMC's ethical standards and culture. In addition to periodic audit, we provide training and communicate our ethical culture to our suppliers through live seminars or online programs to prevent any unethical conduct. We exchange views on appropriate business conduct and TSMC's ethical standards with our customers as part of customer audit programs.	None
<p>(2) Whether the company has set up a unit which is dedicated to promoting the company's ethical standards and regularly (at least once a year) reports directly to the Board of Directors on its ethical corporate management policy and relevant matters, and program to prevent unethical conduct and monitor its implementation?</p>	V		(2) TSMC's Board of Directors strives to perform the responsibilities of supervising the corporate conduct and ethics compliance practice through the Audit Committee and the Compensation Committee, the hiring of a financial expert consultant for the Audit Committee, and coordination with the Internal Audit department. The General Counsel and the Corporate & Compliance Legal Division (which directly reports to the General Counsel) promotes, the Company's ethical standards, and the General Counsel reports quarterly to the Board on the implementation status. In addition, both the responsible senior manager appointed by the CEO to oversee the Ombudsmen system and Internal Auditors update the Board on ethical standards and compliance issues on a regular basis. Moreover, TSMC's officers, especially our CEO, CFO, and General Counsel, with oversight from our Board, are responsible for the full, fair, accurate, timely, and understandable financial accounting and financial disclosure in reports and documents filed by the Company with securities authorities and in all TSMC public communications and disclosures.	
<p>(3) Whether the company has established policies to prevent conflict of interests, provide appropriate communication and complaint channels and implement such policies properly?</p>	V		(3) TSMC requires newly hired employees to declare any conflict of interest situation as appropriate. In addition, according to the Ethics Code, all employees must declare any actual or potential conflict of interest. Furthermore, employees with specific job grades or positions need to complete the conflict of interest declarations annually.	
<p>(4) To implement relevant policies on ethical conducts, has the company established effective accounting and internal control systems, audit plans based on the assessment of unethical conduct, and have its ethical conduct program audited by internal auditors or CPA periodically?</p>	V		(4) TSMC continues maintaining the integrity of its financial reporting processes and controls and establishes appropriate internal control systems for preventing higher potential unethical conduct, and the Internal Auditors formulate annual audit plans based on the results of the risk assessment and subsequently reports its audit findings and remedial issues to the Board and Management on a regular basis. In addition, all departments and subsidiaries of TSMC are also required to conduct Control Self-Assessment (CSA) tests annually to review the effectiveness of the internal control system.	
<p>(5) Does the company provide internal and external ethical conduct training programs on a regular basis?</p>	V		(5) Training is a major component of our compliance program, conducted throughout the year to refresh TSMC's employees' commitment to ethical conduct, and to get updated information on laws and regulations related to their daily operations. Please refer to Assessment Item 1 for more information regarding the training courses. As for our suppliers, we communicate our ethical culture to our business partners through live seminars or online programs to ensure their fully understanding of our commit to ethical conduct.	
<p>3. Implementation of Complaint Procedures</p> <p>(1) Does the company establish specific complaint and reward procedures, set up conveniently accessible complaint channels, and designate responsible individuals to handle the complaint received?</p>	V		(1) TSMC's Audit Committee approved and TSMC has implemented the "Complaint Policy and Procedures for Certain Accounting and Legal Matters" and "Procedures for Ombudsman System" that allow employees or any whistleblowers with relevant evidence to report any financial, legal, or ethical irregularities anonymously through either the Ombudsman or directly to the Audit Committee. TSMC also requires all employees to stay vigilant and whistle-blow any noncompliance by anyone to their supervisors, the function head of Human Resources, the responsible corporate senior manager that oversees the Ombudsmen system, or to the Chairman of the Company's Audit Committee directly.	None
<p>(2) Whether the company has established standard operation procedures for investigating the complaints received, follow-up measures after investigation are completed, and ensuring such complaints are handled in a confidential manner?</p>	V		(2) TSMC treats any complaint and the investigation thereof in a confidential and sensitive manner, as is clearly stated in our bylaws.	
<p>(3) Does the company adopt proper measures to prevent a complainant from retaliation for his/her filing a complaint?</p>	V		(3) TSMC strictly prohibits any form of retaliation against any individual who in good faith reports or helps with the investigation of any complaint, as is clearly stated in our bylaws.	

(Continued)

Assessment Item	Implementation Status			Causes for the Difference
	Yes	No	Summary	
<p>4. Information Disclosure</p> <p>Does the company disclose its guidelines on business ethics as well as information about implementation of such guidelines on its website and Market Observation Post System ("MOPS")?</p>	V		TSMC provides the guidelines and informative articles related to ethics and honorable business conduct on its internal website (in both Chinese and English) for employees' easy access. In addition, TSMC posts its Annual Report (which is also available at the MOPS) and Sustainability Report on its external website (in both Chinese and English, available at: http://www.tsmc.com) to disclose TSMC Ethics Code and the information about implementation of the Ethics Codes.	None
<p>5. If the company has established corporate governance policies based on Ethical Corporate Management Best Practice Principles for TWSE/GTSM Listed Companies, please describe any discrepancy between the policies and their implementation.</p> <p>TSMC has established the Ethics Code to require that all employees, officers and board members comply with the Ethics Code and the other policies and procedures. There is no discrepancy between the Ethics Code, including its affiliate policies and procedures, and its implementation. For more details, please refer to "3.5 Code of Ethics and Business Conduct" on page 56-61 of this Annual Report.</p>				
<p>6. Other important information to facilitate better understanding of the company's corporate conduct and ethics compliance practices (e.g., review the company's corporate conduct and ethics policy).</p> <p>For details on the implementation of TSMC's corporate conduct and ethics, please refer to "3.5 Code of Ethics and Business Conduct" on page 56-61 of this Annual Report.</p>				

3.6 Regulatory Compliance

TSMC's compliance systems are comprised of a series of legislation monitoring, developing and implementation of effective compliance policies and programs, training, and maintaining open reporting channels.

Legislative Monitoring

TSMC operates in many countries. To comply with governing legislation, applicable laws, regulations and regulatory expectations, we closely monitor domestic and foreign government policies and regulatory developments that could materially impact TSMC's business and financial operations. Our Legal organization periodically updates our relevant internal departments, management and the Audit Committee of applicable regulatory changes so that internal teams ensure compliance with new regulatory requirements in a timely manner. We are also a proactive advocate for legislative and regulatory reform, and our comments and recommendations on legal reforms to the government have been accepted constructively. TSMC is increasingly dedicated to identifying potential regulatory issues and will continue to be involved in advocating public policy changes that foster a positive and fair business environment.

Policy and Compliance Program Development and Implementation

Under the framework of the Ethics Code, TSMC has established a regulatory compliance program that includes policies, guidelines and procedures in different compliance areas, including: Corporate Governance, Securities Laws, Anti-corruption, Anti-harassment, Anti-discrimination, Labor Laws, Antitrust (fair competition), Environmental Protection, Safety and Health, Export Control, Financial Reporting, Insider Trading, Intellectual Property, Proprietary Information Protection, Personal Data Protection, Record Retention and Disposal, as well as procuring certain raw materials from socially responsible sources (Conflict-free Minerals). It is our belief that these policies are crucial in strengthening overall compliance with the Ethics Code and compliance program. TSMC, its employees and its subsidiaries are expected to fully understand and comply with all laws and regulations that govern our businesses, as well as internal relevant policies, guidelines and procedures, and make ethical decisions in every circumstance.

Compliance Awareness Training

Training is one of the major components of our regulatory compliance program. To get updated information on laws and regulations related to their daily operations and to strengthen TSMC's employees' commitment to ethical conduct through regular promotion and training courses. Highlights of our training include:

- Multiple types for training and promotion: TSMC enriches employees' information sources for regulatory compliance through various promotion activities. Awareness promotion emails to employees, posters at our facilities, and compliance guidelines, news articles, tips and FAQs which our employees can access through our intranet.
- Customized face-to-face training courses for different business attributes: Face-to-face seminars focusing on specific topics such as Anti-Corruption, Proprietary Information Protection, Intellectual Property, Personal Data Protection, Export Control Management and Antitrust (fair competition). Training is made mandatory for those employees whose jobs are especially relevant to a particular topic to ensure sufficient awareness of relevant laws and internal policies.
- Various on-line courses available to employees at any time: On-line learning programs updated frequently to provide most up-to-date information and timely and flexible access for employees to understand the law and key compliance issues, covering topics of Corporate Governance, Securities Laws, Anti-corruption, Anti-harassment, Anti-discrimination, Labor Laws, Antitrust (fair competition), Environmental Protection, Safety and Health, Export Control, Financial Reporting, Insider Trading, Intellectual Property, Proprietary Information Protection, Personal Data Protection, Record Retention and Disposal, as well as "Conflict-free Minerals" among others. The course contents will be updated with changes in applicable laws or TSMC internal policies to ensure the timeliness and accuracy of the course contents.
- Continuous training of the Legal team: TSMC's Legal team actively participate in external professional courses held in Taiwan or abroad to receive current developments of new laws and regulations and track the latest developments in various professional legal fields, and for its lawyers to comply with applicable continuing legal education requirements. External experts are also invited to give in-house lectures on key issues.

Reporting Channels

TSMC provides multiple channels for reporting business conduct concerns to ensure that our conduct meets relevant legal requirements and the highest ethical standards under the Ethics Code. For more details about the reporting channels, please refer to "3.5 Code of Ethics and Business Conduct" on page 56-61 of this Annual Report.

Major Accomplishments

In 2022, TSMC achieved several major accomplishments in regulatory compliance. Externally, in addition to fulfilling the Company's obligations toward regulatory compliance matters, TSMC exercised its civic duties as a responsible corporate citizen by providing feedback on current regulations and regulations in legislation, with the intent to improve Taiwan's industrial investment environment, enhance economic development, and help align domestic laws with international law. Furthermore, TSMC continues to focus on the topics related to the Company Law, the Securities and Exchange Act, intellectual property protection and environment protection. In addition, TSMC shared its practices and experiences on trade secrets, labor rights, regulatory compliance system and reporting channel with outside institutions.

Internally, TSMC provides multiple courses about legal and regulatory compliance. The important achievements are as follows:

- Ethics and Compliance: TSMC provided an "Annual Ethics and Compliance Training Course"(mandatory 0.5 hour online course) covering various important regulatory compliance topics and a total of 67,922 employees (including employees in subsidiaries) completed this training course (reaching 99.9% completion rate) – with all production staffs were starting from 2019.

- Export Compliance: TSMC's export management system (EMS) and policy have been in place for a number of years, and was certified by the Bureau of Foreign Trade, the Taiwan regulator, as a qualified Internal Compliance Program (ICP) exporter. It aims to ensure that TSMC and its subsidiaries comply with all applicable regulations covering the export of information, technologies, products, materials and equipment. In addition, TSMC implements "No ECCN, No Shipment" control and customers are required to provide end use and export control classification number (ECCN) of their products, among other required information, for TSMC to apply for applicable export licenses. To further enhance relevant employees' awareness of the export control requirements, in 2022 TSMC altogether provided 12 face-to-face meeting sessions and a targeted on-line learning program to employees in relevant functions.
- Supplier Management: TSMC shares and exchanges practical experiences with suppliers with sales offices in Taiwan by holding a sustainable supply chain ESH forums on topics such as Ethics Code, environmental protection and occupational safety. In total, 354 attendees from 116 suppliers were participated (including through on-line meeting) in these activities.
- Conflict-Free Supply Chain: As a recognized global leader in the Hi-tech supply chain, we acknowledge our corporate social responsibility to strive to procure conflict-free minerals in an effort to recognize humanitarian and ethical social principles that protect the dignity of all persons. Meanwhile, we have implemented a series of compliance safeguards in accordance with industry leading practices, requesting suppliers to fill in the "Conflict Minerals Reporting Template" and sign the "TSMC Conflict-Free Minerals Declaration" every year. TSMC will continuously make progress to ensure a conflict-free supply chain.
- Personal Data Protection: Because of the importance of personal data protection, TSMC periodically reviews the Rules of Privacy and Personal Data Protection and external and internal privacy policies to identify the needs to update such documents. Based on current personal data protection laws and risks, TSMC conducts an annual training on privacy and personal data protection to enhance employees' awareness and compliance. In addition, the Personal Data Protection Committee composed of Legal, Human Resources, and IT divisions convene on an annual basis to assist the implementation of and monitoring compliance with the rules.
- Antitrust Compliance: Based on annual antitrust risk assessment results, TSMC identified functions with potential higher risk from an antitrust perspective. To enhance targeted functions' employee awareness of the importance of competition and antitrust laws and issues during daily operations, TSMC established antitrust training programs and conducted several antitrust trainings, via either face-to-face or on-line training sessions, for global sales personnel at Taiwan, North America, Europe, Asia Pacific, Japan and mainland China areas, and employees in other relevant departments.
- Insider Trading Compliance: To implement insider trading regulatory compliance, TSMC revisited and updated training material of the insider trading on-line program (0.5 hour-length course), and designated managers at R&D Organization and oversea fabs of Operations Organizations as trainees – a total of 1,950 managers completed this on-line program (97.7% completion rate) as requested. Each year going forward, TSMC will designate employees from different departments to take insider trading on-line program to strengthen employees' awareness and compliance with insider trading laws.

3.7 Internal Control System Execution Status

3.7.1 Statement of Internal Control System

Taiwan Semiconductor Manufacturing Company Limited

Statement of Internal Control System

February 14, 2023

Based on the findings of a self-assessment, Taiwan Semiconductor Manufacturing Company Limited (TSMC) states the following with regard to its internal control system during the year 2022:

- TSMC's Board of Directors and management are responsible for establishing, implementing, and maintaining an adequate internal control system. Internal control system is designed to provide reasonable assurance over the effectiveness and efficiency of our operations (including profitability, performance and safeguarding of assets), reliability, timeliness, transparency and regulatory compliance of our reporting, and compliance with applicable rulings, laws and regulations.
- An internal control system has inherent limitations. No matter how perfectly designed, an effective internal control system can provide only reasonable assurance of accomplishing its stated objectives. Moreover, the effectiveness of an internal control system may be subject to changes due to extenuating circumstances beyond our control. Nevertheless, our internal control system contains self-monitoring mechanisms, and TSMC takes immediate remedial actions in response to any identified deficiencies.
- TSMC evaluates the design and operating effectiveness of its internal control system based on the criteria provided in the Regulations Governing the Establishment of Internal Control Systems by Public Companies (herein below, the "Regulations"). The criteria adopted by the Regulations identify five key components of managerial internal control: (1) control environment, (2) risk assessment, (3) control activities, (4) information and communication, and (5) monitoring activities. Each component also includes several items which can be found in the Regulations.
- TSMC has evaluated the design and operating effectiveness of its internal control system according to the aforesaid Regulations.
- Based on the findings of such evaluation, TSMC believes that, on December 31, 2022, it has maintained, in all material respects, an effective internal control system (that includes the supervision and management of our subsidiaries), to provide reasonable assurance over our operational effectiveness and efficiency, reliability, timeliness, transparency and regulatory compliance of reporting, and compliance with applicable rulings, laws and regulations.
- This Statement is an integral part of TSMC's annual report and prospectus, and will be made public. Any falsehood, concealment, or other illegality in the content made public will entail legal liability under Articles 20, 32, 171, and 174 of the Securities and Exchange Law.
- This Statement was passed by the Board of Directors in their meeting held on February 14, 2023, with none of the ten attending directors expressing dissenting opinions, and the remainder all affirming the content of this Statement.

Taiwan Semiconductor Manufacturing Company Limited

 Mark Liu,
Chairman

 C.C. Wei,
Chief Executive Officer

3.7.2 If CPA Was Engaged to Conduct a Special Audit of Internal Control System, Provide Its Audit Report: None.

3.8 Status of Personnel Responsible for the Company's Financial and Business Operation

3.8.1 Resignation or Dismissal of Chairman, President, and Heads of Accounting, Finance, Internal Audit, Corporate Governance Officer and R&D in 2022 and as of the Date of this Annual Report: None.

3.8.2 Certification of Employees Whose Jobs are Related to the Release of the Company's Financial Information

Certification	Number of Employees	
	Internal Audit	Finance
Certified Public Accountants (CPA)	2	51
US Certified Public Accountants (US CPA)	4	20
Certified Internal Auditor (CIA)	13	3
Chartered Financial Analyst (CFA)	-	2
Certified Management Accountant (CMA)	-	2
Financial Risk Manager (FRM)	-	1
Certification in Control Self-Assessment (CCSA)	2	-
Certification in Risk Management Assurance (CRMA)	3	-
Certified Information Systems Auditor (CISA)	7	1
Certified Fraud Examiner (CFE)	2	-

3.9 Information Regarding TSMC's Independent Auditor

3.9.1 Audit Fees

The Audit Committee approves all fees payable to TSMC's independent auditor and recommends the same to the Board of Directors for further approval. The Board of Directors has authorized the Audit Committee to approve any increase not exceeding 10% of the approved fees.

Unit: NT\$ thousands

Accounting Firm	Name of CPA	CPA's Audit Period	Audit Fee (Note 1)	Non-audit Fee (Note 2)	Total	Remark
Deloitte & Touche	Mei-Yen Chiang, Shang-Chih Lin, and others	01/01/2022 – 12/31/2022	51,777	27,372	79,149	-

Note 1: Compared with last year, there is a NT\$8,345 thousand decrease, or a 14% year-over-year decrease, in the annual audit fees payment. This is mainly due to a portion of audit fees, NT\$14,450 thousand, were actually paid in January 2023. If such payment is included, the total audit fees in 2022 will be higher than last year.

Note 2: The fees were mainly related to the bond offering that was borne by the underwriter and audit of annual income tax returns.

3.9.2 CPA's information

(1) Former CPAs

Date of Change	Approved by BOD on November 8, 2022		
Reasons and Explanation of Changes	In compliance with regulatory requirements on rotation, the engagement partner Mei-Yen Chiang will be replaced by Shih-Tsung Wu starting from 2023. The co-signing partner will remain to be Shang-Chih Lin.		
State Whether the Appointment is Terminated or Rejected by the Consignor or CPAs	Status	Client	Consignor
	Appointment terminated automatically	CPA	Not available
	Appointment rejected (discontinued)	CPA	Not available
The Opinions Other than Unmodified Opinion Issued in the Last Two Years and the Reasons for the Said Opinions (Note)	None		
Is There Any Disagreement in Opinion with the Issuer	Yes		Accounting principle or practice
			Disclosure of financial statements
			Auditing scope or procedures
			Others
	No		V
Explanation			
Supplementary Disclosure (Disclosures Specified in Article 10.6.1.4~7 of the Standards)	None		

(2) Successor CPAs

Accounting Firm	Deloitte & Touche
CPA	Shih-Tsung Wu and Shang-Chih Lin
Date of Engagement	Approved by BOD on November 8, 2022
Prior to the Formal Engagement, Any Inquiry or Consultation on the Accounting Treatment or Accounting Principles for Specific Transactions, and the Type of Audit Opinion that Might be Rendered on the Financial Report	None
Written Opinions from the Successor CPAs that are Different from the Former CPA's Opinions	None

(3) The Reply of Former CPAs on Article 10.6.1 and Article 10.6.2.3 of the Standards: None.

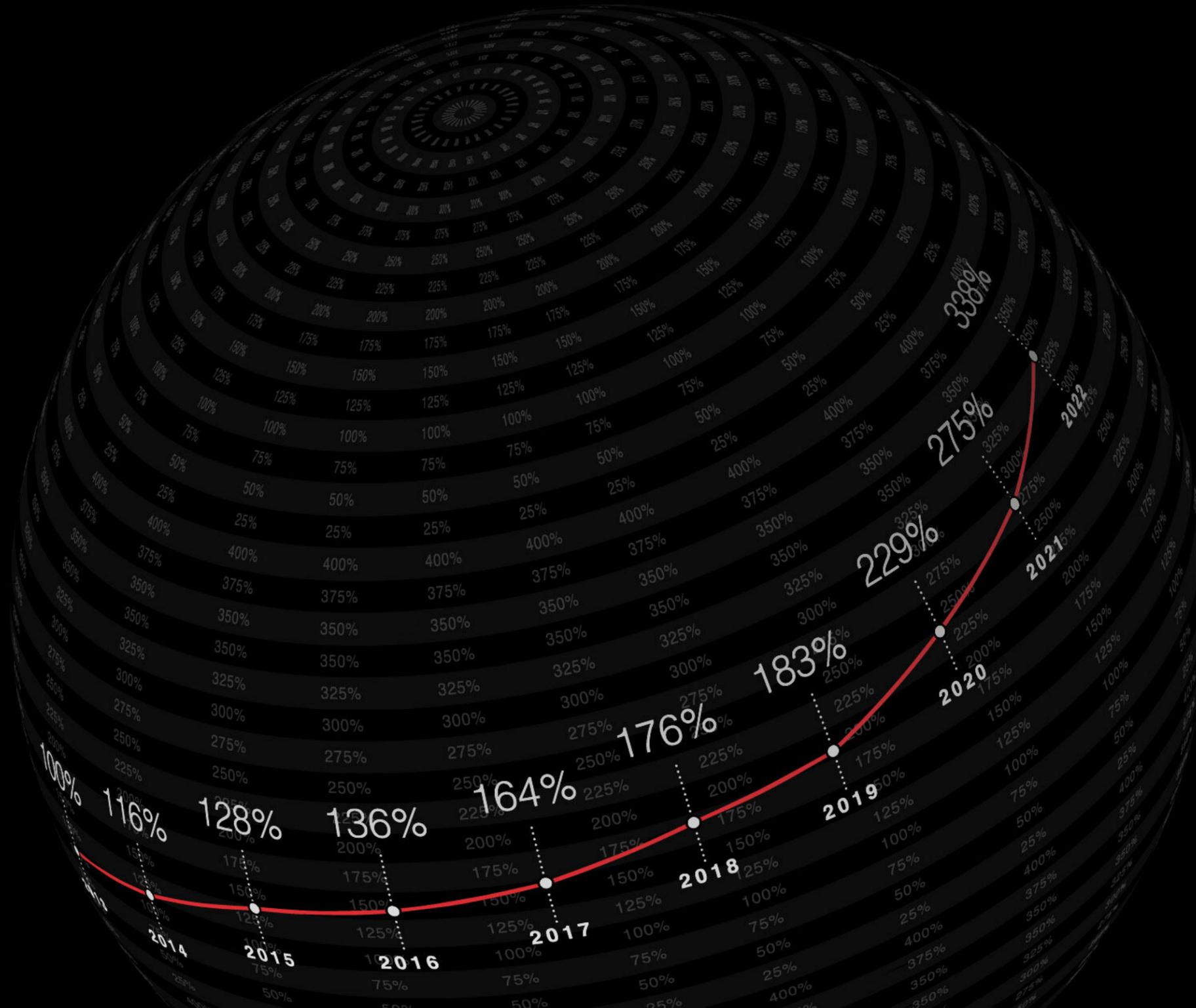
3.9.3 TSMC's Chairman, Directors, Chief Executive Officer, Chief Financial Officer, and Managers in Charge of Its Finance and Accounting Operations Did Not Hold Any Positions within TSMC's Independent Audit Firm or Its Affiliates in the Most Recent Year.

3.9.4 Evaluation of the External Auditor's Independence and Suitability

The Audit Committee annually monitors the independence and suitability TSMC's external auditor by conducting the following evaluation standards and reports the same to the Board of Directors:

1. The auditor's independence declaration
2. The Audit Committee pre-approves all audit and non-audit services conducted by the auditor to ensure that the non-audit services do not influence the results of the audit
3. Ensure the audit partner rotates every five years
4. Annually evaluate the independence and suitability of the external auditor based on the results of the auditor survey and the Audit Quality Indicator (AQI) released by Financial Supervisory Commission (FSC) regarding its financial interests, commercial relations, employment relations, etc.

4 CAPITAL & Shares



In 2022, we continued to increase our investment in R&D to US\$5.47 billion to extend our technology leadership and differentiation.

4.1 Capital and Shares

4.1.1 Capitalization

Unit: Share/NT\$

As of 02/28/2023

Month/Year	Face Value Per Share	Authorized Share Capital		Capital Stock		Remark		
		Shares	Amount	Shares	Amount	Sources of Capital	Capital Increase by Assets Other than Cash	Date of Approval (Month/Day/Year) & Approval Document No.
03/2022	10	28,050,000,000	280,500,000,000	25,931,767,458	259,317,674,580	Employee Restricted Stock Awards: NT\$13,870,000	None	03/08/2022 Chu Shang Tzu No.1110006986
05/2022	10	28,050,000,000	280,500,000,000	25,930,380,458	259,303,804,580	Cancellation of Treasury Shares: NT\$13,870,000	None	05/20/2022 Chu Shang Tzu No.1110015483

Note 1: The Board of Directors approved the issuance of 2,110,000 common shares for 2022 Employee Restricted Stock Awards and set 03/01/2023 as the record date (approved by 03/08/2023 Chu Shang Tzu No.1120006788)

Note 2: On 03/01/2023, based on the vesting conditions, 419,466 shares of 2021 Employee Restricted Stock Awards were reclaimed and will be cancelled subsequently.

4.1.2 Capital and Shares

Unit: Share

As of 02/28/2023

Type of Stock	Authorized Share Capital		Total
	Listed Shares	Unissued Shares	
Common Stock	25,930,380,458	2,119,619,542	28,050,000,000

Shelf Registration in Taiwan: None.

4.1.3 Composition of Shareholders

Common Share

As of 12/21/2022 (Note)

Type of Shareholders	Government Agencies	Financial Institutions	Other Juridical Persons	Foreign Institutions and Natural Persons	Domestic Natural Persons	Total
Number of Shareholders	6	203	3,644	7,485	1,444,741	1,456,079
Shareholding	1,722,971,846	795,017,455	1,604,671,666	18,433,094,131	3,374,625,360	25,930,380,458
Shareholding Percentage	6.64%	3.07%	6.19%	71.09%	13.01%	100.00%

Note: Record date for the second quarter of 2022 cash dividend distribution.

Distribution of Shareholding

Common Share

As of 12/21/2022 (Note)

Shareholding Range	Number of Shareholders	Shareholding	Shareholding Percentage
1-999	884,124	163,764,484	0.63%
1,000-5,000	469,479	897,922,074	3.46%
5,001-10,000	53,438	387,847,516	1.50%
10,001-15,000	17,381	214,967,150	0.83%
15,001-20,000	8,224	145,806,599	0.56%
20,001-30,000	7,728	189,880,539	0.73%
30,001-40,000	3,622	126,135,166	0.49%
40,001-50,000	2,132	96,349,624	0.37%
50,001-100,000	4,088	286,009,594	1.10%
100,001-200,000	2,080	289,250,630	1.12%
200,001-400,000	1,250	351,844,854	1.36%
400,001-600,000	512	248,011,587	0.96%
600,001-800,000	326	225,159,920	0.87%
800,001-1,000,000	222	200,142,529	0.77%
Over 1,000,001	1,473	22,107,288,192	85.25%
Total	1,456,079	25,930,380,458	100.00%

Note: Record date for the second quarter of 2022 cash dividend distribution.

Preferred Share: None.

4.1.4 Major Shareholders

Common Share

As of 12/21/2022 (Note)

Shareholders	Shareholding	Shareholding Percentage
ADR-Taiwan Semiconductor Manufacturing Company Ltd.	5,319,233,558	20.51%
National Development Fund, Executive Yuan	1,653,709,980	6.38%
Citibank (Taiwan) Ltd. in custody for Government of Singapore	860,386,401	3.32%
Citibank (Taiwan) Ltd. in custody for Norges Bank	411,961,838	1.59%
New Labor Pension Fund	332,983,055	1.28%
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds	320,754,748	1.24%
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Emerging Markets Stock Index Fund, a series of Vanguard International Equity Index Funds	278,367,605	1.07%
Yuanta/P-shares Taiwan Top 50 ETF	256,208,079	0.99%
iShares Core MSCI Emerging Markets ETF	213,117,000	0.82%
Fubon Life Insurance Co., Ltd	194,197,221	0.75%

Note: Record date for the second quarter of 2022 cash dividend distribution.

4.1.5 Net Change in Shareholding by Directors, Management and Shareholders with 10% Shareholdings or More

Common Shares

Unit: Share

Title Name	2022		01/01/2023 - 02/28/2023	
	Net Change in Shares Held	Net Change in Shares Pledged	Net Change in Shares Held	Net Change in Shares Pledged
Chairman Mark Liu	1,948	-	1,154	-
Chief Executive Officer & Vice Chairman C.C. Wei	467,000	1,400,000	-	-
Director F.C. Tseng	-	-	-	-
Director National Development Fund, Executive Yuan Representative: Ming-Hsin Kung	-	-	-	-
Independent Director Sir Peter L. Bonfield	-	-	-	-
Independent Director Kok-Choo Chen	-	-	-	-
Independent Director Michael R. Splinter	-	-	-	-
Independent Director Moshe N. Gavriellov	-	-	-	-
Independent Director Yancey Hai	-	-	-	-
Independent Director L. Rafael Reif	-	-	-	-
Senior Vice President Lora Ho	(170,738)	-	-	-
Senior Vice President Wei-Jen Lo	-	-	-	-
Senior Vice President Rick Cassidy	-	-	-	-
Senior Vice President Y.P. Chin	(2,000,000)	-	-	-
Senior Vice President Y.J. Mii	-	-	2,000	-
Senior Vice President and Chief Information Security Officer J.K. Lin	-	-	-	-
Senior Vice President J.K. Wang (Note)	-	-	-	-
Senior Vice President Cliff Hou	19,598	-	1,867	-
Senior Vice President Kevin Zhang	35,000	-	-	-
Vice President and General Counsel/Corporate Governance Officer Sylvia Fang	-	-	-	-
Vice President Connie Ma (Note)	57,235	-	-	-
Vice President Y.L. Wang	-	-	-	-

(Continued)

Title Name	2022		01/01/2023 - 02/28/2023	
	Net Change in Shares Held	Net Change in Shares Pledged	Net Change in Shares Held	Net Change in Shares Pledged
Vice President and TSMC Distinguished Fellow Douglas Yu	-	-	-	-
Vice President and TSMC Fellow T.S. Chang	-	-	-	-
Vice President Michael Wu	2,000	-	-	-
Vice President Min Cao	-	-	-	-
Vice President Marvin Liao (Note)	-	-	-	-
Vice President Y.H. Liaw	-	-	-	-
Vice President Simon Jang	1,000	-	-	-
Vice President, Chief Financial Officer/Spokesperson Wendell Huang	164	-	20	-
Vice President C.S. Yoo	-	-	-	-
Vice President Jun He	20,000	-	371	-
Vice President Geoffrey Yeap	41,000	-	-	-
Vice President and Chief Information Officer Chris Horng-Dar Lin	10,000	-	-	-
Vice President Jonathan Lee	28,690	-	6,082	-
Vice President Arthur Chuang	-	-	-	-
Vice President and TSMC Fellow L.C. Lu	50,000	-	-	-
Vice President K.C. Hsu	50,000	-	10,000	-

Note: Senior Vice President Mr. J.K. Wang retired, effective May 7, 2022. Vice President Ms. Connie Ma retired, effective November 1, 2022. Vice President Dr. Marvin Liao retired, effective November 11, 2022. Their shareholding is no longer required to disclose.

4.1.6 Stock Trade with Related Party

Common Shares

Name	Reason for Transfer	Transfer Date	Transferee	Relation with the Transferee	Shares	Transfer Price
Lora Ho	Gifting	03/29/2022	Liu, Tzu-Ying	Children	170,738	-
Y.P. Chin	Gifting	04/19/2022	Chen Ching-Lan	Spouse	2,000,000	-

4.1.7 Stock Pledge with Related Party: None.

4.1.8 Related Party Relationship among TSMC's 10 Largest Shareholders

Common Share

As of 12/21/2022 (Note)

Name	Shares Held		Shares Held by Spouse & Minors		Shares Held in the Name of Others		Name and Relationship between TSMC's Shareholders	
	Shares	%	Shares	%	Shares	%	Name	Relationship
ADR-Taiwan Semiconductor Manufacturing Company Ltd.	5,319,233,558	20.51%	N/A	N/A	N/A	N/A	None	None
National Development Fund, Executive Yuan Representative: Ming-Hsin Kung	1,653,709,980 779	6.38% 0.00%	N/A -	N/A -	N/A -	N/A -	None	None
Citibank (Taiwan) Ltd. in custody for Government of Singapore	860,386,401	3.32%	N/A	N/A	N/A	N/A	None	None
Citibank (Taiwan) Ltd. in custody for Norges Bank	411,961,838	1.59%	N/A	N/A	N/A	N/A	None	None
New Labor Pension Fund	332,983,055	1.28%	N/A	N/A	N/A	N/A	None	None
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Total International Stock Index Fund, a series of Vanguard Star Funds	320,754,748	1.24%	N/A	N/A	N/A	N/A	None	None
JPMorgan Chase Bank N.A., Taipei Branch in custody for Vanguard Emerging Markets Stock Index Fund, a series of Vanguard International Equity Index Funds	278,367,605	1.07%	N/A	N/A	N/A	N/A	None	None
Yuanta/P-shares Taiwan Top 50 ETF	256,208,079	0.99%	N/A	N/A	N/A	N/A	None	None
iShares Core MSCI Emerging Markets ETF	213,117,000	0.82%	N/A	N/A	N/A	N/A	None	None
Fubon Life Insurance Co., Ltd Chairman: Richard M. Tsai	194,197,221	0.75%	N/A	N/A	N/A	N/A	None	None
			Not Available					

Note: Record date for the second quarter of 2022 cash dividend distribution.

4.1.9 Long-term Investment Ownership

As of 12/31/2022

Long-term Investment	Ownership by TSMC (1)		Ownership by Directors, Managers and Directly/Indirectly Owned Subsidiaries (2)		Total Ownership (1) + (2)	
	Shares	%	Shares	%	Shares	%
Equity Method:						
TSMC Partners, Ltd.	988,268,244	100%	-	-	988,268,244	100%
TSMC Global Ltd.	11,384	100%	-	-	11,384	100%
TSMC North America	11,000,000	100%	-	-	11,000,000	100%
TSMC Europe B.V.	200	100%	-	-	200	100%
TSMC Japan Limited	6,000	100%	-	-	6,000	100%
TSMC Korea Limited	80,000	100%	-	-	80,000	100%
TSMC Design Technology Japan, Inc.	15,000	100%	-	-	15,000	100%
TSMC Japan 3DIC R&D Center, Inc.	49,000	100%	-	-	49,000	100%
TSMC China Company Limited	Not Applicable (Note 1)	100%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	100%
TSMC Nanjing Company Limited	Not Applicable (Note 1)	100%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	100%
TSMC Arizona Corporation	1,270,001	100%	-	-	1,270,001	100%
Japan Advanced Semiconductor Manufacturing, Inc.	1,019,814	71.37%	-	-	1,019,814	71.37%
VisEra Technologies Company Ltd.	213,619,000	67.70%	-	-	213,619,000	67.70%
Systems on Silicon Manufacturing Co. Pte. Ltd.	313,603	38.79%	-	-	313,603	38.79%
Vanguard International Semiconductor Corp.	464,223,493	28.32%	275,572,145	16.81% (Note 2)	739,795,638	45.14%
Xintec Inc.	111,281,925	41.01%	-	-	111,281,925	41.01%
Global UniChip Corporation	46,687,859	34.84%	-	-	46,687,859	34.84%
VentureTech Alliance Fund II, L.P.	Not Applicable (Note 1)	98.00%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	98.00%
VentureTech Alliance Fund III, L.P.	Not Applicable (Note 1)	98.00%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	98.00%
Emerging Fund L.P.	Not Applicable (Note 1)	99.90%	Not Applicable (Note 1)	-	Not Applicable (Note 1)	99.90%

Note 1: Not applicable. These firms do not issue shares. TSMC's investments are measured as a percentage of ownership.

Note 2: TSMC's director, National Development Fund of Executive Yuan, held 16.72% while other directors and management held 0.09%.

4.1.10 Share Information

TSMC's earnings per share in 2022 increased 70.36% from 2021 to NT\$39.2 per share. The following table details TSMC's market price, net worth, earnings, and dividends per common share, as well as other data regarding return on investment.

Market Price, Net Worth, Earnings, and Dividends Per Common Share

Unit: NT\$, except for weighted average shares and return on investment ratios

Item	2021	2022	01/01/2023 - 02/28/2023
Market Price Per Share (Note 1)			
Highest Market Price	673.00	683.00	545.00
Lowest Market Price	536.00	371.00	449.50
Average Market Price	597.73	516.24	511.05
Net Worth Per Share			
Before Distribution	83.62	113.60	-
After Distribution	80.87	110.85 (Note 5)	-
Earnings Per Share			
Weighted Average Shares (thousand shares)	25,930,380	25,929,383	-
Diluted Earnings Per Share	23.01	39.20	-
Dividends Per Share			
Cash Dividends	11.00	11.00 (Note 5)	-
Accumulated Undistributed Dividend	-	-	-
Return on Investment			
Price/Earnings Ratio (Note 2)	25.98	13.17	-
Price/Dividend Ratio (Note 3)	54.34	46.93 (Note 5)	-
Cash Dividend Yield (Note 4)	1.8%	2.1% (Note 5)	-

Note 1: Referred to TWSE website

Note 2: Price/Earnings Ratio = Average Market Price/Diluted Earnings Per Share

Note 3: Price/Dividend Ratio = Average Market Price/Cash Dividends Per Share

Note 4: Cash Dividend Yield = Cash Dividends Per Share/Average Market Price

Note 5: Including the dividends amount for fourth quarter of 2022, which were approved by Board of Directors on February 14, 2023.

4.1.11 Dividend Policy and Distribution of Earnings

Except as otherwise specified in the Articles of Incorporation or under the R.O.C. law, TSMC will not pay dividends or make other distributions to shareholders when there are no earnings. The Company's profits may be distributed by way of cash dividend, stock dividend, or a combination of cash and stock. Pursuant to the Company's Articles of Incorporation, distributions of profits shall be made preferably by way of cash dividend. In addition, the ratio for stock dividends shall not exceed 50% of the total distribution. Distribution of stock dividends is subject to approval by the R.O.C. Financial Supervisory Commission.

Pursuant to TSMC's Articles of Incorporation, the Company's Board of Directors is authorized to approve quarterly cash dividends after the close of each quarter. After the Company's Board of Directors approves quarterly cash dividends, TSMC will distribute the dividend within six months. The respective amounts and payment dates of 2022 quarterly cash dividends are demonstrated in the table below. TSMC intends to maintain a sustainable cash dividend on both an annual and quarterly basis.

2022 Quarterly Earnings Distribution

Unit: NT\$

Period	Approved Date	Payment Date	Cash Dividends Per Share	Total Earnings Distribution Amount
First quarter of 2022	05/10/2022	10/13/2022	NT\$2.75	71,308,546,260
Second quarter of 2022	08/09/2022	01/12/2023	NT\$2.75	71,308,546,260
Third quarter of 2022	11/08/2022	04/13/2023	NT\$2.74982072	71,308,546,260
Fourth quarter of 2022	02/14/2023	07/13/2023	NT\$2.75 (Note)	71,308,546,260

Note: To be adjusted by then outstanding shares as of record date for such dividend payment.

4.1.12 Compensation to Directors and Profit Sharing to Employees

Based on TSMC's Articles of Incorporation, before paying dividends or bonuses to shareholders, TSMC shall set aside not more than 0.3% of its annual profit to directors as compensation and not less than 1% to employees as a profit sharing.

As resolved by TSMC's Board of Directors on February 14, 2023, a profit sharing to employees was expensed based on a certain percentage of 2022 profit; compensation to directors was expensed based on the estimated amount of payment. If the actual amounts subsequently paid differ from the above estimated amounts, the differences will be recorded in the year paid as a change in accounting estimate.

2022 Directors' Compensation and Employees' Profit Sharing

	Board Resolution (02/14/2023)
	Amount (NT\$ thousands)
Directors' Compensation (Cash)	690,128
Employee's Profit Sharing (Cash)	60,702,047

Note: NT\$60,702,047 thousand business performance bonus was already distributed following each quarter of 2022. The above employees' profit sharing will be distributed in July, 2023.

2021 Directors' Compensation and Employees' Profit Sharing

	Board Resolution (02/15/2022)	Actual Result (Note)
	Amount (NT\$ thousands)	Amount (NT\$ thousands)
Directors' Compensation (Cash)	487,537	487,537
Employees' Profit Sharing (Cash)	35,601,449	35,177,130

Note: The above directors' compensation and employees' profit sharing were expensed under the Company's 2021 statement of comprehensive income and were approved by the Board of Directors at its meeting on February 15, 2022. However, due to employee turnover, the employees' profit sharing in the amount of NT\$424,319 thousand was undistributed, and related expense was reversed in 2022.

4.1.13 Impact to 2023 Business Performance and EPS of Stock Dividend Distribution: Not applicable.

4.1.14 Buyback of Common Stock

TSMC's Board of Directors approved the issuance of 1,387,000 shares for 2021 employee restricted stock awards (RSAs) at its meeting on February 15, 2022. In order to offset dilution from the increase of outstanding shares due to the above-mentioned issuance, the Board of Directors approved a share buyback program for TSMC to buy back its common shares on the Taiwan Stock Exchange. The shares purchased will be cancelled subsequently. The implementation of the share buyback program was as follows.

(1) Completed Share Buyback Program

As of 02/28/2023

	5 th Buyback Program
Purpose of the share buyback	For the shareholders' interests
Scheduled buyback period	02/16/2022 - 04/15/2022
Scheduled buyback price range	NT\$444 to NT\$960 per share, while the buyback will still be carried out if the stock price falls below the aforementioned range
Type and number of shares bought back	Common shares: 1,387,000 shares
Total monetary amount of shares bought back	NT\$871,566,000
Number of shares bought back as a percentage of the approved number of shares to be bought back (%)	100%
Number of shares cancelled and/or transferred	1,387,000 shares
Cumulative number of the company's treasury shares held	0 share
Cumulative number of the company's treasury shares as a percentage of the total number of the company's issued shares (%)	0.00%

(2) Uncompleted Share Buyback Program: None.

4.2 Issuance of Corporate Bonds

4.2.1 Corporate Bonds

NTD Corporate Bonds

As of 02/28/2023

Issuance	Domestic Unsecured Bond (102-2)	Domestic Unsecured Bond (102-4)	Domestic Unsecured Bond (109-1)	Domestic Unsecured Bond (109-2)	Domestic Unsecured Bond (109-3)	Domestic Unsecured Bond (109-4)	Domestic Unsecured Bond (109-5)	Domestic Unsecured Bond (109-6, Green Bond)	Domestic Unsecured Bond (109-7)	Domestic Unsecured Bond (110-1)
Issue Date	07/16/2013	09/25/2013	03/23/2020	04/15/2020	05/29/2020	07/14/2020	09/03/2020	12/02/2020	12/29/2020	03/30/2021
Denomination	NT\$10,000,000									
Offering Price	Par									
Total Amount	NT\$13,700,000,000	NT\$15,000,000,000	NT\$24,000,000,000	NT\$21,600,000,000	NT\$14,400,000,000	NT\$13,900,000,000	NT\$15,600,000,000	NT\$12,000,000,000	NT\$18,500,000,000	NT\$21,100,000,000
Coupon (Per Annum)	Tranche A: 1.50% Tranche B: 1.70%	Tranche A: 1.35% Tranche B: 1.45% Tranche C: 1.60% Tranche D: 1.85% Tranche E: 2.05% Tranche F: 2.10%	Tranche A: 0.58% Tranche B: 0.62% Tranche C: 0.64%	Tranche A: 0.52% Tranche B: 0.58% Tranche C: 0.60%	Tranche A: 0.55% Tranche B: 0.60% Tranche C: 0.64%	Tranche A: 0.58% Tranche B: 0.65% Tranche C: 0.67%	Tranche A: 0.50% Tranche B: 0.58% Tranche C: 0.60%	Tranche A: 0.40% Tranche B: 0.44% Tranche C: 0.48%	Tranche A: 0.36% Tranche B: 0.41% Tranche C: 0.45%	Tranche A: 0.50% Tranche B: 0.55% Tranche C: 0.60%
Tenure and Maturity Date	Tranche A: 7 years Maturity: 07/16/2020 Tranche B: 10 years Maturity: 07/16/2023	Tranche A: 3 years Maturity: 09/25/2016 Tranche B: 4 years Maturity: 09/25/2017 Tranche C: 5.5 years Maturity: 03/25/2019 Tranche D: 7.5 years Maturity: 03/25/2021 Tranche E: 9.5 years Maturity: 03/25/2023 Tranche F: 10 years Maturity: 09/25/2023	Tranche A: 5 years Maturity: 03/23/2025 Tranche B: 7 years Maturity: 03/23/2027 Tranche C: 10 years Maturity: 03/23/2030	Tranche A: 5 years Maturity: 04/15/2025 Tranche B: 7 years Maturity: 04/15/2027 Tranche C: 10 years Maturity: 04/15/2030	Tranche A: 5 years Maturity: 05/29/2025 Tranche B: 7 years Maturity: 05/29/2027 Tranche C: 10 years Maturity: 05/29/2030	Tranche A: 5 years Maturity: 07/14/2025 Tranche B: 7 years Maturity: 07/14/2027 Tranche C: 10 years Maturity: 07/14/2030	Tranche A: 5 years Maturity: 09/03/2025 Tranche B: 7 years Maturity: 09/03/2027 Tranche C: 10 years Maturity: 09/03/2030	Tranche A: 5 years Maturity: 12/02/2025 Tranche B: 7 years Maturity: 12/02/2027 Tranche C: 10 years Maturity: 12/02/2030	Tranche A: 5 years Maturity: 12/29/2025 Tranche B: 7 years Maturity: 12/29/2027 Tranche C: 10 years Maturity: 12/29/2030	Tranche A: 5 years Maturity: 03/30/2026 Tranche B: 7 years Maturity: 03/30/2028 Tranche C: 10 years Maturity: 03/30/2031
Repayment	Bullet					Two equal installments in last two years				Bullet
Outstanding	NT\$3,500,000,000	NT\$8,000,000,000	NT\$24,000,000,000	NT\$21,600,000,000	NT\$14,400,000,000	NT\$13,900,000,000	NT\$15,600,000,000	NT\$12,000,000,000	NT\$18,500,000,000	NT\$21,100,000,000
Credit Rating	twAAA (Taiwan Ratings Corporation, 05/16/2013)	twAAA (Taiwan Ratings Corporation, 08/06/2013)	Not Applicable							
Underwriter (Lead Underwriter)	Not Applicable		Yuanta Securities Co., Ltd.	MasterLink Securities Co., Ltd.	Hua Nan Securities Co., Ltd.	Capital Securities Co., Ltd.	KGI Securities Co., Ltd.	Capital Securities Co., Ltd.	KGI Securities Co., Ltd.	Capital Securities Co., Ltd.
Trustee	Taipei Fubon Commercial Bank Co., Ltd.									
Guarantor	None									
Legal Counsel	Modern Law Office		True Honesty International Law Offices							
Auditor	Deloitte & Touche									
Redemption or Early Repayment Clause	None									
Covenants	None									
Other Rights of Bondholders	Conversion Right	None								
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable								
Dilution Effect and Other Adverse Effects on Existing Shareholders	None									
Custodian	None									

(Continued)

Issuance	Domestic Unsecured Bond (110-2)	Domestic Unsecured Bond (110-3)	Domestic Unsecured Bond (110-4)	Domestic Unsecured Bond (110-6)	Domestic Unsecured Bond (110-7)	Domestic Unsecured Bond (111-1, Green Bond)	Domestic Unsecured Bond (111-2)	Domestic Unsecured Bond (111-3, Green Bond)	Domestic Unsecured Bond (111-4, Green Bond)	Domestic Unsecured Bond (111-5)	Domestic Unsecured Bond (111-6, Green Bond)
Issue Date	05/03/2021	06/25/2021	08/19/2021	10/05/2021	12/09/2021	01/12/2022	03/29/2022	05/20/2022	07/27/2022	08/25/2022	10/20/2022
Denomination	NT\$10,000,000										
Offering Price	Par										
Total Amount	NT\$19,200,000,000	NT\$19,700,000,000	NT\$21,600,000,000	NT\$16,300,000,000	NT\$16,700,000,000	NT\$5,400,000,000	NT\$14,200,000,000	NT\$6,100,000,000	NT\$13,900,000,000	NT\$15,600,000,000	NT\$10,200,000,000
Coupon (Per Annum)	Tranche A: 0.50% Tranche B: 0.58% Tranche C: 0.65%	Tranche A: 0.52% Tranche B: 0.58% Tranche C: 0.65%	Tranche A: 0.485% Tranche B: 0.50% Tranche C: 0.55% Tranche D: 0.62%	Tranche A: 0.535% Tranche B: 0.54% Tranche C: 0.60% Tranche D: 0.62%	Tranche A: 0.65% Tranche B: 0.675% Tranche C: 0.72%	Tranche A: 0.63% Tranche B: 0.72%	Tranche A: 0.84% Tranche B: 0.85% Tranche C: 0.90%	1.50%	Tranche A: 1.60% Tranche B: 1.70% Tranche C: 1.75% Tranche D: 1.95%	Tranche A: 1.65% Tranche B: 1.65% Tranche C: 1.65% Tranche D: 1.82%	Tranche A: 1.75% Tranche B: 1.80% Tranche C: 2.00%
Tenure and Maturity Date	Tranche A: 5 years Maturity: 05/03/2026 Tranche B: 7 years Maturity: 05/03/2028 Tranche C: 10 years Maturity: 05/03/2031	Tranche A: 5 years Maturity: 06/25/2026 Tranche B: 7 years Maturity: 06/25/2028 Tranche C: 10 years Maturity: 06/25/2031	Tranche A: 4 years Maturity: 08/19/2025 Tranche B: 5 years Maturity: 08/19/2026 Tranche C: 7 years Maturity: 08/19/2028 Tranche D: 10 years Maturity: 08/19/2031	Tranche A: 4.5 years Maturity: 04/05/2026 Tranche B: 5 years Maturity: 10/05/2026 Tranche C: 7 years Maturity: 10/05/2028 Tranche D: 10 years Maturity: 10/05/2031	Tranche A: 5 years Maturity: 12/09/2026 Tranche B: 5.5 years Maturity: 06/09/2027 Tranche C: 7 years Maturity: 12/09/2028	Tranche A: 5 years Maturity: 01/12/2027 Tranche B: 7 years Maturity: 01/12/2029	Tranche A: 4.5 years Maturity: 09/29/2026 Tranche B: 5 years Maturity: 03/29/2027 Tranche C: 7 years Maturity: 03/29/2029	5 years Maturity: 05/20/2027	Tranche A: 4 years Maturity: 07/27/2026 Tranche B: 5 years Maturity: 07/27/2027 Tranche C: 7 years Maturity: 07/27/2029 Tranche D: 10 years Maturity: 07/27/2032	Tranche A: 4 years 10 months Maturity: 06/25/2027 Tranche B: 5 years Maturity: 08/25/2027 Tranche C: 7 years Maturity: 08/25/2029 Tranche D: 10 years Maturity: 08/25/2032	Tranche A: 5 years Maturity: 10/20/2027 Tranche B: 7 years Maturity: 10/20/2029 Tranche C: 10 years Maturity: 10/20/2032
Repayment	Bullet										
Outstanding	NT\$19,200,000,000	NT\$19,700,000,000	NT\$21,600,000,000	NT\$16,300,000,000	NT\$16,700,000,000	NT\$5,400,000,000	NT\$14,200,000,000	NT\$6,100,000,000	NT\$13,900,000,000	NT\$15,600,000,000	NT\$10,200,000,000
Credit Rating	Not Applicable										
Underwriter (Lead Underwriter)	SinoPac Securities Co., Ltd.	Yuanta Securities Co., Ltd.	KGI Securities Co., Ltd.	Capital Securities Co., Ltd.	Capital Securities Co., Ltd.	Yuanta Securities Co., Ltd.	Capital Securities Co., Ltd.	Capital Securities Co., Ltd.	SinoPac Securities Co., Ltd.	Capital Securities Co., Ltd.	Yuanta Securities Co., Ltd.
Trustee	Taipei Fubon Commercial Bank Co., Ltd.										
Guarantor	None										
Legal Counsel	True Honesty International Law Offices										
Auditor	Deloitte & Touche										
Redemption or Early Repayment Clause	None										
Covenants	None										
Other Rights of Bondholders	Conversion Right	None									
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable									
Dilution Effect and Other Adverse Effects on Existing Shareholders	None										
Custodian	None										

Onshore USD Corporate Bonds

As of 02/28/2023

Issuance	US-dollar Domestic Unsecured Bond (109-1)	US-dollar Domestic Unsecured Bond (110-5)
Issue Date	09/22/2020	09/23/2021
Denomination	US\$1,000,000	
Listing	Taipei Exchange	
Offering Price	Par	
Total Amount	US\$1,000,000,000	
Coupon (Per Annum)	2.70%	3.10%
Tenure and Maturity Date	40 years Maturity: 09/22/2060	30 years Maturity: 09/23/2051
Repayment	Bullet	
Outstanding	US\$1,000,000,000	
Credit Rating	Not Applicable	
Underwriter	Goldman Sachs (Asia) L.L.C., Taipei Branch KGI Securities Co., Ltd. (lead underwriter)	
Trustee	Mega International Commercial Bank Co., Ltd.	
Guarantor	None	
Legal Counsel	True Honesty International Law Offices	
Auditor	Deloitte & Touche	
Redemption or Early Repayment Clause	Callable on the 5 th anniversary of the issue date and every anniversary thereafter	
Covenants	None	
Other Rights of Bondholders	Conversion Right	None
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable
Dilution Effect and Other Adverse Effects on Existing Shareholders	None	
Custodian	None	

Offshore USD Corporate Bonds

As of 02/28/2023

Issuance	Senior Unsecured Notes (Note 1)	Senior Unsecured Notes (Note 1)	Senior Unsecured Notes (Note 2)	Senior Unsecured Notes (Note 2)	Senior Unsecured Notes (Note 1)
Issue Date	09/28/2020	04/23/2021	10/25/2021	04/22/2022	07/22/2022
Denomination	US\$200,000 and integral multiples of US\$1,000 in excess thereof				
Listing	Singapore Exchange				
Offering Price	2025 Notes: 99.907% 2027 Notes: 99.603% 2030 Notes: 99.083%	2026 Notes: 99.759% 2028 Notes: 99.751% 2031 Notes: 99.831%	2026 Notes: 99.976% 2031 Notes: 99.561% 2041 Notes: 98.898% 2051 Notes: 98.658%	2027 Notes: 99.829% 2029 Notes: 99.843% 2032 Notes: 99.742% 2052 Notes: 99.771%	2027 Notes: 99.951% 2032 Notes: 99.124%
Total Amount	US\$3,000,000,000	US\$3,500,000,000	US\$4,500,000,000	US\$3,500,000,000	US\$1,000,000,000
Coupon (Per Annum)	2025 Notes: 0.75% 2027 Notes: 1.00% 2030 Notes: 1.375%	2026 Notes: 1.25% 2028 Notes: 1.75% 2031 Notes: 2.25%	2026 Notes: 1.75% 2031 Notes: 2.50% 2041 Notes: 3.125% 2051 Notes: 3.25%	2027 Notes: 3.875% 2029 Notes: 4.125% 2032 Notes: 4.250% 2052 Notes: 4.500%	2027 Notes: 4.375% 2032 Notes: 4.625%
Tenure and Maturity Date	2025 Notes: 5 years Maturity: 09/28/2025 2027 Notes: 7 years Maturity: 09/28/2027 2030 Notes: 10 years Maturity: 09/28/2030	2026 Notes: 5 years Maturity: 04/23/2026 2028 Notes: 7 years Maturity: 04/23/2028 2031 Notes: 10 years Maturity: 04/23/2031	2026 Notes: 5 years Maturity: 10/25/2026 2031 Notes: 10 years Maturity: 10/25/2031 2041 Notes: 20 years Maturity: 10/25/2041 2051 Notes: 30 years Maturity: 10/25/2051	2027 Notes: 5 years Maturity: 04/22/2027 2029 Notes: 7 years Maturity: 04/22/2029 2032 Notes: 10 years Maturity: 04/22/2032 2052 Notes: 30 years Maturity: 04/22/2052	2027 Notes: 5 years Maturity: 07/22/2027 2032 Notes: 10 years Maturity: 07/22/2032
Repayment	Bullet				
Outstanding	US\$3,000,000,000	US\$3,500,000,000	US\$4,500,000,000	US\$3,500,000,000	US\$1,000,000,000
Credit Rating	Aa3 (Moody's Investors Service, 09/21/2020) AA- (Standard & Poor's Rating Services, 09/21/2020)	Aa3 (Moody's Investors Service, 04/19/2021) AA- (Standard & Poor's Rating Services, 04/18/2021)	Aa3 (Moody's Investors Service, 10/19/2021) AA- (Standard & Poor's Rating Services, 10/18/2021)	Aa3 (Moody's Investors Service, 04/19/2022) AA- (Standard & Poor's Rating Services, 04/18/2022)	Aa3 (Moody's Investors Service, 07/19/2022) AA- (Standard & Poor's Rating Services, 07/18/2022)
Underwriter	Goldman Sachs International as lead underwriter		Goldman Sachs & Co. LLC as lead underwriter		Goldman Sachs International as lead underwriter
Trustee	Citicorp International Limited		Citibank, N.A.		Citicorp International Limited
Guarantor	TSMC				
Legal Counsel	Sullivan & Cromwell (Hong Kong) LLP Harney Westwood & Riegels Lee and Li, Attorneys-at-Law		Sullivan & Cromwell (Hong Kong) LLP Fennemore Craig, P.C. Lee and Li, Attorneys-at-Law		Sullivan & Cromwell (Hong Kong) LLP Harney Westwood & Riegels Lee and Li, Attorneys-at-Law
Auditor	Deloitte & Touche				
Redemption or Early Repayment Clause	Issuer may, at its option, redeem the Notes, at any time, in whole or in part at the relevant redemption price according to relevant agreements				
Covenants	None				
Other Rights of Bondholders	Conversion Right	None			
	Amount of Converted or Exchanged Common Shares, ADRs or Other Securities	Not Applicable			
Dilution Effect and Other Adverse Effects on Existing Shareholders	None				
Custodian	None				

Note 1: Issued by TSMC Global Ltd., a wholly-owned subsidiary of TSMC, and unconditionally and irrevocably guaranteed by TSMC.

Note 2: Issued by TSMC Arizona Corporation, a wholly-owned subsidiary of TSMC, and unconditionally and irrevocably guaranteed by TSMC.

4.2.2 Convertible Bond: None.

4.2.3 Exchangeable Bond: None.

4.2.4 Shelf Registration in Taiwan: None.

4.2.5 Bond with Warrants: None.

4.3 Preferred Shares

4.3.1 Preferred Shares: None.

4.3.2 Preferred Shares with Warrants: None.

4.4 Issuance of American Depositary Shares

Issue Date	10/08/1997	11/20/1998	01/12/1999 - 01/14/1999	07/15/1999	08/23/1999 - 09/09/1999	02/22/2000 - 03/08/2000	04/17/2000	06/07/2000 - 06/15/2000	05/17/2001 - 06/11/2001	11/27/2001	02/07/2002 - 02/08/2002	11/21/2002 - 12/19/2002	07/14/2003 - 07/21/2003	11/14/2003	08/10/2005 - 09/08/2005	05/23/2007
Total Amount (US\$ million)	595	185	36	296	159	379	225	1,168	539	321	1,002	160	909	1,077	1,402	2,563
Offering Price Per ADS (US\$)	24.78	15.26	17.75	24.516	28.964	57.79	56.16	35.75	20.63	16.03	16.75	8.73	10.40	10.77	8.60	10.68
Units Issued	24,000,000	12,094,000	2,000,000	12,094,000	5,486,000	6,560,000	4,000,000	32,667,800	26,110,000	20,000,000	59,800,000	18,348,000	87,357,200	100,000,000	163,027,500	240,000,000
Common Shares Represented	Each unit of ADS represents five TSMC Common Shares.															
Underlying Securities	TSMC Common Shares from Selling Shareholders							Cash Offering and TSMC Common Shares from Selling Shareholders								
Apportionment of Expenses for Issuance and Maintenance	(Note 3)							(Note 4)								
Issuance and Listing	NYSE															
Rights and Obligations of ADS Holders	Same as those of Common Share Holders															
Trustee	Not Applicable															
Depository Bank	Citibank, N.A. – New York															
Custodian Bank (Note 1)	Citibank, N.A. – Taipei Branch															
ADSs Outstanding (Note 2)	As of February 28, 2023, total number of outstanding ADSs was 1,063,805,907															
Terms and Conditions in the Deposit Agreement and Custody Agreement	See Deposit Agreement and Custody Agreement for Details															
Closing Price Per ADS (US\$; source: Bloomberg)	01/01/2022 - 12/31/2022	High	140.66													
		Low	60.28													
		Average	90.96													
	01/01/2023 - 02/28/2023	High	97.96													
		Low	74.03													
		Average	89.44													

Note 1: Citibank, N.A., Taipei Branch changed its name to "Citibank Taiwan Limited" in 2009.

Note 2: TSMC has in aggregate issued 813,544,500 ADSs since 1997, which, if taking into consideration stock dividends distributed over the period, would amount to 1,147,835,205 ADSs. Stock dividends distributed in 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 and 2009 were 45%, 23%, 28%, 40%, 10%, 8%, 14.08668%, 4.99971%, 2.99903%, 0.49991%, 0.50417% and 0.49998%, respectively. As of February 28, 2023, total number of outstanding ADSs was 1,063,805,907 after 84,029,298 were redeemed.

Note 3: All fees and expenses related to issuance of ADSs were paid by the selling shareholders, while maintenance expenses were borne by TSMC.

Note 4: All fees and expenses related to issuance of ADSs were paid proportionately by TSMC and the selling shareholders, while maintenance expenses were borne by TSMC.

4.5 Status of Employee Stock Option Plan

4.5.1 Issuance of Employee Stock Options: None.

4.5.2 Employee Stock Options Granted to Management Team and to Top 10 Employees: None.

4.6 Status of Employee Restricted Stock

4.6.1 Status of Employee Restricted Stock

As of 03/12/2023 (Note)

Type of Employee Restricted Stock	Employee Restricted Stock Awards for Year 2021	Employee Restricted Stock Awards for Year 2022																																		
Effective Registration Date and Total Number of Shares	08/06/2021/2,600,000 shares	07/25/2022/3,065,000 shares																																		
Issue Date	03/01/2022	03/01/2023																																		
Number of Restricted Employee Shares Issued	1,387,000 shares	2,110,000 shares																																		
Number of Restricted Employee Shares Still Available for Issuance	0 shares	955,000 shares																																		
Issued Price	None	None																																		
Ratio of the Number of Restricted Employee Shares Issued to the Total Number of Issued Shares	0.00535%	0.00814%																																		
Vesting Conditions of Restricted Employee Shares	<p>1. The RSAs granted to an executive can only be vested if (a) the executive remains employed by the Company on the last date of each vesting period; (b) during the vesting period, the executive may not breach any agreement with the Company or violate the Company's work rules; and (c) certain executive performance metrics (a year-end performance rating of at least "S" (Note) or above for the year immediately preceding the expiration of each vesting period) and the Company's business performance metrics are met. (Note: "S" stands for "Successful")</p> <p>2. The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of the Company's business performance metrics, as detailed in the following point.</p> <p>3. The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on the Company's relative TSR (Note) achievement (see table below) to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's evaluation of the Company's ESG achievements. The number of shares so calculated should be rounded down to the nearest integral.</p> <table border="1"> <thead> <tr> <th>The Company's TSR Relative to the TSR of S&P 500 IT Index</th> <th>Ratio of Shares to be Vested</th> </tr> </thead> <tbody> <tr> <td>Above the Index by X percentage points</td> <td>50% + X * 2.5%, with the maximum of 100%</td> </tr> <tr> <td>Equal to the Index</td> <td>50%</td> </tr> <tr> <td>Below the Index by X percentage points</td> <td>50% - X * 2.5%, with the minimum of 0%</td> </tr> </tbody> </table> <p>Note: TSR: Total Shareholder Return (including capital gains and dividends)</p>	The Company's TSR Relative to the TSR of S&P 500 IT Index	Ratio of Shares to be Vested	Above the Index by X percentage points	50% + X * 2.5%, with the maximum of 100%	Equal to the Index	50%	Below the Index by X percentage points	50% - X * 2.5%, with the minimum of 0%	<p>1. The RSAs granted to an employee can only be vested if (a) the employee remains employed by the Company or the Company's subsidiaries on the last date of each vesting period; (b) during the vesting period, the employee may not breach any agreement with the Company or the Company's subsidiaries or violate the Company's or the Company's subsidiaries' work rules; and (c) certain employee performance metrics (a year-end performance rating of at least "S" (Note) or above for the year immediately preceding the expiration of each vesting period) and the Company's business performance metrics are met. (Note: "S" stands for "Successful")</p> <p>2. The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of the Company's business performance metrics, as detailed in the following points.</p> <p>3. For eligible executive officers of the Company: The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on the Company's relative TSR (Note) achievement (see table below) to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's evaluation of the Company's ESG achievements. 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The number of shares so calculated should be rounded down to the nearest integral.</p> <table border="1"> <thead> <tr> <th></th> <th>Threshold</th> <th>Target</th> <th>Weighting</th> <th>Ratio of Shares to be Vested</th> </tr> </thead> <tbody> <tr> <td>Revenue Growth</td> <td>10%</td> <td>15%</td> <td>One-third</td> <td rowspan="3">< Threshold: 0% = Threshold: 50% ≥ Target: 100% Between Threshold and Target: as calculated by interpolation method</td> </tr> <tr> <td>Gross Margin</td> <td>50%</td> <td>53%</td> <td>One-third</td> </tr> <tr> <td>Return on Equity (ROE)</td> <td>20%</td> <td>25%</td> <td>One-third</td> </tr> </tbody> </table>	The Company's TSR Relative to the TSR of S&P 500 IT Index	Ratio of Shares to be Vested	Above the Index by X percentage points	50% + X * 2.5%, with the maximum of 100%	Equal to the Index	50%	Below the Index by X percentage points	50% - X * 2.5%, with the minimum of 0%		Threshold	Target	Weighting	Ratio of Shares to be Vested	Revenue Growth	10%	15%	One-third	< Threshold: 0% = Threshold: 50% ≥ Target: 100% Between Threshold and Target: as calculated by interpolation method	Gross Margin	50%	53%	One-third	Return on Equity (ROE)	20%	25%	One-third
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Return on Equity (ROE)	20%	25%	One-third																																	
Restriction on Rights in the Restricted Employee Shares	<p>1. Upon the grant of the RSAs, the RSAs shall be deposited in a trust/custody account. Before the vesting conditions are fulfilled, the executives cannot request the trustee/custodian to return to them the RSAs for any reasons or by any means.</p> <p>2. During each vesting period, no executives granted RSAs may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.</p> <p>3. Subject to the restrictions mentioned above, the rights of the executives with regard to the unvested RSAs granted under these Rules before the fulfillment of the vesting conditions, including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of the Company. The relevant matters shall be handled in accordance with the RSA trust/custody agreement.</p> <p>4. Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and any other shareholder rights shall be exercised by the engaged trustee/custodian on the executives' behalf.</p> <p>5. During each vesting period, if the Company conducts a capital reduction for cash return, capital reduction for loss offset, or other non-statutory capital reduction, the unvested RSAs shall be cancelled proportionally by the ratio of such capital reduction. If the Company conducts a capital reduction for cash return, the returned cash shall be deposited in a trust/custody account and shall not be delivered to the executives until the vesting conditions are fulfilled; otherwise, the cash will be returned to the Company.</p>	<p>1. Upon the grant of the RSAs, the RSAs shall be deposited in a trust/custody account. Before the vesting conditions are fulfilled, the employees cannot request the trustee/custodian to return to them the RSAs for any reasons or by any means.</p> <p>2. During each vesting period, no employees granted RSAs may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.</p> <p>3. Subject to the restrictions mentioned above, the rights of the employees with regard to the unvested RSAs granted under these Rules before the fulfillment of the vesting conditions, including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of the Company. The relevant matters shall be handled in accordance with the RSA trust/custody agreement.</p> <p>4. Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and any other shareholder rights shall be exercised by the engaged trustee/custodian on the employees' behalf.</p> <p>5. During each vesting period, if the Company conducts a capital reduction for cash return, capital reduction for loss offset, or other non-statutory capital reduction, the unvested RSAs shall be cancelled proportionally by the ratio of such capital reduction. If the Company conducts a capital reduction for cash return, the returned cash shall be deposited in a trust/custody account and shall not be delivered to the employees until the vesting conditions are fulfilled; otherwise, the cash will be returned to the Company.</p>																																		

(Continued)

Custody of the Restricted Employee Shares	<p>1. Upon the grant of the RSAs, the RSAs shall be deposited in a trust/custody account. Before the vesting conditions are fulfilled, the executives cannot request the trustee/custodian to return to them the RSAs for any reasons or by any means.</p> <p>2. During the period when the granted RSAs are deposited in a trust/custody account, each executive must enter into an agreement authorizing the Company to, among others, negotiate, execute, modify, extend, rescind, and terminate the trust/custody agreement with the trustee/custodian, and give instructions to deliver, use, and dispose of any of the properties under the trust/custody, on their behalf, with full power and authority.</p>	<p>1. Upon the grant of the RSAs, the RSAs shall be deposited in a trust/custody account. Before the vesting conditions are fulfilled, the employees cannot request the trustee/custodian to return to them the RSAs for any reasons or by any means.</p> <p>2. During the period when the granted RSAs are deposited in a trust/custody account, each executive must enter into an agreement authorizing the Company to, among others, negotiate, execute, modify, extend, rescind, and terminate the trust/custody agreement with the trustee/custodian, and give instructions to deliver, use, and dispose of any of the properties under the trust/custody, on their behalf, with full power and authority.</p>
Treatment of the Restricted Shares for Which the Grantee Fails to Meet the Vesting Conditions after Receiving or Subscribing to the Shares	<p>1. The Company will reclaim the granted RSAs and cancel the same at no extra cost to the Company, where an executive fails to meet the vesting conditions.</p> <p>2. Voluntary Separation, separation with a severance, or involuntary discharge: Any unvested RSAs will be forfeited on the effective date of separation due to a voluntary separation, separation with a severance, or involuntary discharge of such executives. The Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>3. Leave Without Pay: All the rights and obligations in connection with the unvested RSAs will not be affected as a result of executives taking extended leave without pay. However, the actual number of shares that may be vested will not only be calculated according to the vesting conditions but also be prorated based on the number of months of their service during the year prior to the applicable vesting day. If such executives are on leave without pay on any vesting day, it shall be deemed that they fail to meet the vesting conditions, and the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>4. Retirement: All the rights and obligations in connection with the unvested RSAs will not be affected as a result of an employee's retirement. However, the actual number of shares that may be vested shall be calculated according to the vesting condition, and the performance rating granted to them shall be deemed "S".</p> <p>5. Employment Termination Due to Death or Physical Disability Caused by Occupational Accidents: The unvested RSAs shall be deemed immediately vested in the case of death or physical disability due to an occupational accident, where the RSAs vested shall be based on the assumption that the Company's TSR equals to the TSR of S&P 500 IT Index and there is no further adjustment for the Company's ESG achievements. In the case of death, the respective heir(s) may apply for entitlement to those inheritable shares after completing all necessary legal procedures and providing relevant supporting documents. In the case of physical disability caused by occupational injury, the vested RSAs will be received by such executives.</p> <p>6. Position Transfer: Where any executives apply for transferring to any of the Company's subsidiaries, affiliates, or other companies, the measures to be taken with respect to their unvested RSAs will be the same as those specified in "Voluntary Separation". Where any executives are assigned by the Company to a position in any of the Company's subsidiaries, affiliates, or other companies, all the rights and obligations in connection with the unvested RSAs will not be affected as a result. However, subject to the vesting conditions, such executives shall continue working in the assigned subsidiaries, affiliates, or other companies on the vesting dates. Otherwise, they will be considered to fail to meet the vesting conditions, and the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company. With respect to the evaluation of the achievement of individual performance goals, Chairman and Chief Executive Officer will determine whether the vesting conditions are met by reviewing the evaluation of the executives' performance provided by the assigned subsidiaries, affiliates, or other companies.</p> <p>7. Where any executives declare to voluntarily relinquish the granted RSAs with a written statement, the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>8. Where any executives, after being granted the RSAs, breach any agreement with the Company employment agreement or violate the Company's work rules, the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>9. Where any executives terminate or revoke their authorization given to the Company regarding the executive's RSA trust/custody account, the Company will reclaim their unvested RSAs and cancel the same at no extra cost to the Company.</p>	<p>1. The Company will reclaim the granted RSAs and cancel the same at no extra cost to the Company, where an employee fails to meet the vesting conditions.</p> <p>2. Voluntary Separation, separation with a severance, or involuntary discharge: Any unvested RSAs will be forfeited on the effective date of separation due to a voluntary separation, separation with a severance, or involuntary discharge of such employees. The Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>3. Leave Without Pay: All the rights and obligations in connection with the unvested RSAs will not be affected as a result of employees taking extended leave without pay. However, the actual number of shares that may be vested will not only be calculated according to the vesting conditions but also be prorated based on the number of months of their service during the year prior to the applicable vesting day. If such employees are on leave without pay on any vesting day, it shall be deemed that they fail to meet the vesting conditions, and the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>4. Retirement: All the rights and obligations in connection with the unvested RSAs will not be affected as a result of an employee's retirement, provided that the employee complies with both of the following conditions after his/her retirement. If any of the following conditions is not met, any unvested RSAs will be forfeited. Exemption could be made case by case by Chairman and CEO.</p> <ul style="list-style-type: none"> - Not to get any full-time job; and - Not to engage in competition with the Company or the Company's subsidiaries, including without limitation: to join a competitor, to provide any competitive services, to establish any company or business that would involve a competitive foundry process or service, or to employ, induce, or attempt to induce any TSMC employee to undertake competitive services. <p>All the rights and obligations in connection with the unvested RSAs will not be affected as a result of an employee's retirement. However, the actual number of shares that may be vested shall be calculated according to the vesting condition, and the performance rating granted to them shall be deemed "S".</p> <p>5. Employment Termination Due to Death or Physical Disability Caused by Occupational Accidents: The unvested RSAs shall be deemed immediately vested in the case of death or physical disability due to an occupational accident. For eligible executive officers of the Company, the RSAs vested shall be based on the assumption that the Company's TSR equals to the TSR of S&P 500 IT Index and there is no further adjustment for the Company's ESG achievements. For eligible employees who are not executive officers of the Company and the Company's subsidiaries, the RSAs vested shall be based on the assumption that the Company's Revenue growth, Gross Margin, and ROE are all equal to Threshold. In the case of death, the respective heir(s) may apply for entitlement to those inheritable shares after completing all necessary legal procedures and providing relevant supporting documents. In the case of physical disability caused by occupational injury, the vested RSAs will be received by such employees.</p> <p>6. Position Transfer:</p> <ul style="list-style-type: none"> - Where any employees apply for transferring to any of the Company's subsidiaries, affiliates, or other companies, the measures to be taken with respect to their unvested RSAs will be the same as "Voluntary Separation". - Where any employees are assigned by the Company or the Company's subsidiaries to a position in any of the Company's subsidiaries, affiliates, or other companies, all the rights and obligations in connection with the unvested RSAs will not be affected as a result. However, subject to the vesting condition, such employees shall continue working in the assigned subsidiaries, affiliates, or other companies on the vesting dates. Otherwise, they will be considered to fail to meet the vesting conditions, and the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company. With respect to the evaluation of the achievement of individual performance goals, Chairman and Chief Executive Officer will determine whether the vesting conditions are met by reviewing the evaluation of the employees' performance provided by the assigned subsidiaries, affiliates, or other companies. <p>7. Where any employees declare to voluntarily relinquish the granted RSAs with a written statement, the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>8. Where any employees, after being granted the RSAs, breach any agreement with the Company employment agreement or violate the Company's work rules, the Company will reclaim the RSAs granted to them and cancel the same at no extra cost to the Company.</p> <p>9. Where any employees terminate or revoke their authorization given to the Company regarding the employees' RSA trust/custody account, the Company will reclaim their unvested RSAs and cancel the same at no extra cost to the Company.</p>
Number of Restricted Employee Shares That Have Been Retired or Bought Back	419,466 shares	0 share
Number of Restricted Employee Shares That Have Vested	274,034 shares	0 share
Number of Unvested Restricted Employee Shares	693,500 shares	2,110,000 shares
The Ratio of Number of Unvested Restricted Employee Share to the Total Number of Issued Shares (%)	0.00267%	0.0081%
The Effect on Shareholders' Equity	The potential dilution of the Company's EPS is minimal; therefore, there is no material impact on shareholders' interest.	The potential dilution of the Company's EPS is minimal; therefore, there is no material impact on shareholders' interest.

Note: The printed date of this Annual Report.

4.6.2 Employee Restricted Stock Granted to Management Team and to Top 10 Employees

Unit: Share

As of 03/12/2023 (Note 2)

	Title	Name	No. of Employee Restricted Stock Granted	Employee Restricted Stock as a Percentage of Shared Issued (Note 3)	Restrictions Released			Restrictions Unreleased				
					No. of Shares	Issued Price (NT\$)	Issued Amount (NT\$ thousands)	Released Shares as a Percentage of Shares Issued (Note 3)	No. of Shares	Issued Price (NT\$)	Issued Amount (NT\$ thousands)	Unreleased Shares as a Percentage of Shares Issued (Note 3)
Management Team and Employee	Chief Executive Officer	C.C. Wei	3,497,000	0.01349%	274,034	0	0	0.00106%	2,803,500	0	0	0.01081%
	Vice President, Chief Financial Officer/Spokesperson	Wendell Huang										
	Senior Vice President	Lora Ho										
	Senior Vice President	Wei-Jen Lo										
	Senior Vice President	Y.P. Chin										
	Senior Vice President	Y.J. Mii										
	Senior Vice President	J.K. Lin										
	Senior Vice President	J.K. Wang (Note 1)										
	Senior Vice President	Cliff Hou										
	Senior Vice President	Kevin Zhang										
	Vice President and General Counsel/Corporate Governance Officer	Sylvia Fang										
	Vice President	Connie Ma (Note 1)										
	Vice President	Y.L. Wang										
	Vice President and TSMC Distinguished Fellow	Douglas Yu										
	Vice President and TSMC Fellow	T.S. Chang										
	Vice President	Michael Wu										
	Vice President	Min Cao										
	Vice President	Marvin Liao (Note 1)										
	Vice President	Y.H. Liaw										
	Vice President	Simon Jang										
	Vice President	C.S. Yoo										
	Vice President	Jun He										
	Vice President	Geoffrey Yeap										
Vice President and Chief Information Officer	Chris Horng-Dar Lin											
Vice President	Jonathan Lee											
Vice President	Arthur Chuang											
Vice President and TSMC Fellow	L.C. Lu											
Vice President	K.C. Hsu											
Employee	Y.C. Huang (Note 1)											

Note 1: Vice President Mr. J.K. Wang retired, effective May 7, 2022. Vice President Ms. Connie Ma retired, effective November 1, 2022. Vice President Dr. Marvin Liao retired, effective November 11, 2022. Mr. Y.C. Huang retired, effective May 1, 2022.

Note 2: The printed date of this Annual Report.

Note 3: The number of shares issued is based on the amended number of total shares approved by Ministry of Economic Affairs on February 28, 2023.

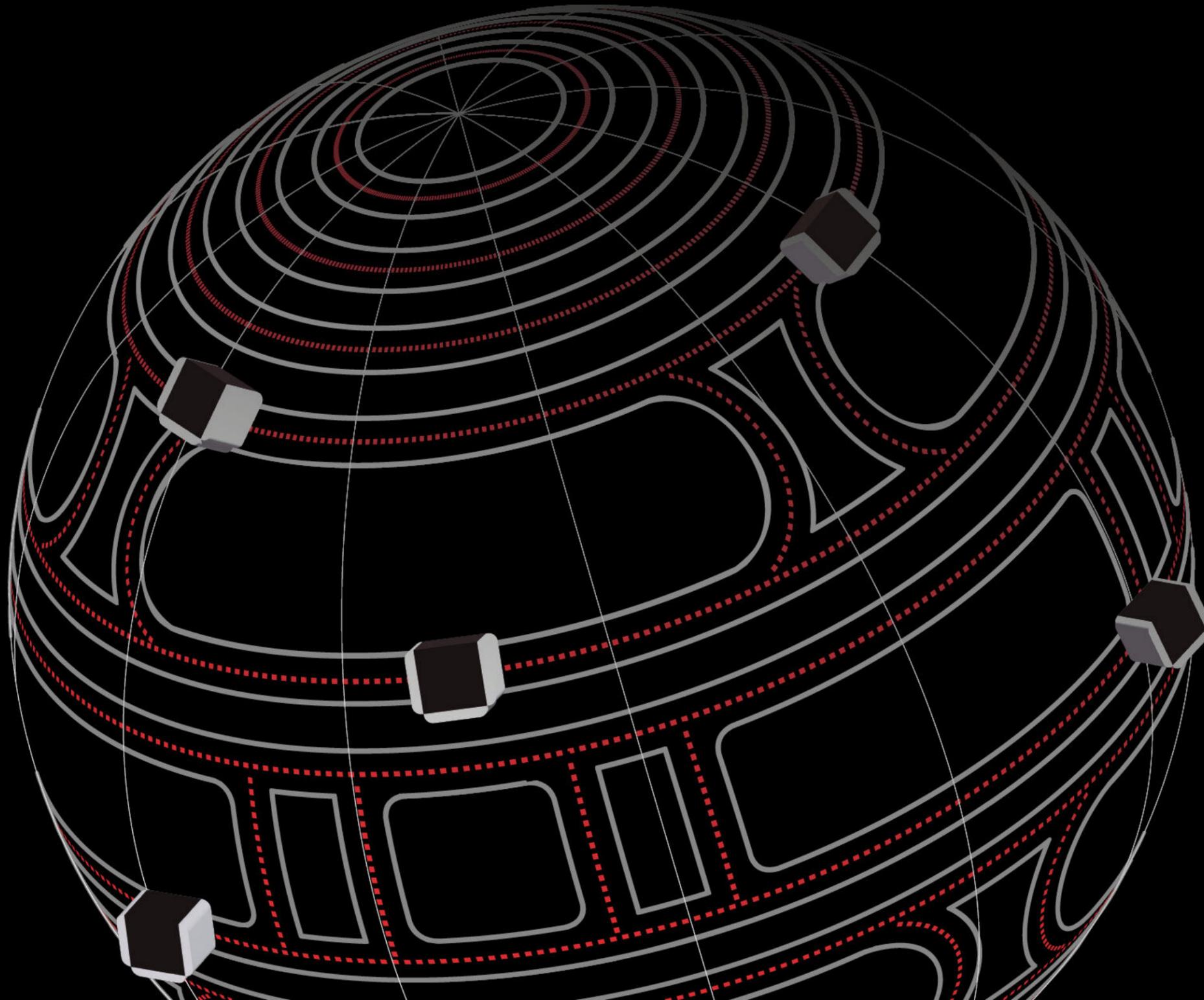
4.7 Status of New Share Issuance in Connection with Mergers and Acquisitions: None.

4.8 Funding Plans and Implementation

The funds raised by TSMC through issuances of domestic corporate bonds are used in accordance with respective funding plans and actual needs. As of the end of the fourth quarter of 2022, the implementation of uncompleted plan was as follows:

Projects	Gross Proceeds	Use of Proceeds	Implementation Status
Unsecured Corporate Bond (111-6, Green Bond)	NT\$10.2 billion	Green buildings and environmental protection related expenditures	As of the end of the fourth quarter of 2022, the actual completion rate was 40.00% (calculated based on actual payments), as compared to the original plan of 16.76% due to spending earlier than schedule. The funds were used in accordance with the original plans and there was no major difference between the expected benefits and the actual ones.

5 OPERATIONAL *Highlights*



The total daily travel distance of TSMC's AMHS vehicles is equivalent to circling the Earth 40 times.

5.1 Business Activities

5.1.1 Business Scope

As the founder and a leader of the dedicated semiconductor foundry segment, TSMC provides a full range of integrated semiconductor foundry services, including leading advanced process, specialty technologies, advanced mask technologies, TSMC 3DFabric™ advanced packaging and silicon stacking technologies, excellent manufacturing productivity and quality, as well as comprehensive design ecosystem support, to meet a growing variety of customer needs. The Company strives to provide unparalleled overall value to its customers and views customer success as TSMC's own success. As a result, TSMC has gained customer trust from around the world and has experienced strong growth and success of its own.

In 2022, TSMC developed or introduced the following technologies:

Logic Technology

- 2nm (N2) technology development is on track and making good progress. N2 technology features TSMC's first generation of nanosheet transistor technology with full-node strides in performance and power consumption. Volume production is expected in 2025.
- 3nm fin field-effect transistor (FinFET) (N3) technology started volume production in the second half of 2022 as planned.
- N3E technology, an enhanced version of N3 technology, will continue to provide industry-leading advantages for both mobile communication and high-performance computing (HPC) applications. Volume production is expected in the second half of 2023.
- 4nm FinFET (N4) technology, an enhanced version of 5nm FinFET (N5) technology, started volume production in 2022.
- 4nm FinFET Plus (N4P) technology development is on track and making good progress. Customer product tape-outs were received in 2022 and volume production is expected in 2023.
- N4X technology, introduced in 2021, is TSMC's first high performance computing (HPC)-focused technology, representing the ultimate performance and maximum clock frequencies in TSMC's 5-nanometer family. It is expected to receive customer tape-outs in 2023.

- 5nm FinFET Plus (N5P) technology, a performance-enhanced version of 5nm technology (N5), entered its second year of volume production in 2022 for customers' smartphone and HPC products.
- 6nm FinFET (N6) technology entered its third year of volume production in 2022 and was widely adopted for customers' smartphone, HPC, and consumer electronics products.
- 7nm FinFET (N7) and 7nm FinFET plus (N7+), which have been in volume production for customers' 5G and high-performance computing products for several years, entered their second year of volume production for customers' consumer electronics and automotive products in 2022.
- N12e™ technology, which leverages TSMC's 12nm FinFET compact plus (12FFC+) baseline, started volume production in 2021. Following this, N12e™ technology introduced innovative low-leakage input/output (IO) devices in 2022 and is planned to start risk production in 2023.
- 22nm ultra-low leakage (22ULL) technology introduced new enhanced low leakage in 2021 and has been applied to IoT products since 2022.

Specialty Technology

- 5nm FinFET Automotive (N5A) technology, an automotive qualified version of 5nm technology (N5) with automotive design enablement platform, completed technology and IP AEC-Q100 qualification and certified by ISO 26262: Functional Safety – Road Vehicles Standard in 2022. Customer product tape-outs are expected to start in 2023.
- N6 radio frequency (N6 RF) technology received multiple customer product tape-outs in 2022. In addition, the second generation N6 radio frequency (N6 RF+) technology is under development, and its process design kit (PDK) is expected to be completed in 2023.
- 12FFC+ RF technology version 1.0 simulation program with integrated circuit emphasis (SPICE) model and PDK were released in 2022. This technology was developed on the same logic process platform as N12e™ technology and targets IoT wireless connectivity applications and the second wave mobile RF customers.
- 16FFC FinFET compact (16FFC) RF technology received multiple customer tape-outs in 2021. The development of its enhanced version (Enhancement I/II) was completed in 2022 to support applications such as 28/39/47GHz mmWave RF front-end module and 77GHz/79GHz automotive radar.

- 16FFC embedded magnetoresistive random access memory (MRAM) technology completed reliability qualification in 2022, with one million cycles endurance and reflow capability. This technology is ready for production and is expected to pass AEC-Q100 Grade-1 reliability qualification in 2023.
- 22ULL and 28ULL embedded resistive random access memory (RRAM) technologies, TSMC's second generation of RRAM solutions, featured balanced cost and reliability. Several customers qualified products with these technologies and started volume production in 2022.
- 40nm Silicon on Insulator (N40SOI) technology on 12-inch wafers, which provides industry-leading competitive advantages, received multiple customer tape-outs in 2021 and started volume production in 2022.
- 6-inch gallium nitride (GaN) on silicon technology successfully passed customer product quality and reliability qualification. In 2022, this technology was widely adopted in power supplies for various consumer electronic devices featuring high power efficiency and small footprint. 8-inch GaN on Silicon technology development is on track and is expected to be ready in 2025 to further support automotive applications.
- CMOS image sensor (CIS) technology was enhanced and moved to the next generation to further strengthen the capabilities of advanced smartphone cameras. In 2022, TSMC continually helped customers roll out products with the world's smallest pixel size. In addition, TSMC successfully completed technology development of the world's first three-wafer-stacked global shutter image sensor and it is ready for production.
- For silicon photonics technology, TSMC is developing an innovative 3D photonics stack technology – compact universal photonics engine (COUPE), which can integrate silicon photonics chip and electrical control chip into a single-chip photonic engine. This photonics engine can be co-packaged with a high performance computing chip to provide low power and high speed data transmission. In 2022, several test chips were taped out for early evaluation to lay a solid foundation for future volume production.

TSMC 3DFabric™ - TSMC Advanced Packaging and 3D Silicon Stacking Technologies

- TSMC-SolC® (System on Integrated Chip) Chip-on-Wafer (CoW) technology successfully entered volume production in 2022. Stacking SRAM chips on logic wafers through CoW technology demonstrates significant performance improvement.

- TSMC-SolC® Wafer-on-Wafer (WoW) technology demonstrated superb system performance enhancement for high performance computing (HPC) products in 2022 by stacking 7nm logic wafer on deep trench capacitor (DTC) wafer.
- Chip on wafer on substrate with silicon interposer (CoWoS®-S) technology that integrates multiple system-on-chip (SoC) chips, second generation high bandwidth memory (HBM2E) stacks, and a 3-reticle size silicon interposer that features embedded deep trench capacitor (eDTC) successfully started volume production for customer HPC products in 2022.
- Chip on wafer on substrate with redistribution layer interposer (CoWoS®-R) technology featuring redistribution layer (RDL) interposer for better signal integrity for HPC applications successfully started risk production in 2022 and is expected to start volume production in 2023.
- Integrated Fan-Out on Substrate (InFO_oS) technology that integrates multiple SoC chips in a 2-reticle size fan-out package on a >90mmx90mm substrate successfully entered volume production in 2022.
- Integrated Fan-Out with local silicon interconnect (InFO_LSI) technology, which integrates 5nm SoCs with ultra-high density die-to-die interconnects for high performance computing products, successfully started volume production in 2022.
- Fine pitch copper (Cu) bump technology for flip chip packaging on 4nm silicon successfully started volume production in 2022.

5.1.2 Customer Applications

TSMC manufactured 12,698 different products for 532 customers in 2022. These chips were used across a broad spectrum of electronic applications, including computers and peripherals, information appliances, wired and wireless communication systems, high-performance computing servers and data centers, automotive and industrial equipment, as well as consumer electronics such as digital TVs, game consoles, digital cameras, AI-enabled IoT and wearables, and many other devices and applications.

The rapid ongoing evolution of end products prompts customers to pursue product differentiation using TSMC's innovative technologies and services and, at the same time, spurs TSMC's own development of technology. As always, TSMC believes success depends on leading rather than following industry trends.

5.1.3 Consolidated Shipments and Net Revenue in 2022 and 2021

Unit: Shipments (thousand of 12-inch equivalent wafers) / Net Revenue (NT\$ thousands)

Shipments		2022		2021	
		Shipments	Net Revenue	Shipments	Net Revenue
Wafer	Domestic (Note 1)	2,324	202,075,489	2,562	172,814,551
	Export	12,929	1,789,780,458	11,617	1,232,485,722
Others (Note 2)	Domestic (Note 1)	N/A	16,668,631	N/A	13,055,166
	Export	N/A	255,366,714	N/A	169,059,598
Total	Domestic (Note 1)	2,324	218,744,120	2,562	185,869,717
	Export	12,929	2,045,147,172	11,617	1,401,545,320

Note 1: Domestic means sales to Taiwan.

Note 2: Others mainly include revenue associated with packaging and testing services, mask making, design services, and royalties.

5.1.4 Production in 2022 and 2021

Unit: Capacity / Output (million 12-inch equivalent wafers) / Amount (NT\$ millions)

Wafers				
Year	Capacity	Output	Amount	
2022	15-16	15-16	854,900	
2021	13-14	14-15	791,459	

5.2 Technology Leadership

5.2.1 R&D Organization and Investment

In 2022, TSMC continued to invest in research and development, with total R&D expenditures amounting to 7.2% of revenue, a level that equals or exceeds the R&D investment of many other leading high-tech companies.

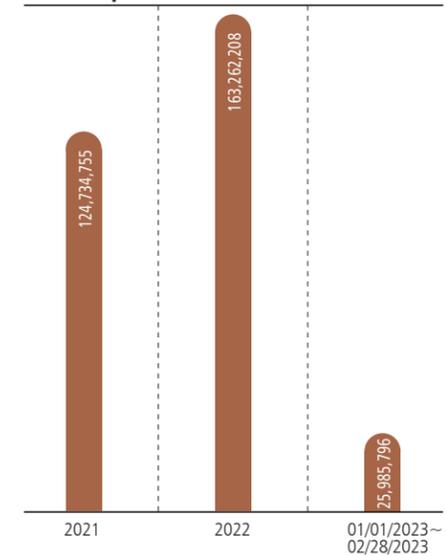
Faced with the continuous challenge to significantly scale up semiconductor computing power every two years, thereby extending Moore's Law, the Company has focused its R&D efforts on contributing to customers' product success by offering leading-edge technologies and design solutions. In 2022, the Company successfully started risk production of N3E, an enhanced version of N3 technology; while the development of 2nm, the leading-edge technology in the semiconductor industry at this time, moved into baseline setup and the yield learning stage. Furthermore, the Company's research efforts continued pushing forward with exploratory studies for nodes beyond 2nm.

In addition to complementary metal oxide semiconductor (CMOS) logic, TSMC conducts R&D on a wide range of other semiconductor technologies that provide the functionality required by customers for mobile SoC and other applications. Highlights in 2022 included:

- The Company's integrated interconnect and packaging solution, the 3DFabric™, showed significant progress by completing certification of HBM3 (third generation HBM) on CoWoS-S; qualifying InFO_PoP Gen-8 for mobile applications and enhanced thermal performance; and developing on schedule the next-generation InFO_PoP with backside redistribution layers (RDL).
- In specialty technologies, examples of progress included: improving figure-of-merit of 5V devices of 55nm bipolar-CMOS-DMOS (BCD) technology and extended 0.13μm BCD technology to support 55V in automotive applications; qualifying next generation monolithic CMOS-MEMS technology with highly reliable 6-axis inertial measurement unit (IMU); starting risk-production of the world's smallest chips of voltage domain global shutter CMOS image sensors with 3-wafer stack technology; and demonstrating next generation MRAM with smaller cell size, faster writing speed and more power saving for use in MCU, AR/VR/edge-AI applications.

In 2022, TSMC maintained strong partnerships with many world-class research institutions, including SRC in the U.S. and IMEC in Belgium. The Company also continued to expand research collaboration with leading universities throughout the world for two major purposes: the advancement of semiconductor technologies and the nurturing of human talent for the future.

R&D Expenditures



5.2.2 R&D Accomplishments in 2022

Highlights

• 3nm Technology

In 2022, TSMC established platform support of N3E technology for both HPC and SOC applications, started risk production, and planned to launch volume production in the second half of 2023.

• 2nm Technology

Also in 2022, TSMC's 2nm technological development focused on baseline setup, yield learning, transistor and interconnect R/C performance improvement, and reliability evaluation. During the year, major customers completed IP design and started silicon validation. TSMC also developed low resistance RDL and super high performance metal-insulator-metal (MiM) capacitors to further boost performance.

• Lithography Technology

The Company's R&D in lithography in 2022 focused on 3nm volume production, 2nm technology development, and preparation for the next generation. In 2nm, enhanced variation control, material quality, and defect reduction

demonstrated good performance with expected wafer yield. In 2023, TSMC R&D will continue to pursue extreme ultraviolet (EUV) technology development, mask pellicle research, and cost reduction for 2nm technology. In the future, TSMC R&D will continue to develop leading-edge technology with next generation EUV scanners to extend Moore's Law.

• Mask Technology

In 2022, R&D focused on improving critical dimension, pattern fidelity, overlay performance and defect reduction of EUV masks yields, exposure durability and wafer productivity by EUV photoresist and absorber material improvement, multibeam writer fine-tuning, process recipe modification, and introducing dry clean and inspection deep learning to meet the lithography requirements of the 3nm node. Continuous advancement was made for EUV mask technology by development of new mask materials and new mask processes for nodes at 2nm and beyond.

Integrated Interconnect and Packaging

TSMC has named its fine pitch chip-to-chip connection leveraging existing wafer processes 3DFabric™, which consists of both wafer-level frontend and backend technologies. The Company's frontend technologies, or TSMC-SoIC® (System on Integrated Chips), enables leading-edge silicon for 3D silicon stacking. TSMC's advanced backend technologies includes CoWoS® with chips placed onto pre-made RDLs and InFO with chips embedded before interconnection. The Company's 3DFabric offers the ultimate flexibility in product design with integrated frontend and backend technologies to meet future computing systems integration scaling needs.

• 3DIC and TSMC-SoIC®

TSMC-SoIC® is an innovative wafer-level frontend 3DIC chip stacking platform with outstanding bonding density, interconnect bandwidth, power efficiency, and thin profile. It extends Moore's Law through system-level scaling with sustainable performance gains and corresponding cost benefits. SoIC integrated chips can be subsequently assembled by using conventional packages or TSMC's new 3DFabric™ technologies, such as CoWoS® or InFO, for next generation HPC, AI and mobile applications. Currently, several SoIC product tape-outs are under verification. The Company is also planning the next generation of SoIC platform with more bandwidth improvement at a competitive cost. TSMC will continue pursue SoIC technological improvements and to co-optimize with the Company's advanced silicon technologies for further gains in transistor density, and system power/performance/area and cost.

● CoWoS®

CoWoS® with Si interposer is the leading 2.5D technology for high-end HPC and AI product applications. The technology features a Si interposer with sub-micron routing layers and integrated capacitors (iCaps) so that various chiplets such as SoC and high bandwidth memory (HBM) can be placed on it. The new third generation HBM3 was certified on CoWoS-S in 2022. In parallel, CoWoS-L with multiple local Si interconnects (LSIs) embedded in an organic interposer are being developed. Compared with CoWoS-S, CoWoS-L dramatically improved the size limitation of a Si interposer and enabled more features in an interposer to boost overall system performance.

● InFO

In 2022, TSMC continued its industry leadership in high-volume manufacturing of InFO_PoP Gen-7 packaging for mobile applications. InFO_PoP Gen-8 was also successfully qualified for mobile applications and displayed enhanced thermal performance. InFO-oS Gen-4 qualified in 2022 and offers more chip-partition integration, larger package size and higher bandwidth. Based on standard InFO_PoP structure, InFO_M_PoP Gen-1, which integrates different functional chips suitable for wearable applications, was developed and qualified in 2022. The next-generation InFO_PoP is being developed on scheduled to provide backside RDL for integrated commodity of low power DDR DRAM technology (LPDDR).

● Advanced Interconnect

TSMC provides unique interconnect technologies for its customers to design competitive products. In 2022, innovations on metallization enabled both line and via resistance reduction. In addition, development of novel materials also provided capacitance reduction. Those creative solutions deliver better chip performance with lower cost.

Corporate Research

Innovation in low-dimensional devices and materials continues to drive higher performance and reduced power consumption in advanced logic technologies. In 2022, TSMC stayed at the forefront of 2D transistor research. At the 2022 Symposia on VLSI Technology and Circuits, TSMC demonstrated a novel wafer-scale semi-automated dry transfer process for monolayer (1L) chemical vapor deposition (CVD) 2D WS₂ utilizing the weakly coupled interface between semimetal (Bi) and 2D WS₂. Using this semimetal-assisted transfer process, TSMC showcased a record high on current and a record low contact resistance for wafer-scale 1L CVD WS₂ transistors. At

the 2022 International Electron Device Meeting (IEDM), TSMC successfully integrated Hf-based atomic layer deposition (ALD) higher-k dielectrics with CVD-grown monolayer (1L) MoS₂ to build top-gate 2D nFET with equivalent oxide thickness (EOT) of ~1nm with a nearly ideal subthreshold swing of 68 mV/dec. Also at the 2022 IEDM, TSMC demonstrated the first successful integration of monolayer MoS₂ nanosheet (NS) FET in a gate-all-around configuration. The successful demonstration of MoS₂ NS with high performance and of the stacked NS modules further clarifies the value proposition in 2D materials for transistor scaling.

TSMC continues to research emerging high-density, non-volatile memory devices and hardware accelerators for AI and HPC applications. At the 2022 International Solid-State Circuits Conference (ISSCC), TSMC demonstrated a 40nm phase change memory (PCM) compute-in-memory macro with a hybrid SLC and MLC configuration. Combining an input-reordering scheme to enhance sparsity, the 2Mb-cell design achieved state of the art energy efficiency. At the 2022 IEDM, TSMC had previously introduced a new approach towards forming-free chalcogenide selectors, where extra defects were introduced to assist the forming process and reduce the forming voltage. Forming-free low voltage selectors based on SiNGeCTe (SNGCT) chalcogenide were demonstrated along with excellent endurance characteristics over 10¹⁰ cycles.

Specialty Technologies

TSMC offers a broad array of technologies to address a wide range of applications:

● Mixed Signal/Radio Frequency (MS/RF)

The confinement caused by the COVID-19 pandemic over the past two years triggered a growing demand for MS/RF chips in wireless connectivity, such as applications in 5G communications, WiFi7, IoT, and so on. In 2022, TSMC continued to enhance RF design-technology co-optimization (DTCO) to a systematic methodology by bridging the validation between key process knob/device option/layout optimization and benchmarking circuit performance, and applied these results to RF technology to provide best performance/power/cost-tradeoffs solutions, such as 6nm/12nm FFC+ for transceiver designs, 16nm/28nm HPC+ for 5G mmWave frontend module (FEM) designs, and enhanced 40nm special process for 5G RF FEM designs.

● Power IC/Bipolar-CMOS-DMOS (BCD)

TSMC continued to increase its 12-inch BCD technology competitiveness in 2022. The figure of merit of 5V devices of 55nm BCD technology was enhanced, targeting power switches for portable devices. The Company plans to further develop 28V and 5-16V for the 40nm BCD 20/24V technology platform. The 22nm BCD technology offers 5V to 20V devices that are in reliability certification stage and has also extended 0.13μm BCD technology to support 55V in automotive applications.

● Micro-Electromechanical Systems (MEMS)

In 2022, TSMC implemented qualified piezoelectric micro electromechanical systems (MEMS) technology for mass production of MEMS speakers with high audio quality and fast response. In parallel, TSMC's capacitive micro-machined ultrasonic transducer (CMUT) MEMS technology was qualified for medical ultrasound imaging transducer chips with high image quality and low cost and entered the mass production stage. In addition, TSMC's next generation monolithic CMOS-MEMS technology was qualified in 2022 to produce highly reliable 6-axis inertial measurement unit (IMU) for automotive safety and autonomous driving. Future plans include the development of next-generation high-sensitivity piezoelectric microphones, total solutions for high SNR automotive 6-axis IMU, and medical single chip ultrasound probe applications.

● Gallium Nitride (GaN)

TSMC's first generation of 650V enhanced GaN high electron mobility transistors (E-HEMT) went into mass production in 2022. In order to fill customer demand, TSMC tripled its production capacity from 2021 levels. Further, to support the Company's leading position in the GaN power transistor field, the second generation of 650V and 100V power E-HEMT entered the final reliability assessment stage and will start production in 2023. For GaN transistors application in the automotive electronics market, the third generation 650V power E-HEMT development was developed to be delivered in 2025.

● Complementary Metal-Oxide-Semiconductor (CMOS) Image Sensors

In 2022, TSMC made several major technical advances in CMOS image sensor technology including: (1) starting risk production of a new sub-micron pixel technology with 16% pixel area reduction for mobile imaging market; (2)

risk-producing the world's smallest voltage domain global shutter CMOS image sensor chips with 3-wafer stack technology for NIR/security camera market; (3) completing the technology transfer of silicon direct time-of-flight single photon avalanche diode (SPAD) process to a manufacturing fab for 3D distance sensing applications; and (4) proceeding with risk production of stacked CMOS image sensors with N22 logic wafers as image signal processing units for high-dynamic range automotive imaging applications.

● Embedded Flash/Emerging Memory

TSMC reached several major milestones in embedded non-volatile memory (NVM) technologies in 2022. At the 28nm node, the Company's embedded flash development for high-performance (HP) mobile computing and HP low-leakage platforms maintained a stable high yield consumer electronics grade for mass production, achieved the highest automotive grade-0 qualification, and are scheduled for product qualification in 2023. TSMC also offered RRAM as a low-cost embedded NVM solution for the price sensitive IoT market. The Company's 40nm & 28nm nodes entered mass production, while the 22nm node was ready for production.

The Company also enjoyed several major accomplishments in embedded MRAM technology, including TSMC's 16nm node for automotive applications, which is expected to achieve technical qualification in 2023. TSMC also had demonstrated an advancement in next generation memory cells with smaller cell size, faster writing speed and more power saving to meet the requirements for MCU, AR/VR/edge-AI applications.

5.2.3 Technology Platform

TSMC provides customers with advanced technology platforms that include the comprehensive infrastructure needed to optimize design productivity and cycle times. These include: electronic design automation (EDA) design flows; silicon-proven libraries and IP; and simulation and verification design kits, also known as process design kits (PDKs), and technology files.

For the latest advanced technologies such as 3nm, 4nm, 5nm and TSMC 3DFabric™, the Company provides EDA tools, features and IP solutions for adoption at various design stages by customers for system innovation to meet their product requirements. To help customers plan new product tape-outs incorporating library/IP from the Company's Open Innovation

Platform® (OIP) ecosystem, the OIP ecosystem features a portal to connect customers to solution providers from 16 EDA partners, six Cloud partners, 37 IP partners, 23 design center alliance (DCA) and eight value chain aggregator (VCA) partners, as well as 19 inaugural partners with 3DIC expertise for the new 3DFabric Alliance, which was officially announced in October 2022 during TSMC's North American OIP Ecosystem Forum in Santa Clara, California.

5.2.4 Design Enablement

TSMC's technology platforms provide a solid foundation to facilitate the design process. Customers can design using the Company's internally developed IP and tools or use tools available from TSMC's OIP partners.

Tech Files and PDKs

EDA tool certification, an essential element for IP and customer designs to ensure that features meet TSMC process technology requirements, can be found on TSMC-Online™. Corresponding tech files and PDKs are available for customers to download and use with certified EDA tools. TSMC provides a broad range of PDKs for digital logic, mixed-signal, radio frequency (RF), high-voltage driver, CMOS image sensor (CIS) and embedded flash technologies across a range of nodes from 0.5µm to 3nm. In addition, the Company provides tech files for design rule checking (DRC), layout verification of schematic (LVS), resistance-capacitance (RC) extraction, automatic place and route, and a layout editor to ensure that process technology information is accurately represented in EDA tools. By 2022, TSMC had provided customers more than 43,000 tech files and 2,900 PDKs.

Library and IP

Silicon intellectual property (IP) is the basic building block of IC designs. Various IP types are available to support different customer design applications including: foundation, analog/mixed-signal, embedded memory, interface and soft IP. TSMC and its alliance partners offer customers a rich portfolio of reusable IPs, which are building blocks for many circuit designs. To support 3DIC customer needs, TSMC introduced 3DIC IP in 2019. By 2022, the Company had expanded its library and silicon IP portfolio to contain more than 55,000 items, a 37.5% increase over 2021.

Design Methodology and Flow

Design reference flows are built on top of certified EDA tools to provide additional design flow methodology innovations

that can help boost productivity. In 2022, TSMC released N3E HPC, mobile and custom design reference flows through OIP collaboration and announced the availability for customer adoption of design applications in mobile and HPC platforms. In addition to process technology advancements, the Company released the design reference flows for analog design migration, N16 mmWave and N6 RF sub-6G technologies, and continued to develop and offer TSMC 3DFabric™ design solutions for both 3D chip stacking and 2.5D advanced packaging technologies, including solutions to support the 3Dblox™ standard to unify EDA tool solutions to reduce 3DIC design complexity, thus helping customers to effectively improve productivity in their system-level designs. These design reference flows feature FinFET-specific and 3DFabric™ design solutions to optimize PPA (performance, power and area).

5.2.5 Intellectual Property

For a long time, TSMC has been protecting R&D innovation and operation development by way of utilizing patents and trade secrets as dual tracks under the established comprehensive IP management system, encouraging Company's innovation culture, and strengthening Company's competitive strengths so as to fulfill the Company's ESG vision. TSMC's General Counsel updates the Board of Directors on the status of the intellectual property management scheme.

TSMC's comprehensive patent management system includes: Patent management strategies, such as Global patent deployment, Exploratory invention mining, Patent portfolio expansion, and Patent exploitation and exercise; and Patent management rules, such as Tier-based IP evaluation, Patent competition rewards, Educational patent promotion, and Patent professional training. We have established technological patent road maps by way of innovative patent strategy, strict management and risk-control measures; analyzed and monitored competitors by using intelligent patent maps; conducted core technology mining through invention workshops; expanded patent families on key technologies; filed and maintained patents by tier-based management, further enhanced patent protection through quality control on patent applications and continued to construct massive global patent portfolio with high quality; and, diversified exploitation of patent assets. In terms of patent filings, TSMC has accumulated more than 85,000 patent applications worldwide as of end of 2022, including 8,500+ applications filed in 2022. TSMC ranked No.2 among global US patent applicants, and No.1 among patent applicants in Taiwan. In terms of patent grants,

TSMC has accumulated 56,000+ patents worldwide as of end of 2022, including more than 5,500 global patents received. TSMC ranked No.3 among U.S. Patentees, and No.1 among patent patentees in Taiwan. In terms of patent quality, the allowance rate of TSMC's U.S. applications approached 100%.

Turning to trade secret management and strategy, as the pioneer of institutionalized trade secret registration systems since 2013, TSMC continues to develop and innovate trade secret management. The Trade Secret Registration System (TSR) keeps daily records of TSMC employees' wealth of inventions and innovations at work and encourages further innovations in targeted technical fields with tailored initiatives. For example, 2021's promotion of trade secret registration coverage for mass production fabs of advanced processes in N3, N5, and N7 met with great success, and 100% of all eligible engineers involved in such processes completed trade secret registration. Then in, 2022, TSMC further encouraged "Manufacturing Excellence" in trade secret registrations by ensuring that accumulation of the Company's competitive advantages stemming from "technology leadership" and "manufacturing excellence" had appropriate documentation in TSR. The wealth of innovations contained in TSR also act as valuable sources for patent mining. TSR also includes business-related trade secrets such as capacity planning and pricing strategies. By integrating TSR with the company's contract management system and human resource system, TSMC further bolsters its competitiveness. TSMC also identifies and rewards impactful and high-quality innovations at its annual Golden Trade Secret Award ceremony. With implementations of intelligent automation and artificial intelligence, TSMC has created a culture that fosters innovation. Between 2013 and 2022, TSMC has presented 2,279 trade secrets with the Golden Trade Secret Award, and the TSR has exceeded 241,740 registered trade secrets as of 2022.

In 2022, TSMC adopted the following innovative measures of trade secret management to fulfill its vision of sustainable business: (1) Create an "Encourage Green Trade Secret Registration, Sharing, and Incentive Guidance" to support TSMC employees in registering green trade secrets and engage in sharing and dissemination of green innovations with the public while complying with company policies on confidential information protection, and (2) Establish the "Trade Secret Registration System Alumni Association" to selflessly share TSMC's experience in and methodologies of building TSR and intelligent management. In doing so, TSMC expands its cross-industry promotion of TSR, continually promotes public

welfare, and increases the awareness and understanding of trade secret management and its effectiveness.

TSMC received a AAA (the highest tier) certificate by Taiwan Intellectual Property Management System (TIPS) in December 2021, and the valid period will expire after December 31, 2024.

TSMC's IP team works closely with technical teams from R&D in early stage to mass production, and actively constructs IP portfolio for each key innovative technology, including the latest 3nm and 2nm technology nodes, so as to ensure Company's technology leadership in semiconductor field; TSMC's revenue reached historical highs for 13 consecutive years, and we utilize patents and trade secrets as dual tracks to successfully protect Company's main business including process technologies, designs, manufacturing and sales, and have been strategically utilized for defense and cross-license negotiation, so as to secure freedom of business operation worldwide.

5.2.6 TSMC University Collaboration Programs

In recent years TSMC has collaborated closely with a number of prestigious universities in Taiwan to carry out a variety of joint research projects. These collaborations encourage more university professors to conduct leading-edge semiconductor research in areas such as novel devices, process and materials technologies, semiconductor manufacturing and engineering, and specialty technologies for electronic applications. At the same time, these projects provide hands-on training for interested students to prepare for joining the semiconductor industry after graduation. Back in 2013, TSMC established research centers at four top universities in Taiwan: National Yang Ming Chiao Tung University, National Taiwan University, National Cheng Kung University and National Tsing Hua University. In the past nine years, a total of 245 professors and more than 3,600 students with backgrounds in the disciplines of electronics, physics, materials, chemistry, chemical engineering, and mechanical engineering have joined the research centers. In 2022, TSMC has also proactively supported the establishment of national academies at National Taiwan University, National Cheng Kung University, National Tsing Hua University, National Yang Ming Chiao Tung University, National Sun Yet San University, and National Chung Hsing University. In 2019, the Company jointly launched the TSMC-NTHU Semiconductor Program to enhance the quality and number of domestic semiconductor students and attract more outstanding students to a career in the semiconductor

industry. In 2022, the list of school partners had grown to nine universities, including National Taiwan University, National Cheng Kung University, National Yang Ming Chiao Tung University, National Taipei University of Technology, National Taiwan University of Science and Technology, National Central University, National Sun Yet San University, and National Chung Hsing University, and had attracted more than 4,000 students to enroll in the program. In addition, TSMC has long conducted strategic research projects at top overseas universities such as Stanford, MIT, UC Berkeley and so on, focusing on innovative capabilities in transistors, interconnect, materials, device simulation and circuit design.

TSMC University Shuttle Program

The TSMC University Shuttle Program was established to provide professors at leading research universities worldwide with access to the advanced silicon process technologies needed to develop innovative circuit design concepts. In 2022, despite the continued spread of COVID-19 and the ongoing global chip shortage, TSMC continued the University Shuttle Program that links motivated professors and graduate students with enthusiastic managers at TSMC in order to promote excellence in the development of advanced silicon design technologies and to nurture new generations of engineering talents in the semiconductor field. The University Shuttle Program provides access to TSMC silicon process technologies for digital and analog/mixed-signal circuits, RF designs, non-volatile memory design and ultra-low power designs. TSMC and the University Shuttle Program participants enjoy win-win collaboration through the program, which allows graduate students to implement exciting designs and achieve silicon proof points for innovation in various end-applications.

5.2.7 Future R&D Plans

To maintain its technology leadership, TSMC plans to continue investing heavily in R&D. While TSMC's 3nm and 2nm advanced CMOS logic nodes are progressing through the development pipeline, the Company's reinforced exploratory R&D work is focused on beyond-2nm nodes and on areas such as 3D transistors, new memories and low-R interconnect, to establish a solid foundation to feed into future technology platforms. TSMC's 3DFabric™ advanced packaging R&D is developing innovations in subsystem integration to further augment advanced CMOS logic applications. The Company maintains its intensified focus on new specialty technologies such as RF and 3D intelligent sensors for 5G and smart IoT

applications. TSMC research continues to develop novel materials, processes, devices and memories that may be adopted in the long run, ten years and beyond. The Company also continues to collaborate with external research bodies from academia and industry consortia alike with the goal of gaining early awareness and adoption of future cost-effective technologies and manufacturing solutions for its customers. With a highly competent and dedicated R&D team and unwavering commitment to innovation, TSMC is confident in its ability to drive future business growth and profitability for years to come by delivering competitive semiconductor technologies to its customers.

Summary of TSMC's Major Future R&D Projects

Project Name	Description
3nm logic technology platform and applications	3D CMOS technology platform for SoC
2nm and beyond logic technology platform and applications	3D CMOS technology platform for SoC
3DIC	Cost-effective solutions with better form factor and performance for 3DIC integration
Next-generation lithography	Next-generation EUV lithography and related patterning technology to extend Moore's Law
Long-term research	Specialty SoC technology (including new NVM, MEMS, RF, analog) and transistors with 8 to 10 years horizon

The projects above account for roughly 80% of the total R&D budget for 2023. Total R&D budget is estimated to be around 8% of 2023 revenue.

5.3 Manufacturing Excellence

5.3.1 GIGAFAB® Facilities

Maintaining reliable production capacity is a key TSMC manufacturing strategy. The Company currently operates four 12-inch GIGAFAB® facilities: Fabs 12, 14, 15 and 18. The combined capacity of these four facilities exceeded 11 million 12-inch wafers in 2022, while producing 0.13μm, 90nm, 65nm, 40nm, 28nm, 16nm, 7nm and 5nm process technologies, and their sub-nodes. 3nm technology has successfully entered volume production in Fab 18 with good yield in the second half of 2022. Capacity has been expanded at Fab 12 for R&D work on leading-edge manufacturing technologies including current support for the development of 2nm nodes and beyond.

TSMC GIGAFAB® facilities are coordinated by a centralized management system known as super manufacturing platform (SMP) to provide customers with consistent quality

and reliability, improved flexibility to cope with demand fluctuations, and faster yield learning and time-to-volume production, as well as lower-cost product requalification.

5.3.2 Engineering Performance Optimization

As advanced technology continues to evolve and IC geometry keeps shrinking, the need for tighter manufacturing process and quality control becomes extremely challenging. TSMC has tailored its manufacturing infrastructure to handle a diversified product portfolio that uses strict process control to meet tightened specs and higher product quality, performance and reliability requirements. TSMC's process control systems are integrated with numerous intelligent functions to achieve excellence in both quality and manufacturing. Through intelligent detection, smart diagnosis, and cognitive action, the Company produces remarkable yield enhancement, quality assurance, workflow improvement, fault detection, cost reductions, all while shortening the R&D cycle.

To meet 5G's stricter quality requirements for mobile, high performance computing (HPC), automotive and the Internet of Things (IoT), TSMC is implementing artificial intelligence (AI) and machine learning technologies, and has developed systems for precise fault detection and classification, intelligent advanced equipment and process control to ensure the consistency of tool matching and process stability. TSMC combines intelligent process variation detection with foundry know-how to identify potential defects and minimize the convergence of process variation through self-diagnosis and cognitive action. As the result, each chip can be precisely controlled at the nanometer level to produce the highest quality wafers for customers.

5.3.3 Agile and Intelligent Operations

The Company's use of sophisticated, agile and intelligent operating systems drives manufacturing excellence. TSMC has integrated intelligent process experience, machine tuning, manufacturing know-how, and artificial intelligence technologies to create an intelligent manufacturing environment. Intelligent manufacturing technologies are widely applied to enhance lean manufacturing, boost employee and equipment productivity, and improve process and equipment control, quality control, and robotic control. The end result is real-time information analysis, improved forecast capability, maximum cost effectiveness, and accelerated innovation.

TSMC has also integrated new applications such as intelligent mobile devices, IoT, edge computing, and mobile robot, with intelligent automated material handling systems (AMHS) to consolidate wafer manufacturing data collection and analysis, utilize manufacturing resources efficiently, and maximize manufacturing effectiveness. TSMC continues to intellectualize semiconductor production through AI that processes massive amounts of production data to achieve agile and intelligent operations. In addition, TSMC has implemented augmented reality (AR) technology to improve equipment installation efficiency and assist equipment engineers to diagnose remotely during the COVID-19 pandemic.

5.3.4 Digital Transformation

To meet the strong, pent-up demand for wafers during the ongoing pandemic era, TSMC continues to implement technology to transform the "automated fab" into the "intelligent fab," with simultaneous improvement in product quality, equipment capacity, and personnel effectiveness. Intelligent fabs have integrated the domain knowledge of semiconductor manufacturing, kept the system self-learning, and expanded the application of AI and machine learning, which includes dispatching, equipment tuning, process control, equipment diagnosis and maintenance, and quality inspection. As a result, today's engineers have been freed up to focus on problem solving. This digital transformation platform breaks through the limitations of the physical workplace, combines the expertise of those in different locations, and makes centralized management of global manufacturing a reality.

5.3.5 Raw Materials and Supply Chain Management

In 2022, TSMC continued to review and resolve, together with suppliers, supply issues and quality issues as well as potential supply chain risks through the collaboration of teams formed by fab operations, quality control and business organizations. TSMC also worked with suppliers to further advance material and process innovation, improve quality and create recycling savings with benefits from win-win solutions.

Raw Materials Supply

Major Materials	Major Suppliers	Market Status	Procurement Strategy
Raw Wafers	FST GlobalWafers SEH Siltronic SK Siltron SUMCO	These 6 suppliers together provide over 90% of the world's raw wafer supply.	<ul style="list-style-type: none"> TSMC's suppliers of silicon wafers are required to pass stringent quality certification procedures. TSMC procures wafers from multiple sources to ensure adequate supplies for volume manufacturing and to appropriately manage supply risk. Raw wafer quality enhancement programs are in place to support TSMC's technology advancement. TSMC regularly reviews the quality, delivery, cost, sustainability and service performance of its wafer suppliers. The results of these reviews are incorporated into subsequent purchasing decisions. A periodic audit of each wafer supplier's quality assurance system ensures that TSMC can maintain the highest quality in its own products. TSMC takes various approaches with suppliers to better manage the cost and supply.
Chemicals	Air Liquide BASF DuPont Entegris Fujifilm Electronic Materials Kanto PPC Kuang Ming Merck RASA Shiny Tokuyama Wah Lee	These 12 companies are the major worldwide suppliers of chemicals.	<ul style="list-style-type: none"> Most suppliers have located their new operations closer to TSMC's major manufacturing facilities, thereby significantly improving procurement logistics and reducing supply risk. All supplied products are regularly reviewed to ensure that TSMC's specifications are met and product quality is satisfactory. TSMC encourages and engages with chemical suppliers to implement innovative green solutions for waste reduction.
Lithographic Materials	3M Fujifilm Electronic Materials JSR Nissan Shin-Etsu Chemical Sumitomo Chemical T.O.K.	These 7 companies are the major worldwide suppliers of lithographic materials.	<ul style="list-style-type: none"> TSMC works closely with suppliers to develop materials that meet all application and cost requirements. TSMC and suppliers periodically conduct programs to improve their quality, delivery, sustainability and green policies, and jointly set improvement programs and monitor progress to ensure continuous improvement in TSMC's supply chain. Some major suppliers have relocated or plan to establish new manufacturing sites closer to TSMC's major manufacturing facilities, thereby significantly improving procurement logistics and reducing supply risks.
Gases	Air Liquide Air Products Central Glass Entegris Linde LienHwa Praxair SK Materials Taiwan Material Technology Nippon Sanso Taiwan	These 9 companies are the major worldwide suppliers of specialty gases.	<ul style="list-style-type: none"> The majority of these suppliers have facilities in multiple geographic locations, which minimizes supply risk for TSMC. TSMC conducts periodic audits to ensure that the suppliers meet TSMC's standards.
Slurry, Pad, Disk	3M AGC Cabot Microelectronics DuPont Fujibo Fujifilm Electronic Materials Fujimi	These 7 companies are the major worldwide suppliers of CMP (Chemical Mechanical Polishing) materials.	<ul style="list-style-type: none"> TSMC works closely with suppliers to develop materials that meet all application and cost requirements. TSMC and suppliers periodically conduct programs to improve their quality, delivery, sustainability and green policy, and jointly set improvement programs and monitor progress to ensure continuous improvement in TSMC's supply chain. Most suppliers have relocated or plan to establish new manufacturing sites closer to TSMC's major manufacturing facilities, thereby significantly improving procurement logistics and reducing supply risks.

Suppliers Accounting for at Least 10% of Annual Consolidated Net Procurement

Unit: NT\$ thousands

Supplier	2022			2021		
	Procurement Amount	As % of 2022 Total Net Procurement	Relation to TSMC	Procurement Amount	As % of 2021 Total Net Procurement	Relation to TSMC
Company A	18,259,301	20%	None	14,469,081	20%	None
Company B	16,120,039	18%	None	13,352,067	19%	None
Company C	N/A	N/A	None	7,784,013	11%	None
Others	56,546,611	62%	-	35,181,148	50%	-
Total Net Procurement	90,925,951	100%	-	70,786,309	100%	-

- **Reason for Increase or Decrease:** The changes of procurement amount and percentage were mainly due to customer product demand change.

5.3.6 Quality and Reliability (Q&R)

TSMC strives to provide excellence in semiconductor manufacturing services to all its customers worldwide. The Company is dedicated to providing outstanding quality in every facet of its business and maintains a culture of continuous improvement to assure customer satisfaction. TSMC implements containment and preventive measures to protect customers from potential product defects.

In the technology development stage, the Q&R organization helps customers design in superior product reliability. In 2022, Q&R worked continuously with R&D in advanced logic, specialty and advanced packaging technologies throughout development and qualification stages to ensure meeting commitments to customers with respect to device characteristics, process yield and product reliability.

For advanced logic technology, in 2022 Q&R focused on certifying technology quality and reliability for risk production of 3nm FinFET. For specialty technologies, Q&R successfully completed IP qualification of consumer grade 22nm embedded RRAM (resistive random access memory). In Bipolar-CMOS-DMOS (BCD) technologies, Q&R qualified 40nm BCD with 20/24V applications. In addition, TSMC's advanced packaging solutions enabled system improvement of the wafer level process by integrating the frontend wafer process and the backend chip packaging. In 2022, Q&R achieved qualification of the TSMC 3DFabric™ technology platform and successfully qualified the first SoIC, WoW and CoWoS® technologies for HPC products to provide better system-level integration through heterogeneous chip package interaction.

To continuously reduce product defects, enhance process controls, facilitate early detection of abnormalities and prevent quality problems in general, Q&R collaborates with other operational entities to establish real-time defense systems using advanced statistical methods and quality tools. Q&R and the Company's fabs have also worked together on enhancements for automotive product quality improvement, including design rule implementation and migration to Automotive Quality System 2.0. This covers process capability requirements to tighten in-line and wafer acceptance testing in fabs and the handling of maverick wafers and lots. Q&R also provides dedicated resources for field/line return analysis and timely physical failure analysis (PFA) for process improvement to meet automotive customers' stringent defective parts per million (DPPM) requirements.

To stimulate employee problem-solving and develop related quality systems and methodologies, Q&R held several company-wide symposia and training programs on total quality excellence (TQE) in 2022. Furthermore, several digital transformation projects were completed in the areas of raw materials management, statistical process control (SPC), metrology and laboratory analysis by leveraging machine learning and artificial intelligence to achieve TSMC's goal of digital transformation. In these endeavors, Q&R had the capability of intelligent quality defense and remote management of manufacturing to overcome the impact of the COVID-19 pandemic, making seamless quality control across its worldwide fab network a reality. In 2023, Q&R will continue to enhance employee capabilities by promoting quality methods and professional trainings and applying artificial intelligence to enhance TSMC competitiveness.

Q&R is committed to green manufacturing, responsible supply chain and sustainable management practices. In 2021, Q&R set up a new advanced chemical laboratory to enhance continuous quality monitoring of raw materials. This helped R&D make significant innovations in materials and it provided services to enhance the technologies in the industry supply chain. Q&R collaborates with the corporate ESH organization to ask suppliers to declare that their materials to ensure compliance with international regulation for carcinogenic, mutagenic and reprotoxic (CMR) substances and to classify all risky materials and carry out test sampling. In 2020, Q&R had 100% inspection capability for CMR substances and shared its inspection methods and capabilities with major material suppliers to enhance the monitoring of hazardous substances and control capability in the supply chain. Furthermore, in 2021 Q&R assisted TSMC subsidiaries in setting up inspection capability for hazardous substances to enhance corresponding monitoring and control capability for industry supply chain. In 2022, Q&R continuously provided state-of-the-art material analysis and applied best knowledge management methods to assist capacity expansion and technology enhancement of new raw material production lines or to assist new suppliers with the fundamentals to optimize the balance between quality and capacity. All the efforts above have supported TSMC in navigating through geo-political turmoil to achieve continuous growth in 2022.

Q&R also worked with manufacturing teams on recycling and reuse of chemical acids and enabled several recycled chemicals to achieve the quality level for electronic grade in 2021. In 2022, Q&R continued sharing its technical knowledge to assist

chemical suppliers in developing further recycling and reuse projects and worked with Company operations to implement engineering validation for recycling chemicals to meet TSMC's quality requirements and environmental sustainability. Q&R is also committed to the continual improvement of local supply chains and developing local talent. In 2022, Q&R again collaborated with Semiconductor Equipment and Materials International (SEMI) to hold the fourth Strategic Materials Conference (SMC) in Taiwan to motivate talented domestic personnel and share win-win strategies for technology and sustainable development, environmental, social, and governance (ESG) objectives both within TSMC and industry wide to elevate the competitiveness of the local supply chain.

TSMC fully supports continuous improvement programs to strengthen the work culture, improve product quality and production efficiency, reduce production costs, and enhance customer satisfaction. These programs encourage colleagues to strive for excellence, drive cross-departmental observation and learning, and enhance their innovative, problem-solving abilities – all traits that greatly contribute to achieving a win-win outcome of honing TSMC's competitive edge and building customer satisfaction. In addition to internal cross-organizational learning and exchange, TSMC participates in the Taiwan Continuous Improvement Competition to promote the development of other local industries by sharing its experience, and to enhance the problem-solving and innovation ability of its colleagues by observing improvement methods of other industries. In 2022, TSMC's outstanding performance was recognized with six gold, four silver and three "best improvement and innovation" awards. At the same time, Q&R coached domestic material suppliers to participate in the competition for local suppliers' quality culture and capability enhancement. In 2022, despite COVID-19 restrictions affecting suppliers' resources and willingness, Q&R encouraged 76% of TSMC's material suppliers to participate in the competition to promote a quality culture of continuous improvement. In the end, 16% of these suppliers were finalists with four gold, three silver and four bronze awards. In addition, in order to enable new employees to understand and integrate into TSMC's quality culture more quickly, Q&R added quality culture courses to the newcomer training program at the beginning of 2022. So far, more than 12,000 new employees have completed the training.

Thanks to qualification in technology development, real-time defense systems and innovative applications in semiconductor manufacturing services, as well as its continuous quality

improvement culture, TSMC had no major product recalls in 2022. Meanwhile, a third-party audit verified the effectiveness of the Company's quality management systems in compliance with IATF 16949: 2016 and IECQ QC 080000: 2017 requirements. In 2022, TSMC's four backend fabs also continually passed the certification of American National Standards Institute ANSI/ESD (Electrostatic Discharge) S20.20 standard. Regular customer feedback indicates that products shipped from TSMC have consistently met or exceeded all field quality and reliability requirements. In these ways, TSMC helps customers improve time-to-market delivery and competitiveness with excellent, reliable products for the five major growth markets the Company serves: high performance computing (HPC), mobile communications, the Internet of Things (IoT), automotive and digital consumer electronics.

5.4 Customer Trust

5.4.1 Customers

TSMC's customers make a wide variety of products that deliver excellent performance across the semiconductor industry. Customers include fabless semiconductor companies, system companies, and integrated device manufacturers such as Advanced Micro Devices, Inc., Amazon Web Services, Inc., Broadcom Inc., Intel Corporation, MediaTek Inc., NVIDIA Corporation, NXP Semiconductors N.V., Qualcomm Incorporated, Renesas Electronics Corporation, Sony Semiconductor Solutions Corporation, STMicroelectronics N.V. and many more worldwide.

Customer Service

TSMC is committed to providing the best possible service, which is critical to customer satisfaction, retention, relationship enhancement and attracting new customers. TSMC has established a dedicated service team that strives to provide world-class services to support customers in product design, mask making, wafer manufacturing, and backend services, hence TSMC can increase customer satisfaction and win customer trust in order to maintain sales and profitability of the company.

To improve customer interaction on a real-time basis, TSMC-Online™ offers a suite of web-based applications to provide more proactive customer service and support in design, engineering and logistics. Customers thus have 24-7 access to critical information and are able to create customized reports. TSMC-Online™ facilitates design collaboration by maintaining

data availability and accessibility and providing customers with accurate up-to-date information at each stage of design process. Engineering collaboration includes engineering lots, wafer yields and wafer acceptance test analysis, as well as quality and reliability data. Logistics collaboration includes information on wafer fabrication, backend processes, and order shipments.

Customer Satisfaction

To ensure customer satisfaction, TSMC must fully comprehend its customers' needs. To this end, the Company appoints third-party consulting firms to conduct annual customer satisfaction surveys (ACSS) with majority of existing customers either via online surveys or direct interviews. In addition to the survey, TSMC also conducts quarterly business reviews (QBRs) with customers to collect their feedback on a regular basis. Customer feedback is routinely reviewed, analyzed and then used to develop appropriate improvement plans, all in all becoming an integral part of the customer satisfaction process. Through surveys and feedback reviews, TSMC is able to closely interact with customers, provide better services, and enhance the quality of customer collaboration.

Customer Information Protection

TSMC complies with applicable regulations and international standards in terms of customer information protection and has received ISO 27001 international information security certification. Relevant proprietary information protection policies and standard work process are established to ensure only authorized personnel can access the engineering and production data of a specific customer.

Customers Accounting for at Least 10% of Annual Consolidated Net Revenue

Unit: NT\$ thousands

Customer	2022			2021		
	Net Revenue	As % of 2022 Total Net Revenue	Relation to TSMC	Net Revenue	As % of 2021 Total Net Revenue	Relation to TSMC
Customer A	529,649,200	23%	None	405,402,955	26%	None
Customer B	N/A	N/A	None	153,740,831	10%	None
Others	1,734,242,092	77%	-	1,028,271,251	64%	-
Total Net Revenue	2,263,891,292	100%	-	1,587,415,037	100%	-

- **Reason for Increase or Decrease:** The changes of sales amount and percentage were mainly due to customer product demand change.

5.4.2 Open Innovation Platform® Initiative

At TSMC, innovation has always been an exciting challenge. Competition continues to intensify in the face of increasing industry consolidation and the commoditization of technology at more mature, conventional levels, and thus semiconductor companies must find ways to keep innovating in order to survive and prosper. One way to promote innovation is through active collaboration with external partners. At TSMC this is known as Open Innovation®, an "outside in" approach to complement traditional "inside out" methods. TSMC has chosen this path to stimulate innovation via its OIP initiative, which is a key part of the TSMC Grand Alliance.

The OIP initiative is a comprehensive design technology infrastructure that encompasses all critical IC implementation areas to lower design barriers and improve first-time silicon success. OIP promotes the speedy implementation of innovation within the semiconductor design community and its ecosystem partners using TSMC's and partners' IP and process technology in design implementation and backend services.

Crucial to OIP are ecosystem interfaces and collaborative components initiated and supported by TSMC to empower innovation throughout the supply chain and, in turn, drive the creation and sharing of new revenue and profits. TSMC's active accuracy

assurance (AAA) initiative is key to OIP, providing the precision and quality required by the ecosystem interfaces and collaborative components.

TSMC's Open Innovation® model brings together the creative thinking of customers and partners under the common goal of shortening each of the following: design time, time to volume production, time to market and, ultimately, time to revenue. The model features:

- The foundry segment's earliest and most comprehensive electronic design automation (EDA) certification program, delivering timely design tool enhancement required by new process technologies.
- The foundry segment's largest, most comprehensive and most robust silicon-proven IP (intellectual properties) and library portfolio.
- Alliances that enable semiconductor designing in the Cloud for the benefit of scalability, agility and flexibility to meet different customer demand in work models.
- Alliances that provide design services to support customer demand regarding resources and capabilities, depending upon the various scope and requirements in the semiconductor design stages and value chain.
- Alliances to enable customers' system-level designs for integrating multiple chips/chiplets in 3D stacking and advanced packaging.
- Participants consisting of 16 EDA partners, six Cloud partners, 37 IP partners, 23 design center alliance (DCA) partners, eight value chain aggregator (VCA) partners and 19 partners in the new 3DFabric Alliance. TSMC and partners work together proactively and engage much earlier and deeper than ever before in order to address the mounting design challenges of advanced technology nodes. Through this early and intensive collaboration, TSMC's OIP is able to deliver the needed design infrastructure with timely enhancement of EDA tools, early availability of critical IPs and quality design services when customers need them. Taking full advantage of the process technologies once they reach production-ready maturity is critical to customers' success. Hence, this helps achieve design technology co-optimization (DTCO) among TSMC process technologies, OIP design solutions and customer product designs.
- A partner management portal, which facilitates communication with ecosystem partners for efficient business productivity. Designed with a highly intuitive interface, this portal can be accessed via a direct link from TSMC-Online™.

- The in-person OIP Ecosystem Forum held by TSMC in October 2022 after the forum had been held online the past two years due to COVID-19 pandemic. This annual event demonstrates how TSMC and its ecosystem partners jointly develop design solutions on top of TSMC's advanced technologies. At the forum, TSMC made key presentations on its TSMC FinFlex™ innovation that combines both process and design co-optimization for 3nm technology that continues the full-node power performance area (PPA) scaling trend together with the offering of high-density and high-performance libraries and design solutions for the support of smartphone and HPC design applications. The Company also made presentations on the readiness of analog cell that can help boost analog IP yield, with the design solutions in 5nm, 4nm and 3nm to enable EDA and design flow automation to support analog design migration. Other presentation topics included: enhanced automotive design enablement platform (ADEP) with design solutions and ecosystems readily available in 16nm, 7nm, 5nm and 3D chip stacking and 2.5D advanced packaging design solutions together with EDA tools that support 3Dblox™ ready to facilitate integration of multiple chips/chiplets in customer's system-level designs using TSMC 3DFabric™ technologies, which include TSMC-SoIC®, InFO (Integrated FanOut) and CoWoS® (Chip on Wafer on Substrate). The availability of the aforementioned design ecosystem solutions will help customers successfully pursue opportunities in all major markets: high performance computing, mobile, the IoT, automotive and digital consumer electronics.

5.5 Information Security Management

5.5.1 Information Security Policy and Organization

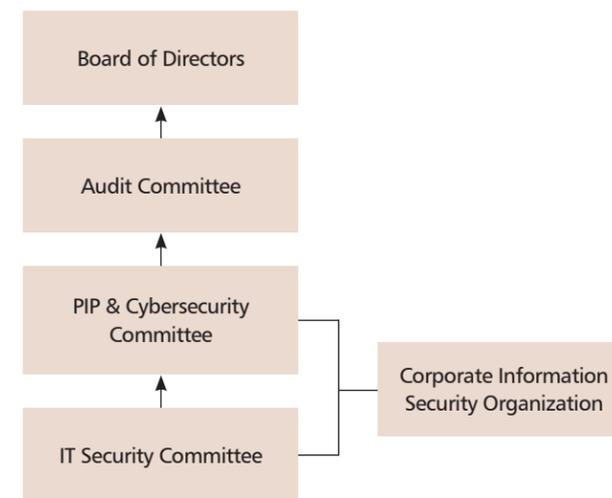
TSMC is committed to information security and confidentiality protection for its customers, shareholders, and partners. To this end, the Company has formulated, implemented and regularly updated rigorous cybersecurity policies, procedures and measures to achieve information security and confidential information protection, as reflected in TSMC's "Information Security Declaration."

Top TSMC executives are involved in planning the direction and implementation of this information security strategy with the goal of achieving optimum information security management. The Company has established a dedicated organization, Corporate Information Security (CIS), which is in charge of information security policy formulation, implementation,

risk management, and strengthening information security through regular compliance audits. The head of CIS leads and collaborates with the security task force, "PIP and Cybersecurity Committee", and "IT Security Committee" to plan and implement security management activities and reports to the Audit Committee every six months on the performance and effectiveness of information security management. The Audit Committee Chairperson also reports to the Board of Directors on the implementation status of information security management. The PIP and Cybersecurity Committee is chaired by the Senior Vice President of Information Technology and Materials Management & Risk Management; vice presidents of legal, human resources, R&D, and operations are also members of this Committee, which meets quarterly to review and formulate information security policies to ensure TSMC can fulfill its goals and commitment in this aspect.

In 2022, TSMC assigned the Senior Vice President of Information Technology and Materials Management & Risk Management as the Chief Information Security Officer (CISO) in charge of information security risk management to review the effectiveness of security policy, procedures and cybersecurity measures.

Corporate Information Security Organization Structure



5.5.2 Information Security Management Strategy and Resources

To achieve TSMC's information security management goals and maintain competitiveness, the corporate information security organization actively strengthens security and confidential information protection mechanisms. CIS sets clear policy, procedures and guidelines and continuously enhances the Company's management systems and implements comprehensive risk controls. In addition, CIS regularly performs information security risk assessments and sets priorities based on the impact and probability of a risk, as well as the cost of reducing such risk. CIS uses the plan-do-check-act (PDCA) methodology to continuously enhance multi-layer information security defenses and establish key performance indicators (KPIs) for information security. In 2022, TSMC invested in excess of NT\$1 billion to strengthen information security, employing more than 500 employees for information security-related activities, with more than 1,000 external security personnel engaged in the physical aspects of information security services.

5.5.3 Information Security Incident Handling and Notification

TSMC has established enterprise risk management mechanisms and procedures to handle information security incidents. The mechanisms and procedures define relevant processes and measures for incident notification, designation of personnel responsible for handling material information security incidents, and assessment of losses suffered as well as additional measures needed, evaluation of information security risks to the Company's financial and operations, and proposed countermeasures to mitigate these risks. For the year 2022 and as of the date of this Annual Report, TSMC has not suffered any financial losses nor operational impact due to material information security incidents.

5.6 Human Capital

Human capital is TSMC's most treasured asset. The Company strives to provide employees with meaningful work content, continuous learning, a safe and pleasant work environment that is both diverse and inclusive, and high-quality compensation and benefits. TSMC goes beyond this, by actively encouraging employees to nurture and enjoy a healthy family life, develop personal interests, expand social participation, and, in general, live a happy life.

5.6.1 Human Rights Policy and Specific Actions

TSMC believes that respecting human rights and promoting a decent work environment are important throughout the Company and its supply chain. TSMC abides by local laws and regulations in all countries and regions where we operate, and upholds the human rights of all workers, including regular, contract and temporary employees, and interns. We also require our suppliers to act in the same fashion, as addressing human rights issue in complex supply chains is a shared responsibility. We support the *UN Universal Declaration of Human Rights (UDHR)*, and are committed to treating all workers with dignity and respect as understood by international human rights standards, including *The International Bill of Human Rights*, The International Labour Organization's (ILO) *Declaration on Fundamental Principles and Rights at Work*, *The UN Guiding Principles on Business and Human Rights (UNGPs)*, *The OECD Guidelines for Multinational Enterprises and The Ten Principles of The United Nations Global Compact (UNGC)*. We also align our actions with the *Responsible Business Alliance (RBA) Code of Conduct*. The guiding principles for TSMC's human right policy are as follows, and *TSMC's Supplier Code of Conduct* requires all of our suppliers to follow the same standards.

Guiding Principles

- Embed respect for economic, social, cultural, civil, and political rights, as well as the right to development, in the way we operate
- Provide a safe and secure work environment that is free of harassment
- Eliminate unlawful discrimination and ensure equality in the workplace
- Zero tolerance for child labor
- Forbid forced labor
- Commit to responsible sourcing of minerals
- Protect labor rights of vulnerable groups or marginalized groups such as indigenous peoples, women, migrant workers, contracted labor and persons with disabilities
- Comply with all applicable wage laws and regulations, and legal limits to working hours
- Provide fair living wage and pay in full and on time with pay slips to state legitimate deductions
- Enable a communication-friendly environment and maintain an open-style management system
- Support the physical and psychological well-being of employees, and the balance between work and life

- Make diverse open dialogue channels available for stakeholders such as suppliers, business partners, and others to report concerns or suspected violations to the Company, including ways to report anonymously
- Monitor and assess relevant risks, practices, and impacts regularly to respond to evolving situations and stakeholders' needs

In 2022, the Company used the Responsible Business Alliance's Self-Assessment Questionnaire (SAQ) to identify the greatest risks regarding "labor, health and safety, environment, and ethics" matters and to formulate substantive actions and managerial response. The SAQ scores of each of TSMC's operating fabs were in the low risk range, defined as 88 points or above.

In 2022, TSMC conducted multiple human rights protection training courses, including plant safety and health, emergency response, first-aid personnel training, friendly workplace, etc. The total training hours are 205,342.1 hours, and a total of 70,008 employees have completed the training, accounting for 95.7% of the total number of employees, and the total number of participants reached 190,312. Among them, in order to implement the human rights policy, TSMC promotes the "Understand TSMC Human Rights Policy, create a Friendly Workplace, and eliminate Sexual Harassment" course. 63,550 employees have completed the training, and the passing rate of the post-training test is 100%.

TSMC abides by the rights granted to workers by laws and regulations, and respects the freedom of collective consultation and assembly and association of all employees. The company will not interfere or intervene. TSMC holds Silicon Garden Meeting, aka Labor-Management meeting on a regular basis, listens to employees' opinions and makes timely and appropriate responses through a diversified and comprehensive internal communication framework, in order to strengthen the good communication between the company's management team and employees and ensure a harmonious employee relationship.

5.6.2 Diversity and Inclusion

TSMC believes that a diverse management and talent structure will contribute to the company's competitive advantage and sustainable development. Through the implementation of the "Diversity and Inclusion Statement", TSMC actively establishes an open management model, creates an inclusive working

environment, and encourages different talents to join the semiconductor industry, so that the industry can maximize the benefits of diverse talent resources.

TSMC has officially established an employee resource group (ERG) – "Women@tsmc" in the middle of 2022. It provides a platform for female colleagues to support each other, strengthens the company's internal network, and encourages women colleagues to realize their potentials. In 2022, the "Inclusive Leadership Workshop" was also held to support senior executives to understand the connotation of Diversity & Inclusion, understand unconscious bias, and promote an inclusive and friendly workplace. By the end of 2022, the training completion rate of senior executives reached 81%. In the same year, the Research and Development organization took the lead in formally establishing the "Diversity and Inclusion Committee", turning the company's goals into concrete actions and promoting the innovative value of diversity and inclusion.

5.6.3 Workforce Structure

At the end of 2022, TSMC had 73,090 employees worldwide, including 7,295 managers, 35,189 professionals, 8,665 assistants and 21,941 technicians. The following two tables summarize the makeup of TSMC's workforce and the female portion of management as of the end of February 2023:

Workforce Structure

		12/31/2021	12/31/2022	02/28/2023
Job	Managers	6,635	7,295	7,373
	Professionals	31,920	35,189	35,174
	Assistant Engineer/Clerical	6,620	8,665	8,767
	Technicians	19,977	21,941	22,005
Total		65,152	73,090	73,319
Gender	Male	64.6%	65.6%	65.6%
	Female	35.4%	34.4%	34.4%
Education	Ph.D.	4.1%	3.8%	3.9%
	Master's	47.3%	47.2%	47.0%
	Bachelor's	27.6%	29.3%	29.4%
	Other Higher Education	8.9%	8.4%	8.4%
High School		12.0%	11.3%	11.3%
Average Age		36.0	35.7	35.9
Average Years of Service		8.6	8.3	8.4

Female Ratio in Management

	12/31/2021	12/31/2022	02/28/2023
Female Ratio in Junior Management	13.4%	13.6%	13.6%
Female Ratio in Senior Management	12.5%	13.0%	13.2%
Female Ratio in Top Management	8.3%	6.1%	6.1%

Note: Junior management positions include first-line managers; top management positions include vice presidents and higher as well as CEO.

5.6.4 Recruitment

A common vision and values shared by the Company's employees are key to TSMC's growth and success. As for recruitment of new employees, the Company is committed to finding and hiring top-notch professionals in all positions. TSMC is an equal opportunity employer and practices open and fair recruitment. The Company evaluates all candidates according to their qualifications relative to each position without regard to race, gender, age, religion, nationality or political affiliation but instead with an emphasis on integrity and ability.

TSMC adheres to its core values and continues to move forward with a lofty vision. The Company has long attracted new blood both in Taiwan and overseas. To ensure the talent it needs for the continuous growth, TSMC expanded its recruiting channels and employed over 12,000 employees worldwide in 2022.

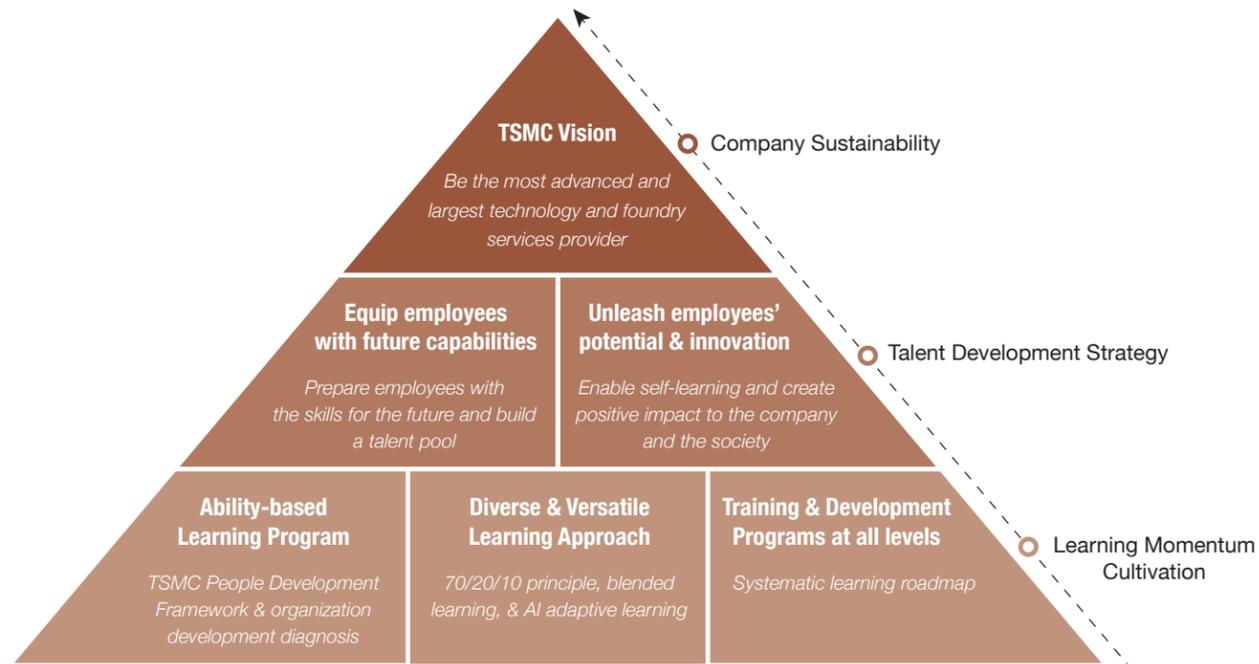
5.6.5 Talent Development

Employees are TSMC's most important asset. In addition to creating a diverse and inclusive workplace environment that encourages employees to learn and develop their strengths, TSMC also attaches great importance to the early and continuous development of the capabilities of all employees. In this regard, the Company integrates internal and external resources, provides challenging, meaningful and interesting work in a world-class workplace and creates a continuous, diverse learning environment. In addition, the Company has initiated the TSMC Employee Training and Education Procedures to ensure that the employees and the Company can grow together with "goals, plan and discipline" so as to become a force to uplift the society.

TSMC intends to expand global operations and pursue sustainable growth, and talent development is crucial to the completion of these strategic goals. Therefore, the Company selects and cultivates talented employees based on the "TSMC

Talent Development Model” to support the Company’s sustainability, and follows two strategies for talent development: “Equipping Employees with Future Capabilities” – preparing employees with the skills for the future and build a talent pool, and “Unleashing Employees’ Potentials and Innovation” encouraging and enabling self-learning and continuous innovation to create positive impact to the company and the society. As for the approach of talent development, the Company initiates ability-based learning programs, focusing on the core traits of character, perseverance, resilience, initiative, innovation, judgment, broadness of mind and breadth/depth of knowledge and develop the leadership, professional and general skills according to different positions, professional and organization diagnosis needs. Meanwhile, through diverse and versatile learning approach, including experiential learning (accounting for 70%), feedback and guidance (accounting for 20%), education and training (accounting for 10%), blended learning and future AI adaptive learning, together with training and development programs at all levels, comprehensively and systematically plan and develop the capabilities required by all employees. In this way, to cultivate the learning momentum, support employees’ and the Company’s continuous growth and breakthrough.

TSMC Talent Development Model



In 2022, TSMC conducted over more than 3,700 classroom training sessions, over more than 8,500 virtual classroom training sessions, and provided over 5.07 million hours of training with a total of more than 2.51 million attendees participating. The average annual training time per employee increased to 69.5 hours, an increase of 42% over the previous year. TSMC training expense reached NT\$968 million and the average training cost per employee is about NT\$13,000, a 5.6-fold increase from the previous year (Note).

5.6.6 Competitive Overall Compensation

In order to develop the most effective compensation strategies, TSMC reviews and selects benchmark companies annually and collects market information on compensation data of the whole industry for competitiveness analysis.

Note: In order to align the definition of training expenses with international market research information (Training Magazine), including total training spending, outside products & services, and training staff payroll, starting from 2022, training staff payroll will be included in annual training expenses.

TSMC’s compensation program includes a monthly salary, performance bonuses based on quarterly business results, and profit sharing based on annual results.

The purpose of the business performance bonus and profit sharing programs is to reward employee contributions appropriately, to encourage employees to work consistently toward ensuring TSMC’s success, and to align employee interests with those of TSMC’s shareholders so as to achieve win-wins for the Company, shareholders and employees alike. The Company determines the bonus and profit sharing amounts based on operating results and domestic industry practice. The amount and distribution of the employee bonuses are recommended by the compensation committee to the Board of Directors for approval. Individual rewards are based on each employee’s job responsibility, contributions and performance.

A similar approach is used in TSMC’s compensation programs at subsidiaries. In addition to providing employees with a locally competitive base salary, annual bonuses are granted as a part of total compensation, in line with local regulations, market practices and the overall operating performance of each subsidiary.

In addition to the competitive compensation described above, the Company has approved and implemented a global employee stock purchase plan in 2022 which is available to all regular employees of TSMC and its wholly owned subsidiaries. Through this plan, Employees are encouraged to participate in the Company’s long-term success.

TSMC believes that long-term ownership of Company shares by corporate officers helps align their interests with those of all shareholders, and therefore, the Company formulated Corporate Officer Shareholding Guidelines in 2020. The required holding value of TSMC shares by the chairman, CEO, and other corporate officers is proportional to their annual base salary: 18 times for the chairman and CEO, nine times for other officers in Taiwan facilities and VisEra, and three times for overseas officers. Officers shall fulfill the required value within three years of appointment and maintain the required value for the entire period of employment. Furthermore, to attract and retain corporate executives and other critical talent and to link their compensation with shareholder interests and environmental, social, governance (ESG) achievements, TSMC established employee restricted stock awards rules in 2021 and 2022.

5.6.7 Employee Benefit System Superior to Statute

TSMC offers employee benefits that are superior to the applicable statutes. In addition to twelve national holidays per year, seven memorial days are also designated as holidays. During the COVID-19 pandemic, to reduce the risk of infection in public transportation and crowd gatherings, TSMC launched a split work and work from home policy. The Company provides employees with statutory labor insurance and national health insurance as well as comprehensive paid group insurance plans. Coverage includes life insurance and insurance for accidents, hospital coverage, cancer and critical illness and business travel. There are also various employee self-paid group insurance plans available at lower prices for employee family members. The group insurance coverage is extended to employees on approved unpaid leave. To better support new hires, TSMC offers one day of annual leave for every two months of service in the first year. Employees who need to take long leaves of absence for military service or severe injuries can also apply for unpaid leave, and then apply for reinstatement after the expiration of the period. In addition, TSMC provides pensions, financial assistance for emergencies, subsidies for marriage, childbirth and funerals, as well as discounts in designated shops.

In accordance with local laws and regulations, TSMC provides breastfeeding and breast milk collection rooms. To help employees balance their personal and work lives, TSMC not only offers parental leave but also provides a comprehensive leave management system. The Company established the TSMC childcare benefit program, to extend maternity leave from eight to 12 weeks and paternity leave from five to ten days. It also increased the maternity subsidy from NT\$1,000 to NT\$10,000 per child. TSMC has set up four on-site kindergartens for employees in Taiwan, so that employees can work in a peaceful mind. In addition, a holiday STEAM campus has been organized to accompany the growth of employee’s children.

All TSMC facilities are equipped with 24-hour health centers, where healthcare management professionals and appointed onsite physicians provide quality services beyond those required legally. The health centers work with hospitals and employee assistance program service providers to offer comprehensive support for the emotional and physical well-being of employees. In addition to annual checkups for all employees, in 2022 TSMC began providing employees with five advanced checkup items upon completion of every five years of service.

The Company encourages employees to exercise regularly by subsidizing 59 clubs, improving exercise facilities, and holding regular sports events to help employees find peers with similar sports interests. Also to help employees balance their work and life, TSMC provides:

- Convenient onsite services and amenities such as in-fab cafeterias, convenience stores, and other services
- Comprehensive health management services, including in-fab clinic services, post health-exam follow-up activities, and employee assistance programs
- Diverse employee welfare programs: leisure and art events; encouraging employees to participate in hobby clubs; vibrant sports centers and onsite preschool services to meet employees' needs for childcare; festival bonuses and emergency subsidies if and when needed

Vacation and insurance policies at TSMC's overseas offices are designed in compliance with local regulations. In China, North America and Europe, TSMC provides more vacation days to employees than legally required. In overseas offices, TSMC offers a more comprehensive life and medical insurance than required by local regulations and customs.

5.6.8 Diverse Employee Recognition

TSMC sponsors various internal award programs to recognize employees for outstanding achievement, both individual and at a team level. With these award programs, TSMC aims to encourage continued employee development, which also enhances the Company's competitive advantage.

The award programs include:

- TSMC Academy: recognizes outstanding scientists and engineers whose individual technical capabilities have made significant contributions
- TSMC Excellent Labor Award: recognizes technicians whose outstanding performances have made significant contributions
- Total Quality Excellence: recognizes employees' continuous efforts in creating value at each fab
- Service Award: recognizes and shows appreciation of senior employees for their long-term commitment and dedication
- Excellent Instructor Award: praises the outstanding performance and contribution of internal instructors of training courses for employees

Apart from the recognitions above, there are function-wide awards dedicated to innovation, such as the Idea Forum, the Total Quality Excellence Award and the ESG Award, which recognize employee initiative and continuous implementation of innovative practices. In addition, TSMC encourages employees to participate in external talent activities and competitions. In 2022, distinguished TSMC employees continued to be recognized through a host of awards, such as the Model Labor Award, the Excellent Young Engineers Award, the Outstanding Engineer Award, the Taiwan Continuous Improvement Awards, the National Manager Excellence Award and the National Industrial Awards.

5.6.9 Employee Engagement

The Company encourages employees to maintain a healthy and well-balanced life while pursuing their career goals effectively. TSMC facilitates employee communication and provides employee caring, benefit, rewards and recognition programs.

Employee Communication

TSMC values employee communication and is committed to keeping communication channels open and transparent between managers and employees, and amongst peers. The Company is committed to ensuring that employees are able to communicate openly and share ideas and concerns with management regarding work conditions and management practices without fear of recrimination, reprisal, intimidation or harassment. TSMC makes continuous efforts to listen to employees and to facilitate mutual and timely employee communication, through multiple channels and platforms, which in turn fosters harmonious labor relations.

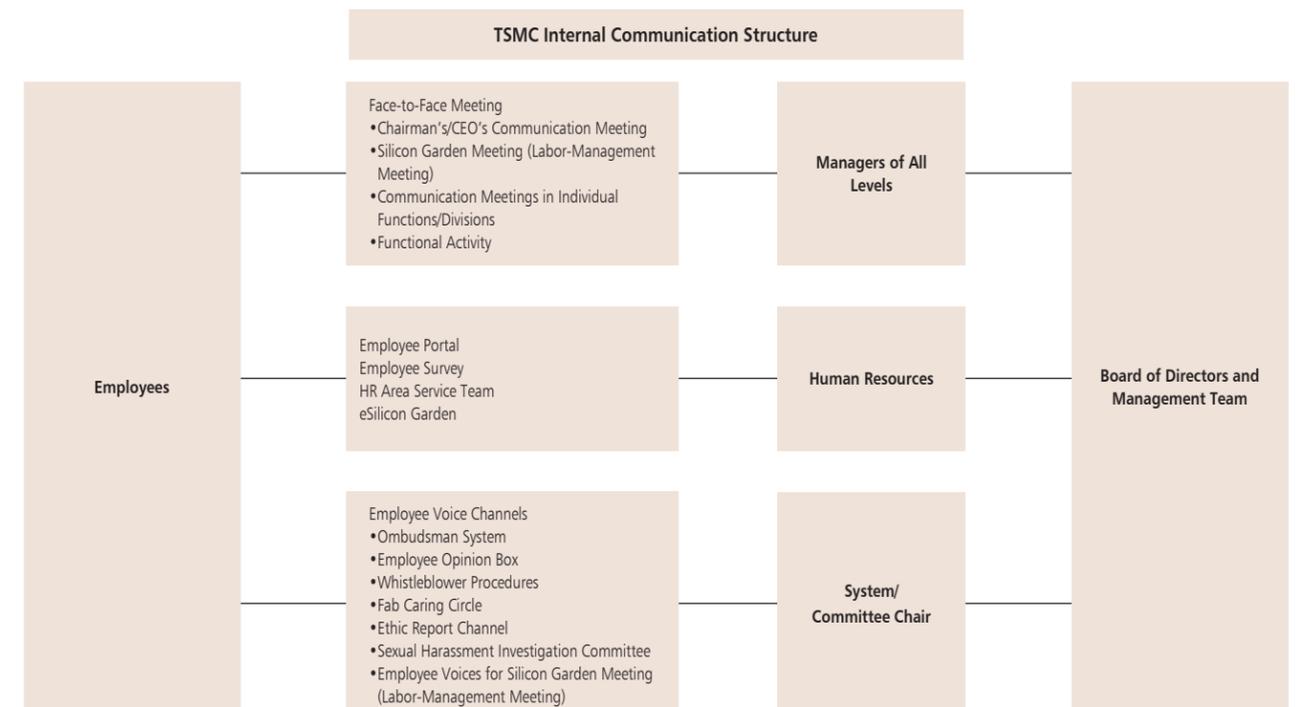
TSMC conducted face-to-face CEO dialogue sessions in Hsinchu, Taichung, and Tainan, which allowed the employees to make suggestions, express their thoughts and get direct feedback from the CEO. In addition, the Company also enlarged the scope of the labor-management meeting, transforming it into the "Silicon Garden Meeting," which helped all employees feel free to put forward their ideas so the Company could take appropriate action.

TSMC supports a host of various communication channels including:

- Communication meetings for various levels of managers and employees, e.g. the executives communication meeting, skip levels and communication meetings in individual functions/divisions

- Quarterly Silicon Garden Meetings, aka Labor-Management meetings to provide business updates and discuss issues of concern for employees
- The biennial employee survey on core values taken to understand the Company's implementation of core values and employees' commitment
- The biennial global employee engagement survey taken to systematically understand the work experience of employees and to enhance employees' engagement and sense of belonging in the Company
- Periodic employee pulse surveys and service satisfaction surveys to selected employees with follow-up actions based on survey findings
- myTSMC employee portal, an internal website featuring the Founder's, Chairman's and CEO's talks, corporate messages, executive interviews, and other topics of interest to employees
- *eSilicon Garden*, TSMC's newsletter providing real-time updates on major activities of the Company as well as inspirational content featuring outstanding teams or individuals
- Three channels for reporting complaints regarding managerial, financial, auditing, ethics and business conduct issues:
 - The whistleblower reporting system administered by the Audit Committee
 - The irregular business conduct reporting system administered by the Ethic Committee
 - The ombudsman system administered by a senior manager appointed by the CEO
- The Employee Opinion Box, which provides an opportunity to submit suggestions or opinions regarding work and the overall work environment
- The Fab Caring Circle in each fab, which addresses issues related to employees' work and personal life; the system is dedicated mainly to the Company's direct laborers
- The sexual harassment investigation committee, a channel dedicated to ensuring a work environment free from the threat of sexual harassment; the committee consists of three directors appointed by the CEO, one from human resources, one from legal affairs, and the third from another organization

Employee Communication Channels



During 2022 and as of the date of this Annual Report, TSMC has not incurred any labor-dispute related losses. However, the Company was fined for the following labor inspection results: NT\$200,000 issued on 06/08/2022 for overtime applications not being timely processed (Labor Standards Act Article 24 Paragraph 1). NT\$250,000 issued on 06/08/2022 for the extension of working hours combined with the regular working hours exceeding permitted limit (Labor Standards Act Article 32 Paragraph 2). NT\$100,000 issued on 06/08/2022 for consecutive working days exceeding the permitted limit (Labor Standards Act Article 36 Paragraph 1). NT\$300,000, NT\$250,000, and NT\$40,000 issued on 09/02/2022 for overtime applications not being timely processed, the extension of working hours combined with the regular working hours exceeding permitted limit, and employees not having a break for at least 30 minutes after having worked for four consecutive hours (Labor Standards Act Article 24 Paragraph 1, Article 32 Paragraph 2, and Article 35). NT\$350,000 issued on 10/26/2022 for overtime applications not being timely processed (Labor Standards Act Article 24 Paragraph 1). NT\$300,000 issued on 10/26/2022 for the extension of working hours combined with the regular working hours exceeding permitted limit (Labor Standards Act Article 32 Paragraph 2). NT\$60,000 issued on 10/26/2022 for employees not having a break for at least 30 minutes after having worked for four consecutive hours (Labor Standards Act Article 35). NT\$50,000 issued on 12/07/2022 for the extension of working hours combined with the regular working hours exceeding permitted limit (Labor Standards Act Article 32 Paragraph 2). NT\$50,000 and NT\$50,000 issued on 12/20/2022 for overtime applications not being timely processed, and the extension of working hours combined with the regular working hours exceeding permitted limit (Labor Standards Act Article 24, Article 32 Paragraph 2).

The Company has reviewed its working hour management process and established indices to remind employees to apply for overtime payment on time and for managers to respond to such applications efficiently and in a timely fashion, and to be more diligent about employee working hours as well as to strengthen communication about these matters and relevant policies.

5.6.10 Retention

Overall employee satisfaction with the Company was measured in the biennial TSMC core values survey taken in 2022. The survey scope included operations in Taiwan, China, North America, Europe, Japan, and Korea. (VisEra was not included in the survey due to its different industrial background.) A total of 62,333 respondents represented a high response rate of 91%. In this survey, 93% of participants said they were willing to commit fully in their work to make TSMC even more successful, while 90% concurred with the statement that they were willing to contribute their talent and grow together with the Company for the next five years.

TSMC's employee turnover rate was 6.7% in 2022 compared to 6.8% in 2021, both within a healthy range of 5% to 10%.

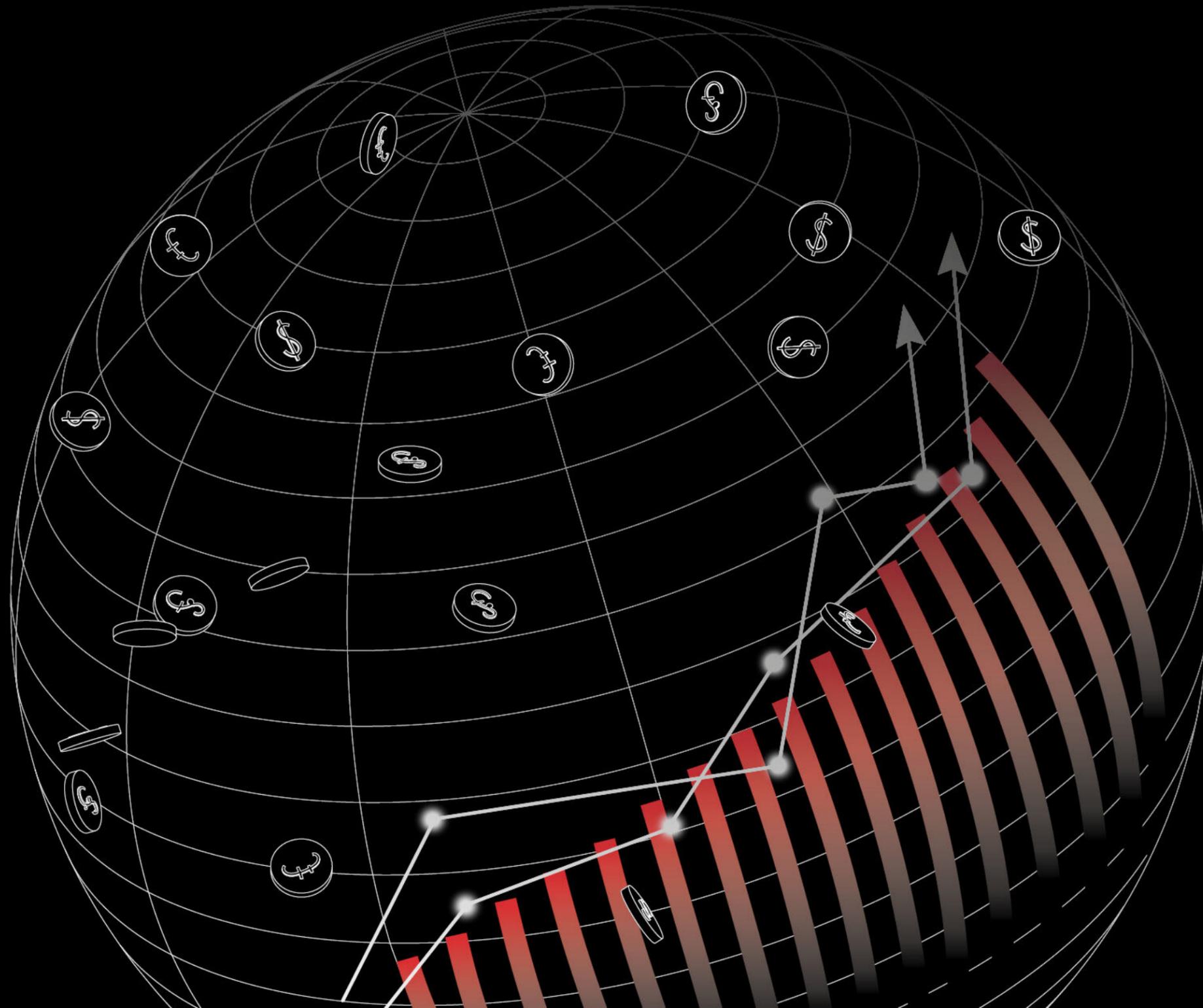
5.6.11 Retirement Policy

TSMC established its statutory defined benefit plan and supervisory committee of labor retirement reserve according to the Labor Standards Act, and also set up its statutory defined contribution plan according to Labor Pension Act, which was effective starting July 1, 2005. For each region, TSMC also established pension plans according to local standards and regulations. The previously mentioned supervisory committee not only holds quarterly meetings but also supervises affairs in connection with labor's retirement reserve fund. To meet legal requirements for disclosure of financial reporting and ensure sufficient funding levels, TSMC makes contributions based statutory requirement and also engages an actuarial consulting firm to assess the valuation of the defined benefit plan. Please refer to page 43-46 of the attached financial report for details. Thanks to the Company's sound financial condition, it is able to ensure the future viability employees' retirement benefits and solid pension contributions and payments, which encourages employees to make long-term career plans with and further deepen their commitment to TSMC.

5.7 Material Contracts

TSMC is not currently a party to any material contracts, other than those entered into in the ordinary course of its business. The Company's "Significant Contingent Liabilities and Unrecognized Commitments" are disclosed in Annual Report section (II), Financial Statements, page 71-72.

6 FINANCIAL HIGHLIGHTS & Analysis



TSMC delivered a thirteenth consecutive year of record revenue.

6.1 Financial Highlights

6.1.1 Condensed Balance Sheet

Condensed Balance Sheet from 2018 to 2022 (Consolidated)

Unit: NT\$ thousands

Item	Year	2018	2019	2020	2021	2022
Current Assets		951,679,721	822,613,914	1,092,185,308	1,607,072,907	2,052,896,744
Long-term Investments		29,304,796	30,172,039	27,728,208	29,384,701	68,927,920
Property, Plant and Equipment		1,072,050,279	1,352,377,405	1,555,589,120	1,975,118,704	2,693,836,970
Right-of-use Assets		0	17,232,402	27,728,382	32,734,537	41,914,136
Intangible Assets		17,002,137	20,653,028	25,768,179	26,821,697	25,999,155
Other Assets (Note 1)		20,091,105	21,756,244	31,712,208	54,370,909	81,203,953
Total Assets		2,090,128,038	2,264,805,032	2,760,711,405	3,725,503,455	4,964,778,878
Current Liabilities						
Before Distribution		340,542,586	590,735,701	617,151,048	739,503,358	944,226,817
After Distribution		547,985,630	655,561,652	681,976,999	810,811,904	1,015,535,363 (Note 2)
Noncurrent Liabilities		72,089,056	51,973,905	292,938,358	815,266,892	1,060,063,194
Total Liabilities						
Before Distribution		412,631,642	642,709,606	910,089,406	1,554,770,250	2,004,290,011
After Distribution		620,074,686	707,535,557	974,915,357	1,626,078,796	2,075,598,557 (Note 2)
Equity Attributable to Shareholders of the Parent						
Capital Stock		259,303,805	259,303,805	259,303,805	259,303,805	259,303,805
Capital Surplus		56,315,932	56,339,709	56,347,243	64,761,602	69,330,328
Retained Earnings						
Before Distribution		1,376,647,841	1,333,334,979	1,588,686,081	1,906,829,661	2,637,524,688
After Distribution		1,169,204,797	1,268,509,028	1,523,860,130	1,835,521,115	2,566,216,142 (Note 2)
Others		(15,449,913)	(27,568,369)	(54,679,873)	(62,608,515)	(20,505,626)
Equity Attributable to Shareholders of the Parent						
Before Distribution		1,676,817,665	1,621,410,124	1,849,657,256	2,168,286,553	2,945,653,195
After Distribution		1,469,374,621	1,556,584,173	1,784,831,305	2,096,978,007	2,874,344,649 (Note 2)
Noncontrolling Interests		678,731	685,302	964,743	2,446,652	14,835,672
Total Equity						
Before Distribution		1,677,496,396	1,622,095,426	1,850,621,999	2,170,733,205	2,960,488,867
After Distribution		1,470,053,352	1,557,269,475	1,785,796,048	2,099,424,659	2,889,180,321 (Note 2)

Note 1: Other assets consist of deferred income tax assets, refundable deposits, and other noncurrent assets.

Note 2: The amount was approved by Board of Directors on February 14, 2023.

Condensed Balance Sheet from 2018 to 2022 (Unconsolidated)

Unit: NT\$ thousands

Item	Year	2018	2019	2020	2021	2022
Current Assets		469,966,106	355,118,125	580,949,248	783,205,937	1,118,550,389
Long-term Investments		550,524,494	559,380,999	565,432,338	603,640,944	728,961,910
Property, Plant and Equipment		1,025,286,941	1,310,900,634	1,511,784,556	1,889,970,529	2,432,675,050
Right-of-use Assets		0	15,030,020	25,184,827	30,123,052	39,051,427
Intangible Assets		12,429,930	16,271,444	21,733,597	22,910,400	21,456,104
Other Assets (Note 1)		17,253,537	18,774,850	28,420,547	48,644,283	81,724,184
Total Assets		2,075,461,008	2,275,476,072	2,733,505,113	3,378,495,145	4,422,419,064
Current Liabilities						
Before Distribution		328,060,518	605,540,547	680,529,735	704,833,370	899,245,600
After Distribution		535,503,562	670,366,498	745,355,686	776,141,916	970,554,146 (Note 2)
Noncurrent Liabilities		70,582,825	48,525,401	203,318,122	505,375,222	577,520,269
Total Liabilities						
Before Distribution		398,643,343	654,065,948	883,847,857	1,210,208,592	1,476,765,869
After Distribution		606,086,387	718,891,899	948,673,808	1,281,517,138	1,548,074,415 (Note 2)
Equity						
Capital Stock		259,303,805	259,303,805	259,303,805	259,303,805	259,303,805
Capital Surplus		56,315,932	56,339,709	56,347,243	64,761,602	69,330,328
Retained Earnings						
Before Distribution		1,376,647,841	1,333,334,979	1,588,686,081	1,906,829,661	2,637,524,688
After Distribution		1,169,204,797	1,268,509,028	1,523,860,130	1,835,521,115	2,566,216,142 (Note 2)
Others		(15,449,913)	(27,568,369)	(54,679,873)	(62,608,515)	(20,505,626)
Total Equity						
Before Distribution		1,676,817,665	1,621,410,124	1,849,657,256	2,168,286,553	2,945,653,195
After Distribution		1,469,374,621	1,556,584,173	1,784,831,305	2,096,978,007	2,874,344,649 (Note 2)

Note 1: Other assets consist of deferred income tax assets, refundable deposits, and other noncurrent assets.

Note 2: The amount was approved by Board of Directors on February 14, 2023.

6.1.2 Condensed Statement of Comprehensive Income

Condensed Statement of Comprehensive Income from 2018 to 2022 (Consolidated)

Unit: NT\$ thousands (Except EPS: NT\$)

Item	Year	2018	2019	2020	2021	2022
Net Revenue		1,031,473,557	1,069,985,448	1,339,254,811	1,587,415,037	2,263,891,292
Gross Profit		497,874,253	492,701,896	711,130,120	819,537,266	1,348,354,806
Income from Operations		383,623,524	372,701,090	566,783,698	649,980,897	1,121,278,851
Non-operating Income and Expenses		13,886,739	17,144,246	17,993,482	13,145,417	22,911,867
Income before Income Tax		397,510,263	389,845,336	584,777,180	663,126,314	1,144,190,718
Net Income		351,184,406	345,343,809	518,158,082	597,073,134	1,016,900,515
Other Comprehensive Income (Loss) for the Year, Net of Income Tax		9,836,976	(11,823,562)	(30,321,802)	(7,619,456)	42,430,165
Total Comprehensive Income for the Year		361,021,382	333,520,247	487,836,280	589,453,678	1,059,330,680
Net Income Attributable to:						
Shareholders of the Parent		351,130,884	345,263,668	517,885,387	596,540,013	1,016,530,249
Noncontrolling Interests		53,522	80,141	272,695	533,121	370,266
Total Comprehensive Income Attributable to:						
Shareholders of the Parent		360,965,015	333,440,460	487,563,478	588,918,059	1,059,124,890
Noncontrolling Interests		56,367	79,787	272,802	535,619	205,790
Basic/Diluted Earnings Per Share (Note)		13.54	13.32	19.97	23.01	39.20

Note: Based on weighted average shares and diluted weighted average shares outstanding in each year.

Condensed Statement of Comprehensive Income from 2018 to 2022 (Unconsolidated)

Unit: NT\$ thousands (Except EPS: NT\$)

Item	Year	2018	2019	2020	2021	2022
Net Revenue		1,023,925,713	1,059,646,793	1,314,793,013	1,574,745,881	2,252,320,561
Gross Profit		492,955,501	480,143,141	682,004,023	788,629,037	1,300,392,888
Income from Operations		384,027,838	365,923,992	543,465,507	629,632,836	1,090,746,689
Non-operating Income and Expenses		12,170,315	22,821,227	39,153,435	30,869,355	49,927,127
Income before Income Tax		396,198,153	388,745,219	582,618,942	660,502,191	1,140,673,816
Net Income		351,130,884	345,263,668	517,885,387	596,540,013	1,016,530,249
Other Comprehensive Income (Loss) for the Year, Net of Income Tax		9,834,131	(11,823,208)	(30,321,909)	(7,621,954)	42,594,641
Total Comprehensive Income for the Year		360,965,015	333,440,460	487,563,478	588,918,059	1,059,124,890
Basic/Diluted Earnings Per Share (Note)		13.54	13.32	19.97	23.01	39.20

Note: Based on weighted average shares and diluted weighted average shares outstanding in each year.

6.1.3 Financial Analysis

Financial Analysis from 2018 to 2022 (Consolidated)

		2018	2019	2020	2021	2022
Capital Structure Analysis	Debt Ratio (%)	19.74	28.38	32.97	41.73	40.37
	Long-term Fund to Property, Plant and Equipment (%)	163.20	123.79	137.80	151.18	149.25
Liquidity Analysis	Current Ratio (%)	279.46	139.25	176.97	217.32	217.42
	Quick Ratio (%)	248.76	124.92	154.35	190.61	193.65
	Times Interest Earned (Times)	131.28	120.92	281.95	123.48	80.18
Operating Performance Analysis	Average Collection Turnover (Times)	8.19	7.95	9.35	9.20	10.52
	Days Sales Outstanding	44.57	45.91	39.04	39.67	34.70
	Average Inventory Turnover (Times)	6.02	6.20	5.70	4.65	4.42
	Average Inventory Turnover Days	60.63	58.87	64.04	78.49	82.58
	Average Payment Turnover (Times)	16.56	15.48	15.45	17.10	17.40
	Property, Plant and Equipment Turnover (Times)	0.97	0.88	0.92	0.90	0.97
Total Assets Turnover (Times)		0.51	0.49	0.53	0.49	0.52
Profitability Analysis	Return on Total Assets (%)	17.34	15.99	20.69	18.56	23.64
	Return on Equity attributable to Shareholders of the Parent (%)	21.95	20.94	29.84	29.69	39.76
	Operating Income to Paid-in Capital Ratio (%)	147.94	143.73	218.58	250.66	432.42
	Pre-tax Income to Paid-in Capital Ratio (%)	153.30	150.34	225.52	255.73	441.25
	Net Margin (%)	34.05	32.28	38.69	37.61	44.92
	Basic Earnings Per Share (NT\$)	13.54	13.32	19.97	23.01	39.20
	Diluted Earnings Per Share (NT\$)	13.54	13.32	19.97	23.01	39.20
Cash Flow	Cash Flow Ratio (%)	168.54	104.13	133.30	150.39	170.57
	Cash Flow Adequacy Ratio (%)	113.11	106.60	100.74	97.84	101.82
	Cash Flow Reinvestment Ratio (%)	9.06	8.45	11.24	13.56	17.25
Leverage	Operating Leverage	2.28	2.41	1.97	2.05	1.77
	Financial Leverage	1.01	1.01	1.00	1.01	1.01
	Advanced Technologies (7-nanometer and below) Percentage of Wafer Sales (%)	9	27	41	50	53
	Sales Growth (%)	5.53	3.73	25.17	18.53	42.61
Net Income Growth (%)	2.34	-1.67	50.00	15.19	70.40	

Analysis of deviation of 2022 vs. 2021 over 20%:

1. Times interest earned decreased by 35% mainly due to increase in interest expenses.
2. Return on Total Assets increased by 27% mainly due to increase in net income.
3. Return on Equity attributable to Shareholders of the Parent increased by 34% mainly due to increase in net income.
4. Operating Income to Paid-in Capital Ratio increased by 73% mainly due to increase in operating income.
5. Pre-tax Income to Paid-in Capital Ratio increased by 73% mainly due to increase in pre-tax income.
6. Basic Earnings Per Share and Diluted Earnings Per Share increased by 70% mainly due to increase in net income.
7. Cash Flow Reinvestment Ratio increased by 27% as a result of increase in cash generated by operating activities.

* Glossary

1. Capital Structure Analysis
 - (1) Debt Ratio = Total Liabilities / Total Assets
 - (2) Long-term Fund to Property, Plant and Equipment Ratio = (Shareholders' Equity + Noncurrent Liabilities) / Net Property, Plant and Equipment
2. Liquidity Analysis
 - (1) Current Ratio = Current Assets / Current Liabilities
 - (2) Quick Ratio = (Current Assets - Inventories - Prepaid Expenses) / Current Liabilities
 - (3) Times Interest Earned = Earnings before Interest and Taxes / Interest Expenses
3. Operating Performance Analysis
 - (1) Average Collection Turnover = Net Sales / Average Trade Receivables (including Accounts Receivable and Notes Receivable originated from operation)
 - (2) Days Sales Outstanding = 365 / Average Collection Turnover
 - (3) Average Inventory Turnover = Cost of Sales / Average Inventory
 - (4) Average Inventory Turnover Days = 365 / Average Inventory Turnover
 - (5) Average Payment Turnover = Cost of Sales / Average Trade Payables (including Accounts Payable and Notes Payable originated from operation)
 - (6) Property, Plant and Equipment Turnover = Net Sales / Average Net Property, Plant and Equipment
 - (7) Total Assets Turnover = Net Sales / Average Total Assets
4. Profitability Analysis
 - (1) Return on Total Assets = (Net Income + Interest Expenses * (1 - Effective Tax Rate)) / Average Total Assets
 - (2) Return on Equity Attributable to Shareholders of the Parent = Net Income Attributable to Shareholders of the Parent / Average Equity Attributable to Shareholders of the Parent
 - (3) Operating Income to Paid-in Capital Ratio = Operating Income / Paid-in Capital
 - (4) Pre-tax Income to Paid-in Capital Ratio = Income before Tax / Paid-in Capital
 - (5) Net Margin = Net Income / Net Sales
 - (6) Earnings Per Share = (Net Income Attributable to Shareholders of the Parent - Preferred Stock Dividend) / Weighted Average Number of Shares Outstanding
5. Cash Flow
 - (1) Cash Flow Ratio = Net Cash Provided by Operating Activities / Current Liabilities
 - (2) Cash Flow Adequacy Ratio = Five-year Sum of Cash from Operations / Five-year Sum of Capital Expenditures, Inventory Additions, and Cash Dividend
 - (3) Cash Flow Reinvestment Ratio = (Cash Provided by Operating Activities - Cash Dividends) / (Gross Property, Plant and Equipment + Long-term Investments + Other Noncurrent Assets + Working Capital)
6. Leverage
 - (1) Operating Leverage = (Net Sales - Variable Cost) / Income from Operations
 - (2) Financial Leverage = Income from Operations / (Income from Operations - Interest Expenses)

Financial Analysis from 2018 to 2022 (Unconsolidated)

		2018	2019	2020	2021	2022
Capital Structure Analysis	Debt Ratio (%)	19.21	28.74	32.33	35.82	33.39
	Long-term Fund to Property, Plant and Equipment Ratio (%)	170.43	127.39	135.80	141.47	144.83
Liquidity Analysis	Current Ratio (%)	143.26	58.64	85.37	111.12	124.39
	Quick Ratio (%)	113.07	45.81	65.93	84.33	100.95
	Times Interest Earned (Times)	137.46	122.80	330.85	261.58	277.57
Operating Performance Analysis	Average Collection Turnover (Times)	8.45	8.32	9.80	9.80	11.28
	Days Sales Outstanding	43.21	43.88	37.24	37.23	32.35
	Average Inventory Turnover (Times)	6.31	6.65	6.13	4.98	4.84
	Average Inventory Turnover Days	57.89	54.91	59.58	73.23	75.43
	Average Payment Turnover (Times)	16.22	15.10	14.89	17.06	17.68
	Property, Plant and Equipment Turnover (Times)	1.00	0.91	0.93	0.93	1.04
	Total Assets Turnover (Times)	0.51	0.49	0.52	0.52	0.58
Profitability Analysis	Return on Total Assets (%)	17.62	16.00	20.74	19.59	26.14
	Return on Equity (%)	21.95	20.94	29.84	29.69	39.76
	Operating Income to Paid-in Capital Ratio (%)	148.10	141.12	209.59	242.82	420.64
	Pre-tax Income to Paid-in Capital Ratio (%)	152.79	149.92	224.69	254.72	439.90
	Net Margin (%)	34.29	32.58	39.39	37.88	45.13
	Basic Earnings Per Share (NT\$)	13.54	13.32	19.97	23.01	39.20
	Diluted Earnings Per Share (NT\$)	13.54	13.32	19.97	23.01	39.20
Cash Flow	Cash Flow Ratio (%)	173.17	98.00	114.56	153.79	173.41
	Cash Flow Adequacy Ratio (%)	113.52	106.59	99.88	97.62	104.90
	Cash Flow Reinvestment Ratio (%)	9.23	8.23	10.93	14.20	18.23
Leverage	Operating Leverage	2.28	2.46	2.04	2.11	1.81
	Financial Leverage	1.01	1.01	1.00	1.00	1.00

Analysis of deviation of 2022 vs. 2021 over 20%:

1. Quick ratio increased by 20% mainly due to increase in cash and cash equivalents.
2. Return on Total Assets increased by 33% mainly due to increase in net income.
3. Return on Equity increased by 34% mainly due to increase in net income.
4. Operating Income to Paid-in Capital Ratio increased by 73% mainly due to increase in operating income.
5. Pre-tax Income to Paid-in Capital Ratio increased by 73% mainly due to increase in pre-tax income.
6. Basic Earnings Per Share and Diluted Earnings Per Share increased by 70% mainly due to increase in net income.
7. Cash Flow Reinvestment Ratio increased by 28% as a result of increase in cash generated by operating activities.

* Glossary

1. Capital Structure Analysis
 - (1) Debt Ratio = Total Liabilities / Total Assets
 - (2) Long-term Fund to Property, Plant and Equipment Ratio = (Shareholders' Equity + Noncurrent Liabilities) / Net Property, Plant and Equipment
2. Liquidity Analysis
 - (1) Current Ratio = Current Assets / Current Liabilities
 - (2) Quick Ratio = (Current Assets - Inventories - Prepaid Expenses) / Current Liabilities
 - (3) Times Interest Earned = Earnings before Interest and Taxes / Interest Expenses
3. Operating Performance Analysis
 - (1) Average Collection Turnover = Net Sales / Average Trade Receivables(including Accounts Receivable and Notes Receivable originated from operation)
 - (2) Days Sales Outstanding = 365 / Average Collection Turnover
 - (3) Average Inventory Turnover = Cost of Sales / Average Inventory
 - (4) Average Inventory Turnover Days = 365 / Average Inventory Turnover
 - (5) Average Payment Turnover = Cost of Sales / Average Trade Payables(including Accounts Payable and Notes Payable originated from operation)
 - (6) Property, Plant and Equipment Turnover = Net Sales / Average Net Property, Plant and Equipment
 - (7) Total Assets Turnover = Net Sales / Average Total Assets
4. Profitability Analysis
 - (1) Return on Total Assets = (Net Income + Interest Expenses * (1 - Effective Tax Rate)) / Average Total Assets
 - (2) Return on Equity = Net Income / Average Shareholders' Equity
 - (3) Operating Income to Paid-in Capital Ratio = Operating Income / Paid-in Capital
 - (4) Pre-tax Income to Paid-in Capital Ratio = Income before Tax / Paid-in Capital
 - (5) Net Margin = Net Income / Net Sales
 - (6) Earnings Per Share = (Net Income - Preferred Stock Dividend) / Weighted Average Number of Shares Outstanding
5. Cash Flow
 - (1) Cash Flow Ratio = Net Cash Provided by Operating Activities / Current Liabilities
 - (2) Cash Flow Adequacy Ratio = Five-year Sum of Cash from Operations / Five-year Sum of Capital Expenditures, Inventory Additions, and Cash Dividend
 - (3) Cash Flow Reinvestment Ratio = (Cash Provided by Operating Activities - Cash Dividends) / (Gross Property, Plant and Equipment + Long-term Investments + Other Noncurrent Assets + Working Capital)
6. Leverage
 - (1) Operating Leverage = (Net Sales - Variable Cost) / Income from Operations
 - (2) Financial Leverage = Income from Operations / (Income from Operations - Interest Expenses)

6.1.4 Auditors' Opinions from 2018 to 2022

Year	CPA	Audit Opinion
2018	Mei Yen Chiang, Yu-Feng Huang	An Unmodified Opinion
2019	Mei Yen Chiang, Yu-Feng Huang	An Unmodified Opinion
2020	Mei Yen Chiang, Yu-Feng Huang	An Unmodified Opinion
2021	Mei Yen Chiang, Shang Chih Lin	An Unmodified Opinion
2022	Mei Yen Chiang, Shang Chih Lin	An Unmodified Opinion

Deloitte & Touche
20F, No. 100, Songren Rd., Xinyi Dist., Taipei, Taiwan, R.O.C.
Tel: 886-2-2725-9988

6.1.5 Audit Committee's Review Report

The Board of Directors has prepared the Company's 2022 Business Report, Financial Statements, and proposal for allocation of quarterly earnings. The CPA firm of Deloitte & Touche was retained to audit TSMC's Financial Statements and has issued an audit report relating to the Financial Statements. The Business Report, Financial Statements, and quarterly earnings allocation proposal have been reviewed and determined to be correct and accurate by the Audit Committee members of Taiwan Semiconductor Manufacturing Company Limited. According to relevant requirements of the Securities and Exchange Act and the Company Law, we hereby submit this report.

Taiwan Semiconductor Manufacturing Company Limited

Chairman of the Audit Committee: Sir Peter L. Bonfield



February 14, 2023

6.1.6 Financial Difficulties

The Company should disclose the financial impact to the Company if the Company and its affiliated companies have incurred any financial or cash flow difficulties in 2022 and as of the date of this Annual Report: None.

6.1.7 Consolidated Financial Statements and Independent Auditors' Report along with Parent Company Only Financial Statements and Independent Auditors' Report

Please refer to Annual Report section (II), Financial Statements.

6.2 Financial Status and Operating Results

6.2.1 Financial Status

Consolidated

Unit: NT\$ thousands

Item	2022	2021	Difference	%
Current Assets	2,052,896,744	1,607,072,907	445,823,837	28%
Long-term Investments (Note 1)	68,927,920	29,384,701	39,543,219	135%
Property, Plant and Equipment	2,693,836,970	1,975,118,704	718,718,266	36%
Right-of-use Assets	41,914,136	32,734,537	9,179,599	28%
Intangible Assets	25,999,155	26,821,697	(822,542)	-3%
Other Assets (Note 2)	81,203,953	54,370,909	26,833,044	49%
Total Assets	4,964,778,878	3,725,503,455	1,239,275,423	33%
Current Liabilities	944,226,817	739,503,358	204,723,459	28%
Noncurrent Liabilities	1,060,063,194	815,266,892	244,796,302	30%
Total Liabilities	2,004,290,011	1,554,770,250	449,519,761	29%
Capital Stock	259,303,805	259,303,805	0	0%
Capital Surplus	69,330,328	64,761,602	4,568,726	7%
Retained Earnings	2,637,524,688	1,906,829,661	730,695,027	38%
Others Equity	(20,505,626)	(62,608,515)	42,102,889	67%
Equity Attributable to Shareholders of the Parent	2,945,653,195	2,168,286,553	777,366,642	36%
Total Equity	2,960,488,867	2,170,733,205	789,755,662	36%

Note 1: Long-term investments consist of noncurrent financial assets at fair value through other comprehensive income, noncurrent financial assets at amortized cost, and investments accounted for using equity method.

Note 2: Other assets consist of deferred income tax assets, refundable deposits, and other noncurrent assets.

• Analysis of Deviation over 20%

Increase in Current Assets: The increase was mainly due to increase in cash and cash equivalents.

Increase in Long-term Investments: The increase was mainly due to increase in noncurrent financial assets at amortized costs.

Increase in Property, Plant and Equipment: The increase was mainly due to increase in equipment under installation and construction in progress.

Increase in Right-of-use Assets: The increase was mainly due to increase in leases of land.

Increase in Other Assets: The increase in other assets was mainly due to increase in deferred income tax assets.

Increase in Total Assets: The increase in total assets was mainly due to increase in current assets and property, plant and equipment.

Increase in Current Liabilities: The increase was mainly due to increase in accrued expenses and other current liabilities.

Increase in Noncurrent Liabilities: The increase was mainly due to issuance of corporate bonds in 2022.

Increase in Total Liabilities: The increase was mainly due to issuance of corporate bonds and increase in accrued expenses and other current liabilities.

Increase in Retained Earnings: The increase was mainly due to net income of 2022, partially offset by distribution of earnings.

Increase in Others Equity: The increase was mainly due to increase in currency exchange gain arising from translation of foreign operations in 2022.

Increase in Equity Attributable to Shareholders of the Parent: The increase was mainly due to increase in retained earnings.

Increase in Total Equity: The increase was mainly due to increase in equity attributable to shareholders of the parent.

• Major Impact on Financial Position

The above deviations had no major impact on TSMC's financial position.

• Future Plan on Financial Position: Not applicable.

Unconsolidated

Unit: NT\$ thousands

Item	2022	2021	Difference	%
Current Assets	1,118,550,389	783,205,937	335,344,452	43%
Long-term Investments (Note 1)	728,961,910	603,640,944	125,320,966	21%
Property, Plant and Equipment	2,432,675,050	1,889,970,529	542,704,521	29%
Right-of-use Assets	39,051,427	30,123,052	8,928,375	30%
Intangible Assets	21,456,104	22,910,400	(1,454,296)	-6%
Other Assets (Note 2)	81,724,184	48,644,283	33,079,901	68%
Total Assets	4,422,419,064	3,378,495,145	1,043,923,919	31%
Current Liabilities	899,245,600	704,833,370	194,412,230	28%
Noncurrent Liabilities	577,520,269	505,375,222	72,145,047	14%
Total Liabilities	1,476,765,869	1,210,208,592	266,557,277	22%
Capital Stock	259,303,805	259,303,805	0	0%
Capital Surplus	69,330,328	64,761,602	4,568,726	7%
Retained Earnings	2,637,524,688	1,906,829,661	730,695,027	38%
Others	(20,505,626)	(62,608,515)	42,102,889	67%
Total Equity	2,945,653,195	2,168,286,553	777,366,642	36%

Note 1: Long-term investments consist of noncurrent financial assets at fair value through other comprehensive income and investments accounted for using equity method.

Note 2: Other assets consist of deferred income tax assets, refundable deposits, and other noncurrent assets.

• Analysis of Deviation over 20%

Increase in Current Assets: The increase was mainly due to increase in cash and cash equivalents.

Increase in Long-term Investments: The increase was mainly due to increase in investments accounted for using equity method.

Increase in Property, Plant and Equipment: The increase was mainly due to increase in equipment under installation and construction in progress.

Increase in Right-of-use Assets: The increase was mainly due to increase in leases of land.

Increase in Other Assets: The increase in other assets was mainly due to increase in deferred income tax assets.

Increase in Total Assets: The increase in total assets was mainly due to increase in current assets and property, plant and equipment.

Increase in Current Liabilities: The increase was mainly due to increase in accrued expenses and other current liabilities.

Increase in Total Liabilities: The increase was mainly due to issuance of corporate bonds and increase in accrued expenses and other current liabilities.

Increase in Retained Earnings: The increase was mainly due to net income of 2022, partially offset by distribution of earnings.

Increase in Others Equity: The increase was mainly due to increase in currency exchange gain arising from translation of foreign operations in 2022.

Increase in Total Equity: The increase was mainly due to increase in retained earnings.

• Major Impact on Financial Position

The above deviations had no major impact on TSMC's financial position.

• Future Plan on Financial Position: Not applicable.

6.2.2 Financial Performance

Consolidated

Unit: NT\$ thousands

Item	2022	2021	Difference	%
Net Revenue	2,263,891,292	1,587,415,037	676,476,255	43%
Cost of Revenue	915,536,486	767,877,771	147,658,715	19%
Gross Profit	1,348,354,806	819,537,266	528,817,540	65%
Operating Expenses	226,707,552	169,222,934	57,484,618	34%
Other Operating Income and Expenses, Net	(368,403)	(333,435)	(34,968)	-10%
Income from Operations	1,121,278,851	649,980,897	471,297,954	73%
Non-operating Income and Expenses	22,911,867	13,145,417	9,766,450	74%
Income before Income Tax	1,144,190,718	663,126,314	481,064,404	73%
Income Tax Expenses	127,290,203	66,053,180	61,237,023	93%
Net Income	1,016,900,515	597,073,134	419,827,381	70%
Other Comprehensive Gain (Loss), Net of Income Tax	42,430,165	(7,619,456)	50,049,621	NM
Total Comprehensive Income for the Year	1,059,330,680	589,453,678	469,877,002	80%
Total Net Income Attributable to Shareholders of the Parent	1,016,530,249	596,540,013	419,990,236	70%
Total Comprehensive Income Attributable to Shareholders of the Parent	1,059,124,890	588,918,059	470,206,831	80%

● Analysis of Deviation over 20%

Increase in Net Revenue: The increase was mainly attributed to rise in average selling price, higher wafer shipments and the favorable impact of change in foreign exchange rate.

Increase in Gross Profit: The increase was mainly due to the rise in average selling price, the favorable impact of change in foreign exchange rate and continuing cost improvement, partially offset by lower capacity utilization.

Increase in Operating Expenses: The increase was mainly due to higher research and development expenditures.

Increase in Income from Operations: The increase was mainly due to higher gross profit.

Increase in Non-operating Income and Expenses: The increase was mainly due to higher interest income in 2022.

Increase in Income before Income Tax: The increase was mainly due to higher income from operations.

Increase in Income Tax Expenses and Net Income: The increase was mainly due to higher income before income tax.

Increase in Other Comprehensive Gain (Loss), Net of Income Tax: The increase was mainly due to increase in currency exchange gain arising from translation of foreign operations in 2022.

Increase in Total Comprehensive Income for the Year, Total Net Income Attributable to Shareholders of the Parent and Total Comprehensive Income Attributable to Shareholders of the Parent: The increase was mainly due to higher net income in 2022.

● Sales Volume Forecast and Related Information

For additional details, please refer to "1. Letter to Shareholders".

● Major Impact on Financial Performance

The above deviations had no major impact on TSMC's financial performance.

● Future Plan on Financial Performance: Not applicable.

Unconsolidated

Unit: NT\$ thousands

Item	2022	2021	Difference	%
Net Revenue	2,252,320,561	1,574,745,881	677,574,680	43%
Cost of Revenue	951,927,673	786,116,844	165,810,829	21%
Gross Profit	1,300,392,888	788,629,037	511,763,851	65%
Operating Expenses	209,637,924	158,667,757	50,970,167	32%
Other Operating Income and Expenses, Net	(8,275)	(328,444)	320,169	97%
Income from Operations	1,090,746,689	629,632,836	461,113,853	73%
Non-operating Income and Expenses	49,927,127	30,869,355	19,057,772	62%
Income before Income Tax	1,140,673,816	660,502,191	480,171,625	73%
Income Tax Expenses	124,143,567	63,962,178	60,181,389	94%
Net Income	1,016,530,249	596,540,013	419,990,236	70%
Other Comprehensive Gain (Loss), Net of Income Tax	42,594,641	(7,621,954)	50,216,595	NM
Total Comprehensive Income for the Year	1,059,124,890	588,918,059	470,206,831	80%

● Analysis of Deviation over 20%

Increase in Net Revenue: The increase was mainly attributed to rise in average selling price, higher wafer shipments and the favorable impact of change in foreign exchange rate.

Increase in Cost of Revenue: The increase was mainly due to higher sales.

Increase in Gross Profit: The increase was mainly due to the rise in average selling price, the favorable impact of change in foreign exchange rate and continuing cost improvement, partially offset by lower capacity utilization.

Increase in Operating Expenses: The increase was mainly due to higher research and development expenditures.

Increase in other Operating Income and Expenses, Net: The increase was mainly due to a net gain on disposal of property, plant and equipment in 2022.

Increase in Income from Operations: The increase was mainly due to higher gross profit.

Increase in Non-operating Income and Expenses: The increase was mainly due to higher share of profits of subsidiaries and associates in 2022.

Increase in Income before Income Tax: The increase was mainly due to higher income from operations.

Increase in Income Tax Expenses and Net Income: The increase was mainly due to higher income before income tax.

Increase in Other Comprehensive Gain (Loss), Net of Income Tax: The increase was mainly due to increase in currency exchange gain arising from translation of foreign operations in 2022.

Increase in Total Comprehensive Income for the Year: The increase was mainly due to higher net income in 2022.

● Sales Volume Forecast and Related Information

For additional details, please refer to "1. Letter to Shareholders".

● Major Impact on Financial Performance

The above deviations had no major impact on TSMC's financial performance.

● Future Plan on Financial Performance: Not applicable.

6.2.3 Cash Flow

Consolidated

Unit: NT\$ thousands

Cash Balance 12/31/2021	Net Cash Provided by Operating Activities in 2022	Net Cash Used in Investing Activities in 2022	Net Cash Used in Financing Activities in 2022	Effect of Exchange Rate Changes on Cash and Cash Equivalents in 2022	Cash Balance 12/31/2022	Remedy for Liquidity Shortfall	
						Investment Plan	Financing Plan
1,064,990,192	1,610,599,188	(1,190,928,235)	(200,244,032)	58,396,970	1,342,814,083	None	None

• Analysis of Cash Flow

NT\$1,610.6 billion net cash generated by operating activities: mainly include net income, along with depreciation and amortization expenses.

NT\$1,190.9 billion net cash used in investing activities: primarily for capital expenditures.

NT\$200.2 billion net cash used in financing activities: mainly for net decrease in short-term loans and payment of cash dividend, partially offset by issuance of corporate bonds.

• Remedial Actions for Liquidity Shortfall

As a result of positive operating cash flows and cash on-hand, remedial actions are not required.

• Cash Flow Projection for Next Year: Not applicable.

Unconsolidated

Unit: NT\$ thousands

Cash Balance 12/31/2021	Net Cash Provided by Operating Activities in 2022	Net Cash Used in Investing Activities in 2022	Net Cash Used in Financing Activities in 2022	Cash Balance 12/31/2022	Remedy for Liquidity Shortfall	
					Investment Plan	Financing Plan
396,294,241	1,559,417,480	(944,001,551)	(382,834,273)	628,875,897	None	None

• Analysis of Cash Flow

NT\$1,559.4 billion net cash generated by operating activities: mainly include net income, along with depreciation and amortization expenses.

NT\$944.0 billion net cash used in investing activities: primarily for capital expenditures.

NT\$382.8 billion net cash used in financing activities: mainly for net decrease in short-term loans and cash dividend payment, partially offset by issuance of corporate bonds.

• Remedial Actions for Liquidity Shortfall

As a result of positive operating cash flows and cash on-hand, remedial actions are not required.

• Cash Flow Projection for Next Year: Not applicable.

6.2.4 Recent Years Major Capital Expenditures and Impact on Financial and Business

Unit: NT\$ thousands

Plan	Actual or Planned Source of Capital	Total Amount for 2022 and 2021	Actual Use of Capital	
			2022	2021
Production Facilities, R&D and Production Equipment	Cash flow generated from operations and issuance of corporate bonds	1,903,407,434	1,072,310,836	831,096,598
Others	Cash flow generated from operations	18,460,404	10,361,294	8,099,110
Total		1,921,867,838	1,082,672,130	839,195,708

Based on capital expenditures listed above, TSMC's annual production capacity increased by approximately 1.2 million 12-inch equivalent wafers in 2022.

6.2.5 Long-term Equity Investment Policy and Results

TSMC's long-term equity investments, accounted for using the equity method, were all made for strategic purposes. In 2022, the gains from these investments amounted to NT\$7,798,359 thousand on a consolidated basis, up from the previous year mainly due to increases in product demand. In the future, TSMC's long-term equity investments, accounted for using the equity method, will continue to focus on strategic purposes through prudent assessments.

6.3 Risk Management

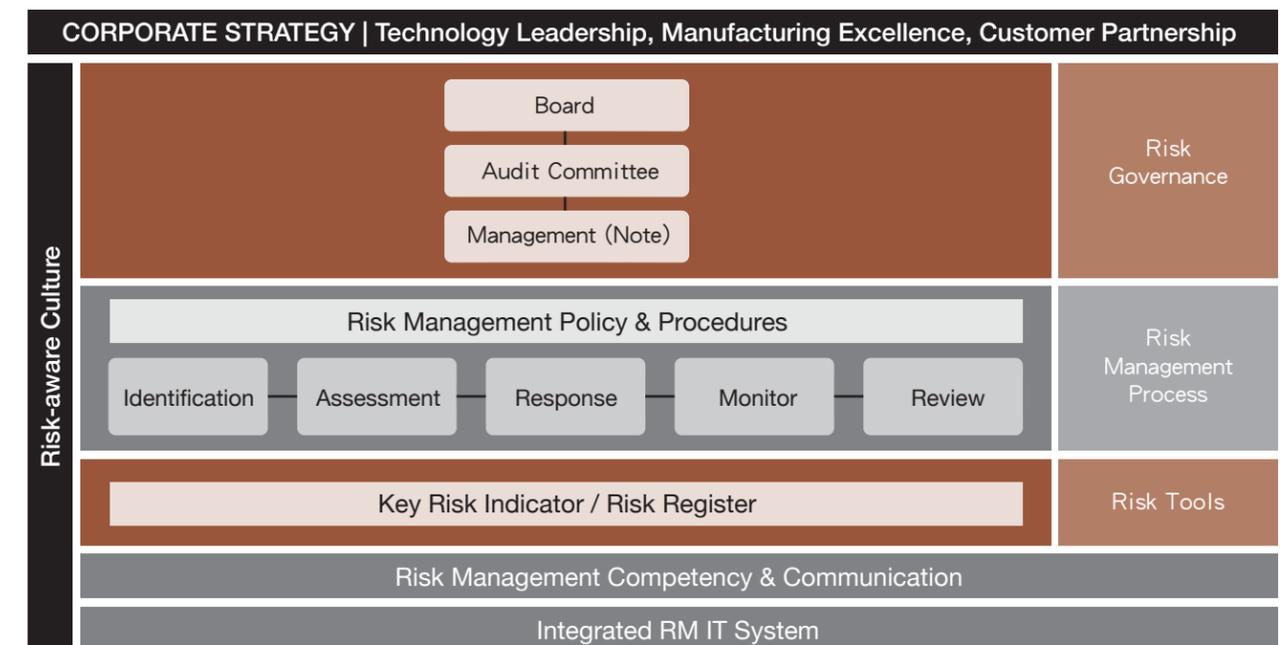
6.3.1 Risk Management Overview

Risk Management Policy and Framework

TSMC adopts a balanced risk-reward approach to risk management to optimize business returns while considering the holistic impact on corporate sustainability. TSMC's "Risk Management Policy" (https://esg.tsmc.com/download/file/riskManagementPolicy_e.pdf), approved by the Board of Directors and signed off by Chairman, affirms the commitment for proactive and robust risk management system in assisting TSMC in making well-considered and risk-based decisions, that fulfills its corporate vision and to deliver sustainable value for TSMC and its stakeholders.

Adhering closely to the ISO 31000: 2018 Risk Management System and the Committee of Sponsoring Organizations of the Treadway Commission (COSO)'s Enterprise Risk Management – Integrated Framework, TSMC's Enterprise Risk Management (ERM) framework was established to provide a systematic approach to risk management. It outlines the risk governance structure, process, tools, competency, communication, and culture to assist the management in making informed decisions, to implement business strategies and achieve corporate objectives.

• Enterprise Risk Management Framework



Note: comprising of Risk Management Steering Committee, Risk Management Executive Council, Risk Management Taskforces, Central Crisis Command Centre and Crisis Management Team

Risk Appetite and Risk Management Scope

TSMC has defined its risk appetite statements, which outline the nature and extent of the risks which TSMC is willing to take in pursuit of its business goals. These risk appetite statements are:

- Risk taken should be carefully evaluated, commensurate with rewards and be in line with the Company’s strategic, investment, financial and corporate objectives.
- Risk considerations are embedded into business operations and managed within the risk tolerance (risk indicators) of the divisions, functions and Company.
- TSMC will not invest or participate in any business activities that exceeds our risk tolerance. The Company does not condone safety related breaches or lapses, non-compliance with laws and regulations, as well as acts such as fraud, bribery and corruption.

Adopting the five-step risk management process consisting of the identification, assessment, response, monitor and review of risks, risks assessments are performed by key functional units, to form the enterprise-level risk map and mitigation plans, that are presented to the Audit Committee. This process is supported by ongoing education and awareness efforts in fostering a risk-aware culture and building risk competencies.

• Risk Management Scope

Strategic Risks	Operational Risks
<ul style="list-style-type: none"> • Industry developments • Changes in technology (including IT security) • Decrease in demand and average selling price • Competition • Changes in the government policies and regulatory environment 	<ul style="list-style-type: none"> • Natural and man-made disasters • Capacity expansion • Construction of new fabs • Sales concentration • Purchasing concentration • Intellectual property rights • Litigious and non-litigious matters
Financial Risks	
<ul style="list-style-type: none"> • Economic risks (including interest rate fluctuation, foreign exchange volatility, inflation, and amendments to tax regulations or implementation of new tax laws) • External financing • High-risk/highly leveraged investments; lending, endorsements, and guarantees for other parties; and financial derivative transactions • Impairment charges 	<ul style="list-style-type: none"> • Mergers and acquisitions • Recruiting quality personnel • Future R&D plans and expected R&D spending • Change in corporate reputation and impact on the Company's crisis management • Change in management • Non-compliance with export control, environmental and climate change related laws, regulations and accords, and failure to timely obtain requisite approvals necessary for conducting business
Other Risks	
<ul style="list-style-type: none"> • Sales of significant numbers of shares by TSMC’s directors, and/or shareholders who own 10% or more of TSMC’s total outstanding shares • Trade policies 	

TSMC recognizes that its systems and processes provide reasonable but not absolute assurance and hence continually improve to ensure that its ability to manage and respond to risks and opportunities remain relevant and effective.

Risk Management Organization

Risk management in TSMC involves the reporting and oversight structure involving both Board of Directors and management of TSMC that seeks to embed sound risk management practices in business decisions and operations across TSMC. The Board of Directors is responsible for the governance of risk and has authorized the Audit Committee to review TSMC’s ERM framework. At the management level, the risk management organization is composed of the Risk Management Steering Committee, the Risk Management Executive Council, the Risk Management Taskforces and the Risk Management Division.

The Risk Management Division works with each function in applying the ERM framework to assess and mitigate risks throughout TSMC by risk monitoring, conducting workshops, and implementing risk related policies and guidelines. Annually, the risk management organization reports to the Audit Committee on TSMC’s key risks and mitigation efforts, and the Audit Committee’s Chairperson reports to the Board of Directors on the risk profile and risk mitigation measures being taken.

• Risk Management Organization Chart



Risk management is a shared responsibility of both management and employees. All employees are required to be competent and accountable for managing risks related to their area of responsibility with an emphasis on clear risk ownership. The roles and responsibilities of the risk management organization are defined as below:

• Risk Management Steering Committee

1. Advises the Board in determining overall risk appetite, tolerance, strategy and resources allocation (taking into account of the current and prospective macroeconomic, technological, regulatory, environmental and social developments and trends).
2. Reviews and oversees the applicability and performances of risk management framework, policy and procedures.
3. Provides advice and assurance to the Board by adopting a holistic view of the key risks that TSMC is exposed to and approves the prioritization of risk mitigations.
4. Sets the tone at the top, provides sponsorship to risk management initiatives and activities bringing about the desired risk culture, awareness and capabilities of effectively and sufficiently managing the key risks and new type of risks, including clarifying the risk ownership.
5. Ensures that risk management is incorporated into strategic business development and operational planning, day-to-day management and decision making.
6. Advises the Board on proposed transactions to address the strategic risks and capitalize on opportunities.

• Risk Management Executive Council

1. Identifies potential/emerging risks that may impact TSMC in achieving our objectives and/or the continued effectiveness and efficiency of our business operations.
2. Conducts risk assessments, defines risk mitigation plans, including incident management plans as well as provides sponsorship and allocate sufficient resources to enable timely and effective mitigations.
3. Leads and drives cross-functional taskforce, meetings, or activities to ensure that risks are adequately & effectively mitigated, including collaboration with Risk Management Division and various parties.
4. Defines key risk indicators (KRIs) to proactively monitor risk dynamics to respond in a timely and effective manner.
5. Builds a risk-aware culture and raise risk competency in fab/division, including but not limited to training/exercises and continuous improvements.
6. Defines and facilitates action plans based on root cause analysis to prevent reoccurrences of major incidents, high-risk events and major findings raised from internal/external reviews.
7. Reports to Risk Management Steering Committee on the progress, effectiveness review, lesson learned and implements the decisions made by Risk Management Steering Committee.

• Risk Management Taskforces

1. Identifies and assesses potential risks/threats that may impact TSMC achieving its business objectives, as well as deploying the risk mitigations.
2. Plans and executes risk prevention and mitigations in accordance with risk scenarios.
3. Organizes and/or participates in cross-functional meetings, in addressing risks that cross multi-disciplines or divisions/fabs.
4. Participates in the implementation and execution of risk management initiatives and activities.
5. Reviews the investigation of major incidents, high-risk events and major findings raised from internal/external checks for division. Monitor the effectiveness of action plans.

• Risk Management Division

1. Assists the board in establishing, overseeing a proactive and effective management system of risk management and business continuity management, including risk appetite and tolerance, risk strategy and risk management framework, policy, and procedures.
2. Strengthens risk culture, awareness, and risk management capabilities through continuous training, education and awareness programs.

3. Identifies and analyzes the sources and categories of risks of the company, and regularly review their applicability.
4. Facilitates risk management committees, risk owners in the implementation of risk management activities and initiatives to identify and manage risks, including the review of risk mitigation plans, business continuity, crisis and incident management plans, review the effectiveness of risk management activities through documentary risk report reviews, management discussions, meetings, to provide reasonable assurance.
5. Coordinates cross-department/functional interaction and communication of risk management operations and decisions, including implementing the risk management decisions of Risk Management Steering Committee.
6. Consults with management, consultants and peers on best practices and standards for continuous improvement and benchmarking.
7. Prepares reports to stakeholders that may be required from time to time by regulators, government agencies, insurers/brokers and customers, including an annual report on the implementation of company's risk management system.

Crisis Management and Business Continuity Management

TSMC is committed to maintaining operational resilience with close reference to business continuity management standards that enables the Company to respond effectively to business disruption. The Company is cognizant of the major risks of natural and man-made disasters, including earthquakes, flooding, typhoons, droughts, tsunamis, sandstorms, wildfires, volcanic eruptions, fire, gas/chemical leakage, pandemic, cyber-attacks, sabotage, failure of critical facilities and equipment, shortages in the supply of utilities, such as water, electricity and natural gas, etc. could disrupt TSMC's operations.

To mitigate the operational impacts of crisis events, the Risk Management Division implements pre-crisis risk assessment, response procedures and recovery plans. Exercises and drills are also conducted to validate our emergency responses, crisis management, business continuity plans to enhance operational preparedness. In major incidents or crisis events, the Crisis Management Guideline guides in the management and responses. The Central Crisis Command Centre (C4), headed by CEO and comprised of senior executives across key functions, provides guidance and decision-making to ensure a constant readiness-to-respond capability, including rapid responses and communication to key stakeholders.

6.3.2 Strategic Risks

Risks Associated with Changes in Technology and Industry

• Industry Developments

The electronics industries and semiconductor market are cyclical and subject to significant and often rapid fluctuations in product demand, which could impact TSMC's semiconductor foundry business. Variations in order levels from TSMC's customers may result in volatility in the Company's revenue and earnings.

From time to time, the electronics and semiconductor industries have experienced significant and occasionally prolonged periods of downturns and overcapacity. Because TSMC is, and will continue to be, dependent on the demand of electronics and semiconductor companies for its services, periods of downturns and overcapacity in the general electronics and semiconductor industries could lead to reduced demand for overall semiconductor foundry services, including TSMC's services. If TSMC cannot take appropriate actions, such as reducing its costs to sufficiently offset declines in demand, the Company's revenue, margins and earnings will likely suffer during periods of downturns and overcapacity.

• Changes in Technology

The semiconductor industry and its technologies are constantly changing. TSMC competes by developing process technologies using increasingly advanced nodes and manufacturing products with more functions. The Company also competes by developing new derivative technologies. If TSMC does not anticipate these changes in technologies and rapidly develop new and innovative technologies, or the Company's competitors unforeseeably gain sudden access to additional technologies, TSMC may not be able to provide foundry services on competitive terms. In addition, TSMC's customers have significantly decreased the time in which their products or services are launched into the market. If TSMC is unable to meet these shorter product time-to-market, it risks losing these customers. These factors have also been intensified by the shift of the global technology market to consumer driven products, such as smartphones, and increasing competition and concentration of customers (all further discussed among these risk factors).

Also, the uncertainty and instability inherent in advanced technologies impose challenges for achieving expected product quality and product yield. If TSMC fails to maintain quality, it may result in loss of revenue and additional cost, as well as loss of business or customer trust. If TSMC is unable to overcome

the above factors, it may become less competitive and its revenue may decline significantly.

Regarding the response measures for the above-mentioned risks, please refer to "2.2.4 TSMC Position, Differentiation and Strategy" on page 18-20 of this Annual Report.

• IT Security

Even though TSMC has established a comprehensive internet and computing security network, the Company cannot guarantee that its computing systems which control or maintain vital corporate functions, such as its manufacturing operations and enterprise accounting, would be completely immune to crippling cyberattacks. In the event of a serious cyberattack, TSMC's systems may lose important corporate data or its production lines may be shut down pending the resolution of such attack. Major cyberattacks could also lead to loss or divulgence of trade secrets and other sensitive information, such as proprietary information of its customers and other stakeholders and personal information of its employees. While TSMC seeks to continuously review and assess its cybersecurity policies and procedures to ensure their adequacy and effectiveness, the Company cannot guarantee that it will not be susceptible to new and emerging risks and attacks in the evolving landscape of cybersecurity threats.

Malicious hackers may also try to introduce computer viruses, corrupted software or ransomware into TSMC's network systems to disrupt its operations, blackmail the Company to regain control of its computing systems, or spy on it for sensitive information. These attacks may result in TSMC having to pay damages for its delayed or disrupted orders or incur significant expenses in implementing remedial and improvement measures to further enhance its cybersecurity network, and may also expose the Company to significant legal liabilities arising from or related to legal proceedings or regulatory investigations associated with such breaches.

In the past, TSMC has experienced and may in the future be subject to attack by malicious software. TSMC has implemented and continually updated rigorous cybersecurity measures to prevent and minimize harm caused by such attacks. Such measures include advanced virus scanning tools to protect fab equipment, strengthening firewall and network controls to prevent computer viruses from spreading among tools and fabs, installing advanced malware defense solutions for critical computers, introducing new solution architecture to secure internet access, adopting advanced solutions against distributed denial-of-service attacks from the internet,

introducing new technology for data protection, enhancing and certifying office computer security compliance, improving email phishing defense and implementing employee awareness testing. TSMC also established an integrated and automatic security operation platform, enabled the automation of cybersecurity event detection and response, enhanced internal security assessment automation, conducted external red team testing and practiced responses to ransomware attacks. For supply chain risks reduction, through collaboration, TSMC helped major suppliers improve their security maturity and share industry security events and best practices on demand and by schedule. Moreover, TSMC has collaborated with Semiconductor Equipment and Materials Institute ("SEMI") to set up a Semiconductor Cybersecurity Committee to promote security standards (SEMI E187) as well as security assessment methodology for improving the resilience of semiconductor supply chain. While these ongoing enhancements further improve Company's cybersecurity defense solutions, there can be no assurance that the Company is immune to cyberattacks.

In addition, TSMC employs certain third-party service providers for it and its affiliates worldwide with whom it needs to share highly sensitive and confidential information to enable them to provide the relevant services. While TSMC requires such third-party service providers to strictly fulfill the confidentiality and/or internet security requirements in its service agreements with them, there is no assurance that each of them will comply with such obligations. Moreover, such third-party service providers may also be susceptible to cyberattacks. If TSMC or its service providers are not able to timely resolve the respective technical difficulties caused by such cyberattacks, or ensure the integrity and availability of its data (and data belonging to its customers and other third parties) or maintain control of its or its service providers' computing systems, the Company's commitments to its customers and other stakeholders may be materially impaired and its results of operations, financial condition, prospects and reputation may also be materially and adversely affected.

Risks Associated with Decrease in Demand and Average Selling Price

A vast majority of the Company's revenue is derived from customers who use TSMC's products in smartphones, high performance computing, IoT, automotive, and digital consumer electronics. Any deterioration in or a slowdown in the growth of such end markets resulting in a substantial decrease in the demand for overall global semiconductor foundry services, including TSMC's products and services, could adversely affect the Company's revenue. Further, semiconductor manufacturing

facilities require substantial investment to construct and are largely fixed cost assets once they are in operation. Because the Company owns most of its manufacturing capacities, a significant portion of its operating costs is fixed. In general, these costs do not decline when customer demand or TSMC's capacity utilization rates drop, and thus declines in customer demand, among other factors, may significantly decrease TSMC's margins. Conversely, as product demand rises and factory utilization increases, the fixed costs are spread over increased output, which can improve TSMC's margins. In addition, the historical trend of declining average selling prices ("ASP") of end use applications places downward pressure on the prices of the components that go into such applications. Decreases in the ASP of end use applications may increase pricing pressure on components produced by TSMC, which, in turn, may negatively impact the Company's revenue, margin and earnings.

Risks Associated with Competition

The markets for TSMC's foundry services are highly competitive. The Company competes with other foundry service providers, as well as a number of integrated device manufacturers. Some of these companies may have access to more advanced technologies than TSMC. Other companies may have greater financial and other resources than TSMC, such as the possibility of receiving direct or indirect government subsidies, economic stimulus funds, or other incentives that may be unavailable to TSMC. The governments of the United States, China, Europe, South Korea, and Japan provide various incentive programs to promote developments of their domestic semiconductor industries, such as the Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (the "U.S. CHIPS Act"), which provides financial incentives to incentivize the development of U.S. semiconductor industry. Although governments in certain of the countries or regions where TSMC is currently expanding or planning to expand its production capacity have extended or may in the future extend certain financial incentives to the Company, there is no assurance that TSMC will be able to apply for or receive such financial incentives at the levels TSMC expects or at all. Additionally, any financial incentives the Company receive may be subject to strict conditions, or the grantors could seek to recover any funds provided to TSMC, or cancel, reduce or deny our requested subsidies or grants in the future. This could materially increase TSMC's operating costs and adversely affect its results of operations.

Furthermore, the Company's competitors may, from time to time, also decide to undertake aggressive pricing initiatives in one or several technology nodes. These competitive activities

may decrease TSMC's customer base or its ASP, or both. If TSMC is unable to compete effectively with such new and aggressive competitors on technology, manufacturing capacity, product quality and customer satisfaction, it risks losing customers to such new contenders.

Risks Associated with Changes in the Government Policies and Regulatory Environment

TSMC management closely monitors all domestic and foreign governmental policies and regulations that might impact TSMC's business and financial operations. During 2022 and as of the date of this Annual Report, the following changes or developments in governmental policies and regulations may influence the Company's business operations:

The manufacturing, assembling and testing of TSMC's products require the use of chemicals and materials that are subject to environmental, climate related, health and safety laws and regulations issued worldwide as well as international accords such as the Paris Agreement. Climate change related laws or regulations currently are too indefinite for the Company to assess the impact on our future financial condition with any degree of reasonable certainty. For example, the Taiwan "Greenhouse Gas Reduction and Management Act", which became effective on July 1, 2015, was amended and was renamed as "Climate Change Response Act". The amendment became effective in February 2023, which set a goal of reaching net-zero emissions in Taiwan by 2050 and also established a carbon fee system that will collect carbon fees on direct and indirect emissions from emitters whose emissions reach certain thresholds. The carbon fee system is expected to take effect by 2024 and the rate for such fees has yet to be determined by the relevant authorities. We may be required to pay any incurred carbon fees if our emission levels exceed applicable thresholds pursuant to the carbon fee system, which could result in increased operating costs for us and affect us financially to a certain extent. We expect to see more of its relevant regulations promulgated by the regulators in the future. Also, the R.O.C. legislative authority is reviewing, at all times, various environmental issues to develop laws and regulations relating to environmental protection and climate related changes. The impact of such laws and regulations, as well as of the carbon fee, is indeterminable at the moment.

It is not expected that other governmental policies or regulatory changes would materially impact TSMC's operations or financial condition.

6.3.3 Operational Risks

Natural and Man-Made Disaster

TSMC is committed to maintaining operational resilience in accordance with business continuity management standards that equips it with the capability to respond effectively to business disruption. Disruptions caused by natural and man-made disasters, including earthquakes, flooding, typhoons, droughts, tsunamis, sandstorms, wildfires, volcanic eruptions, fire, gas/chemical leakage, pandemic, cyber-attacks, sabotage, failure of critical facilities and equipment, shortages in the supply of utilities, such as water, electricity and natural gas, etc. could interrupt TSMC's operations.

Most of TSMC's production facilities, as well as those of many of its suppliers, customers and upstream providers of complementary semiconductor manufacturing services, are located in areas susceptible to natural disasters and may face potential shortages of electricity or water, which could cause interruptions to TSMC's operations.

Thus, if one or more natural disasters result in a prolonged disruption to TSMC's operations or those of its customers or suppliers, or if any of its fabs or vendor facilities were to be damaged or cease operations as a result of an unforeseen disruptive event, it could reduce TSMC's manufacturing capacity and cause the loss of important customers and thereby have an adverse, material impact on its operational and financial performance.

To cope with possible droughts resulted from severe climate change, TSMC implemented manufacturing process water saving, as well as building up industrial water recycling plants, using household water cooperating with government to mitigate water shortage risk. TSMC also implemented its business continuity plans, including water conservation measures, the use of more alternative water sources, water supplied by tank cars, stress tests and various exercises. As a result, there was no material impact to TSMC's business or operational performance.

TSMC has occasionally suffered power outages, dips or surges caused by difficulties encountered by its electricity supplier or other power consumers on the same power grid. Some of these have resulted in interruptions to TSMC's operations. Such shortages or interruptions in electricity supply could further be exacerbated by changes in the energy policy of the governments. If TSMC is unable to secure reliable and uninterrupted supply of electricity to power its manufacturing fabs, its ability to fill customers' orders would be jeopardized.

If such events were to occur over prolonged periods of time, TSMC's operations and financial performance may be materially adversely affected. Moreover, TSMC's future capacity expansions in Taiwan and elsewhere could be curtailed by utility shortages.

The COVID-19 pandemic has had impacts on worldwide economic activity. Prolonged impacts of COVID-19 or future similar events could adversely affect TSMC's business and results of operations in several ways, including but not limited to: (1) interruption of the operations of TSMC's supply chains for equipment, parts and materials in terms of manufacturing, logistics, and manpower arrangements for tool installation; (2) fluctuation in TSMC customers' demands for certain products, leading to uncertainties for TSMC's capacity planning and also for meeting customer demand, which may harm TSMC's business with its customers and subject TSMC to the risk of legal disputes; and (3) potential production delays for TSMC's products due to forced fab or office closures or partial operation.

TSMC has formed an "Epidemic Prevention Committee" to identify, implement and monitor actions stemming from the dynamic exigencies of the pandemic, including but not limited to, health management of its employees, splitting operation and work from home arrangements, identification and control of high risk individuals, rapid investigation of confirmed cases, management of production inventory, supply chain management, and capacity management for demand changes. As of the date of this annual report, TSMC's current business and results of operations have not been materially affected by the COVID-19 pandemic, and with the easing of the COVID-19 pandemic, TSMC does not expect its business and results of operations will be directly affected. Nevertheless, the Company could still face the post-pandemic downward changes in consumers' demand for electronic products, which in turn lead to reduced demand for and place downward pressure on the price of TSMC's products and services.

TSMC has further strengthened its business continuity management, which includes periodic risk assessments and mitigations, and the establishment of taskforces before emergency events. The taskforces define emergency response, crisis communication, recovery plans and preventative measures based on the thorough analysis of derivative effects and alternative solutions to ensure the impacts of people injury, business interruption, finance are minimized. TSMC reviews periodically its business continuity plans and refines them to reflect exercise results and implementation. In response to

the impact of the earthquakes that occurs in Taiwan, TSMC continues to improve its earthquake emergency response, tool anchorage and seismic isolation facilities, and readiness for tool salvage and production recovery. These improvements have been integrated into new fab design. TSMC's business continuity procedures were further enhanced through the compliance with ISO 22301 business continuity management system (BCMS).

TSMC maintains a comprehensive risk management system dedicated to human safety, the conservation of natural resources and the protection of property. In order to cope effectively with emergencies and natural disasters, management at each facility has developed comprehensive plans and procedures that focus on risk prevention, emergency response, crisis management and business continuity. All TSMC manufacturing fabs have been ISO 14001 certified (environmental management) and ISO 45001 certified (occupational health and safety management). All manufacturing fabs in Taiwan have also been TOSHMS (Taiwan Occupational Safety and Health Management System) certified. New fabs will also attain the above certifications within 18 months after acquiring factory registration certification.

TSMC and many of its suppliers use flammable and toxic materials in their manufacturing processes and are therefore subject to risks that cannot be completely eliminated arising from explosion, fire, or environmental influences. Although TSMC maintains multiple layers of risk prevention and protection, as well as fire and casualty insurance, TSMC's risk management and insurance coverage may not always be sufficient to cover all of its potential losses. If any of TSMC's fabs or vendor facilities were to be damaged or cease operations as a result of an explosion, fire or environmental causes, it could reduce the TSMC's manufacturing capacity leading to the loss of important sales and customers and have a negative impact on TSMC's financial performance. In addition to periodic fire-protection inspections and firefighting drills, TSMC has also carried out a corporate-wide fire risk mitigation project focused on managerial and hardware improvements.

TSMC continues to monitor key disruptive threats to its business operations and adapt the plans to ensure operational resilience.

Risks Associated with Capacity Expansion

TSMC performs long-term market demand forecasts for its products and services to manage its overall capacity. Based on its market demand forecasts, the Company has continued

to add capacity to meet market needs for its products and services, including in Taiwan, in Arizona, U.S., in Nanjing, China and in Kumamoto, Japan.

Implementing these capacity expansion plans will increase its costs, and the increases may be substantial. For example, the Company would need to build new facilities, purchase additional equipment and hire and train personnel to operate the new equipment. If TSMC does not increase its net revenue accordingly, its financial performance may be adversely affected by these increased costs.

In addition, market conditions are dynamic and TSMC's market demand forecasts may change significantly at any time. During periods of decreased demand, certain manufacturing lines or tools in some of the Company's manufacturing facilities may be suspended or shut down temporarily. However, if demand subsequently increases rapidly over a short period of time, TSMC may not be able to restore the capacity in a timely manner to take advantage of the upturn. In such circumstances, its financial performance and competitiveness may be adversely affected.

In order to mitigate the risk associated with capacity expansion, TSMC continuously watches for changes in market conditions and works closely with its customers. When market demand is not as expected, the Company tries to adjust its capacity plans in a timely manner to reduce the impact on its financial performance.

Risks Associated with Construction of New Fabs

The Company has multiple expansion projects that are currently underway, including the design and construction of new fabs worldwide. Global expansion has required and will continue to require considerable managerial, financial and other resources. The Company expects to face particular challenges in global expansion and operations, including but not limited to:

- higher costs associated with construction of new fabs, establishing supply chains for various materials in different overseas locations, the impact on the Company's ability to sustain its current level of productivity and manufacturing efficiency provided by its ecosystem of interconnected semiconductor fabs, employees and suppliers in the R.O.C., and recruiting and retaining talent in various overseas locations;
- labor shortages, interruptions in the supply chains for various materials, and construction issues, which could substantially delay the completion of the Company's expansion projects, and could further result in substantial additional costs or failure to meet its capacity expansion plans;

- disruptions to the Company's operations caused by natural or man-made disasters, including earthquakes, flooding, typhoons, droughts, tsunamis, sandstorms, wildfires, volcanic eruptions, fire, gas/chemical leakage, pandemic, sabotage, failure of critical facilities and equipment and shortages in the supply of utilities, such as water and electricity;
- scarcity of industrial-use land, which could limit the Company's future expansion of operations;
- compliance with applicable foreign laws and regulations, and the risk of penalties if the Company's practices are deemed not to be in compliance;
- challenges in managing information technology infrastructure in multiple locations and across different systems and risks of our information technology infrastructure succumbing to cyberattacks by third parties worldwide;
- adverse changes relating to government grants or other government incentives;
- challenges relating to work culture differences and inherent in efficiently managing an increased number of employees over large geographic distances;
- limited or insufficient intellectual property protection or difficulties enforcing the Company's rights to intellectual property; and
- exposure to different tax jurisdictions and potential adverse tax consequences.

If TSMC is unable to overcome the above challenges, the Company's business, financial condition and results of operations could be adversely affected.

Risks Associated with Sales Concentration

Over the years, the Company's customer profile and the nature of the Company's customers' business have changed dramatically. While TSMC generates revenue from hundreds of customers worldwide, TSMC's ten largest customers in 2020, 2021 and 2022 accounted for approximately, 74%, 71% and 68% of TSMC's net revenue in the respective year. TSMC's largest customer in 2020, 2021 and 2022 accounted for 25%, 26% and 23% of the Company's net revenue in the respective year. TSMC's second largest customer in 2020 and 2021 accounted for 12% and 10% of TSMC's net revenue in the respective year. In 2022, TSMC's second largest customer accounted for less than 10% of TSMC's net revenue.

A more concentrated customer base will subject TSMC's revenue to seasonal demand fluctuations from the Company's large customers, and cause different seasonal patterns in the Company's business. This customer concentration results in part from the changing dynamics of the electronics industry

with the structural shift to mobile and high performance computing (HPC) devices and applications and software that provide the content for such devices.

There are only a limited number of customers who are successfully exploiting this new business model paradigm. Also, TSMC has seen the changes of nature in its customers' business models in response to this new business model paradigm. For example, there is a growing trend toward the system companies developing their own designed semiconductors and working directly with semiconductor foundries which makes their products and services more marketable in a changing consumer market.

Also, since the global semiconductor industry is becoming increasingly competitive, some of TSMC's customers have engaged in industry consolidations in order to remain competitive. Such consolidations have taken the form of mergers and acquisitions. If more of TSMC's major customers consolidate, this will further decrease the overall number of the Company's customer pool. In addition, regulatory restrictions, such as export controls directed at TSMC's major customers, could impact the Company's ability to supply products to those customers, reduce those customers' demand for TSMC's products and services and impact their business operations.

The loss of, or significant curtailment of purchases by, one or more of the Company's top customers, including curtailments due to increased competitive pressures, industry consolidation, changes in applicable regulatory restrictions, product designs, manufacturing sourcing or outsourcing policies or practices of these customers, the timing of customer inventory adjustments, or changes in its major customers' business models, may adversely affect TSMC's results of operations and financial condition.

Risks Associated with Purchasing Concentration

•Raw Materials

TSMC's production operations require that it obtain adequate supplies of raw materials, such as silicon wafers, gases, chemicals, and photoresist, on a timely basis and at commercially reasonable prices. In the past, shortages in the supply of some materials, whether by specific suppliers or by the semiconductor industry generally, have resulted in occasional industry-wide price adjustments and delivery delays. Moreover, major natural disasters, trade barriers and political or economic turmoil, including military conflicts and inflation occurring within the country of origin of such raw materials may also significantly disrupt the availability of such raw

materials or increase their prices. Also, since TSMC procures some of its raw materials from sole-sourced suppliers, there is a risk that the Company's needs for such raw materials may not be met or that back-up supplies may not be readily available. Importation and domestic production limitations may also limit our ability to obtain adequate supplies of raw materials as well as materials of the necessary quality. In addition, recent trade tensions could result in increased prices or even unavailability of raw materials due to tariffs, export control or other non-tariff barriers. TSMC's revenue and earnings could decline if it is unable to obtain adequate supplies of the necessary raw materials in a timely manner or if there are significant increases in the costs of raw materials. To reduce the supply chain risk and to manage the cost effectively, TSMC commits resources toward developing new supply sources. Further, the Company continually encourages its suppliers to reduce their supply chain risk by decentralizing production plants and to improve their cost competitiveness by moving their production facilities to Taiwan from higher-cost areas.

Given that qualified backup suppliers are hard to find, TSMC engages early and extensively with primary suppliers on managing quality and capacity issues so as to be prepared for any unexpected need to ramp up or curtail production when the Company lacks sufficient time to re-tune its production process. For leading technology nodes, TSMC not only adopts world-class processes and facilities but also requires world-class materials. To streamline supply chain risk, the Company has increased supplier site audits and meetings to extend supply chain best practices to its upstream suppliers. In addition, in response to the rapid increase or decrease in production capacity of new products, TSMC has continued to improve its inventory monitoring system to achieve more accurate demand forecasts and ensure that the supply chain maintains sufficient inventory levels. The Company has established a supply chain risk assessment to ensure that critical suppliers meet various standards in labor, ethics, ESH (environmental, safety and health) and BCP (business continuity plan). Onsite audits are conducted regularly to encourage suppliers to take responsibility for their supply chain, as any regulatory violations or adverse environmental impact event, or failure to meet sustainability requirements could result in business reduction or termination.

• Equipment

The Company's operations and ongoing expansion plans depend on its ability to obtain an appropriate amount of equipment and related services available from a limited number of suppliers. TSMC may encounter the situation of limited

supply and long delivery cycles. To better manage its supply chain, the Company evaluates and projects delivery lead times to minimize the impact of supply chain risks on operating costs. TSMC has also implemented various collaborative business models and risk management contingencies with suppliers to ensure supply and shorten the procurement lead time. However, if TSMC is unable to acquire in a timely manner the equipment and parts it needs, it may fail to successfully implement capacity expansion plans and exploit time sensitive business opportunities. Additionally, ongoing trade tensions could result in increased prices for, or even unavailability of, key equipment, through delay or denial of necessary export licenses, adoption of additional export control measures and other tariff or non-tariff barriers. If TSMC is unable to obtain equipment in a timely fashion to fulfill its customers' demand for technology and production capacity, or unable to do so at a reasonable cost, its financial condition and results of operations could be negatively impacted.

Risks Associated with Intellectual Property Rights

The Company's ability to compete successfully and to achieve future growth depends in part on the continued strength of its intellectual property portfolio. While the Company actively enforces and protects our intellectual property rights, there can be no assurance that its efforts will be adequate to prevent the misappropriation or improper use of its proprietary technologies, software, trade secrets or know-how. Also, the Company cannot assure you that, as its business or business models expand into new areas, it will be able to develop independently the technologies, patents, software, trade secrets or know-how necessary to conduct its business or that it can do so without unknowingly infringing the intellectual property rights of others. As a result, the Company may have to rely on, to a certain degree, licensed technologies and patent licenses from others. To the extent that the Company relies on licenses from others, there can be no assurance that it will be able to obtain any or all of the necessary licenses in the future on terms it considers reasonable or at all. The lack of necessary licenses could expose the Company to claims for damages and/or injunctions from third parties, as well as claims for indemnification by its customers in instances where it has contractually agreed to indemnify its customers against damages resulting from infringement claims.

The Company has received, from time to time, communications from third parties, including non-practicing entities and semiconductor companies, asserting that TSMC's technologies, its manufacturing processes, or the design IPs of the semiconductors made by TSMC or the use of those

semiconductors by its customers may infringe their patents or other intellectual property rights. Because of the nature of the industry, its market position, and the expansion of its manufacturing operations outside of Taiwan, the Company may receive an increased number of such communications in the future. The assertions made and lawsuits initiated by litigious, well-funded, non-practicing entities are particularly aggressive in their monetary demand and in seeking court-issued injunctions. Such lawsuits and assertions may increase TSMC's cost of doing business and may potentially be extremely disruptive if these asserting entities succeed in blocking the trade of products made and services offered by TSMC. Also, with the expansion of its manufacturing operations into certain non-R.O.C jurisdictions, it has faced increased challenges in managing risks of intellectual property misappropriation. Despite our efforts to adopt robust measures to mitigate the risk of intellectual property misappropriation in such new jurisdictions, we cannot guarantee that the protection measures we adopted will be sufficient to prevent us from potential infringements by others, or at all.

If the Company fails to obtain or maintain certain technologies or intellectual property licenses or fails to prevent our intellectual property from being misappropriated and, if litigation relating to alleged intellectual property matters occurs, it could: (1) prevent the Company from manufacturing particular products or selling particular services or applying particular technologies; and (2) reduce our ability to compete effectively against entities benefiting from our misappropriated intellectual property, which could reduce its opportunities to generate revenue.

The Company has taken related measures to minimize potential loss of shareholder value arising from intellectual property claims and litigation filed against it. These measures include: strategically obtaining licenses from certain semiconductor and other technology companies as needed; timely securing intellectual property rights originating within and outside of TSMC for defensive and/or offensive protection of TSMC technology and business; and aggressively defending against baseless litigation.

Risks Associated with Litigious and Non-litigious Matters

As is the case with many companies in the semiconductor industry, the Company has received from time to time communications from third parties asserting that its technologies, its manufacturing processes, or the design of the semiconductors made by TSMC or the use of those semiconductors by its customers may infringe upon their

patents or other intellectual property rights. These assertions have at times resulted in litigation by or against the Company and settlement payments by the Company. Irrespective of the validity of these claims, the Company could incur significant costs in the defense thereof or could suffer adverse effects on its operations. The Company is also subject to antitrust compliance requirements and scrutiny by governmental regulators in multiple jurisdictions. Any adverse results of such proceeding or other similar proceedings that may arise in those jurisdictions could harm TSMC's business and distract its management, and thereby have a material adverse effect on its results of operations or prospects, and subject the Company to potential significant legal liability.

Currently, TSMC's material legal proceeding is as follows: In September 2022, Daedalus Prime LLC ("Daedalus") filed complaints in the U.S. International Trade Commission ("ITC") and the U.S. District Court for the Eastern District of Texas alleging that TSMC, TSMC North America, and other companies infringe four U.S. patents. The ITC instituted an investigation in October 2022. The outcome cannot be determined and we cannot make a reliable estimate of the contingent liability at this time.

Other than the matter described above, as of the date of this Annual Report, TSMC is not currently a party to any other material legal proceedings.

Risks Associated with Mergers and Acquisitions

In 2022 and as of the date of this Annual Report, TSMC had not conducted any merger or acquisition.

Risks Associated with Recruiting Quality Personnel

TSMC relies on the continued service and contribution of its management team, skilled technical and professional personnel. The Company's business could suffer from the inability to fulfill personnel needs with high quality professionals in a timely fashion caused by the loss of personnel, talent shortages, illegal talent poaching, immigration controls, or related changes in market demand for its products and services. Since there is fierce competition for talent recruitment, the Company cannot ensure timely fulfillment of its personnel demand.

In order to reduce the risk of talent recruitment challenges, TSMC encourages job rotation and employs an on-the-job training and certification system. In this way, employees can learn and enhance their work efficiency and effectiveness in the actual workplace. Moreover, TSMC creates multiple recruitment

channels and continues to hire various top-notch, talented professionals from Taiwan and overseas. At the same time, the Company continues to expand industry-academic cooperation to meet outstanding talented individuals at an early phase in order to recruit them in the future.

Future R&D Plans and Expected R&D Spending

For additional details, see “5.2.7 Future R&D Plans” on page 102 of this Annual Report.

Changes in Corporate Reputation and Impact on the Company’s Crisis Management

TSMC has established an excellent reputation based on its core values of integrity, commitment, innovation and customer trust. The Company’s positive image also reflects outstanding operations, rigorous corporate governance and dedication to sustainable responsibility by serving as a good corporate citizen. TSMC continues to pursue innovation in economic, environmental and social dimensions.

In 2022, TSMC was honored with numerous awards for achievements in various areas including operations, corporate governance, patents, profit growth, investor relations, environmental protection, corporate sustainability, and other fields. The Company was selected as a part of the Dow Jones Sustainability World Index for the 22nd consecutive year and received the following awards: the inaugural Honorable Legion of Corporate Sustainability Top 100 launched by *CommonWealth Magazine* the Excellence in Corporate Social Responsibility Award; the Taiwan Institute for Sustainable Energy 2022 Taiwan Corporate Sustainability Awards’ First Place in Taiwan Top Ten Sustainability Exemplary Awards – the Corporate Sustainability Report Award – the Climate Leadership Award, the Circular Economy Leadership Award, the Supply Chain Management Award, the Sustainable Water Management Award, the Growth Through Innovation Leadership Award, and the Information Security Leadership Award. TSMC ranked in the top 5% in the Taiwan Stock Exchange corporate governance evaluation. The Company was named a member of: *Fortune Magazine’s* 2022 World’s Most Admired Companies and the Fortune Global 500; the *Corporate Knights* Global 100 Most Sustainable Corporations for 2022; and of the 2022 Carbon Clean 200™ list by *Corporate Knights* and *As You Sow*. In addition, TSMC was selected as part of the Morgan Stanley Capital International All Country World Index (MSCI ACWI) ESG Leaders Index.

To promote sustainability, TSMC’s ESG Steering Committee, led by Chairman Dr. Mark Liu, presented the third TSMC ESG Award in 2022, honoring internal organizations and divisions for tangible achievements in the Company’s five ESG strategic directions: Drive Green Manufacturing, Build a Responsible Supply Chain, Create a Diverse and Inclusive Workplace, Develop Talent, and Care For The Disadvantaged. At the same time, this award presentation encouraged all employees to propose new ideas for sustainability to be assessed for feasibility and potential incorporation in the Company’s implementation plans. Compared with 1,257 sustainability proposals in the second year, the third annual ESG Award received 1,880 innovative ideas, adding new energy to the Company’s culture of sustainability.

Mindful of its global reputation, TSMC employs numerous preventative measures to address potential risks from earthquakes, fires, IT service disruption, yield loss, information security, supply chain disruption, pandemics, environmental events, and utility supply disruption. TSMC practices crisis management and implements recovery measures to deal with possible crisis events and maintains a crisis command center for control guideline and prepares emergency response procedures” to ensure timely and prompt responses during a crisis. TSMC also performs regular exercises for crisis scenarios to ensure that crisis management procedures are comprehensive and validated. In 2022, TSMC received a rating of “Low ESG Risk” from the Sustainalytics ESG Risk Ratings.

TSMC’s environment, safety and health committee holds monthly meetings to coordinate with relevant departments in each fab to conduct emergency response drills and continuously improve their notification and operational procedures to ensure clear channels of communication to stakeholders if a crisis arises, with the public relations division serving as the designated gateway for external communications.

In the event of an emergency, all departments immediately deploy emergency response measures to eliminate or minimize the impact on personnel safety, the surrounding environment, and company property and manufacturing operations. Responders also alert the public relations division at the earliest stages to ensure timely, clear and consistent communication regarding the situation.

Risks Associated with Change in Management

In 2022 and as of the date of this Annual Report, there were no such risks for TSMC.

Risks Regarding Non-Compliance with Export Control, Environmental and Climate Change Related Laws, Regulations and Accords, and Failure to Timely Obtain Requisite Approvals Necessary for Conducting Business

Because TSMC engages in manufacturing activities in multiple jurisdictions and conducts business with its customers located worldwide, such activities are subject to a myriad of governmental regulations. For example, the manufacturing, assembling and testing of TSMC’s products require the use of equipment that is subject to export control laws and regulations, as well as metals, chemicals, and materials that are subject to environmental, climate-related, health and safety, and humanitarian forced labor prohibition and conflict-free sourcing laws, regulations and guidelines issued worldwide. The Company’s failure to comply with any such laws or regulations, as amended from time to time, or its failure to comply with any information and document sharing requests from the relevant authorities in a timely manner could result in:

- significant penalties and legal liabilities, such as the denial of import or export permits or third party private lawsuits, criminal or administrative proceedings;
- the temporary or permanent suspension of production of the affected products;
- the temporary or permanent inability to procure or use certain production critical chemicals or materials;
- unfavorable alterations in TSMC’s manufacturing, fabrication and assembly and test processes;
- challenges from its customers that place TSMC at a significant competitive disadvantage, such as loss of actual or potential sales contracts in case the Company is unable to satisfy the applicable legal standard or customer requirement;
- restrictions on TSMC’s operations or sales;
- loss of tax benefits, including termination of current tax incentives, disqualification of tax credit application and repayment of the tax benefits that the Company is not entitled to; and
- damages to TSMC’s goodwill and reputation.

Complying with applicable laws and regulations, such as environmental and climate related laws and regulations, could also require TSMC, among other things, to do the following: (1) purchase, use or install remedial equipment; (2) implement remedial programs such as climate change mitigation programs; (3) modify its product designs and manufacturing processes, or incur other significant expenses such as paying any incurred carbon fees if the Company’s emission levels exceed applicable thresholds, and obtaining renewable energy sources, renewable energy certificates or carbon credits,

substitute raw materials or chemicals that may cost more or be less available for the Company’s operations.

TSMC’s inability to timely obtain approvals necessary for the conduct of its business could impair its operational and financial results. For example, if the Company is unable to timely obtain environmental related approvals needed to undertake the development and construction of a new fab or expansion project, then such inability may delay, limit, or increase the cost of its expansion plans that could also in turn adversely affect its business and operational results. In light of increased public interest in environmental issues, TSMC’s operations and expansion plans may be adversely affected or delayed responding to public concern and social environmental pressures even if the Company complies with all applicable laws and regulations.

TSMC believes that climate change should be regarded as a significant corporate risk that must be managed to improve competitiveness. For TSMC’s climate change related risks and control measures, see the Climate Change and Energy Management section under “7.2.1 Environmental Protection” on page 156-157 of this Annual Report.

6.3.4 Financial Risks

Economic Risks

Any future systemic political, economic or financial crisis or market volatility, including but not limited to interest rate and foreign exchange rate fluctuations, inflation or deflation and changes in economic, fiscal and monetary policies in major economies, could cause revenue or profits for the semiconductor industry as a whole to decline dramatically, and if the economic conditions or financial conditions of the Company’s customers were to deteriorate, the demand for its products and services may decrease and additional accounting related allowances may be required, which could reduce our operating income and net income. For example, starting in March 2023, the capital and credit markets have experienced volatility and disruption as a result of the failures of Silicon Valley Bank and Signature Bank as well as UBS’ announced acquisition of Credit Suisse. Concerns about the soundness of the banking system may cause small- and medium-sized banks to tighten their lending to preserve liquidity, which in turn could weigh on economic growth. If such levels of market volatility and disruption continue or escalate into systematic financial crisis or global economic downturn, it could result in a number of adverse follow-on effects on TSMC, including decreased customer demand, delays in the payment of account receivables to us, and insolvency of suppliers or customers.

● Interest Rate Fluctuation

TSMC is exposed to interest rate risks primarily in relation to its investment portfolio and outstanding debt. Changes in interest rates affect the interest earned on the Company's cash and cash equivalents and fixed income securities, the fair value of those securities, as well as the interest paid on its debt.

The objective of TSMC's investment policy is to achieve a return that will allow the Company to preserve principal and support liquidity requirements. The policy generally requires the Company to invest in investment grade securities and limits the amount of credit exposure to any one issuer. TSMC's cash and cash equivalents, as well as fixed income investments in both fixed- and floating-rate securities, carry a degree of interest rate risk. The majority of TSMC's fixed income investments are fixed-rate securities, which are classified as financial assets at fair value through other comprehensive income, and may have their fair value adversely affected due to a rise in interest rates. At the same time, if interest rates fall, cash and cash equivalents as well as floating-rate securities may generate less interest income than expected.

TSMC has entered and may in the future enter into interest rate derivatives to partially hedge interest rate risk on its fixed income investments and anticipated debt issuance. However, these hedges can offset only a limited portion of the financial impact from movements in interest rates.

The majority of TSMC's long-term debt is fixed-rate and measured at amortized cost and, as such, changes in interest rates would not affect future cash flows or the carrying amount.

Certain of TSMC's fixed income investments are primarily based on the London Interbank Offered Rate (LIBOR), which will be replaced by alternative benchmark rates after June 30, 2023. The transition from LIBOR to alternative benchmark rates might result in a reduction in TSMC's interest income.

● Foreign Exchange Volatility

Substantially all of TSMC's sales are denominated in U.S. dollars and over half of its capital expenditures are denominated in currencies other than the NT dollar, primarily in U.S. dollars, Euros and Japanese yen. As a result, any significant fluctuations to its disadvantage in the exchange rate of the NT dollar against such currencies, in particular a weakening of the U.S. dollar against the NT dollar, would have an adverse impact on the Company's revenue and operating profit as expressed in NT dollars. For example, every one percent depreciation of the U.S.

dollar against the NT dollar would result in an approximately 0.4 percentage point decrease in the Company's operating margin based on its 2022 results.

Conversely, if the U.S. dollar appreciates significantly versus other major currencies, the demand for the products and services of TSMC's customers and for its goods and services will likely decrease, which will negatively affect the Company's revenue.

TSMC uses foreign currency derivative contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT-dollar-denominated assets and liabilities and certain forecasted transactions. These hedges reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on its assets and liabilities.

Fluctuations in the exchange rate between the U.S. dollar and the NT dollar may affect the U.S. dollar value of the Company's common shares and the market price of the Company's American Depositary Shares (ADSs) as well as any cash dividends paid in NT dollar on TSMC's common shares represented by ADSs.

● Inflation

TSMC is subject to the effects of inflation through increases in the cost of raw materials used to produce our products, wage expenses and employee benefits, and costs in relation to construction of fabs. Although TSMC does not believe that inflation has had a material impact on its financial position or results of operations to date, a high inflation in the future may have an adverse effect on the Company's ability to maintain current levels of profit margin if the selling prices of its products and services do not increase with these increased costs.

Amendments to Tax Regulations or Implementation of New Tax Laws

Any amendments to existing tax regulations or the implementation of any new tax laws in the jurisdictions in which TSMC operates its business may have an adverse effect on its net income.

While the Company is subject to tax laws and regulations in various jurisdictions in which it operates or conducts business, TSMC's principal operations are in the R.O.C. and it is exposed primarily to taxes levied by the R.O.C. government. The R.O.C. Controlled Foreign Company ("CFC") rules enacted in 2016

have been implemented since January 1, 2023, pursuant to which, certain profits retained at a CFC located in a low-tax jurisdiction would be taxable at its parent company in Taiwan. On the other hand, effective from January 1, 2023, the R.O.C. Statute for Industrial Innovation was amended such that eligible companies that develop innovative technologies domestically and possess leading position in global supply chain may claim investment tax credit of 25% on qualified R&D expenditure and 5% on procurement of machinery/equipment for advanced processes over a fiscal year. The Company anticipates that it will be eligible for these new incentives pursuant to the R.O.C. Statute for Industrial Innovation. Additionally, changes in the tax laws of foreign jurisdictions could arise as a result of the base erosion and profit shifting (BEPS) project that was undertaken by the Organization for Economic Cooperation and Development (OECD). These changes may increase tax uncertainty and have an adverse effect on TSMC's operating results. In order to control tax risk, the Company closely monitors all domestic and foreign governmental policies and regulations that might impact its financial operations. TSMC has established risk management procedures to collect information, analyze potential tax implications, and develop countermeasures.

Risks Associated with External Financing

In times of market instability, sufficient external financing may not be available to the Company on a timely basis, on commercially reasonable terms to the Company, or at all. If sufficient external financing is not available when TSMC needs such financing to meet its capital requirements, the Company may be forced to curtail its expansion, modify plans or delay the deployment of new or expanded services until it obtains such financing.

Risks Associated with High-Risk/Highly Leveraged Investments; Lending, Endorsements, and Guarantees for Other Parties; and Financial Derivative Transactions

In 2022 and as of the date of this annual report, TSMC made no high-risk or highly leveraged financial investments. All financial derivative transactions engaged by TSMC were strictly for hedging and not for trading or speculative purposes. All guarantees and intercompany loans provided by TSMC and TSMC's subsidiaries were solely for TSMC and/or TSMC's wholly-owned subsidiaries. All guarantees and intercompany loans were in compliance with relevant rules and regulations.

To manage risks of various financial transactions, TSMC has established internal control policies and procedures based on sound financial and business practices, all in compliance with

the relevant rules and regulations issued by the R.O.C. Financial Supervisory Commission. TSMC's policies and procedures include "Procedures for Financial Derivatives Transactions," "Procedures for Lending Funds to Other Parties," "Procedures for Acquisition or Disposal of Assets," and "Procedures for Endorsement and Guarantee."

Risks Associated with Impairment Charges

Under Taiwan-IFRSs, TSMC is required to evaluate its tangible assets, right-of-use assets and intangible assets for impairment whenever triggering events or changes in circumstances indicate that the asset may be impaired. If certain criteria are met, TSMC is required to record an impairment charge. TSMC is not able to estimate the extent or timing of any impairment charge for future years. Any impairment charge required may have a material adverse effect on the Company's net income.

The determination of an impairment charge at any given time is mainly based on the projected results of operations over several years subsequent to that time. Consequently, an impairment charge is more likely to occur during a period when the Company's operating results are otherwise already depressed. See "Note 5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY" in Annual Report section (II), Financial Statements for a discussion of how TSMC assesses if an impairment charge is required and, if so, how the amount is determined.

6.3.5 Other Risks

Potential Impact and Risks Associated with Sales of Significant Numbers of Shares by TSMC's Directors, and/or Shareholders Who Own 10% or More of TSMC's Total Outstanding Shares

The value of TSMC shareholders' investment may be reduced by possible future sales of TSMC shares owned by major shareholders.

As of the date of this Annual Report, no single shareholder owned 10% or more of TSMC's total outstanding shares.

Risks of Trade Policies

As TSMC's revenue is primarily derived from sales to major economies in the world (please refer to "2.2.4 TSMC Position, Differentiation and Strategy" on page 18-20 of this annual report), any changes in the trade policies (such as the increase of tariffs on certain products, the implementation of import and export controls, and the adoption of other trade barriers) of such major economies can affect the sales of TSMC or its customers and thereby affect TSMC's operating results.

In May 2020 and again in August 2020, the U.S. tightened its export control measures against Huawei Technology Co. Ltd. and its affiliates (collectively, “Huawei”), including an expanded license requirement for providing Huawei with items subject to the U.S. export control jurisdiction. To comply with relevant laws and regulations, we have discontinued shipment of products to Huawei since September 15, 2020. Since February 2022, there have been expansive measures, including sanctions and export controls, imposed by several countries and regions against Russia, including certain individuals and entities, in connection with the military conflict in Ukraine. In October 2022, the U.S. adopted additional export controls over China on advanced computing integrated circuits (“ICs”), computer commodities that contain such ICs, and certain semiconductor manufacturing items, as well as controls on transactions involving items for supercomputer and semiconductor manufacturing end-uses. The new controls add new license requirements for items destined to a semiconductor fabrication facility in China that fabricates ICs meeting specified advanced node parameters as well as U.S. persons’ activities supporting such facility or semiconductor manufacturing like TSMC, will be decided on a case-by-case basis. In the same month, we secured a one-year general authorization from the U.S. government, which allows us to maintain the Company’s fab’s operations in Nanjing, China. However, there is no assurance that we will be able to continue securing such general authorization on a timely basis or at all. On the other hand, measures adopted by an affected country to counteract the impact of another country’s actions or regulations could lead to significant legal liability to multinational corporations including our own. For example, in January 2021, China adopted a blocking statute that, among other matters, entitles Chinese entities incurring damages from a multinational’s compliance with foreign laws to seek civil remedies.

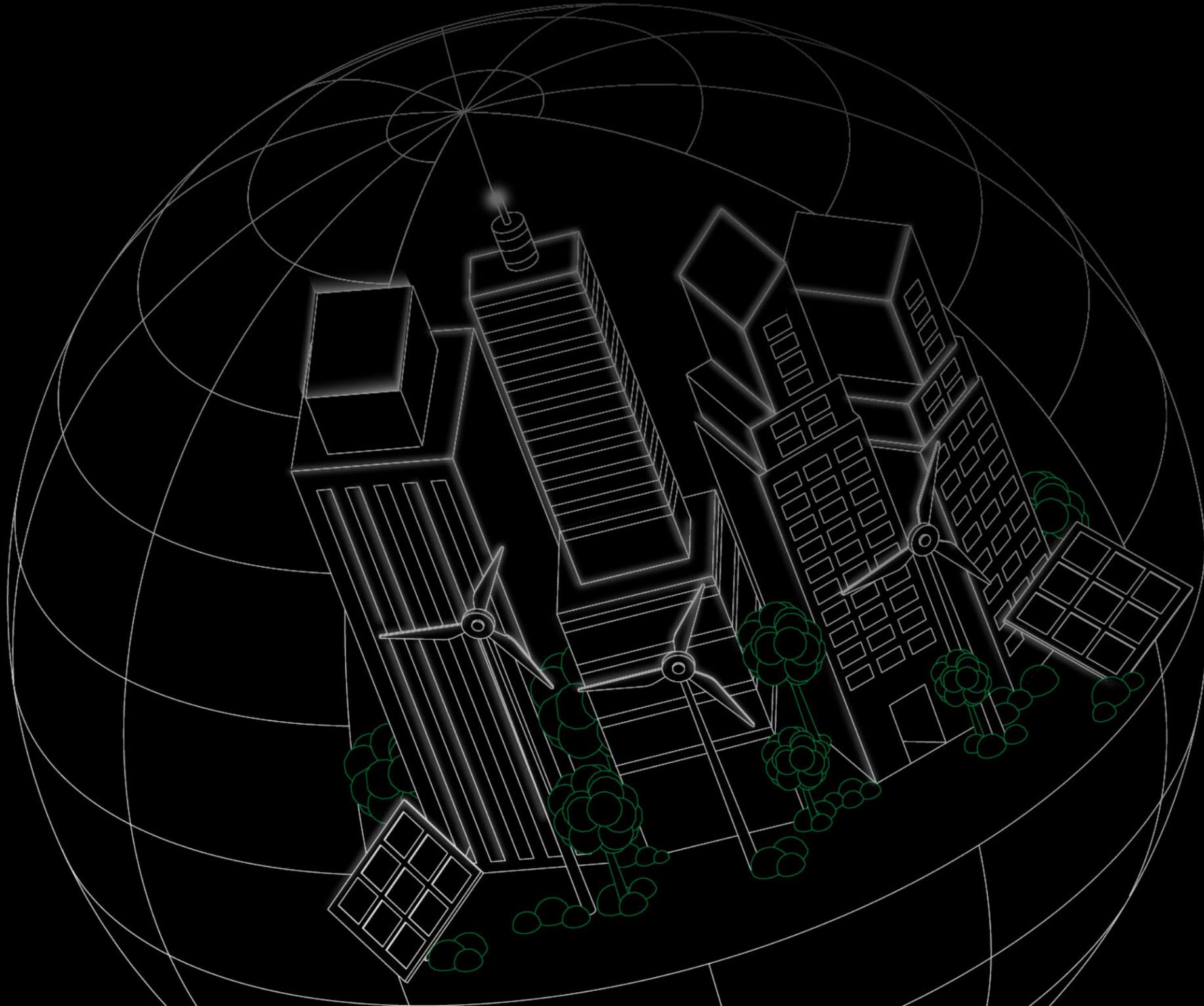
Imposition of trade barriers, including protectionist measures, sanctions and import and export controls, could increase our manufacturing costs, limit our access to certain supplies, make our pricing less competitive, and impact the sales of TSMC or its customers. In 2022 and as of the date of this annual report, our current results of operations have not been materially affected. Nevertheless, depending on future developments of global trade tensions, such relevant regulations, rules, or measures may have an adverse impact on our business and operations, and we may incur significant legal liability and financial losses as a result.

TSMC continues to monitor the recent shifts in trade policies and measures among the relevant major economies and will take corresponding responsive actions in accordance with subsequent developments.

Other Material Risks

In 2022 and as of the date of this Annual Report, TSMC’s management was not aware of any other risk that could potentially have a material impact on the financial status of the Company.

7 ENVIRONMENTAL, SOCIAL & *Governance* (ESG)



TSMC is the only semiconductor company to be selected as a component of the Dow Jones Sustainability Indices for 22 consecutive years.

7.1 Overview

As a long-term trusted technology and capacity provider of the global logic IC industry, TSMC is dedicated to environmental, social and governance (ESG) issues. The Company collaborates with all stakeholders – employees, shareholders/investors, customers, suppliers/contractors, government/industry associations and society – to create sustainability value by pursuing three primary missions: acting with integrity, strengthening environmental protection, and caring for the disadvantaged.

Guidance for the Implementation of ESG

In keeping with its vision of Uplifting Society, TSMC's ESG policy is the overarching guiding principle for sustainable development. The ESG Matrix, set by TSMC's founder Dr. Morris Chang, clearly defines the scope of the Company's ESG responsibility. Echoing the goal of "Bettering the Society," TSMC strives to demonstrate its ESG commitment in seven areas including morality, business ethics, economy, rule of law, sustainability, work-life balance and happiness, and philanthropy. Actions that TSMC has taken to fulfill these commitments are integrity, law compliance, anti-corruption/anti-bribery/anti-cronyism, environmental protection/climate control/energy conservation, corporate governance, providing well-paying jobs, good shareholder return, employees' work-life balance, encouraging innovation and good work environment. TSMC also devotes to social participations through TSMC Charity Foundation and TSMC Education and Culture Foundation.

TSMC ESG Matrix

TSMC \ Society	Morality	Business Ethics	Economy	Rule of Law	Sustainability	Work/Life Balance Happiness	Philanthropy
Integrity	V	V					
Law Compliance				V			
Anti-Corruption Anti-Bribery Anti-Cronyism	V	V		V			
Environmental Protection Climate Control Energy Conservation				V	V		
Corporate Governance		V	V	V			
Provide Well-Paying Jobs			V			V	
Good Shareholder Return			V				
Employees' Work-Life Balance						V	
Encourage Innovation		V	V				
Good Work Environment						V	
TSMC Charity Foundation					V	V	V
TSMC Education and Culture Foundation					V	V	V

ESG Management

The ESG Steering Committee is chaired by TSMC's Chairman, while the Chairperson of the ESG committee serves as Executive Secretary, and senior executives from a wide variety of functions – all work together to examine ESG material issues in relation to the Company's operations, set the short-, medium- and long-term strategic directions that link to the UN Sustainable Development Goals (SDGs).

The ESG Committee functions to coordinate and integrate resources, and facilitate the communications among different divisions, implementing the resolutions of the Company's ESG Steering Committee. The ESG Department, on behalf of the ESG Committee, works together with cross-organizational representatives to identify key sustainability issues in relation to the Company's operations and stakeholders' concern. Task forces are formed based on various issues to frame adaptive strategies, goals and action plans. The committee holds quarterly meetings to track progress and ensure the strategies are implemented effectively in daily operations.

The Board of Directors supervises and guides the Company's sustainability management, strategies, and goals. The ESG Committee Chairperson reports quarterly to the Board of Directors on the implementation of plans and results. In 2022, TSMC focused primarily on green manufacturing and supply chain management (including net zero emission, renewable energy access and use, and low-carbon value chain management), workplace diversity & inclusion and talent development (including employee resource groups, diversity and inclusion practices for R&D talents, Science, Technology, Engineering, and Mathematics (STEM) programs for high school girls), sustainability disclosures in sustainability report, theme reports such as TCFD Repot, UN SDGs Action Report and Materiality Analysis Report, sustainable culture advocacy (i.e., TSMC ESG awards), empowerment projects in remote areas and 2021 ESG spending updates, etc.

Stakeholder Engagement

TSMC respects all stakeholders' rights and interests in sustainability issues. The Company thus deploys multiple communication venues including a dedicated ESG website, ESG mailbox, Investor mailbox, Employee Feedback Channels, Irregular Business Conduct Reporting System, and the Supply Chain Worker Grievance Channel, etc. Through identification, prioritization and validation, TSMC manages and addresses stakeholders' concerns.

Stakeholders and Communication Channels in 2022

Stakeholders	Communication Channels
Employees	<ul style="list-style-type: none"> Corporate intranet (myTSMC), internal emails, and other announcement channels (such as promotion posters at facilities), TSMC Newsletter eSilicon Garden Human resources team Employee training Communication meetings for various levels of managers and employees; e.g. the executives communication meeting, skip levels and communication meetings in individual functions/divisions Employee suggestion channels, such as the Fab Caring Circle, Employee Opinion Box, Wellness Center, wellness website, employee PIP & IT Security mailbox and hot line, etc. Ombudsman system, whistleblower reporting system, irregular business conduct reporting system, and sexual harassment investigation committee Employee Opinion Survey on Company Core Values, Employee Engagement Survey, employee pulse surveys and service satisfaction surveys, and employee welfare committee event questionnaire survey Silicon Garden Meetings (labor-management meetings)
Shareholders/Investors	<ul style="list-style-type: none"> Annual general meeting of shareholders Quarterly earnings conference call Investor conferences Face-to-face meetings, video conference call and telephone conference call Emails Annual reports, Sustainability reports, 20-F filings to US SEC Material announcements to Taiwan Stock Exchange, and corporate press releases on the Company's website
Customers	<ul style="list-style-type: none"> Customer satisfaction survey Customer meetings Customer audits Business and technology assessment Email responses to the issues that customers are concerned
Suppliers/Contractors	<ul style="list-style-type: none"> Supplier meetings Supply Chain Security Association Meetings Environmental, Safety, and Health Training Program - Experience Sharing Workshops Supplier Ethics and Code of Conduct Promotion On-site consult and audit Supply Online 360 - Global responsible supply chain management platform Supplier self-assessment questionnaire (SAQ) Supplier ethics survey Supply Chain Worker Grievance Channel
Government	<ul style="list-style-type: none"> Official correspondence and visits Industry experience and advice sharing, and keynote speeches Meetings (such as communication meetings, public hearings, forums, seminars or social gatherings) Communication platforms of the industry associations and NGOs
Society	<ul style="list-style-type: none"> Arts events in the communities Sponsorship of youth development events Sponsorship of charity projects and emergency aid Sponsorship of non-profit organizations to support educational projects Professorship endowments and student scholarships at universities Project collaboration and visits Support of non-profit organizations and institutions via monetary and in-kind donation, as well as providing necessary manpower for a good cause Volunteer activities and services TSMC ESG website, newsletters, mailbox and social media (Facebook and LinkedIn page) TSMC Education and Culture Foundation and TSMC Charity Foundation websites "Sending Love" charity platform

Responsibilities of ESG Steering Committee and ESG Committee Members

Committee Members	Responsibilities	Stakeholders
Legal	Corporate governance, code of conduct, legal compliance (including fair competition, privacy and personal information, and protection for whistle-blowers), intellectual property, protection of confidential information	Employees Government/Industry Associations Society (Note)
Customer Service	Customers' service and satisfaction, customer trust, customer confidentiality, Responsible Business Alliance and its code of conduct	Customers Government/Industry Associations
Information Technology and Materials & Risk Management	Information security, materials and supply chain risk management, supplier management, conflict minerals, Responsible Business Alliance and its code of conduct; risk management, crisis management, emergency response and action plan	Employees Shareholders/Investors Customers Suppliers/Contractors Government/Industry Associations Society
Quality and Reliability	Product quality and reliability, product recall mechanism	Customers Suppliers/Contractors
Research and Development	Innovation management, green products	Employees Customers Suppliers/Contractors Government/Industry Associations
Business Development	Shaping an energy-efficient technology roadmap; building alliance with customers to foster smarter and greener product innovations; establishing & promoting TSMC as a responsible technology thought leader, and sharing its experiences and achievements	Employees Customers Society
Finance	Financial disclosure, dividend policy, tax strategy	Employees Shareholders/Investors Customers Suppliers/Contractors Government/Industry Associations
Investor Relations	Resolving issues of stakeholder concern, establishing trusting long-term relationships, effective two-way communication, annual report production	Shareholders/Investors
Operations	Operational eco-efficiency, pollution prevention, water resource risk management, green manufacturing	Customers Shareholders/Investors Suppliers/Contractors
Environment, Safety and Health	TSMC Environmental Policy and management system, climate change mitigation and adaption, pollution prevention, energy consumption efficiency, carbon emissions and carbon rights management, product environmental responsibility, response mechanism for environmental issues, environmental spending, green supply chain, policy and management systems for occupational health and safety, workplace health and safety, occupational disease prevention and health promotion, communication of ESH regulations	Employees Shareholders/Investors Customers Suppliers/Contractors Government/Industry Associations Society
Human Resources	Diversity and inclusion, talent attraction and retention, talent development, human rights	Employees Government/Industry Associations Society
TSMC Education and Culture Foundation	Cultivate young generation, educational collaboration, promote arts and culture	Society
TSMC Charity Foundation	Philanthropy, community relations	Society
Public Relations	Stakeholder engagement, mechanism for reflecting issues of social concern, media relations	Society

Note: Society includes community, non-governmental organizations, non-profit organizations and the public.

Being dedicated in driving positive change, TSMC has issued an annual non-financial annual report for the 24th consecutive year and incorporated stakeholders' feedback into daily operations. The TSMC Sustainability Report (formerly the Corporate Social Responsibility Report) aligns with the global sustainability standards and identifies ESG material issues in accordance with Global Reporting Initiative (GRI). Integrating Enterprise Risk Management (ERM) with ESG management, TSMC demonstrates how the Company evaluates ESG risk trends and impacts, mitigates accordingly through innovative thinking and practices, and operates sustainably at TSMC Taiwan Facilities (headquarters, wafer fabs, back-end packaging fabs, and testing fabs located in Taiwan), TSMC China, TSMC Nanjing, TSMC Arizona, Japan Advanced Semiconductor Manufacturing, Inc., WaferTech, VisEra and other subsidiaries. In addition to GRI, the report also adopts TCFD Recommendations, Sustainability Accounting Standards Board (SASB) reporting standards, AA1000 Accountability Principle and is assured by DNV GL Business Assurance Co. Ltd. in accordance with DNV VeriSustain™ protocol, GRI standards, SASB indicators, and TCFD framework.

TSMC is the only semiconductor company selected for the Dow Jones Sustainability World Indices for the past 22 consecutive years. As a responsible corporate citizen with a strong sense of purpose, TSMC adopts nine UN SDGs based on the Company's five ESG directions, Drive Green Manufacturing, Build a Responsible Supply Chain, Create a Diverse and Inclusive Workplace, Develop Talent, and Care for the Disadvantaged, sets 2030 long-term goals, and implements approaches accordingly. Anchored in the concept of SDG 17 Partnerships for the Goals, TSMC collaborates with internal and external stakeholders to create sustainable value in ESG aspects through mutual dialogue, cooperation and participation.

2022 ESG Awards and Ratings

Category	Organization	Awards and Ratings
Overall ESG	Dow Jones Sustainability Indices (DJSI)	•Dow Jones Sustainability World Index for the 22 nd consecutive year •Dow Jones Sustainability Emerging Markets Index
	MSCI ESG Indexes	•MSCI ACWI ESG Leaders Index component •MSCI ESG Research – AAA Ratings •MSCI ACWI SRI Index component •MSCI ACWI Islamic Index component •MSCI Emerging Markets ESG Leaders Index
	Sustainalytics	•Company ESG Risk Ratings: Low ESG Risk – Semiconductor Industry
	ISS ESG	•"Prime" Rated by ISS ESG Corporate Rating
	FTSE4Good Index	•FTSE4Good Emerging Index component •FTSE4Good All-World Index component •FTSE4Good TIP Taiwan ESG Index component
	Corporate Knights	•2022 Global 100 Most Sustainable Corporations
	World Benchmarking Alliance (WBA)	•SDG 2000 – The 2,000 Most Influential Companies
	RobecoSAM (S&P Global)	•The Sustainability Yearbook Award 2022 – Bronze Class
	CommonWealth Magazine	•Excellence in Corporate Social Responsibility Award – Honorable Legion of Corporate Sustainability Top 100
	Taiwan Institute for Sustainable Energy	•Taiwan Top 10 Sustainability Exemplary Awards for the 7 th consecutive year •Corporate Sustainability Report Awards •Circular Economy Leadership Awards •Information Security Leadership Awards •Supply Chain Leadership Awards •Growth Through Innovation Leadership Awards •Sustainable Water Management Leadership Awards •Climate Leadership Awards •English Report – Gold Award (Global Corporate Sustainability Award, GCSA)
	Morningstar	•The Best Sustainable Companies to Own in 2022

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Category	Organization	Awards and Ratings
Economy and Governance	Institutional Investor Magazine	<ul style="list-style-type: none"> •Most Honored Company (Technology/Semiconductors) – All-Asia •Best Overall ESG (Technology/Semiconductors) – 1st Place (buy-side and sell-side)- All-Asia •Best CEO (Technology/Semiconductors) – 1st Place (buy-side and sell-side) – All-Asia •Best CFO (Technology/Semiconductors) – 1st Place (buy-side and sell-side) – All-Asia •Best Investor Relations Program (Technology/Semiconductors) – 1st Place (buy-side and sell-side) – All-Asia •Best Investor Relations Professional (Technology/Semiconductors) – 1st Place (buy-side and sell-side) – All-Asia •Best Investor Relations Team (Technology/Semiconductors) – 1st Place (buy-side and sell-side) – All-Asia
	IFI Claims Patent Services	•Ranked as 3 rd in 2022 Top 50 US Patent Assignees
	Forbes	<ul style="list-style-type: none"> •The World's Top 10 Largest Technology Companies in 2022 •Global 2000
	PricewaterhouseCoopers (PwC)	•FutureBrand Index component
	FORTUNE	<ul style="list-style-type: none"> •2022 World's Most Admired Companies •Fortune Global 500
	Brand Finance	•Tech 100 2022
	Asiamoney	•2022 Asia's Outstanding Companies – Semiconductors & Semiconductor Equipment Sector for the 5 th consecutive year
	Business Today	•Top 1,000 Enterprises in Taiwan, Hong Kong and Mainland China
	Taiwan Stock Exchange	•Top 5% in Corporate Governance Evaluation of Listed Companies for the 8 th consecutive year
	PricewaterhouseCoopers	•Global Top 100 Companies by Market Capitalization for the 10 th consecutive year
	R.O.C. Ministry of Economic Affairs Intellectual Property Office	<ul style="list-style-type: none"> •Ranked No.1 in Taiwan Patent Applications for the 7th consecutive year •Ranked No.1 in Taiwan Patent Grants for the 3rd consecutive year
	Germany Federal Office for Information Security	•Common Criteria, ISO/IEC 15408- EAL6 Site Certification – Fab 15A
	Corporate Synergy Development Center	<ul style="list-style-type: none"> •Taiwan Continuous Improvement Award – Gold Tower Award – Fab 2 & Fab 5, Fab 8, Fab 14A, Fab 15B, APTS •Taiwan Continuous Improvement Award – Silver Tower Award – Fab 15B, APTS, Q&R, ACCT •Taiwan Continuous Improvement Award – Best Improvement Innovation Award – Fab 2 & Fab 5, Fab 15B, APTS
	Clarivate	•2022 Top 100 Global Innovators
	CommonWealth Magazine	•Top 100 Semiconductor Enterprises
LexisNexis	•Innovation Momentum 2022: The Global Top 100	
The Asset	•The Asset Triple A Country Awards for Sustainable Finance 2022: Best corporate bond	
Environment, Safety and Health	Corporate Knights & As You Sow	•2022 Carbon Clean 200™ List
	CDP	<ul style="list-style-type: none"> •2022 CDP Supplier Engagement Leader •Water Security A Ratings •Climate Change A- Ratings
	Alliance for Water Stewardship (AWS)	•"Platinum" Class Certification with the Highest Score for the 3 rd consecutive year
	U.S. Green Building Council	•Leadership in Energy and Environmental Design (LEED) – "Gold" Class Certification – Fab 18 P4 & P5 Manufacturing Facility, Advanced Backend 2C
	Environmental Protection Administration, Executive Yuan, R.O.C.	•National Enterprise Environmental Protection Award
Society	Forbes	•2022 World's Best Employers
	Occupational Safety and Health Administration, Ministry of Labor, R.O.C.	<ul style="list-style-type: none"> •National Occupational Safety and Health Award – Enterprise Benchmarking Award •Occupational Safety and Health Sustainability Report Award

7.2 Environmental, Safety and Health (ESH) Management

TSMC believes its environmental, safety and health practices must not only meet legal requirements but should also align with internationally recognized best practices. The Company's ESH policies aim to achieve "zero incidents" and "environmental sustainability" and to make TSMC a world-class organization in environmental, safety and health management. The Company's strategies for attaining these goals are to comply with regulations, promote safety and health, strengthen recycling and pollution prevention, manage ESH risks, instill an ESH culture, establish a green supply chain, and fulfill its related corporate social responsibilities.

All TSMC and its subsidiaries' manufacturing facilities have received ISO 14001: 2015 certification for environmental management systems and ISO 45001: 2018 certification for occupational safety and health management systems. TSMC and its subsidiaries' fabs in Taiwan have each been certified by the Taiwan Occupational Safety and Health Management System (TOSHMS). All the above certifications are maintained valid. Per TSMC policy, all new facilities are required to attain the aforementioned certifications within

18 months of receiving their facility license. In 2022, all TSMC fabs in Taiwan completed the renewal of ISO 14001, ISO 45001, and TOSHMS certificates with three year validity. At the same time, three new fabs, Fab 12 Phase 8, Fab 18B and Advanced Backend Fab 6, also passed third-party verification and obtained certificates.

To reduce overall environmental, safety and health risks, TSMC strives for continuous improvement and actively seeks to enhance climate-change management, pollution prevention and control, power and resource conservation, waste reduction and recycling, safety and health management, and fire and explosion prevention as well as to minimize the impact of earthquake damage.

In order to meet regulatory and customer requirements for the management of hazardous materials, TSMC has adopted the IECQ QC 080000 hazardous substance process management (HSPM) system. All TSMC Fabs have been QC 080000 certified and maintained validity since 2007. Through the establishment of QC 080000, TSMC ensures that its products comply with international regulatory and customer requirements, including the European Union's "Restriction of Hazardous Substances (RoHS) Directive," the EU's "Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)," the "Montreal Protocol on Substances that Deplete the Ozone Layer," the "halogen-free in electronic products" initiative, perfluorooctane sulfonates (PFOS), perfluorooctanoic acid (PFOA) and related substances restriction standards. In addition, in 2016 TSMC started a project to minimize usage of the hazardous substance N-methylpyrrolidinone (NMP) and as a result by the end of 2022 NMP use in the Company's Taiwan fabs had been reduced by 97.2% compared to 2016, and achieved 2022's 95% reduction goal. TSMC will continue to further reduce NMP usage in its subsidiary fabs.

In 2011, TSMC began implementing the ISO 50001 energy management system for continuous improvement in energy conservation. As of 2022, all TSMC and its subsidiaries' manufacturing facilities had received ISO 50001 Energy Management System certification except for one. The Company's WaferTech subsidiary in the U.S. was originally scheduled to receive this certification in 2021 but it has been postponed to 2023 due to the impact of the COVID-19 pandemic.

Aiming to establish the healthiest possible workplace, in 2017 TSMC formed a corporate-level health promotion committee led by managers at the vice president level to meet on an

ad-hoc basis depending on occupational disease cases or other issues. The committee members include site directors, managers of safety and health department, and representatives from wellness, HR and legal affairs divisions. External experts have also been invited to discuss the potential risks of occupational diseases in the semiconductor manufacturing process and prevention plans for such diseases. To mitigate health risks to employees, suppliers and contractors in the workplace, TSMC has adopted rigorous safety and health control measures focused on preventing occupational injuries and diseases and promoting employee safety, physical and mental health.

To minimize the supply chain risk and fulfill corporate social responsibility, TSMC not only follows ESH best practices internally but also strives to improve the ESH performance of its suppliers and contractors through audits and counselling.

TSMC uses priority work management and self-management to govern services provided by contractors. The Company requires contractors performing level-one high-risk operations to complete certification for technicians and to establish their own ISO 45001 safety and health management system. The emphasis on self-management nurtures the sense of responsibility, with the goal of promoting safety awareness and technical improvement for all contractors in the industry. For onsite contractor personnel, TSMC has standardized courses on safety and health and increased the frequency of such courses to improve training effectiveness and safety awareness. To ensure the Company's safety protocols are accurately delivered to contractors on a timely basis, TSMC has established a digital platform for mutual communication so that onsite operational risks can be mitigated.

TSMC collaborates with suppliers to manage the sustainability of the supply chain, including formulating supplier sustainability standards, drawing up audit plans, performing audits and tracking improvements, coaching and training, and re-coaching for suppliers with poor performance. Strengthening the professional capabilities of suppliers in environmental protection, safety and health, fire response, and carbon inventory were key focuses in 2022, as the Company held the environmental protection, safety and health workshops (56 participants from 50 suppliers), fire emergency response workshops (58 participants from 50 suppliers), and product carbon footprint inventory workshop (24 participants from 20 suppliers). In addition, for the past seven years suppliers have been invited to observe TSMC's annual emergency response drills (166 participants from 161 suppliers)

and the Company's environmental, safety and health sustainability forum focused on successful case sharing (354 participants from 116 suppliers). TSMC also conducts environmental, safety and health audits at suppliers' manufacturing sites and actively assists suppliers in improving their ESH performance. Finally, the Company requests that suppliers conduct a carbon emissions inventory and encourages them to implement measures to save energy, reduce carbon emissions, conserve water and reduce waste.

7.2.1 Environmental Protection

Climate Change and Energy Management

• Task Force on Climate-related Financial Disclosures (TCFD)

In view of the potential financial risks of climate change on operations, in 2018 TSMC adopted TCFD recommendations released by the Financial Stability Board (FSB) to identify risks and opportunities and further establish metrics and target management based on the results identified.

Management Structure of TSMC Climate-related Risks and Opportunities

Category	Management Strategy and Actions
Governance	Board of Directors periodically reviews climate change related risks and opportunities <ul style="list-style-type: none"> ESG steering committee led by the Chairman is the Company's top organization dealing with climate change management. The chairperson of ESG committee serves as the executive secretary. The ESG steering committee reviews TSMC's climate change strategies and goals every quarter and reports to the Board of Directors. The energy and carbon reduction committee, led by the vice president of fab operations, deals with action implementation on climate change risks and opportunities at TSMC. This committee develops management plans, reviews the execution status and discusses future plans on a quarterly basis.
Strategy	Identify short-, medium- and long-term climate risks and opportunities through cross-departmental discussion Use scenario analysis to assess the potential operational and financial impact of significant climate risks and opportunities to the Company Promote low carbon manufacturing to approach net zero emissions and strengthen climate resilience Enhance suppliers' awareness and responsiveness to climate risks through counseling and promote their active carbon reduction efforts
Risk Management	Use the TCFD framework to establish TSMC's climate risk identification process Follow the risk identification and ranking on climate change to develop relevant responding projects Integrate climate risk identification and assessment into the enterprise risk management (ERM) process
Metrics and Targets	Set management metrics related to climate change Develop carbon emission reduction targets for TSMC and its suppliers and regularly review the progress on achieving the targets

Financial Impact Analysis of Climate Risks and Opportunities

Climate Risks	Potential Financial Impact	Climate Opportunities	Potential Financial Impact	2022 Actions
Greenhouse Gas (GHG) Emissions Cap and Carbon Tax/Carbon Fee	Restrictions on capacity expansion, increases in operation costs	<ul style="list-style-type: none"> Participation in renewable energy plans Participation in carbon trading market 	Early purchases of renewable energy, successfully increasing production capacity	<ul style="list-style-type: none"> Power purchasing agreements for renewable energy totaled 2.9 GW (Gigawatts) Used 2,190 GWh in renewable energy, and increased the proportion of renewable energy use to 10.4% Achieved 100% of renewable energy used in overseas subsidiaries and offices for the fifth consecutive year Purchased 350,000 tons of carbon credits to achieve net zero emissions from overseas plants
Trend to Net Zero Emission	<ul style="list-style-type: none"> Increased cost of installation and operation of carbon reduction equipment Increased cost of purchasing carbon offset products 	Win public recognition and carbon emissions offset cooperation Develop low-carbon product services to improve product energy efficiency	Accumulate carbon credits in preparation for future carbon emissions offset Satisfy customers' needs for energy-saving products and increase revenue	<ul style="list-style-type: none"> Received carbon credit for fluorinated-GHG and nitrous oxide reduction offset project about 600k ton 100% use of carbon neutral natural gas from Chinese Petroleum Corporation in TSMC Taiwan fabs TSMC global offices used carbon credits to achieve net zero emissions Developed energy saving products for the 5nm, 3nm and more advanced manufacturing process
Commitment of Environmental Impact Assessment (EIA)	The development of advanced technologies potentially hampered by inability to obtain renewable energy and reclaimed water	Use reclaimed water	Smooth construction of advanced production lines	TSMC reclaimed water plant in Southern Taiwan Science Park began to operate

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Climate Risks	Potential Financial Impact	Climate Opportunities	Potential Financial Impact	2022 Actions
Uncertainty of Development of New Energy Saving Technology	Rising electricity consumption in advanced technology production lines increases production costs	Construct green buildings	Lower utility costs	Received six green building certifications
Impact on the Company's Reputation	Inability to satisfy the expectations of stakeholders, negatively impacting the Company's reputation	Improve the Company's reputation	Upgrade TSMC performance in stakeholders' sustainability ranking	<ul style="list-style-type: none"> Led the industry as the only semiconductor company chosen for the Dow Jones Sustainability Indices (DJSI) for the 22nd consecutive year Ranked as CDP A- list on climate and A list on water security (Leadership)
Drought (TSMC Operation)	Production negatively affected, causing financial losses and a decrease in revenue	Increase resilience and ability to cope with natural disasters	Strengthen resilience in coping with climate change impact, lower risk of operations disruption, and reduce potential losses	<ul style="list-style-type: none"> Raised the building base of Fab 18 Phase 6 and Phase 7 two meters higher Fab 18 Phase 6 and Phase 7 committed to using and developing reclaimed water Required suppliers to assess drought and flooding risk in operating facilities and implement related risk reduction actions Implemented drills based on drought emergency procedures
Drought (Supply Chain)				
Flooding (TSMC Operation)				
Flooding (Supply Chain)				
Rising Temperatures	Increase in electricity consumption, cost, and carbon emissions	Strive for low-carbon, green manufacturing	Save energy and cut costs	Conserved 700 GWh of electricity through energy-saving projects

Greenhouse Gas (GHG) Emission Reduction and Energy Management

In response to threats presented by extreme weather, TSMC sets strategies and targets, ensures sound execution and strives to build a sustainable culture. In 2021, TSMC announced its long-term goal of net zero emissions by 2050, while setting the short-term goal of zero growth in emissions by 2025. By actively implementing emission reduction measures, the Company is working to return its carbon emissions to 2020 levels by 2030. TSMC remains committed to becoming a global leader in green manufacturing.

TSMC actively participates in the initiatives of the World Semiconductor Council (WSC) and has leveraged its past experience to develop best practices to reduce perfluorinated compounds (PFC) emissions, measures that have been fully adopted and implemented since 2012. In 2013, in accordance with the "EPA Early Actions for Carbon Credit of Greenhouse Gases Reduction" regulation, TSMC applied for recognition of GHG reduction from 2005 to 2011 and received 5.28 million tons of carbon dioxide credits in 2015. Those carbon credits can be used to offset GHG emissions of new manufacturing facilities regulated by Environmental Impact Assessment (EIA) Act, which can support the Company's sustainable operations and mitigate climate-change risk.

Since 2005, TSMC has completed the GHG inventory program and taken a complete inventory of its GHG emissions to gain ISO 14064 certification. The inventory shows that the major direct GHG emissions are PFCs, which are widely used in the semiconductor manufacturing process. The primary indirect GHG emission is electricity consumption. The analysis of the inventory data is not only to meet domestic regulatory reporting requirements but also to serve as a baseline reference for the Company's strategy to reduce GHG emissions. Since 2005, TSMC has also participated in the international disclosure and rating agency – CDP to publicly disclose climate change information for 18 consecutive years and to continuously review and improve related management practices.

In response to the commitment of global climate summit "Paris Agreement" and the Republic of China's "Greenhouse Gas Reduction and Management Act" promulgated in 2015, TSMC initiated a cross-functional platform for carbon management in 2016. The three areas of focus of this platform are legal compliance, emission reduction, and carbon credit acquisition. In addition to participating in official regulatory consultation and communications meetings, the Company also sets short-, medium- and long-term reduction targets through the energy and carbon reduction committee led by the fab operations vice president. The measures are carried out by energy and carbon reduction teams of individual fabs. Because more than 75% of TSMC's GHG emissions come from electricity consumption, the Company emphasizes energy conservation and carbon reduction initiatives. TSMC has not only implemented energy-conserving designs in its manufacturing fabs and offices but has also continuously improved the energy efficiency in operating its facilities. These efforts simultaneously reduce carbon dioxide gas emissions and costs. As a result, TSMC has conserved 3.1 billion kilowatt hours (kWh) of power since 2016. In February 2023, Taiwan renamed the "Greenhouse

Gas Reduction and Management Act” to the “Climate Change Response Act” and amended the provisions. Relevant laws and regulations will be formulated in the future. TSMC will continue to pay attention to and evaluate the company’s impact, so as to respond early.

From 2015 to 2017, TSMC voluntarily participated in the R.O.C. Ministry of Economic Affairs’ green power purchasing program and became the largest buyer in Taiwan, purchasing 400 million kilowatt hours (kWh) of green power. Although the Taiwan Power Company stopped selling green power in 2018, TSMC still aggressively negotiates the purchase of renewable energy with other suppliers in Taiwan. Targeting a long-term commitment of 100% renewable energy, TSMC has committed to achieving 40% renewable energy by 2030. Since 2018, the overseas manufacturing fabs and offices have purchased renewable energy, REC and carbon credits to offset all carbon emissions caused by power consumption. All TSMC overseas sites achieved zero carbon emission of electricity consumption in 2022 again. TSMC also used carbon credits to offset carbon emissions of natural gas consumption in kitchens, achieving the milestone of net zero emissions for TSMC global offices. Although development of renewable energy in Taiwan is in an early stage, TSMC has established a renewable energy task force and continues to communicate closely with government through the Association of Science Park Industries and Taiwan Semiconductor Industry Association. The Company has made recommendations to the government in the hope that the collaboration would speed up renewable energy development in Taiwan. The recommendations include expanding the development of offshore wind power and increasing the supply of the renewable energy trading platform. TSMC continues to find renewable energy. By the end of 2022, the total installation capacity of renewable energy contracted reached 2.9 GW (Gigawatts). The renewable energy will be provided to TSMC gradually after the related business process has been completed. This is a clear manifestation of the Company’s active support of the UN Sustainable Development Goals (SDGs).

In 2020 TSMC became the first semiconductor company to join RE100 (the global corporate renewable energy initiative) and pledged that power consumption of all the Company’s manufacturing plants and offices will be 100% supplied from renewable energy by 2050.

TSMC GHG Emissions in Recent Two Years

Unit: Metric ton CO₂ equivalent

Year	Scope	Scope 1		Scope 2		Verification Party	Verification Status
		Total Emissions (Metric Ton CO ₂ e)	Intensity (Metric Ton CO ₂ e / K NTD)	Total Emissions (Metric Ton CO ₂ e)	Intensity (Metric Ton CO ₂ e / K NTD)		
2022	Parent Company	1,669,738	0.0007	9,540,171	0.0042	DNV	Under Verification
	VisEra Technologies Company Ltd.	5,845	0.0006	29,683	0.0033	DNV	Under Verification
	TSMC China Company Limited	187,181	0.0066	0	0	DNV	Under Verification
	TSMC Nanjing Company Limited	46,209	0.0011	0	0	DNV	Under Verification
	WaferTech, LLC	109,784	0.0107	0	0	AWN	Under Verification
2021	Parent Company	1,808,427	0.0011	8,116,439	0.0052	DNV	Reasonable Assurance
	VisEra Technologies Company Ltd.	7,282	0.0008	39,057	0.0043	DNV	Reasonable Assurance
	TSMC China Company Limited	196,834	0.0093	0	0	DNV	Reasonable Assurance
	TSMC Nanjing Company Limited	29,778	0.0011	0	0	DNV	Reasonable Assurance
	WaferTech, LLC	105,346	0.0136	0	0	AWN	Limited Assurance

Note 1: GHG includes CO₂, CH₄, N₂O, HCFCs, PFCs, SF₆, NF₃

Note 2: Scope 1: Direct emissions, i.e. sources owned or controlled by the Company; according to the 2019 Refinement to the Guidelines for National Greenhouse Gases Inventories of the United Nations; and use the Global Warming Potential (GWP) referring to the Intergovernmental Panel on Climate Change (IPCC) AR5 for calculation

Scope 2: Indirect emissions, i.e. those arising from externally purchased electricity, heat or steam. The calculation is according to market-based method.

TSMC GHG Reduction Target and Achievement Status

Strategy	2030 Goal	2022 Target and Achievement	Achievement Status
Continue to use best available technology to reduce emissions of GHG and become an industry leader in low-carbon manufacturing	Reduce GHG emissions per unit product (metric ton of carbon dioxide equivalent (MTCO ₂ e)/12-inch equivalent wafer mask layer) by 30% (Base year: 2010)	Reduced GHG emissions per unit product (metric ton of carbon dioxide equivalent (MTCO ₂ e)/12-inch equivalent wafer mask layer) by 6% (Target: 6%)	Achieved

Air and Water Pollution Control

The Company has installed effective air and water pollution control equipment in each wafer fab to meet regulatory emissions standards. In addition, TSMC maintains backup pollution control systems, including emergency power supplies, to lower the risk of pollutant emissions in the event of equipment failure. The Company centrally monitors the operations of its air and water pollution control equipment 24 hours a day by rotating staff and treats system effectiveness as an important tracking item to ensure the quality of emitted air and discharged water.

TSMC uses an intranet website to collect and measure water recycling volumes company-wide. To make the most effective use of Taiwan’s limited water resources, all TSMC fabs strive to increase water reclamation by adjusting the water usage of manufacturing equipment and improving wastewater reclamation. The long-term target is a 30% decrease by 2030. By 2022, TSMC’s unit product water consumption had decreased by 2.6% from 2010 levels. Challenges in 2022 included new wafer fab (Fab 18B), which was in the process of setting up, so water conservation rate decreased as the production line was still in the testing stage and production had not yet reached economic scale. Excluding the aforementioned new wafer fab, the Company’s water consumption per unit of product decreased by 15.6% compared with the base year, and the annual target was achieved. All TSMC fabs meet or exceed the process water reclamation rate standard of the Science Park Administration. Some fabs are able to reclaim more than 90% of process water, outperforming most semiconductor fabs around the world. The Company also makes every effort to reduce non-manufacturing-related water consumption, including water used in air conditioning systems, sanitary facilities, wall cleaning and landscaping activities and in kitchens.

Since water resources are restricted by geographical conditions, TSMC shares its water saving experience and expertise with other semiconductor companies through the Association of Science-Based Industrial Park to promote water conservation in order to achieve Science Park’s goals and ensure a long-term balance of supply and demand. In addition, TSMC has committed to further recycling water resources and supporting the government policy and promotion of reclaimed water. TSMC’s Southern Taiwan Science Park Reclaimed Water Plant began operation on September 19, 2022, the first private reclaimed water plant in Taiwan. Introducing reclaimed water into the manufacturing process is pioneering work in the semiconductor industry. TSMC promises to continue to increase the utilization of reclaimed water in newly constructed fabs in the future.

To further enhance water resources management, TSMC has adopted and followed the Alliance for Water Stewardship (AWS) standard, the world’s only sustainable water management standard. Early in 2022, Fab 12A, Fab 12B, Fab 5, located in Hsinchu Science Park, and Advanced Backend Fab 3 in Longtan Science Park passed a third-party verification audit and also obtained AWS platinum level certification. TSMC’s advanced product fabs in Taiwan’s three major Science Parks have all achieved AWS platinum certification. TSMC is the world’s first to do so in the semiconductor industry.

TSMC Water Usage in Recent Two Years

Year	Total Water Usage (m ³) (Note 1)	Unit Product Water Usage (L/12-inch wafer-e-layer)
2022	104,681,272	137.3
2021	82,674,982	119.7

TSMC Water Usage Reduction Target and Achievement Status

Strategy	2030 Goal	2022 Target and Achievement	Achievement Status
Enforce climate change mitigation policies, implement water conservation and water shortage adaptation measures	Reduce unit water consumption (liter/12-inch equivalent wafer mask layer) by 30% (Base year: 2010)	Reduced unit water consumption by 2.6% (Target: 16%)	Unachieved (Note 2)

Note 1: Includes TSMC fabs in Taiwan and Subsidiaries

Note 2: Excluding the impact of new plants (Fab 18B) not yet optimized, TSMC reduced water consumption per unit of product by 15.6%.

Waste Management and Recycling

In recent years, as TSMC continued to develop advanced processes and expand capacity rapidly both at home in Taiwan and overseas, waste production has increased due to the complexity of new process development, demand for reliable yield rates, and increasing use of raw materials.

To achieve the goal of sustainable resource utilization, TSMC has a designated unit responsible for waste recycling and disposal. The priorities are process waste reduction, onsite and offsite recycling and regeneration, with incineration and landfill as least desirable final options. In 2017, TSMC amended its articles of incorporation to add four business items for chemical materials to ensure waste flow and reduce risks of improper waste disposal by commissioned agencies. It also set up onsite resource activation facilities to convert waste resources produced by processing activities into products to be used onsite or to sell to other factories. In 2021, TSMC recycled waste copper sulfate, cobalt-containing liquid, waste sulfuric acid and waste ammonium sulfate, all of which were regenerated into products. The Company also developed the system of cryolite synthesis whereby waste hydrogen fluoride (HF) is recycled and regenerated into raw material used in other industries. As a result, the Company has become a leader in waste resources regeneration. In 2022, TSMC became the first company in the semiconductor industry to use anaerobic digestion technology to reuse organic sludge in order to generate green electricity and implement green manufacturing. At the same time, TSMC's fabs in Taiwan achieved a 95% waste recycling rate for the eighth consecutive year, with a landfill rate below 1% for the thirteenth consecutive year. Furthermore, Fab 12 earned the platinum UL 2799 certification, the highest grade for zero landfill in 2021. All TSMC facilities in Taiwan plan to obtain UL 2799 certification in 2023.

TSMC Waste Quantity and Outsourced Unit Waste Disposal in Recent Two Years (Note 1)

Year	Outsourced General Waste (ton) (Note 2)	Outsourced Hazardous Waste (ton) (Note 2)	Outsourced Unit Waste Disposal (Note 3) (kg/12-inch equivalent wafer mask layer)
2022	342,804	401,215	0.99
2021	335,080	339,623	0.99

Note 1: The data in the table are preliminary results collected by TSMC and have not yet been verified by a third party

Note 2: Totals include Taiwan and subsidiary facilities

Note 3: Taiwan facilities

TSMC Waste Reduction Target and Achievement Status

Strategy	2030 Goal	2022 Target and Achievement	Achievement Status
Promote waste reduction by source separation and require vendors to provide low chemical consumption equipment	Outsourced unit waste disposal per wafer ≤ 0.50 (kg/12-inch equivalent wafer mask layer)	Outsourced unit waste disposal per wafer 0.99 (kg/12-inch equivalent wafer mask layer) (Target: $\leq 0.99\%$)	Exceeded

In order to ensure that all waste is treated and recycled properly, TSMC closely tracks the recycling and reuse practices of its cleanup and disposal vendors. The Company carefully selects waste disposal and recycling vendors that have certificates and permits, regularly checks the onsite operational status, disposal declaration forms, operational records, etc., compares with actual reuse and disposal, and takes proactive steps to strengthen vendor auditing. For example, all waste transportation contractors have agreed to join the GPS Satellite Fleet so that the cleanup transportation routes and abnormal stays for all trucks can be traced. All waste recycling and disposal vendors have installed closed-circuit TV systems at operating sites to monitor and audit waste handling. At the same time, to further guarantee proper waste handling, TSMC built the system of waste intelligent fast track (S.W.I.F.T) and completed five different types of waste treatment vendors for pilot testing in 2022. TSMC intends to roll out SWIFT to all waste treatment vendors in 2025. By using Artificial Intelligent technology replacing in-person on-site spot checks, the Company increases inspections efficiency by 65 times and reduces manual inspection by 13,000 hours each year. In addition, TSMC also conducts ongoing surveys of recycled product tracking and requires all recycling contractors to report their recycled product sales monthly to track waste flow and ensure that actions are taken to adhere to lawful and proper waste recycling and treatment.

Environmental Accounting

The purpose of TSMC's environmental accounting system is to identify and quantify environmental costs for internal management. At the same time, the Company also evaluates the savings or economic benefits of environmental protection programs so as to continuously promote economically effective programs. While environmental expenses are expected to continue to rise, environmental accounting can help manage these costs more effectively. TSMC's environmental accounting measures various environmental costs, establishes independent environmental account codes, and provides the data to all units for use in annual budgeting. The Company's economic

benefit evaluation calculates cost savings for energy conservation, water or waste reductions and recycling benefits in accordance with its environmental protection programs. The benefits disclosed in this report include real income from projects such as waste recycling and savings from major environmental projects. In 2022, the total benefits of environmental protection programs of TSMC fabs including waste recycling exceeded NT\$3,720 million.

2022 Environmental Cost of TSMC Fabs in Taiwan

Unit: NT\$ thousands

Classification	Description	Expense	Investment
1. Direct Costs for Reducing Environmental Impact			
(1) Pollution Control	Fees for air pollution control, water pollution control, and others	9,210,702	9,251,097
(2) Resource Conservation	Costs for resource (e.g. water) conservation	0	4,127,825
(3) Energy Conservation	Costs for electricity consumption saving	0	1,349,951
(4) GHG Reduction	Include: (1) Process GHG emissions abatement equipment; (2) Premium for purchasing renewable energy; (3) Costs for purchasing carbon credits; (4) Other costs for direct GHG emissions reduction	1,369,799	6,134,888
(5) Industrial Waste Disposal and Recycling	Costs for waste treatment (including recycling, incineration and landfill)	3,528,155	0
2. Indirect Costs for Reducing Environmental Impact (Environmental Managerial Costs)			
	(1) Cost of training (2) Environmental management system and certification expenditures (3) Environmental impact measurement and monitoring fees (4) Environmental protection product costs (5) Environmental protection organization fees	597,111	817,235
3. Other Environmental Costs			
	(1) Costs for soil decontamination and natural environment remediation (2) Environmental damage insurance fees and environmental taxes and expenses (3) Costs related to environmental settlement, compensations, penalties and lawsuits	0	0
Total		14,705,767	21,680,996

2022 Environmental Efficiency of TSMC Fabs in Taiwan

Unit: NT\$ thousands

Category	Description	Efficiency
1. Cost Savings of Environmental Protection Projects	Energy savings	1,735,282
	Water savings	41,845
	Waste reduction	1,102,000
2. Economic Efficiency for Industrial Waste Recycling	Recycling of used chemicals, wafers, sputter targets, batteries, lamps, packaging materials, paper cardboard, metals, plastics, and other waste	844,000
Total		3,723,127

Green Building and Green Factory

Since 2006, TSMC has adopted standards from both the Taiwan Green Building and the U.S. Green Building Council – Leadership in Energy and Environmental Design (LEED) for new fab and office building designs to achieve better energy and resource efficiency than conventional designs. The Company has also continued to upgrade existing office buildings to comply with the LEED standard each year. From 2008 to 2022, 40 of TSMC's fabs and office buildings achieved LEED certifications: three platinum and 37 gold. During this time, the Company also received six Taiwan Intelligent Building diamond-class certifications and 28 Taiwan Ecology, Energy saving, Waste reduction and Health (EEWH) certifications: 21 diamond, five gold and two silver. Since 2009, the Company has been a leading supporter of the Taiwan government's Green Factory Label standard, including the Clean Production and Factory Green Building evaluation systems. TSMC received Taiwan's first Green Factory Label and 14 labels in total as of the end of 2022 and is the most awarded company in Taiwan.

Environmental Audit Results in Violation of Environmental Regulations

In 2022 and as of the date of this Annual Report, TSMC has had no environmental regulation violations.

7.2.2 Sustainable Products

TSMC collaborates with its upstream material and equipment suppliers, design ecosystem partners and downstream assembly and testing service providers to minimize environmental impact. Reducing the resources and energy consumed for each unit of production allows the Company to provide customers with more advanced, power efficient, and ecologically sound products. These include ultra-low power (ULP) and low operating voltage (low Vdd) chips for wearables and IoT devices, low-power chips for mobile devices, high-efficiency LED driver chips for flat panel display backlighting, indoor/outdoor solid state LED lighting, Energy Star certified low standby AC-DC adaptor chips, high-efficiency DC brushless motor chips, electric vehicle chips and low-power server chips. By leveraging TSMC's superior energy-efficient technologies, these chips support sustainable city infrastructure, greener vehicles, smart grids, more energy efficient servers and data centers and other applications. In addition to helping customers design low power, high performance products to reduce resource consumption over the product's life cycle, TSMC's green manufacturing practices provide further green value to customers and other stakeholders.

TSMC-manufactured ICs are used in a broad variety of applications in various segments of the computer, communications, consumer, industrial, electric vehicle, server and data center, and other electronics markets. Through TSMC's manufacturing technologies, customers' designs are realized and their products are incorporated into people's lives. These chips, therefore, make significant contributions to the progress of modern society. TSMC endeavors to achieve profitable growth while providing products that add environmental and social value. Listed below are several examples of how TSMC-manufactured products make significant contributions to the environment and society.

Environmental Contributions by TSMC Foundry Services

1. Continue to Drive Technology to Reduce Power Consumption and Save Resources

- To play its part for sustainability, TSMC continues to drive the development of advanced semiconductor process technologies to support customers with creating more advanced, energy-efficient and environmentally friendly products. In each new technology generation, circuitry

line widths shrink, making transistors smaller and reducing product power consumption for completing the same tasks or achieving the same level of performance. In addition, calculations using the Industry, Science, and Technology International Strategy Center's model reveal that in 2020 TSMC helped the world conserve 4 kWh of energy for each 1 kWh spent in production – a testimony to TSMC's commitment to green manufacturing both internally and externally. (Please refer to "Sustainable Products by TSMC Facilitates Global Energy Conservation" on page 11 of TSMC's 2020 Corporate Social Responsibility Report.)

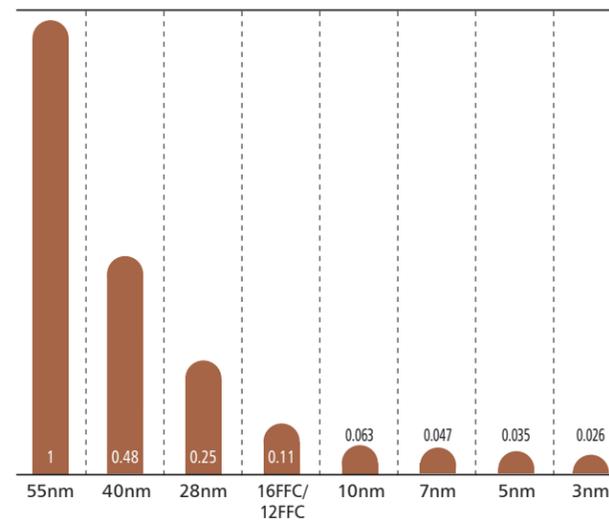
- As TSMC quickly ramped up its 7nm and newer generation technologies, combined wafer revenue contribution grew significantly from 9% in 2018 to 53% in 2022. TSMC's objective is to continue R&D investment and increase wafer revenue contribution in 7nm and beyond technologies, helping the Company achieve both profitable growth and sustainability.

TSMC Wafer Revenue Contribution from 7nm and Beyond Technologies

2018	2019	2020	2021	2022
9%	27%	41%	50%	53%

Chip Die Size Cross-Technology Comparison

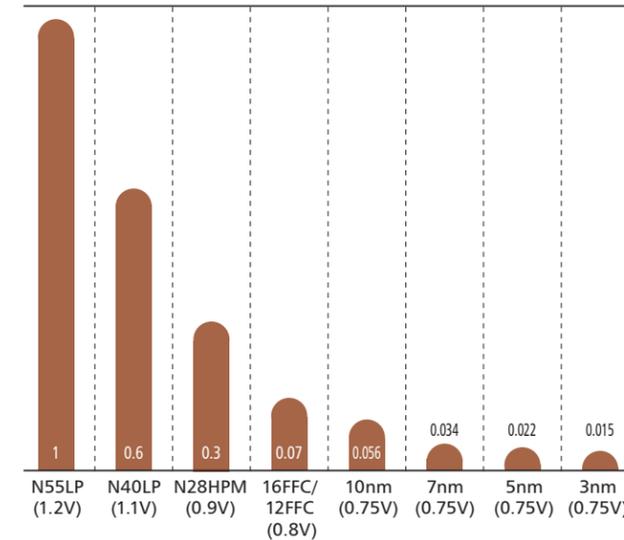
Die size reduces as line width shrinks



Note: The logic chip/SRAM/IO (input/output) ratio, which affects die size and power consumption, was re-aligned.

Chip Total Power Consumption Cross-Technology Comparison

More power is saved as line width shrinks



Note: The logic chip/SRAM/IO (input/output) ratio, which affects die size and power consumption, was re-aligned.

2. Provide Customers Leading Power Management IC Process with the Highest Efficiency

- TSMC's leading manufacturing technology helps customers design and produce green products. Power management chips, the key components that supply and regulate power to all other IC components within electronic devices, are the most notable green IC products. TSMC helps customers produce industry-leading power management chips with more stable and efficient power supplies and lower energy consumption. Power management ICs manufactured by TSMC for customers are widely used in computer, communication, consumer, electric vehicle, server and data center, and other systems around the globe.

3. Drive Industry-leading, Comprehensive ULP Technology Platform

- To meet low-power consumption requirements for IoT markets, such as wearable, smart home, and health care products, TSMC continues to invest in expanding and enhancing its ultra-low power processes. The Company provides industry's leading and most comprehensive ultra-low power (ULP) technology platform to support smart edge devices that demand increased computing capabilities, including smart watches, smart speakers, smart cameras, hearing aids, pacemakers and various other smart appliances. TSMC's industry-leading ULP offerings

include FinFET-based 12-nanometer technology, N12e™, featuring energy efficiency with high performance that results in more computing power and AI inferencing, 22nm Ultra-low leakage (ULL), 28nm ULP, 40nm ULP, and 55nm ULP, which have been widely adopted by various edge AI system-on-a-chip (SoC), battery-powered applications. TSMC has also extended its low Vdd offerings with simulation program with integrated circuit emphasis (SPICE) models with a wide-range of operating voltages for extreme low-power applications.

4. Develop Greener Manufacturing to Lower Energy Consumption

- TSMC continues to develop more advanced and efficient technologies to reduce energy/resource consumption and pollution per unit during the manufacturing process, as well as power consumption and pollution during product use. In each new technology generation, circuitry line widths shrink, making chips smaller for the same circuit designs and lowering the energy and raw materials consumed for per chip in manufacturing. In addition, the Company continuously provides process simplification and new design methodology based on its manufacturing excellence to help customers reduce design and process waste so as to produce more advanced, energy-saving and environmentally friendly products. For total energy savings and benefits realized in 2022 through TSMC's green manufacturing, see Environmental Accounting on page 160-161 in this Annual Report.

Social Contributions by TSMC Foundry Services

1. Unleash Customers' Mobile and Wireless Chip Innovations that Enhance Mobility and Convenience

- The rapid growth of smartphones and tablets in recent years reflects strong demand for mobile devices, which accelerates innovations for IC products such as baseband, RF transceivers, application processors (AP), wireless local area networks (WLAN), CMOS image sensors (CIS), near field communication (NFC), Bluetooth, and global positioning systems (GPS), organic light-emitting diode (OLED) display drivers and power management ICs (PMIC) among others. These mobile devices offer remarkable convenience in daily living, and TSMC contributes significant value to these devices in the following ways: (1) new TSMC process technologies help chips achieve faster computing speeds in smaller sizes, leading to smaller form factors for these electronic devices. In addition, TSMC SoC technology integrates more functions into one chip, reducing the total number of chips in electronic

devices, again resulting in a smaller system form factor; (2) new TSMC process technologies also help chips reduce power consumption, allowing mobile devices to be used for a longer period of time; and (3) TSMC helps spread the growth of more convenient wireless connectivity such as 3G/4G/5G and WLAN/Bluetooth, meaning people can communicate more efficiently and “work anytime and anywhere,” significantly increasing the productivity and mobility of modern society.

2. Unleash Customer Innovations in CMOS image sensors (CIS) and micro-electromechanical systems (MEMS) that enhance human health and safety and create green products

- To make machines smarter, safer and more user and environmentally friendly, sensors are a must. Optical, acoustic, motion, and environment sensors are mostly made using either CIS or MEMS technologies. TSMC continues to put substantial effort into developing more advanced CIS and MEMS technologies to enable customers to create new products for new applications. For CIS, TSMC and customers have extended applications from traditional RGB (red, green, blue) sensing to 3D depth sensing, optical fingerprint, and near infrared (NIR) machine vision, etc. For MEMS, TSMC and customers have extended applications from traditional motion sensing to microphone, bio-sensing, micro-speakers, medical ultrasound actuators and more. TSMC customers’ sensing devices are used in consumer electronics, mobile communication, automotive electronics, industrial, and medical devices, and so on. They are increasingly smaller, faster, more accurate and more energy efficient, greatly enhancing human convenience, health and safety, and contributing to sustainability. TSMC customers’ CIS and MEMS products are used in a number of advanced medical treatments as well as in preventative health care applications. Examples include early warning systems to minimize the injury from falls for the elderly, systems to detect physiological changes, car safety systems and other applications that significantly improve human health and safety. Moreover, by monitoring the working environment and conditions, advanced sensors can make equipment smarter so that it can operate in a more energy efficient way.

7.2.3 Safety and Health

Safety and Health Management

TSMC’s safety and health management is compliant with local and international standards and adheres to the management approach of “Plan, Do, Check, Act” to prevent accidents, promote employee safety and health, and protect Company assets. All TSMC fabs in Taiwan have received Taiwan Occupational Safety and Health Management System (TOSHMS) certification since 2009. In 2018, the International Organization for Standardization released ISO 45001: 2018, replacing OHSAS 18001, with major changes in the expansion of the scope, support and participation of the leadership, collection and planning of internal and external issues, the expectations and demands of stakeholders, the assessment of risk inspections, communication and consultation with non-managers, the application of performance indicators, and the evaluation of corrective and preventive actions. Meanwhile, ISO 45001 ensures the spirit of the system can be effectively implemented at the management level through management review, internal audit, automatic check, and security patrol to identify safety concerns and opportunities for improvement. All Company fabs in Taiwan received ISO 45001 certification for occupational health and safety in 2019 and all TSMC subsidiaries obtained the certification in 2020. All the above certifications have been maintained. New facilities are required to receive aforementioned certifications within 18 months after receiving facility license per TSMC’s internal policy.

Besides accident prevention, TSMC has established emergency response procedures to protect employees and contractors if a disaster should occur, as well as to prevent and/or reduce the negative impact on the community and the environment. TSMC communicates regularly with suppliers to ensure that potential risk in the operation of production equipment is minimized and that safety control procedures are followed rigorously during installation. The Company places stringent controls on high-risk operations and also evaluates the seismic tolerance of its facilities and equipment to reduce the risk of earthquake damage.

For epidemics, TSMC has established corporate-level prevention committees and procedures for emergency response to outbreaks of infectious diseases.

Working Environment and Employee Safety and Health Protection

The Company’s ESH policy is focused on establishing a safe working environment, preventing occupational injury and illness, keeping employees healthy, enhancing every employee’s awareness and sense of accountability to ESH, and building a strong ESH culture.

There were a total of 35 occupational injuries at TSMC in 2022, involving 35 people, representing approximately 0.04% of the total number of employees. The disabling injury frequency rate (FR) was 0.27, under the 0.4 target, and the disability injury severity rate (SR) was 3, meeting the target of less than 4. In response, TSMC is reviewing potential improvement measures, such as interlocking devices for machine safety, as well as standard safety operation procedures. In addition to regular reviews, the caring program for employees has been enhanced and managers have been directed to pay closer attention to the physical and mental state of employees to ensure their safety and health during their work.

TSMC safety and health management operations apply to the following:

• Equipment Safety and Health Management

In addition to meeting regulatory requirements and internal standards, as well as mitigating ESH-related risks when building or expanding facilities, TSMC also maintains procedures governing new equipment and raw materials, requires safety approvals for bringing new tools online, updates safety rules, and implements seismic protection and other safety measures.

TSMC requires that all new tools meet SEMI-S8 requirements and that appropriate supplementary control measures be taken to reduce ergonomic risk. Moreover, the Company endeavors to automate the transportation of 300mm front-opening unified pods (FOUPs) to prevent accumulative physical damage caused by repetitive manual handling of this equipment. TSMC 300mm fabs have all converted to automatic transportation control.

• Environmental, Safety and Health Evaluation of New Tools and New Chemical Substances

As a technology leader in the global semiconductor industry, TSMC operates increasingly diversified process tools and introduces new chemicals in the R&D stage. Before using new tools or new chemicals, they are reviewed carefully by

the new tools and new chemical review committee. The purpose is to ensure that new tools are compliant with the semiconductor industry’s safety standards (such as SEMI-S2) and that environmental, safety and health concerns about new chemicals are addressed and controlled including the use of engineering controls and personal protection equipment, as well as operational safety training during storage, transportation, usage and disposal. A total of 434 cases of new tools and chemical substances were passed by the new tool and new chemical review committee in 2022, and they were evaluated and reviewed in accordance with the aforementioned standards before entering TSMC.

• General Safety Management, Training and Audit

All TSMC manufacturing facilities hold environmental, safety and health committee meetings on a monthly basis. TSMC has adopted multiple preventive measures such as controls on high-risk work, contractor management, chemical safety management, personal protective equipment requirements, and safety audit management. In addition, the Company maintains detailed disaster response procedures and performs regular drills designed to minimize injuries to employees and damage to property, as well as the impact on society and the environment in the event of a disaster.

TSMC Safety-related Training and Promotion in the Recent Two Years

Year	Total Number of Employees who have Completed Safety-related Training
2022	271,702
2021	289,398

• Working Environment Hazardous Factors Management

TSMC conducts workplace hazard assessments to provide a comfortable, safe workplace to employees. The Company also educates employees and requires them, when appropriate, to use personal protective equipment (PPE) to prevent hazardous exposures.

The Company performs semi-annual workplace environment assessments of physical and chemical hazards, including CO₂ concentration, illumination, noise, and hazardous chemical substances as regulated by local laws. In addition, TSMC performs exposure assessments and uses hierarchy management control for chemicals with potential health hazards. If abnormal measurements occur, events happen, or an exposure assessment indicates there is an adverse health

effect on employees, ESH professionals immediately conduct onsite observation and intervention to reduce the risk of hazardous factors exposure to acceptable levels.

● Health Promotion Program

In order to establish the healthiest possible workplace and reduce the incidence of occupational disease, TSMC formed a corporate-level committee to carry out health promotion programs covering three key areas:

1. Exposure and health risk assessment: develop an exposure assessment system to identify high health risk employees.
2. Hazardous training and notification: use standardized training materials for employees and contractors in all TSMC fabs. Inform them of the health risks and prevention measures at the workplace before working or providing any services there.
3. Strengthen management of chemicals with significant health risks: request suppliers that all materials they provide to TSMC must comply with applicable laws including clear disclosure of any hazardous substances. Perform sampling of raw materials used in the manufacturing process to confirm that they do not contain any carcinogenic, mutagenic or toxic-reproductive materials as claimed in supplier's safety data sheet (SDS).

● Emergency Response

The planning and execution of an effective emergency response requires identifying potential high-risk events via risk assessment and being prepared for various scenarios. It should focus on continuous improvements and drills covering all potentially serious events. TSMC's emergency response plans include procedures for rapid-response crisis management and disaster recovery for potential incidents.

All TSMC fabs conduct major annual emergency response exercises and evacuation drills. TSMC's onsite service contractors are also required to participate in emergency response planning and exercises to ensure cooperation in handling accidents and to effectively minimize any damage caused by disasters. In 2022, the Company held 109 evacuation drills and 53 fire drills. At least every two years, each fab director invites fab management and support functions to participate in business continuity drills for potentially high-risk events such as earthquake, fire and flood (at the Tainan site). Since 2018, TSMC has conducted complex accident emergency response drills, which include simultaneous scenarios for earthquake, fire and chemical spills to ensure rapid response

to emergencies so that losses can be minimized in the event of a real disaster. In 2020, TSMC took lead in the industry to introduce the all-hazard approach recommended by the Federal Emergency Management Agency (FEMA) to conduct disaster prevention exercises.

In response to the COVID-19 pandemic, TSMC added tabletop exercises to disaster prevention training in an effort to minimize the risks of group infections that may arise as a result of full-scale exercises. The inclusion of tabletop exercises also aids in the verification of full-scale exercise procedures to make disaster response more comprehensive, thus effectively mitigating the impact of various types of disasters on business continuity in the future. As of 2022, 428 sessions of tabletop exercises had been completed in addition to 235 full-scale exercises.

In addition to the regular emergency response drills held by engineering and facilities departments each quarter, the Company's laboratory, canteen, dormitory, and shuttle bus personnel also hold emergency response drills to prepare for events such as earthquakes, chemical spills, ammonia release, fires and traffic accidents.

● Emerging Infectious Disease Response

TSMC has a dedicated corporate ESH organization to monitor emerging infectious diseases around the world, to assess any potential impact on the workplace, and to provide an appropriate strategic response plan. In previous outbreaks such as SARS in 2003, H1N1 influenza in 2009, and MERS in 2015, as well as with the current COVID-19 threat, TSMC followed the Taiwan CDC's (Centers for Disease Control) rules and convened the corporate influenza response committee to develop the Company's strategies. These strategies included educating employees in prevention and response, publishing guidelines for managers, establishing guidelines for employee sick leave due to flu, and installing alcohol-based hand sanitizers at appropriate locations. The Committee also monitors the status of employee leave due to illness and, at the same time, develops a continuity plan to address manpower shortages and minimize business impact. In order to protect the health of TSMC employees, their families, and work partners, employees are encouraged to be fully vaccinated if in healthy condition. In addition, TSMC reviews the situation from time to time and formulates appropriate preventive measures such as daily body temperature checks and updated vaccination information before entering Company facilities and

continues to follow epidemic prevention recommendations such as mask wearing, frequent hand washing and social distancing.

● Employee Physical and Mental Health Enhancement

TSMC believes that employee physical and mental health is not only fundamental to maintaining sound business operations but is also an important part of a corporation's responsibility. To preserve and promote the physical and mental health of its employees, TSMC fosters collaboration among the onsite industrial safety and environmental protection department, the onsite medical personnel of the health center, and physicians of occupational medicine. TSMC strives to reduce cerebral and cardiovascular conditions or injuries that might be induced or aggravated by overwork, night work or shift work. The Company conducts programs for maternal health protection and for prevention of cumulative trauma disorders as well. TSMC devotes significant resources to mental health awareness, focused not only on hazards at work but also on employee health in general. In 2022, through planned personal health management, (1) 543 female employees participated in the maternal health program, and the completion rate was 100%. All but one of them were at first degree risk, where there was no potential harm to the mother or infant. One woman was assessed as second degree risk, with potential harm to the mother or infant, but after proper adjustments to her work duties, her risk was downgraded to first degree. (2) Through analysis of historical cerebral and cardiovascular cases of its employees, TSMC has sharpened the disease assessment criteria used by contracted doctors, and, in combination with internal annual health examination reports and work scheduling information, the Company was able to identify 4,485 employees with middle to high risk for cerebral and cardiovascular diseases. These employees were provided with health education and medical assistance. Also, they and their managers received recommended changes in working hours and shifts to reduce health risks. (3) 201 employees were identified as high risk for cumulative trauma disorders, including one who might also have job-related risks, and the Company adjusted working conditions accordingly to reduce potential risks. (4) As obesity has been considered as a precursor to hyperglycemia, dyslipidemia, and hypertension and insomnia, TSMC has held health promotion programs for several consecutive years. In 2022, in light of the COVID-19 pandemic and catering to the younger generation's preference for social and video media, apart from physical weight loss activities (6,458 participants; total weight loss reached

5,322.9kg), TSMC conducted a series of online interactive activities including: three sessions of "Health Lecture Online" with 2,876 attendees in total; three health education promotion materials about Weight-loss Diets, with a total of 25,776 person-times; four sessions of online quizzes on the topics of insomnia and improving sleeping, with a total of 16,656 attendees; and one-on-one sleep counseling 93 attendees in total. The above activities have all received positive feedback from employees. In the future, we will continue to implement relevant health promotion activities to take care of the health of employees.

7.2.4 Supplier Management

Management Aspect

For better supply chain management, TSMC is committed to communicating with and encouraging its suppliers, including contractors, to increase their quality, cost effectiveness and delivery performance, and make continuous improvement in environmental protection, safety and health. Through regular communication with senior managers, site audits and experience sharing, the Company collaborates with major suppliers and contractors to enhance partnerships and ensure continued improvement of performance and increased joint contributions to society. As noted above, contractors performing high-risk activities must lay out clearly defined safety precautions and preventative measures. In addition, contractors working on high-risk engineering projects must establish ISO 45001 or OHSAS 18001 systems and the workers must successfully complete work-related skill training. All contractors performing high-risk activities have obtained ISO 45001 certification before the end of 2021.

Supply Chain Sustainability

TSMC works with suppliers in several fields of sustainable development, such as greening the supply chain, carbon management for climate change, mitigation of fire risk, ESH management and business continuity plans in the event of a natural disaster.

Since becoming a full member of the Responsible Business Alliance (RBA) in 2015, TSMC has completed implementation of the RBA code of conduct throughout the Company by performing self-assessments at its facilities worldwide and reviewing policies and procedures in the areas of labor, health and safety, environment, ethics and management systems.

To enhance supply chain sustainability and streamline risk management, the Company is committed to collaborating with its suppliers to maintain full compliance with Taiwan's environmental, safety, health and fire protection regulations. TSMC developed a supplier's code of conduct, which affirmed basic labor rights and standards for health, safety, environment, ethics and management systems. TSMC works with suppliers to evaluate the risk and impact on the economy, the environment, and society and to make continuous improvement. The Company has helped boost suppliers' performance of sustainability through experience sharing and training and hopes to establish a world-class semiconductor supply chain that exceeds international standards and serves as a global benchmark.

TSMC is subject to the U.S. Securities & Exchange Commission (SEC) disclosure rule on conflict minerals released under Rule 13p-1 of the U.S. Securities Exchange Act of 1934. As a recognized global leader in the high-tech supply chain, the Company acknowledges its corporate social responsibility to strive to procure conflict-free minerals in an effort to recognize humanitarian and ethical social principles that protect the dignity of all people. To this end, TSMC has implemented a series of compliance safeguards in accordance with leading industry practices such as adopting the due diligence framework in the Organization for Economic Cooperation and Development (OECD)'s Model Supply Chain Policy for a Responsible Global Supply Chain of Minerals from Conflict-Affected and High Risk Areas issued in 2011.

TSMC is a strong supporter of the Responsible Business Alliance and the Global e-Sustainability Initiative (GeSI), which will help the Company's suppliers source conflict-free minerals through their jointly developed Responsible Minerals Initiative (RMI). Since 2011, TSMC has asked its suppliers to disclose information and make timely updates on smelters and mines. The Company encourages suppliers to source minerals from facilities or smelters that have received a "conflict free" designation by a recognized industry group (such as the RBA) and also requires those who have not received such designation to become compliant with Responsible Minerals Initiative or an equivalent third-party audit program. TSMC requires the use of conflict-free tantalum, tin, tungsten and gold in its products.

TSMC will continue to conduct the supplier survey annually and require suppliers to improve and expand their disclosure to fulfill regulatory and customer requirements. For further information, see the Company's Form SD filed with the U.S. SEC. (https://www.tsmc.com/english/investorRelations/sec_filings.htm)

7.3 TSMC Education and Culture Foundation

In 2022, the COVID-19 pandemic persisted, affecting every sector in Taiwan. During this time, the TSMC Education and Culture Foundation (the Foundation) responded by infusing more resources into the arts and holding numerous educational and cultural events. In addition, the Foundation teamed up with educational partners to empower teachers in rural areas; invited TSMC employees to accompany young college students to pursue their dreams; encouraged female high school students to go into Science, Technology, Engineering and Math (STEM) fields; sponsored courses that pass on traditional theater and micro courses teaching Peking opera appreciation; and joined forces with the power of science and technology to hold online cultural events. The Foundation invested over NT\$99 million in 2022 to provide resources in three main areas: cultivate the young generation, educational collaboration, and promote arts and culture, thereby bringing about the positive cycle for the common good of the society and for the sustainable development.

Narrowing the Gap in Resources; Supporting Education of the Economically Underprivileged

As part of the COVID-19 prevention measures taken in Taiwan, instruction at schools of all levels went online. Such a measure, while lessening the impact of the reduced in-person teaching, also exposed the glaring gap in educational resources between urban and rural areas. In response, the Foundation worked in tandem with the CommonWealth Magazine Education Foundation and the Prof. Hwawei Ko Reading Research Center of National Tsing Hua University to launch the "Teaching & Learning Project", which was implemented in 48 primary schools in rural areas. This project provides first and second grade teachers, free of charge, well-researched teaching plans for reading and writing, thereby reducing the teachers' preparation load. Moreover, a complementary online support system allowed teachers to discuss various issues with the staff at the Prof. Hwawei Ko Reading Research Center, thus

strengthening and broadening the quality of their instruction. In May 2022, testing of the pupils who had attended the "Teaching & Learning Project" showed that their literacy skills had improved markedly.

In addition to the "Teaching & Learning Project" aimed at empowering primary school teachers, the Foundation collaborated with Chengzhi Education Foundation to sponsor the KIST education scheme at the Emei Junior High School in Hsinchu, a program that strives to bring positive change to the school. Also, together with Unitas Literary, the Foundation held the TSMC Youth Literature Camp, providing junior high school students from rural areas the opportunity to appreciate the beauty of literature in the setting of youth camps. Moreover, the Foundation continued to offer scholarships and computers to 98 outstanding students of underprivileged backgrounds at five national universities in Taiwan, freeing these students of financial burden and offering them the opportunity to study at college. The Foundation's scholarship program truly helps students transform their lives.

Nurturing ESG Talent, Empowering Women in STEM Fields

In 2022, the Foundation continued to hold the "TSMC Udreamer" project, encouraging college students all over Taiwan to take the first step in pursuing and realizing their dreams. The project's theme in 2022 was sustainability, chosen to encourage young college students to pay attention to issues of sustainability and contribute to the common good of the society while pursuing their dreams. The 2022 competition received proposals from 161 teams composed of 516 college students from all over Taiwan. At the final stage of the competition, eight teams of college students won the dreamer's prize of NT\$300 million and started a year-long dream-building journey. In addition, the Foundation launched the "TSMC Udreamer Mentorship" project in 2022, inviting TSMC employees to be mentors to the young dreamers by offering guidance and moral support. In total, 98 employees registered for the project, of which 15 were selected and specially trained to assist the dreamer teams to realize their dreams. In 2022, the Foundation also joined forces with National Museum of Natural Science to hold the "TSMC Female Scientists Tour" for the third consecutive year. Since the first tour, more than a thousand female high school students have

participated. The tour consists of a two-day, one-night camp with activities such as a visit to the National Museum of Natural Science, a forum with female scientists, and a printed circuit board (PCB) practice workshop. Through diverse scientific activities, the students learn about the design, manufacturing and application of semiconductors. In addition to broadening their knowledge of popular science, the attendees learn more about opportunities for women in STEM fields and their unique roles through the forum with female scientists and the exchange with the Women@tsmc society. Through the tour, the Foundation hopes to encourage more female students to go into STEM fields, thereby nurturing more female science and technology talent.

Further demonstrating its commitment to promoting science education, in 2022 the Foundation continued its partnership with Center for the Advancement of Science Education of National Taiwan University to hold the "TSMC Cup: Competition of Scientific Short Talk". The two competitions, the "Competition of Scientific Innovation Presentation" and the "Essay Awards for Introducing Popular Science Books to the Public" were held online. During the competition, the Foundation organized online classes to enhance the attendees' presentation skills and also invited university professors and popular science writers to write columns of sample introductory essays to help the students with their writing skills. More than 750 attendees participated in the 2022 competition.

In addition to its dedication to nurturing talent in STEM fields, the Foundation also encourages young students to create literary works and practice calligraphic arts. The two major literary and arts competitions for the senior high school students, the "TSMC Youth Literature Award" and the "TSMC Youth Calligraphy and Seal-Carving Competition" have been held since 2004 and 2008 respectively. During this time more than 10,000 people have entered the two competitions designed. Apart from encouraging the younger generation to create literary works and practice the art of calligraphy through the format of competitions, the Foundation aims to elevate the public's appreciation for literature and traditional calligraphic and seal-carving art through various types of promotional events.

Passing on the Heritage of Classical Theater; Injecting New Blood into Arts and Culture

Peking opera, the treasure of Chinese performing arts, has been inscribed on the representative list of the Intangible Cultural Heritage of Humanity by UNESCO. In recent times, however, Peking opera has all but vanished from the horizon of today's youth. In order to rekindle interest in the heritage of this beautiful theatrical culture, the Foundation began the "Passing on Traditional Theatre Heritage on Campus" project with GuoGuang Opera Company, funding a two-semester course at National Tsing Hua University and Tunghai University. The content of the course includes knowledge of theater, appreciation and analysis of plays, and workshop and stage performances. The lectures guided 93 college students to personally experience the performance of Peking opera step by step and in depth and to appreciate the charm of Peking opera aesthetics. In addition to university courses, the Foundation also organized four "TSMC Theater Lectures" specifically for senior high school students in the Hsinchu area and focused on the theme of major maid characters in Peking opera. There were professional introduction lectures by Wang An Chi, emeritus professor at the Department of Drama and Theatre of NTU, by the Taipei Culture Awards winner Zhu An Li and by the young actors at GuoGuang Opera Company, who demonstrated the use of makeup art, the art of recitation and hand gestures as basic techniques of Peking opera. The lecture series broadened the younger generation's artistic horizon and helped them appreciate the scenes on stage and behind the stage. Furthermore, the Foundation commissioned a radio program, "Telling Stories of Peking Opera" at *IC: the Sound of Hsinchu Science Park*, to stimulate public interest in the art of Peking opera by presenting various topics about theater and interesting stories of the plays.

The theme of the annual TSMC Hsinchu Arts Festival in 2022 was "Feast of the Gods," as the Contemporary Legend Theater performed "Metamorphosis," a play adapted from Franz Kafka's novella by the Peking opera maestro Wu Hsing-kuo, and a brand new production of a traditional play "Eight Gods Crossing the Sea." In addition to live performances, the Arts Festival also combined various formats of arts events in different media such as streaming platforms and television, including "Like a Rolling Poem – a Documentary on Music and Poetry" and "Film & Mythology," an online film festival. The 2022 TSMC Hsinchu Arts Festival organized 42 exquisite art exhibitions and cultural events, inviting more than 15,000 community members to attend. Along with the TSMC Hsinchu Arts Festival, the Foundation continued to support

major performing arts groups in Taiwan by sponsoring the production of Mozart's *Die Zauberflöte (The Magic Flute)* at the National Taichung Theater and conducting and composing masterclasses at the National Symphony Orchestra (NSO) in hopes of bringing a fresh perspective to Taiwan's arts environment during the pandemic and keeping the arts' flame burning bright.

7.4 TSMC Charity Foundation

Under the guidance of Chairperson Sophie Chang, the TSMC Charity Foundation (the Foundation) strives to address social inequalities through volunteer onsite/online services. Established in 2017, the Foundation focuses on the four pillars of public welfare in its charitable programs and projects: care for the disadvantaged, taking care of the elderly, filial piety promotion, and protection of the environment. In 2022, the Foundation's focus on assisting the disadvantaged honed in on rural empowerment as part of an initiative to correlate with social trends in rural education and employment integration. In rural areas, the Foundation offers various educational development resources to schools and after-schools. As for eldercare and care for the socioeconomically disadvantaged, the Foundation endeavors to improve their quality of life through both economic support and medical services. The Foundation continued to operate the "Sending Love" platform to strengthen the cooperation among enterprises, local governments and universities so as to strengthen local services and jointly uplift society.

In 2022, the Foundation demonstrated its dedication to investing in public welfare and expanding projects to improve its scope of services:

- **Rural Empowerment:** The Foundation continuously provides education and living assistance to institutes in need and to children in rural areas, including volunteer services, economic support, food supplies and the purchase of digital learning equipment and materials. In 2022, the Foundation focused on rural students' employability. By collaborating with 104 JOB BANK on the "World of Jobs, Road to Employment" plan, the Foundation published 104 career exploring videos in 2022 to give rural students a broader outlook on future careers and encourage them to develop their potential. In helping rural students to obtain the skills to work locally, two enterprises, Chi Mei Frozen Food Co., Ltd. and Lohas Biotech Development Corp., joined this year to give training to two vocational high schools and extended job offers to 14 students. While the expanded plan of job placement was

released in 2022, the Foundation partnered with SEMI to hold a conference session in 2022 SEMICON Taiwan and to establish a job-matching platform with 30 TSMC suppliers and semiconductor-related enterprises providing 600 jobs for rural vocational students.

In 2022, the Foundation assisted 6,358 students at 134 rural care institutes and collaborated with TSMC volunteers to produce tutorial videos of scientific experiments and science education. When classes were suspended due to the pandemic, the Foundation supplied science learning materials to help students study at home and moved physical classes online to ensure students could continue their studies. The Foundation's "Sending Love Platform" initiative visited and screened disadvantaged individuals in need of financial support, and also provided financial assistance and daily necessities made possible by internal and external donations from TSMC to improve the living conditions of highly vulnerable and disadvantaged families. As of 2022, the Foundation has supported a total of 250 families.

- **Taking Care of the Elderly:** The Foundation collaborates with Network of Compassion partners to enhance the health and welfare of solitary elders by connecting them with social welfare groups and medical units. In 2022, the Foundation cooperated with National Yang Ming Chiao Tung University and Guandau Hospital to establish a smart exercise club for the elderly to prevent disability and delay aging through exercise. The Foundation continued to collaborate with the TSMC facility division to repair 285 houses damaged by the earthquake in Hualien, and further ensuring 16 solitary elders a safe and healthy living space after the disaster. Current Network of Compassion partners include Taipei Municipal Gandau Hospital, Taipei Veterans General Hospital, Miao-Li Hospital, Old Five Old Foundation, Fongyuan Hospital, China Medical University Hospital, Taichung City Private Lin Tseng Lien Welfare And Charity Foundation, Taiwan Puli Care Association, Sin-Lau Hospital, Tainan Municipal Hospital, Jianan Psychiatric Center Department of Health, Mennonite Christian Hospital, Mennonite Social Welfare Foundation, Fooyin University, Penghu Hospital, and Cishan Hospital.

- **Promoting Filial Piety:** The Foundation promotes the spirit of filial piety in Eastern culture by spreading awareness to younger generations so as to alleviate social risks and issues related to aging societies. In 2022, the Foundation continued to work with the Filial Piety Resource Center of the K-12

Education Administration, Ministry of Education to promote these concepts and cultural values. This included conducting ten filial piety parent-child workshops at elementary schools, where TSMC volunteers provide long-term care, as well as jointly producing short filial piety films and organizing award ceremonies to recognize excellence in teaching plans, thus encouraging both teachers and students to initiate intergenerational dialogue and to implant a modern spirit of filial piety within the hearts of all participants.

- **Protecting the Environment:** The Foundation helped disadvantaged social welfare institutes to increase the use of green energy and save power, while also continuing to implement the "Cherish Food Program" to reduce resource waste. The "Green Energy for the Disadvantaged" project was launched in 2021, and by 2022 the Foundation had installed solar panels at six social welfare institutes, which can supplement these institutes' operating expenses by selling green energy. The LED Lighting Replacement Program helped 240 schools to reduce electricity costs by at least 30% with energy-saving lights. As for the "Cherish Food Program", the Foundation continued to work with many food companies to donate out-of-spec foods to 130 disadvantaged social welfare institutes to provide the children with after-school snacks, thereby reducing food waste. Current collaborators include Chi Mei Frozen Food Co., Ltd., Hunya Food Co., Ltd., Laurel Corporation, Lian-Hwa Foods Corp., Hsin Tung Yang Co., Ltd., Great Wall Group, and Lao Xie Zhen Co., Ltd.

7.5 TSMC i-Charity

The TSMC i-Charity platform, launched in 2014, is an interactive intranet site that employees use to propose charity projects, share project results, provide suggestions and responses, and conduct timely funding of activities to give back to society.

In 2022, a total of 38,857 people donated more than NT\$51.3 million to help repair earthquake-damaged houses in Hualien, to support the aboriginal elementary school's baseball team, Junyi Academy, and to aid the Teach for Taiwan program and other fundraising projects.

The TSMC i-Charity platform has accumulated more than NT\$271 million in donations since its inception in 2014. TSMC continues to carry out its social commitments and encourages its employees to care for and give back to society in various ways.

7.6 Social Responsibility Implementation Status as Required by the Taiwan Financial Supervisory Commission

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Summary	
1. Does the Company have a governance structure for sustainability development and a dedicated (or ad-hoc) sustainable development organization with Board of Directors authorization for senior management, which is reviewed by the Board of Directors?	V		For the Company's governance structure for sustainability development, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report. For the structure, operations, implementation status and frequency of reporting to the Board of Directors of the Company's dedicated organization for sustainability development, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report. For progress of the Board of Directors' supervision of the Company's sustainability development, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report.	None
2. Does the Company follow materiality principle to conduct risk assessment for environmental, social and corporate governance topics related to company operation, and establish risk management related policy or strategy?	V		For the Company's scope of risk assessment, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report. For the principle, process and result of the Company's materiality analysis of ESG related topics and risk management related policy or strategy, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report.	None
3. Environmental Topic (1) Has the Company set an environmental management system designed to industry characteristics?	V		(1) For the Company's environmental management system and the regulations on which it is based, please refer to "7.2 Environmental, Safety and Health (ESH) Management" on page 154-168 and "6.3.3 Risks Regarding Non-Compliance with Export Control, Environmental and Climate Change Related Laws, Regulations and Accords, and Failure to Timely Obtain Requisite Approvals Necessary for Conducting Business" on page 143 of this Annual Report. For the Company's international certifications and their scope, please refer to "7.2 Environmental, Safety and Health (ESH) Management" on page 154-168 of this Annual Report.	None
(2) Is the Company committed to improving resource efficiency and to the use of renewable materials with low environmental impact?	V		(2) For the Company's improvement of resource efficiency and the use of renewable materials, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management/Waste Management and Recycling" on page 156-157, 160 of this Annual Report.	
(3) Does the Company evaluate current and future climate change potential risks and opportunities and take measures related to climate related topics?	V		(3) For the Company's evaluation of potential risks and opportunities of current and future climate change and measures taken related to climate topics, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management" on page 156-157 of this Annual Report.	
(4) Does the Company collect data for greenhouse gas emissions, water usage and waste quantity in the past two years, and set greenhouse gas emissions reduction, water usage reduction and other waste management policies?	V		(4) For the Company's statistical data, intensity and data coverage for greenhouse gas emissions, water usage and waste quantity in the past two years, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management/Greenhouse Gas (GHG) Emission Reduction and Energy Management/Air and Water Pollution Control/Waste Management and Recycling" on page 156-160 of this Annual Report. For the Company's policies on the reduction of greenhouse gas emissions, water usage and waste management, please refer to "7.2.1 Environmental Protection" on page 156-161 of this Annual Report. For the Company's certification status of each data set and its scope, please refer to "7.2.1 Environmental Protection – Climate Change and Energy Management/Greenhouse Gas (GHG) Emission Reduction and Energy Management/Air and Water Pollution Control/Waste Management and Recycling" on page 156-160 of this Annual Report.	

(Continued)

Assessment Item	Implementation Status			Non-implementation and Its Reason(s)
	Yes	No	Summary	
4. Social Topic (1) Does the Company set policies and procedures in compliance with regulations and internationally recognized human rights principles?	V		(1) For the Company's policies and specific programs in compliance with regulations and internationally recognized human rights principles, please refer to "5.6.1 Human Rights Policy and Specific Actions" on page 110 of this Annual Report.	None
(2) Has the Company established appropriately managed employee welfare measures (include salary and compensation, leave and others), and link operational performance or achievements with employee salary and compensation?	V		(2) For the Company's employee welfare measures, including salary and compensation, diverse and fair workplace, leave, allowance, bonuses, and subsidies, please refer to "5.6.6 Competitive Overall Compensation", "5.6.2 Diversity and Inclusion", "5.6.3 Workforce Structure", and "5.6.7 Employee Benefit System Superior to Statute" on page 112, 110-111, 111, 113-114 of this Annual Report.	
(3) Does the Company provide employees with a safe and healthy working environment, with regular safety and health training?	V		(3) For the Company's status with respect to providing employees with a safe and healthy working environment, with regular safety and health training, please refer to "7.2.3 Safety and Health" on page 164-167 of this Annual Report. For the Company's related certification status and its scope, please refer to "7.2.3 Safety and Health" on page 164-167 of this Annual Report. For a presentation and analysis of the Company's occupational accidents in the current year and the number of employees involved, as well as related improvement measures taken, please refer to "7.2.3 Safety and Health" on page 164-167 of this Annual Report.	
(4) Has the Company established effective career development training plans?	V		(4) For the scope and implementation of the Company's employee training plans, please refer to "5.6.5 Talent Development" on page 111-112 of this Annual Report.	
(5) Does the Company's product and service comply with related regulations and international rules for customers' health and safety, privacy, sales, labelling and set policies to protect consumers' or customers' rights and consumer appeal procedures?	V		(5) Not applicable as TSMC is not an end product manufacturer. For the Company's policy to protect customers' rights, please refer to "5.4.1 Customers" on page 107 of this Annual Report.	
(6) Does the Company set supplier management policy and request suppliers to comply with related standards on the topics of environmental, occupational safety and health or labor right, and their implementation status?	V		(6) For the Company's supplier management policy and related compliance norms, and specific requirements for suppliers in environmental protection, occupational safety and health or labor rights, please refer to "7.2.4 Supplier Management" on page 167-168 and "5.6.1 Human Rights Policy and Specific Actions" on page 110 of this Annual Report. For a description of the implementation of the Company's supplier management policy and related compliance norms, please refer to "7.2.4 Supplier Management" on page 167-168 of this Annual Report.	
5. Does the Company refer to international reporting rules or guidelines to publish Sustainability Report to disclose non-financial information of the Company? Has the said Report acquire third party verification or statement of assurance?	V		For the reporting rules and guidelines that the Company follows in disclosing non-financial information in the Sustainability Report, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report. For third party verification of the Sustainability Report, please refer to "7.1 Environmental, Social and Governance (ESG) – Overview" on page 150-154 of this Annual Report.	None
6. If the Company has established its sustainable development code of practice according to "Listed Companies Sustainable Development Code of Practice," please describe the operational status and differences.			TSMC follows the ESG Policy set by the Chairman, Dr. Mark Liu. For sustainable development operational status, please refer to "7. Environmental, Social and Governance (ESG)" on page 148-173 of this Annual Report and environmental social governance related information on the Company's website: https://esg.tsmc.com/en/index.html	
7. Other important information to facilitate better understanding of the Company's implementation of sustainable development:			Please refer to TSMC's website for its sustainable development implementation status: https://esg.tsmc.com/en/index.html	

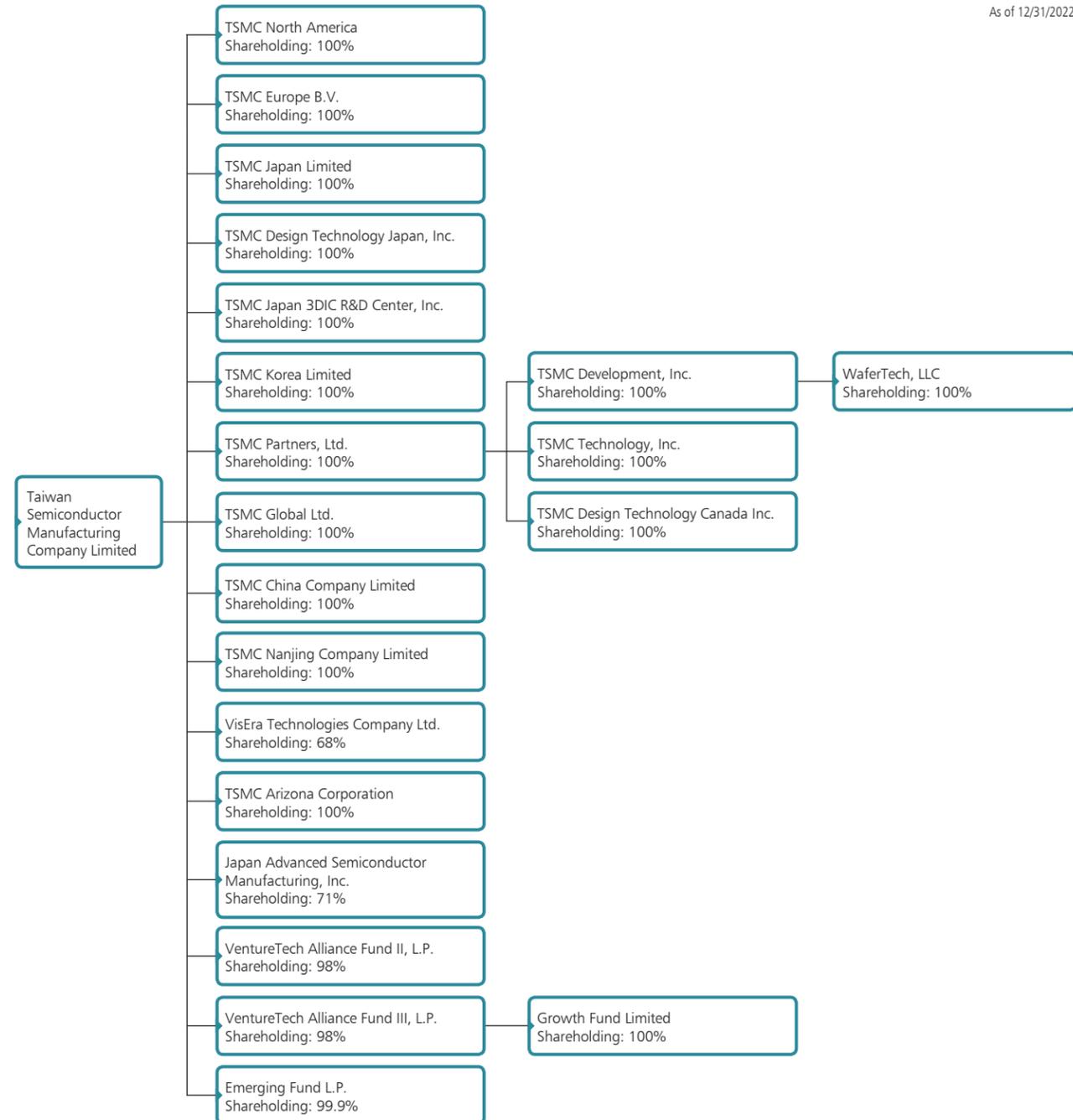
8 SUBSIDIARY & *Other Special Notes*



TSMC continued expanding its manufacturing footprint in Taiwan and globally

8.1 Subsidiaries

8.1.1 TSMC Subsidiaries Chart



8.1.2 Business Scope of TSMC and Its Subsidiaries

TSMC and its subsidiaries strive to deliver the best foundry services. WaferTech in the United States and TSMC China provide 8-inch wafer capacity, while TSMC Nanjing provides 12-inch wafer capacity. In addition, TSMC Arizona in the United States and Japan Advanced Semiconductor Manufacturing, Inc. in Japan are currently scheduled to provide 12-inch wafer capacity by the end of 2024. TSMC's subsidiaries in North America, Europe, Japan, China, South Korea and other regions are dedicated to providing timely services and engineering support to customers worldwide and also support the Company's core foundry business with related services as well as investing in start-up companies in the semiconductor industry.

8.1.3 TSMC Subsidiaries

Unit: NT\$ (USD, EUR, JPY, KRW, RMB, CAD) thousands

As of 12/31/2022

Company	Date of Incorporation	Place of Registration	Capital Stock	Business Activities
TSMC North America	Jan. 18, 1988	San Jose, California, U.S.	US\$ 11,000	Sales and marketing of integrated circuits and semiconductor devices
TSMC Europe B.V.	Mar. 04, 1994	Amsterdam, The Netherlands	EUR 100	Customer service and supporting activities
TSMC Japan Limited	Sep. 10, 1997	Yokohama, Japan	JPY 300,000	Customer service and supporting activities
TSMC Korea Limited	May 02, 2006	Seoul, Korea	KRW 400,000	Customer service and supporting activities
TSMC Design Technology Japan, Inc.	Jan. 10, 2020	Yokohama, Japan	JPY 750,000	Engineering support activities
TSMC Japan 3DIC R&D Center, Inc.	Mar. 29, 2021	Yokohama, Japan	JPY 2,450,000	Engineering support activities
TSMC China Company Limited	Aug. 04, 2003	Shanghai, China	RMB 4,502,080	Manufacturing, sales, testing, and computer-aided design of integrated circuits and other semiconductor devices
TSMC Nanjing Company Limited	May 16, 2016	Nanjing, China	RMB 6,650,119	Manufacturing, sales, testing, and computer-aided design of integrated circuits and other semiconductor devices
TSMC Arizona Corporation	Nov. 10, 2020	Arizona, U.S.	US\$ 1.27	Manufacturing, sales, and testing of integrated circuits and other semiconductor devices
Japan Advanced Semiconductor Manufacturing, Inc.	Dec. 10, 2021	Kumamoto, Japan	JPY 71,444,000	Manufacturing, sales, testing, and computer-aided design of integrated circuits and other semiconductor devices
TSMC Technology, Inc.	Feb. 20, 1996	Delaware, U.S.	US\$ 0.001	Engineering support activities
TSMC Development, Inc.	Feb. 16, 1996	Delaware, U.S.	US\$ 0.001	Investing in companies involved in semiconductor manufacturing
WaferTech, LLC	Jun. 03, 1996	Delaware, U.S.	US\$ 0	Manufacturing, sales, and testing of integrated circuits and other semiconductor devices
TSMC Partners, Ltd.	Mar. 26, 1998	British Virgin Islands	US\$ 988,268	Investing in companies involved in the semiconductor design and manufacturing, and other investment activities
TSMC Design Technology Canada Inc.	May 28, 2007	Ontario, Canada	CAD 2,434	Engineering support activities
TSMC Global Ltd.	Jul. 18, 2006	British Virgin Islands	US\$ 11,384,000	Investment activities
VentureTech Alliance Fund II, L.P.	Feb. 27, 2004	Cayman Islands	US\$ 3,487	Investing in technology start-up companies
VentureTech Alliance Fund III, L.P.	Mar. 25, 2006	Cayman Islands	US\$ 93,898	Investing in technology start-up companies
Growth Fund Limited	May 30, 2007	Cayman Islands	US\$ 2,195	Investing in technology start-up companies
Emerging Fund, L.P.	Jan. 27, 2021	Cayman Islands	US\$ 43,109	Investing in technology start-up companies
VisEra Technologies Company Ltd.	Dec. 01, 2003	Hsinchu, Taiwan	NT\$ 3,155,341	Research, design, development, manufacturing, sales, packaging and test of color filter

8.1.4 Shareholders in Common of TSMC and Its Subsidiaries with Deemed Control and Subordination: None.

8.1.5 Rosters of Directors, Supervisors, and Presidents of TSMC's Subsidiaries

Unit: NT\$ (USD), except shareholding

As of 12/31/2022

Company	Title	Name	Shareholding	
			Shares (Investment Amount)	% (Investment Holding %)
TSMC North America	Director Director President/CEO	Sylvia Fang	-	-
		David Keller	-	-
		David Keller	-	-
		TSMC holds 11,000,000 shares	100%	
TSMC Europe B.V	Director Director President	Wendell Huang	-	-
		Paul de Bot	-	-
		Maria Marced	-	-
		TSMC holds 200 shares	100%	
TSMC Japan Limited	Representative Director Director President	Makoto Onodera	-	-
		Sylvia Fang	-	-
		Makoto Onodera	-	-
		TSMC holds 6,000 shares	100%	
TSMC Korea Limited	Representative Director Director Director	C.C. Pan	-	-
		Ray Wan	-	-
		Wendell Huang	-	-
		TSMC holds 80,000 shares	100%	
TSMC Design Technology Japan, Inc.	Representative Director Director Supervisor	Cliff Hou	-	-
		Wendell Huang	-	-
		Morris Cheng	-	-
		TSMC holds 15,000 shares	100%	
TSMC Japan 3DIC R&D Center, Inc.	Representative Director Director Supervisor	Jun He	-	-
		Diane Kao	-	-
		Morris Cheng	-	-
		TSMC holds 49,000 shares	100%	
TSMC China Company Limited	Chairman Director Director Supervisor Supervisor President	F.C. Tseng	-	-
		Y.P. Chin	-	-
		Roger Luo	-	-
		Lora Ho	-	-
		Roger Luo	-	-
		(TSMC invests US\$596,000,000)	(100%)	
TSMC Nanjing Company Limited	Chairman Director Director Director Supervisor Supervisor President	Lora Ho	-	-
		Y.P. Chin	-	-
		Cliff Hou	-	-
		Roger Luo	-	-
		Wendell Huang	-	-
		Sylvia Fang	-	-
		Roger Luo	-	-
(TSMC invests US\$1,000,000,000)	(100%)			
TSMC Arizona Corporation	Director Director Director Director President/CEO	Cliff Hou	-	-
		Y.L. Wang	-	-
		Sylvia Fang	-	-
		Wendell Huang	-	-
		Rick Cassidy (Note 1)	-	-
		TSMC holds 1,270,001 shares (Note 2)	100%	

(Continued)

Company	Title	Name	Shareholding	
			Shares (Investment Amount)	% (Investment Holding %)
Japan Advanced Semiconductor Manufacturing, Inc.	Representative Director Director Director Director Director/President Supervisor	Y.H. Liaw (Note 3)	-	-
		Diane Kao	-	-
		Simon Wang	-	-
		Yuichi Horita	-	-
		Yasuhiro Kono	-	-
		Morris Cheng	-	-
		TSMC holds 1,019,814 shares	71.37%	
TSMC Technology, Inc.	Chairman Director President	Wendell Huang	-	-
		Cliff Hou	-	-
		Cliff Hou	-	-
		TSMC Partners, Ltd. holds 10 shares	100%	
TSMC Development, Inc.	Chairman Director President	Wendell Huang	-	-
		Sylvia Fang	-	-
		Wendell Huang	-	-
		TSMC Partners, Ltd. holds 10 shares	100%	
WaferTech, LLC	Director Director President	Y.H. Liaw	-	-
		Wendell Huang	-	-
		Tsung-Chia Kuo	-	-
		TSMC Development, Inc. holds 293,636,833 shares	100%	
TSMC Partners, Ltd.	Director Director President	Wendell Huang	-	-
		Sylvia Fang	-	-
		Wendell Huang	-	-
		TSMC holds 988,268,244 shares	100%	
TSMC Design Technology Canada Inc.	Director Director Director President	Cliff Hou	-	-
		Cormac Michael O'Connell	-	-
		Sylvia Fang	-	-
		Cliff Hou	-	-
TSMC Partners, Ltd. holds 2,300,000 shares	100%			
TSMC Global Ltd.	Director Director	Wendell Huang	-	-
		Sylvia Fang	-	-
		TSMC holds 11,384 shares	100%	
VentureTech Alliance Fund II, L.P.	None	None	(TSMC invests US\$3,417,545)	(98.00%)
VentureTech Alliance Fund III, L.P.	None	None	(TSMC invests US\$92,020,263)	(98.00%)
Growth Fund Limited	None	None	(VentureTech Alliance Fund III, L.P. invests US\$2,195,455)	(100%)
Emerging Fund, L.P.	None	None	(TSMC invests US\$43,065,702)	(99.90%)
VisEra Technologies Company Ltd.	Chairman Director Director Independent Director Independent Director Independent Director President	Robert Kuan	164,500 shares	0.05%
		George Liu	-	-
		Diane Kao	-	-
		Laura Huang	-	-
		Emma Chang	-	-
		P.H. Chang	-	-
		Robert Kuan	-	-
		TSMC holds 213,619,000 shares	67.70%	

Note 1: Effective April 1, 2023, Mr. Rick Cassidy was appointed as Chairman of the Board of Directors, Mr. Y.L. Wang was appointed as CEO, and Mr. Brian Harrison was appointed as President of TSMC Arizona Corporation.

Note 2: TSMC Arizona Corporation completed capital injection in January 2023 and February 2023. TSMC's shareholding on TSMC Arizona Corporation increased to 3,500,000 shares post the capital injection.

Note 3: Effective April 1, 2023, Mr. Y.H. Liaw was appointed as CEO of Japan Advanced Semiconductor Manufacturing, Inc., in addition to his current position as Representative Director of the company.

8.1.6 Operational Highlights of TSMC Subsidiaries

Unit: NT\$ thousands, except EPS (NT\$)

As of 12/31/2022

Company	Capital Stock	Assets	Liabilities	Net Worth	Net Revenues	Income (Loss) from Operation	Net Income (Loss)	Basic Earning (Loss) Per Share
TSMC North America	337,843	438,305,947	432,856,192	5,449,755	1,542,535,272	521,282	62,213	5.66
TSMC Europe B.V.	3,284	897,884	370,191	527,693	575,274	39,499	(4,926)	(24,631.82)
TSMC Japan Limited	69,930	274,426	139,866	134,560	274,733	10,845	6,559	1,093.15
TSMC Design Technology Japan, Inc.	174,825	716,049	339,873	376,176	504,091	31,978	20,303	1,353.56
TSMC Japan 3DIC R&D Center, Inc.	571,095	2,393,877	1,221,171	1,172,706	789,529	57,712	27,950	859.24
TSMC Korea Limited	9,760	45,946	1,864	44,082	12,732	1,183	1,408	17.59
TSMC Development, Inc.	0.03	36,292,060	0	36,292,060	2,706,125	2,706,070	2,620,596	262,059,641.20
TSMC Partners, Ltd.	30,352,683	63,774,282	1,625	63,772,657	3,144,407	3,138,758	3,135,764	3.17
TSMC Global Ltd.	349,636,792	642,448,848	230,456,422	411,992,426	11,540,783	7,308,722	7,308,722	642,017.05
WaferTech, LLC	0	7,532,316	963,073	6,569,243	10,308,132	2,866,991	2,299,054	7.83
TSMC China Company Limited	19,891,090	91,612,383	4,179,390	87,432,993	28,371,992	12,753,073	12,411,290	NA
TSMC Nanjing Company Limited	29,381,558	123,716,509	56,215,073	67,501,436	42,299,786	20,393,288	20,486,591	NA
VisEra Technologies Company Ltd.	3,155,341	25,600,121	8,709,960	16,890,161	9,077,148	2,068,659	1,765,796	5.80
TSMC Arizona Corporation	39	278,619,103	252,979,993	25,639,110	0	(7,668,981)	(9,430,070)	(12,015.96)
Japan Advanced Semiconductor Manufacturing, Inc.	16,653,596	48,687,935	15,998,955	32,688,980	0	(675,194)	(593,429)	(531.39)
TSMC Technology, Inc.	0.03	2,623,701	1,630,001	993,700	3,641,036	173,383	66,998	6,699,813.50
TSMC Design Technology Canada Inc.	55,176	400,293	79,234	321,059	282,621	25,693	31,997	13.91
VentureTech Alliance Fund II, L.P.	107,105	66,513	0	66,513	3,714	1,056	319	NA
VentureTech Alliance Fund III, L.P.	2,883,896	227,958	0	227,958	0	(6,700)	(6,700)	NA
Growth Fund Limited	67,429	166,549	0	166,549	416	(560)	(609)	NA
Emerging Fund L.P.	1,324,000	1,762,648	0	1,762,648	2,426	(6,917)	(6,917)	NA

8.2 Status of TSMC Common Shares and ADRs Acquired, Disposed of, and Held by Subsidiaries: None.

8.3 Special Notes

8.3.1 Private Placement Securities in 2022 and as of the Date of this Annual Report: None.

8.3.2 The Listing of Penalties, Major Deficits, and State of Any Efforts to Make Improvements, Arising from Any Legal Penalties Imposed by Regulatory Authorities on the Company or Its Employees, or Any Company Punishment toward Employees for Violating Internal Control Rules, Where Such Penalties or Punishments May Have Material Impacts on Shareholders' Interests or Securities Prices, in 2022 and as of the Date of this Annual Report: None.

8.3.3 Any Events in 2022 and as of the Date of this Annual Report that Had Material Impacts on Shareholders' Interests or Securities Prices as Stated in Item 3 Paragraph 2 of Article 36 of Securities and Exchange Act of Taiwan: None.

8.3.4 Other Necessary Supplement: None.

Contact Information

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Asia	
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TSMC Nanjing Company Limited 16, Zifeng Road, Pukou Economic Development Zone, Nanjing, Jiangsu Province, China Postcode: 211806 Tel: +86-25-57668000	TSMC Japan 3DIC R&D Center, Inc. 2F, 7D Bldg., West, 16-1 Onogawa, Tsukuba, Ibaraki, 305-8569, Japan Tel: +81-29-893-2968
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TSMC Spokesperson Name: Wendell Huang Title: Vice President & CFO Tel: +886-3-5636688 Fax: +886-3-5637000 Email: press@tsmc.com	Common Share Transfer Agent and Registrar Company: The Transfer Agency Department of CTBC Bank Address: 5F, 83, Sec. 1, Chung-Ching S. Rd., Taipei 100-003, Taiwan R.O.C. Tel: +886-2-66365566 Fax: +886-2-23116723 Website: http://www.ctcbank.com
TSMC Deputy Spokesperson Name: Nina Kao Title: Head of Public Relations Division Tel: +886-3-5636688 Fax: +886-3-5637000 Email: press@tsmc.com	ADR Depository Bank Company: Citibank, N.A. Depository Receipts Services Address: 388 Greenwich Street, New York, NY 10013, U.S.A. Website: http://www.citi.com/dr Tel: +1-877-2484237 (toll free) Tel: +1-781-5754555 (out of US) Fax: +1-201-3243284 E-mail: citibank@shareholders-online.com
Auditors Company: Deloitte & Touche Auditors: Mei-Yen Chiang, Shang-Chih Lin Address: 20F, No. 100, Songren Rd., Xinyi Dist., Taipei 110-016, Taiwan, R.O.C. Tel: +886-2-27259988 Fax: +886-2-40516888 Website: http://www.deloitte.com.tw	TSMC's depository receipts of the common shares are listed on New York Stock Exchange (NYSE) under the symbol TSM. The information relating to TSM is available at http://www.nyse.com and http://mops.twse.com.tw

"TSMC", "tsmc", "Open Innovation Platform", "Open Innovation", "GIGAFAB", "CoWoS", "TSMC-SolC", "3DFabric", "TSMC 3DFabric", "N12e", "3Dblox" and "TSMC FinFlex" are some of TSMC's registered and/or pending trademarks used by the Company in various jurisdictions, including Taiwan. All rights reserved.

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Contents

Consolidated Financial Statements for the Years Ended December 31, 2022 and 2021 and Independent Auditors' Report	1
Parent Company Only Financial Statements for the Years Ended December 31, 2022 and 2021 and Independent Auditors' Report	111

**Taiwan Semiconductor Manufacturing
Company Limited and Subsidiaries**

**Consolidated Financial Statements for the
Years Ended December 31, 2022 and 2021 and
Independent Auditors' Report**

REPRESENTATION LETTER

The entities that are required to be included in the combined financial statements of Taiwan Semiconductor Manufacturing Company Limited as of and for the year ended December 31, 2022, under the Criteria Governing the Preparation of Affiliation Reports, Consolidated Business Reports and Consolidated Financial Statements of Affiliated Enterprises are the same as those included in the consolidated financial statements prepared in conformity with the International Financial Reporting Standard 10, "Consolidated Financial Statements". In addition, the information required to be disclosed in the combined financial statements is included in the consolidated financial statements. Consequently, Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries do not prepare a separate set of combined financial statements.

Very truly yours,

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED

By

MARK LIU
Chairman

February 14, 2023

INDEPENDENT AUDITORS' REPORT

The Board of Directors and Shareholders
Taiwan Semiconductor Manufacturing Company Limited

Opinion

We have audited the accompanying consolidated financial statements of Taiwan Semiconductor Manufacturing Company Limited and its subsidiaries (the "Company"), which comprise the consolidated balance sheets as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and the Standards on Auditing of the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Company in accordance with The Norm of Professional Ethics for Certified Public Accountant of the Republic of China and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the year ended December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter for the Company's consolidated financial statements for the year ended December 31, 2022 is stated as follows:

Property, plant and equipment (PP&E) – commencement of depreciation related to PP&E classified as equipment under installation and construction in progress (EUI/CIP)

Refer to Notes 4, 5 and 14 to the consolidated financial statements.

The Company's evaluation of when to commence depreciation of EUI/CIP involves determining when the assets are available for their intended use. The criteria the Company uses to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets to be capable of operating in the intended manner. Changes in these assumptions could have a significant impact on when depreciation is recognized.

Given the subjectivity in determining the date to commence depreciation of EUI/CIP, performing audit procedures to evaluate the reasonableness of the Company's judgments and assumptions required a high degree of auditor judgment. Consequently, the validity of commencement of depreciation related to PP&E classified as EUI/CIP is identified as a key audit matter.

Our audit procedures related to the evaluation of when to commence depreciation of EUI/CIP included the following, among others:

1. We read the Company's policy and understood the criteria used to determine when to commence depreciation.
2. We tested the effectiveness of the controls over the evaluation of when to commence depreciation of EUI/CIP.
3. We sampled the year-end balance of EUI/CIP and performed the following for each selection:
 - a. Evaluated whether the selection did not meet the criteria specified by the Company for commencement of depreciation.
 - b. Observed the assets and evaluated their status.
4. We sampled and evaluated whether the selection of EUI/CIP met the criteria specified by the Company for commencement of depreciation during the year.
5. We sampled and evaluated whether the selection of EUI/CIP met the criteria specified by the Company for commencement of depreciation subsequent to year end.

Other Matter

We have also audited the parent company only financial statements of Taiwan Semiconductor Manufacturing Company Limited as of and for the years ended December 31, 2022 and 2021 on which we have issued an unmodified opinion.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the IFRS, IAS, IFRIC, and SIC endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China, and for such internal control as management

determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance (including members of the Audit Committee) are responsible for overseeing the Company's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Standards on Auditing of the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the Standards on Auditing of the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
5. Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

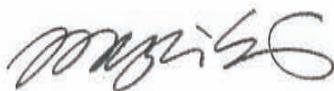
6. Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements for the year ended December 31, 2022 and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audits resulting in this independent auditors' report are Mei Yen Chiang and Shang Chih Lin.



Deloitte & Touche
Taipei, Taiwan
Republic of China

February 14, 2023

Notice to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such consolidated financial statements are those generally applied in the Republic of China.

For the convenience of readers, the independent auditors' report and the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' report and consolidated financial statements shall prevail.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED BALANCE SHEETS (In Thousands of New Taiwan Dollars)

ASSETS	December 31, 2022		December 31, 2021	
	Amount	%	Amount	%
CURRENT ASSETS				
Cash and cash equivalents (Note 6)	\$ 1,342,814,083	27	\$ 1,064,990,192	29
Financial assets at fair value through profit or loss (Note 7)	1,070,398	-	159,048	-
Financial assets at fair value through other comprehensive income (Note 8)	122,998,543	2	119,519,251	3
Financial assets at amortized cost (Note 9)	94,600,219	2	3,773,571	-
Hedging financial assets (Note 10)	2,329	-	13,468	-
Notes and accounts receivable, net (Note 11)	229,755,887	5	197,586,109	5
Receivables from related parties (Note 34)	1,583,958	-	715,324	-
Other receivables from related parties (Note 34)	68,975	-	61,531	-
Inventories (Notes 5 and 12)	221,149,148	4	193,102,321	5
Other financial assets (Note 35)	25,964,428	1	16,630,611	1
Other current assets	12,888,776	-	10,521,481	-
Total current assets	2,052,896,744	41	1,607,072,907	43
NONCURRENT ASSETS				
Financial assets at fair value through other comprehensive income (Note 8)	6,159,200	-	5,887,892	-
Financial assets at amortized cost (Note 9)	35,127,215	1	1,533,391	-
Investments accounted for using equity method (Note 13)	27,641,505	1	21,963,418	1
Property, plant and equipment (Notes 5 and 14)	2,693,836,970	54	1,975,118,704	53
Right-of-use assets (Notes 5 and 15)	41,914,136	1	32,734,537	1
Intangible assets (Notes 5 and 16)	25,999,155	1	26,821,697	1
Deferred income tax assets (Notes 5 and 26)	69,185,842	1	49,153,886	1
Refundable deposits	4,467,022	-	2,624,854	-
Other noncurrent assets	7,551,089	-	2,592,169	-
Total noncurrent assets	2,911,882,134	59	2,118,430,548	57
TOTAL	\$ 4,964,778,878	100	\$ 3,725,503,455	100
LIABILITIES AND EQUITY				
CURRENT LIABILITIES				
Short-term loans (Notes 17 and 31)	\$ -	-	\$ 114,921,333	3
Financial liabilities at fair value through profit or loss (Note 7)	116,215	-	681,914	-
Hedging financial liabilities (Note 10)	813	-	9,642	-
Accounts payable	54,879,708	1	47,285,603	1
Payables to related parties (Note 34)	1,642,637	-	1,437,186	-
Salary and bonus payable	36,435,509	1	23,802,100	1
Accrued profit sharing bonus to employees and compensation to directors (Note 29)	61,748,574	1	36,524,741	1
Payables to contractors and equipment suppliers	213,499,613	4	145,742,148	4
Cash dividends payable (Note 21)	142,617,093	3	142,617,093	4
Income tax payable (Notes 5 and 26)	120,801,814	3	59,647,152	2
Long-term liabilities - current portion (Notes 18, 19 and 31)	19,313,889	-	4,566,667	-
Accrued expenses and other current liabilities (Notes 5, 15, 22, 31 and 34)	293,170,952	6	162,267,779	4
Total current liabilities	944,226,817	19	739,503,358	20
NONCURRENT LIABILITIES				
Bonds payable (Notes 18 and 31)	834,336,439	17	610,070,652	16
Long-term bank loans (Notes 19 and 31)	4,760,047	-	3,309,131	-
Deferred income tax liabilities (Notes 5 and 26)	1,031,383	-	1,873,877	-
Lease liabilities (Notes 5, 15 and 31)	29,764,097	-	20,764,214	1
Net defined benefit liability (Note 20)	9,321,091	-	11,036,879	-
Guarantee deposits	892,021	-	686,762	-
Others (Note 22)	179,958,116	4	167,525,377	5
Total noncurrent liabilities	1,060,063,194	21	815,266,892	22
Total liabilities	2,004,290,011	40	1,554,770,250	42
EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT				
Capital stock (Notes 4 and 21)	259,303,805	5	259,303,805	7
Capital surplus (Notes 4, 21 and 28)	69,330,328	1	64,761,602	2
Retained earnings (Notes 4 and 21)				
Appropriated as legal capital reserve	311,146,899	6	311,146,899	8
Appropriated as special capital reserve	3,154,310	-	59,304,212	2
Unappropriated earnings	2,323,223,479	47	1,536,378,550	41
	2,637,524,688	53	1,906,829,661	51
Others (Notes 4, 21 and 28)	(20,505,626)	-	(62,608,515)	(2)
Equity attributable to shareholders of the parent	2,945,653,195	59	2,168,286,553	58
NON - CONTROLLING INTERESTS	14,835,672	1	2,446,652	-
Total equity	2,960,488,867	60	2,170,733,205	58
TOTAL	\$ 4,964,778,878	100	\$ 3,725,503,455	100

The accompanying notes are an integral part of the consolidated financial statements.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	2022		2021	
	Amount	%	Amount	%
NET REVENUE (Notes 5, 22, 34 and 39)	\$ 2,263,891,292	100	\$ 1,587,415,037	100
COST OF REVENUE (Notes 5, 12, 29 and 34)	<u>915,536,486</u>	<u>40</u>	<u>767,877,771</u>	<u>48</u>
GROSS PROFIT	<u>1,348,354,806</u>	<u>60</u>	<u>819,537,266</u>	<u>52</u>
OPERATING EXPENSES (Notes 5, 29 and 34)				
Research and development	163,262,208	7	124,734,755	8
General and administrative	53,524,898	2	36,929,588	2
Marketing	<u>9,920,446</u>	<u>1</u>	<u>7,558,591</u>	<u>1</u>
Total operating expenses	<u>226,707,552</u>	<u>10</u>	<u>169,222,934</u>	<u>11</u>
OTHER OPERATING INCOME AND EXPENSES, NET (Notes 14 and 29)	<u>(368,403)</u>	<u>-</u>	<u>(333,435)</u>	<u>-</u>
INCOME FROM OPERATIONS (Note 39)	<u>1,121,278,851</u>	<u>50</u>	<u>649,980,897</u>	<u>41</u>
NON-OPERATING INCOME AND EXPENSES				
Share of profits of associates	7,798,359	-	5,603,084	-
Interest income (Note 23)	22,422,209	1	5,708,765	-
Other income	947,697	-	973,141	-
Foreign exchange gain, net (Note 37)	4,505,784	-	13,662,655	1
Finance costs (Note 24)	(11,749,984)	-	(5,414,218)	-
Other gains and losses, net (Note 25)	<u>(1,012,198)</u>	<u>-</u>	<u>(7,388,010)</u>	<u>-</u>
Total non-operating income and expenses	<u>22,911,867</u>	<u>1</u>	<u>13,145,417</u>	<u>1</u>
INCOME BEFORE INCOME TAX	1,144,190,718	51	663,126,314	42
INCOME TAX EXPENSE (Notes 5 and 26)	<u>127,290,203</u>	<u>6</u>	<u>66,053,180</u>	<u>4</u>
NET INCOME	<u>1,016,900,515</u>	<u>45</u>	<u>597,073,134</u>	<u>38</u>
OTHER COMPREHENSIVE INCOME (LOSS) (Notes 5, 20, 21 and 26)				
Items that will not be reclassified subsequently to profit or loss:				
Remeasurement of defined benefit obligation	(823,060)	-	242,079	-
Unrealized gain/(loss) on investments in equity instruments at fair value through other comprehensive income	(263,749)	-	1,900,797	-
Loss on hedging instruments	-	-	(41,416)	-
Share of other comprehensive income (loss) of associates	154,457	-	(30,194)	-
Income tax benefit (expense) related to items that will not be reclassified subsequently	<u>733,956</u>	<u>-</u>	<u>(85,269)</u>	<u>-</u>
	<u>(198,396)</u>	<u>-</u>	<u>1,985,997</u>	<u>-</u>

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	2022		2021	
	Amount	%	Amount	%
Items that may be reclassified subsequently to profit or loss:				
Exchange differences arising on translation of foreign operations	\$ 50,845,614	2	\$ (6,181,830)	(1)
Unrealized loss on investments in debt instruments at fair value through other comprehensive income	(10,102,658)	-	(3,431,791)	-
Gain on hedging instruments	1,329,231	-	131,535	-
Share of other comprehensive income (loss) of associates	550,338	-	(119,997)	-
Income tax benefit (expense) related to items that may be reclassified subsequently	6,036	-	(3,370)	-
	<u>42,628,561</u>	<u>2</u>	<u>(9,605,453)</u>	<u>(1)</u>
Other comprehensive income (loss), net of income tax	<u>42,430,165</u>	<u>2</u>	<u>(7,619,456)</u>	<u>(1)</u>
TOTAL COMPREHENSIVE INCOME	<u>\$ 1,059,330,680</u>	<u>47</u>	<u>\$ 589,453,678</u>	<u>37</u>
NET INCOME ATTRIBUTABLE TO:				
Shareholders of the parent	\$ 1,016,530,249	45	\$ 596,540,013	38
Non-controlling interests	<u>370,266</u>	<u>-</u>	<u>533,121</u>	<u>-</u>
	<u>\$ 1,016,900,515</u>	<u>45</u>	<u>\$ 597,073,134</u>	<u>38</u>
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:				
Shareholders of the parent	\$ 1,059,124,890	47	\$ 588,918,059	37
Non-controlling interests	<u>205,790</u>	<u>-</u>	<u>535,619</u>	<u>-</u>
	<u>\$ 1,059,330,680</u>	<u>47</u>	<u>\$ 589,453,678</u>	<u>37</u>
EARNINGS PER SHARE (NT\$, Note 27)				
Basic earnings per share	<u>\$ 39.20</u>		<u>\$ 23.01</u>	
Diluted earnings per share	<u>\$ 39.20</u>		<u>\$ 23.01</u>	

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Thousands of New Taiwan Dollars)

	Equity Attributable to Shareholders of the Parent															
	Capital Stock - Common Stock				Retained Earnings			Others				Total Equity				
	Shares (In Thousands)	Amount	Capital Surplus	Legal Capital Reserve	Special Reserve	Unappropriated Earnings	Total	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets Available for Sale Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation		Treasury Stock	Total	Non-controlling Interests	
BALANCE, JANUARY 1, 2021	25,930,380	\$ 29,303,805	\$ 56,347,243	\$ 311,146,899	\$ 42,229,146	\$ 1,235,280,036	\$ 1,588,686,081	\$ (57,001,627)	\$ 2,321,754	\$ -	\$ -	\$ -	\$ (54,679,873)	\$ 1,849,657,256	\$ 964,743	\$ 1,850,621,999
Appropriations of earnings	-	-	-	-	17,045,066	(17,045,066)	-	-	-	-	-	-	-	-	-	-
Cash dividends to shareholders	-	-	-	-	-	(278,751,590)	(278,751,590)	-	-	-	-	-	-	(278,751,590)	-	(278,751,590)
Total	-	-	-	-	17,045,066	(295,796,656)	(278,751,590)	-	-	-	-	-	-	(278,751,590)	-	(278,751,590)
Net income	-	-	-	-	-	596,540,013	596,540,013	-	-	-	-	-	-	596,540,013	533,121	597,073,134
Other comprehensive income (loss), net of income tax	-	-	-	-	167,503	(167,503)	167,503	(6,301,734)	(1,539,790)	72,067	(7,289,457)	-	(7,289,457)	(7,289,457)	2,498	(7,619,456)
Total comprehensive income (loss)	-	-	-	-	-	596,707,516	596,707,516	(6,301,734)	(1,539,790)	72,067	(7,289,457)	-	(7,289,457)	589,453,628	535,619	589,989,247
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	-	-	-	(187,654)	-	-	-	(187,654)	-	-	-
Basis adjustment for gain on hedging instruments	-	-	-	-	-	-	-	-	-	48,469	-	48,469	-	-	-	48,469
Adjustments to share of changes in equities of associates	-	-	4,796	-	-	-	-	-	-	-	-	-	-	4,796	-	4,796
From difference between the consideration received and the carrying amount of the subsidiaries's net assets during actual disposal	-	-	8,406,282	-	-	-	-	-	-	-	-	-	-	8,406,282	1,045,516	9,451,798
From share of changes in equities of subsidiaries	-	-	(7,891)	-	-	-	-	-	-	-	-	-	-	(7,891)	7,891	-
Donation from shareholders	-	-	11,172	-	-	-	-	-	-	-	-	-	-	11,172	110	11,282
Decrease in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(107,382)	(107,382)
Effect of acquisition of subsidiary	-	-	-	-	59,304,212	1,536,378,550	1,906,629,661	(63,303,361)	574,310	120,536	-	-	(62,608,515)	2,168,286,553	155	2,170,735,205
BALANCE, DECEMBER 31, 2021	25,930,380	\$ 29,303,805	\$ 64,761,602	\$ 311,146,899	\$ 59,304,212	\$ 1,536,378,550	\$ 1,906,629,661	\$ (63,303,361)	\$ 574,310	\$ 120,536	\$ -	\$ -	\$ (62,608,515)	\$ 2,168,286,553	\$ 155	\$ 2,170,735,205
Appropriations of earnings	-	-	-	-	(56,149,902)	(56,149,902)	-	-	-	-	-	-	-	-	-	-
Special capital reserve	-	-	-	-	(56,149,902)	(56,149,902)	-	-	-	-	-	-	-	-	-	-
Cash dividends to shareholders	-	-	-	-	-	(285,234,185)	(285,234,185)	-	-	-	-	-	-	(285,234,185)	-	(285,234,185)
Total	-	-	-	-	(56,149,902)	(299,084,283)	(285,234,185)	-	-	-	-	-	-	(285,234,185)	-	(285,234,185)
Net income	-	-	-	-	-	1,016,530,249	1,016,530,249	-	-	-	-	-	-	1,016,530,249	370,266	1,016,900,515
Other comprehensive income (loss), net of income tax	-	-	-	-	(49,572)	(49,572)	(49,572)	51,560,060	(10,327,421)	1,411,574	-	-	42,644,213	42,594,641	(164,476)	42,430,165
Total comprehensive income (loss)	-	-	-	-	-	1,016,480,677	1,016,480,677	51,560,060	(10,327,421)	1,411,574	-	-	42,644,213	1,059,124,890	205,790	1,059,330,680
Share-based payment arrangements	1,387	13,870	438,029	-	-	-	-	-	-	-	(185,153)	-	(185,153)	266,746	266,746	
Treasury stock acquired	-	-	-	-	-	-	-	-	-	-	-	(871,566)	-	(871,566)	-	
Treasury stock retired	(1,387)	(13,870)	(2,989)	-	-	-	-	-	-	-	-	871,566	-	-	-	
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	-	-	-	(303,242)	-	-	-	(303,242)	-	-	
Basis adjustment for loss on hedging instruments	-	-	-	-	-	-	-	-	-	(52,929)	-	-	(52,929)	-	-	
Adjustments to share of changes in equities of associates	-	-	4,541	-	-	-	-	-	-	-	-	-	-	4,541	-	
From share of changes in equities of subsidiaries	-	-	4,115,940	-	-	-	-	-	-	-	-	-	-	4,115,940	12,350,219	
Donation from shareholders	-	-	13,205	-	-	-	-	-	-	-	-	-	-	13,205	20	
Decrease in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(167,069)	
BALANCE, DECEMBER 31, 2022	25,930,380	\$ 29,303,805	\$ 69,330,328	\$ 311,146,899	\$ 3,154,310	\$ 2,333,223,479	\$ 2,657,524,688	\$ (111,743,301)	\$ (10,056,353)	\$ 1,479,181	\$ -	\$ -	\$ (20,505,626)	\$ 2,945,663,195	\$ 14,835,672	\$ 2,960,498,867

The accompanying notes are an integral part of the consolidated financial statements.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS (In Thousands of New Taiwan Dollars)

	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES		
Income before income tax	\$ 1,144,190,718	\$ 663,126,314
Adjustments for:		
Depreciation expense	428,498,179	414,187,700
Amortization expense	8,756,094	8,207,169
Expected credit losses recognized (reversal) on investments in debt instruments	52,351	(2,735)
Finance costs	11,749,984	5,414,218
Share of profits of associates	(7,798,359)	(5,603,084)
Interest income	(22,422,209)	(5,708,765)
Share-based compensation	302,348	7,788
Loss (gain) on disposal or retirement of property, plant and equipment, net	(98,856)	273,627
Loss on disposal or retirement of intangible assets, net	6,004	1,228
Impairment loss on property, plant and equipment	790,740	274,388
Loss (gain) on disposal of investments in debt instruments at fair value through other comprehensive income, net	410,076	(93,229)
Loss (gain) on foreign exchange, net	10,342,706	(16,115,936)
Dividend income	(266,767)	(362,310)
Others	138,827	(414,219)
Changes in operating assets and liabilities:		
Financial instruments at fair value through profit or loss	(1,354,359)	2,649,244
Notes and accounts receivable, net	(32,169,853)	(52,105,823)
Receivables from related parties	(868,634)	(157,193)
Other receivables from related parties	(7,444)	(10,886)
Inventories	(28,046,827)	(55,748,914)
Other financial assets	(1,680,611)	(8,236,897)
Other current assets	(4,450,883)	(3,899,043)
Accounts payable	7,594,105	8,298,319
Payables to related parties	205,451	(670,532)
Salary and bonus payable	12,633,409	3,730,859
Accrued profit sharing bonus to employees and compensation to directors	25,223,833	843,695
Accrued expenses and other current liabilities	46,578,784	84,322,721
Other noncurrent liabilities	101,390,476	154,085,985
Net defined benefit liability	(2,538,848)	(635,116)
Cash generated from operations	1,697,160,435	1,195,658,573
Income taxes paid	(86,561,247)	(83,497,851)
Net cash generated by operating activities	<u>1,610,599,188</u>	<u>1,112,160,722</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of:		
Financial instruments at fair value through profit or loss	(125,540)	-
Financial assets at fair value through other comprehensive income	(54,566,725)	(255,888,679)
Financial assets at amortized cost	(183,125,920)	(3,799,737)
Property, plant and equipment	(1,082,672,130)	(839,195,708)
Intangible assets	(6,954,326)	(9,040,751)
Proceeds from disposal or redemption of:		
Financial assets at fair value through other comprehensive income	44,963,367	254,604,537
Financial assets at amortized cost	62,329,674	9,368,275
Property, plant and equipment	983,358	390,364
Intangible assets	12,636	-

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

	2022	2021
Proceeds from return of capital of investments in equity instruments at fair value through other comprehensive income	\$ 2,938	\$ 115,627
Derecognition of hedging financial instruments	1,684,430	276,261
Interest received	18,083,755	5,990,948
Proceeds from government grants - property, plant and equipment	7,046,136	821,312
Proceeds from government grants - others	5,296	6,605
Other dividends received	266,767	362,310
Dividends received from investments accounted for using equity method	2,749,667	2,136,426
Increase in prepayments for leases	-	(1,200,000)
Refundable deposits paid	(2,117,041)	(1,997,337)
Refundable deposits refunded	<u>505,423</u>	<u>683,684</u>
Net cash used in investing activities	<u>(1,190,928,235)</u>	<u>(836,365,863)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Increase (decrease) in short-term loans	(111,959,992)	35,668,397
Proceeds from issuance of bonds	198,293,561	364,592,792
Repayment of bonds	(4,400,000)	(2,600,000)
Proceeds from long-term bank loans	2,670,000	1,510,000
Repayment of long-term bank loans	(166,667)	-
Payments for transaction costs attributable to the issuance of bonds	(414,307)	(737,724)
Treasury stock acquired	(871,566)	-
Repayment of the principal portion of lease liabilities	(2,428,277)	(1,985,338)
Interest paid	(12,218,659)	(3,833,633)
Guarantee deposits received	271,387	469,041
Guarantee deposits refunded	(62,100)	(36,763)
Cash dividends	(285,234,185)	(265,786,399)
Disposal of ownership interests in subsidiaries (without losing control)	-	9,451,798
Donation from shareholders	13,225	11,282
Increase (decrease) in non-controlling interests	<u>16,263,548</u>	<u>(115,015)</u>
Net cash generated by (used in) financing activities	<u>(200,244,032)</u>	<u>136,608,438</u>
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	<u>58,396,970</u>	<u>(7,583,752)</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	277,823,891	404,819,545
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	<u>1,064,990,192</u>	<u>660,170,647</u>
CASH AND CASH EQUIVALENTS, END OF YEAR	<u>\$ 1,342,814,083</u>	<u>\$ 1,064,990,192</u>

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

1. GENERAL

Taiwan Semiconductor Manufacturing Company Limited (TSMC), a Republic of China (R.O.C.) corporation, was incorporated on February 21, 1987. TSMC is a dedicated foundry in the semiconductor industry which engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

On September 5, 1994, TSMC's shares were listed on the Taiwan Stock Exchange (TWSE). On October 8, 1997, TSMC listed some of its shares of stock on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs).

The address of its registered office and principal place of business is No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Taiwan. The principal operating activities of TSMC's subsidiaries are described in Note 4.

2. THE AUTHORIZATION OF FINANCIAL STATEMENTS

The accompanying consolidated financial statements were approved and authorized for issue by the Board of Directors on February 14, 2023.

3. APPLICATION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS

- a. Initial application of the amendments to the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) (collectively, "IFRSs") endorsed and issued into effect by the Financial Supervisory Commission (FSC)

The initial application of the amendments to the IFRSs endorsed and issued into effect by the FSC did not have a significant effect on the accounting policies of TSMC and its subsidiaries (collectively as the "Company").

- b. The IFRSs issued by International Accounting Standards Board (IASB) and endorsed by the FSC with effective date starting 2023

New, Revised or Amended Standards and Interpretations	Effective Date Issued by IASB
Amendments to IAS 1 "Disclosure of Accounting Policies"	January 1, 2023
Amendments to IAS 8 "Definition of Accounting Estimates"	January 1, 2023
Amendments to IAS 12 "Deferred Tax related to Assets and Liabilities arising from a Single Transaction"	January 1, 2023

- c. The IFRSs issued by IASB but not yet endorsed and issued into effect by the FSC

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date Issued by IASB</u>
Amendments to IFRS 10 and IAS 28 “Sale or Contribution of Assets between an Investor and its Associate or Joint Venture”	To be determined by IASB
Amendments to IAS 1 “Classification of Liabilities as Current or Non-current” and “Non-current Liabilities with Covenants”	January 1, 2024

As of the date the accompanying consolidated financial statements were authorized for issue, the Company continues in evaluating the impact on its financial position and financial performance from the initial adoption of the aforementioned standards or interpretations and related applicable period. The related impact will be disclosed when the Company completes its evaluation.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

For the convenience of readers, the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the R.O.C. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language consolidated financial statements shall prevail.

Statement of Compliance

The accompanying consolidated financial statements have been prepared in conformity with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the IFRSs endorsed by the FSC with the effective dates (collectively, “Taiwan-IFRSs”).

Basis of Preparation

The accompanying consolidated financial statements have been prepared on the historical cost basis except for financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for the assets.

Basis of Consolidation

The basis for the consolidated financial statements

The consolidated financial statements incorporate the financial statements of TSMC and entities controlled by TSMC (its subsidiaries).

Income and expenses of subsidiaries acquired or disposed of are included in the consolidated statement of comprehensive income from the effective date of acquisition and up to the effective date of disposal, as appropriate. Total comprehensive income of subsidiaries is attributed to the shareholders of the parent and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those used by the Company.

All intra-group transactions, balances, income and expenses are eliminated in full on consolidation.

Changes in the Company’s ownership interests in subsidiaries that do not result in the Company losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Company’s interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the

fair value of the consideration paid or received is recognized directly in equity and attributed to shareholders of the parent.

When the Company loses control of a subsidiary, a gain or loss is recognized in profit or loss and is calculated as the difference between:

- a. the aggregate of the fair value of consideration received and the fair value of any retained interest at the date when control is lost; and
- b. the previous carrying amount of the assets (including goodwill), and liabilities of the subsidiary and any non-controlling interest.

The Company shall account for all amounts recognized in other comprehensive income in relation to the subsidiary on the same basis as would be required if the Company had directly disposed of the related assets and liabilities.

The fair value of any investment retained in the former subsidiary at the date when control is lost is regarded as the cost on initial recognition of an investment in an associate.

The subsidiaries in the consolidated financial statements

The detail information of the subsidiaries at the end of reporting period was as follows:

Name of Investor	Name of Investee	Main Businesses and Products	Establishment and Operating Location	Percentage of Ownership		Note
				December 31, 2022	December 31, 2021	
TSMC	TSMC North America	Sales and marketing of integrated circuits and other semiconductor devices	San Jose, California, U.S.A.	100%	100%	-
	TSMC Europe B.V. (TSMC Europe)	Customer service and supporting activities	Amsterdam, the Netherlands	100%	100%	a)
	TSMC Japan Limited (TSMC Japan)	Customer service and supporting activities	Yokohama, Japan	100%	100%	a)
	TSMC Design Technology Japan, Inc. (TSMC JDC)	Engineering support activities	Yokohama, Japan	100%	100%	a)
	TSMC Japan 3DIC R&D Center, Inc. (TSMC 3DIC)	Engineering support activities	Yokohama, Japan	100%	100%	a)
	TSMC Korea Limited (TSMC Korea)	Customer service and supporting activities	Seoul, Korea	100%	100%	a)
	TSMC Partners, Ltd. (TSMC Partners)	Investing in companies involved in the semiconductor design and manufacturing, and other investment activities	Tortola, British Virgin Islands	100%	100%	a)
	TSMC Global, Ltd. (TSMC Global)	Investment activities	Tortola, British Virgin Islands	100%	100%	-
	TSMC China Company Limited (TSMC China)	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	Shanghai, China	100%	100%	-
	TSMC Nanjing Company Limited (TSMC Nanjing)	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	Nanjing, China	100%	100%	-
	VisEra Technologies Company Ltd. (VisEra Tech)	Research, design, development, manufacturing, sales, packaging and test of color filter	Hsin-Chu, Taiwan	68%	73%	b)
	TSMC Arizona Corporation (TSMC Arizona)	Manufacturing, sales and testing of integrated circuits and other semiconductor devices	Phoenix, Arizona, U.S.A.	100%	100%	c)
	Japan Advanced Semiconductor Manufacturing, Inc. (JASM)	Manufacturing, sales, testing and computer aided design of integrated circuits and other semiconductor devices	Kumamoto, Japan	71%	100%	a), d)
	VentureTech Alliance Fund II, L.P. (VTAF II)	Investing in technology start-up companies	Cayman Islands	98%	98%	a)
	VentureTech Alliance Fund III, L.P. (VTAF III)	Investing in technology start-up companies	Cayman Islands	98%	98%	a)
	Emerging Fund L.P. (Emerging Fund)	Investing in technology start-up companies	Cayman Islands	99.9%	99.9%	a)

(Continued)

Name of Investor	Name of Investee	Main Businesses and Products	Establishment and Operating Location	Percentage of Ownership		Note
				December 31, 2022	December 31, 2021	
TSMC Partners	TSMC Development, Inc. (TSMC Development)	Investing in companies involved in semiconductor manufacturing	Delaware, U.S.A.	100%	100%	-
	TSMC Technology, Inc. (TSMC Technology)	Engineering support activities	Delaware, U.S.A.	100%	100%	a)
	TSMC Design Technology Canada Inc. (TSMC Canada)	Engineering support activities	Ontario, Canada	100%	100%	a)
TSMC Development	WaferTech, LLC (WaferTech)	Manufacturing, sales and testing of integrated circuits and other semiconductor devices	Washington, U.S.A.	100%	100%	-
VTAF III	Growth Fund Limited (Growth Fund)	Investing in technology start-up companies	Cayman Islands	100%	100%	a)

(Concluded)

Note a: This is an immaterial subsidiary for which the consolidated financial statements are not audited by the Company's independent auditors.

Note b: VisEra has increased its capital in June 2022. After the increase in capital, TSMC's shareholding in VisEra decreased from 73% to 68%. This transaction was accounted for as an equity transaction since the transaction did not change TSMC's control over VisEra.

Note c: Under the terms of the development agreement entered into between TSMC Arizona and the City of Phoenix, the City of Phoenix commits approximately US\$205 million toward various public infrastructure projects in the area of the proposed manufacturing facility, conditioned on TSMC Arizona's achieving a minimum project scale with defined spending and job-creation thresholds.

Note d: JASM is established in December 2021 and has increased its capital in January 2022. After the increase in capital, TSMC's shareholding in JASM decreased from 100% to 81%. In addition, JASM increased its capital by issuing noncumulative preferred shares and common shares in April 2022, TSMC's shareholding in JASM decreased from 81% to 71% and the proportion of voting right remain 81%. The aforementioned transactions were accounted for as an equity transaction since the transaction did not change TSMC's control over JASM.

Foreign Currencies

The financial statements of each individual consolidated entity were expressed in the currency which reflected its primary economic environment (functional currency). The functional currency of TSMC and presentation currency of the consolidated financial statements are both New Taiwan Dollars (NT\$). In preparing the consolidated financial statements, the operating results and financial positions of each consolidated entity are translated into NT\$.

In preparing the financial statements of each individual consolidated entity, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Such exchange differences are recognized in profit or loss in the year in which they arise. Non-monetary items measured at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Exchange differences arising on the retranslation of non-monetary items are included in profit or loss for the year except for exchange differences arising on the retranslation of non-monetary items in respect of which gains and losses are recognized directly in other comprehensive income, in which case, the exchange differences are also recognized directly in other comprehensive income. Non-monetary items that are measured in terms of historical cost in foreign currencies are not retranslated.

For the purposes of presenting consolidated financial statements, the assets and liabilities of the Company's foreign operations are translated into NT\$ using exchange rates prevailing at the end of each reporting period. Income and expense items are translated at the average exchange rates for the period. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate).

Classification of Current and Noncurrent Assets and Liabilities

Current assets are assets held for trading purposes and assets expected to be converted to cash, sold or consumed within one year from the end of the reporting period. Current liabilities are obligations incurred for trading purposes and obligations expected to be settled within one year from the end of the reporting period. Assets and liabilities that are not classified as current are noncurrent assets and liabilities, respectively.

Cash Equivalents

Cash equivalents, for the purpose of meeting short-term cash commitments, consist of highly liquid time deposits and investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Financial Instruments

Financial assets and liabilities shall be recognized when the Company becomes a party to the contractual provisions of the instruments.

Financial assets and liabilities are initially recognized at fair values. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

Financial Assets

The classification of financial assets depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Regular way purchases or sales of financial assets are recognized and derecognized on a trade date or settlement date basis for which financial assets were classified in the same way, respectively. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

a. Category of financial assets and measurement

Financial assets are classified into the following categories: financial assets at FVTPL, investments in debt instruments and equity instruments at FVTOCI, and financial assets at amortized cost.

1) Financial asset at FVTPL

For certain financial assets which include debt instruments that do not meet the criteria of amortized cost or FVTOCI, it is mandatorily required to measure them at FVTPL. Any gain or loss arising from remeasurement is recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any interest earned on the financial asset.

2) Investments in debt instruments at FVTOCI

Debt instruments with contractual terms specifying that cash flows are solely payments of principal and interest on the principal amount outstanding, together with objective of collecting contractual cash flows and selling the financial assets, are measured at FVTOCI.

Interest income calculated using the effective interest method, foreign exchange gains and losses and impairment gains or losses on investments in debt instruments at FVTOCI are recognized in profit or loss. Other changes in the carrying amount of these debt instruments are recognized in other comprehensive income and will be reclassified to profit or loss when these debt instruments are disposed.

3) Investments in equity instruments at FVTOCI

On initial recognition, the Company may irrevocably designate investments in equity investments that is not held for trading as at FVTOCI.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in other equity.

Dividends on these investments in equity instruments at FVTOCI are recognized in profit or loss when the Company's right to receive the dividends is established, unless the Company's rights clearly represent a recovery of part of the cost of the investment.

4) Measured at amortized cost

Cash and cash equivalents, commercial paper, debt instrument investments, notes and accounts receivable (including related parties), other receivables, refundable deposits and temporary payments (including those classified under other current assets and other noncurrent assets) are measured at amortized cost.

Debt instruments with contractual terms specifying that cash flows are solely payments of principal and interest on the principal amount outstanding, together with objective of holding financial assets in order to collect contractual cash flows, are measured at amortized cost.

Subsequent to initial recognition, financial assets measured at amortized cost are measured at amortized cost, which equals to carrying amount determined by the effective interest method less any impairment loss.

b. Impairment of financial assets

At the end of each reporting period, a loss allowance for expected credit loss is recognized for financial assets at amortized cost (including accounts receivable) and for investments in debt instruments that are measured at FVTOCI.

The loss allowance for accounts receivable is measured at an amount equal to lifetime expected credit losses. For financial assets at amortized cost and investments in debt instruments that are measured at FVTOCI, when the credit risk on the financial instrument has not increased significantly since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from possible default events of a financial instrument within 12 months after the reporting date. If, on the other hand, there has been a significant increase in credit risk since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from all possible default events over the expected life of a financial instrument.

The Company recognizes an impairment loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVTOCI, for which the loss allowance is recognized in other comprehensive income and does not reduce the carrying amount of the financial asset.

c. Derecognition of financial assets

The Company derecognizes a financial asset only when the contractual rights to the cash flows from the financial asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the financial asset to another entity.

On derecognition of a financial asset at amortized cost in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. On derecognition of an investment in a debt instrument at FVTOCI, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss that had been recognized in other comprehensive income is recognized in profit or loss. However, on derecognition of an investment in an equity instrument at FVTOCI, the cumulative gain or loss that had

been recognized in other comprehensive income is transferred directly to retained earnings, without recycling through profit or loss.

Financial Liabilities and Equity Instruments

Classification as debt or equity

Debt and equity instruments issued by the Company are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Company are recognized at the proceeds received, net of direct issue costs.

Financial liabilities

Financial liabilities are subsequently measured either at amortized cost using effective interest method or at FVTPL.

Financial liabilities are classified as at fair value through profit or loss when the financial liability is either held for trading or is designated as at fair value through profit or loss.

Financial liabilities at fair value through profit or loss are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss.

Financial liabilities other than those held for trading purposes and designated as at FVTPL are subsequently measured at amortized cost at the end of each reporting period.

Derecognition of financial liabilities

The Company derecognizes financial liabilities when, and only when, the Company's obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

Derivative Financial Instruments

Derivative financial instruments are initially recognized at fair value at the date the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately unless the derivative financial instrument is designated and effective as a hedging instrument, in which event the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

Hedge Accounting

a. Fair value hedge

The Company designates certain hedging instruments, such as interest rate futures contracts, to partially hedge against the fair value change caused by interest rates fluctuation in the Company's fixed income investments. Changes in the fair value of hedging instruments that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged items that are attributable to the hedged risk.

b. Cash flow hedge

The Company designates certain hedging instruments, such as forward contracts, to partially hedge its foreign exchange rate risks or interest rate risks associated with certain highly probable forecast transactions (capital expenditures or issuance of debts). The effective portion of changes in the fair value of hedging instruments is recognized in other comprehensive income. When forecast transactions actually take place, the accumulated gains or losses that were recognized in other comprehensive income are transferred from equity to the initial cost of the hedged items, or reclassified to finance costs of hedged items in the same period or periods during which the hedged expected future cash flows affect profit or loss. The gains or losses from hedging instruments relating to the ineffective portion are recognized immediately in profit or loss.

The Company prospectively discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance, when the hedging instrument expires or is sold, terminated or exercised.

Inventories

Inventories are stated at the lower of cost or net realizable value. Inventories are recorded at standard cost and adjusted to approximate weighted-average cost at the end of the reporting period. Net realizable value represents the estimated selling price of inventories less all estimated costs of completion and costs necessary to make the sale.

Investments Accounted for Using Equity Method

Investments accounted for using the equity method are investments in associates.

An associate is an entity over which the Company has significant influence and that is neither a subsidiary nor a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The operating results and assets and liabilities of associates are incorporated in these consolidated financial statements using the equity method of accounting. Under the equity method, an investment in an associate is initially recognized in the consolidated statements of financial position at cost and adjusted thereafter to recognize the Company's share of profit or loss and other comprehensive income of the associate as well as the distribution received. The Company also recognizes its share in the changes in the equities of associates.

Any excess of the cost of acquisition over the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs to sell) with its carrying amount. Any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

When the Company subscribes to additional shares in an associate at a percentage different from its existing ownership percentage, the resulting carrying amount of the investment differs from the amount of the Company's proportionate interest in the net assets of the associate. The Company records such a difference as an adjustment to investments with the corresponding amount charged or credited to capital surplus. If the Company's ownership interest is reduced due to the additional subscription to the shares of associate by other investors, the proportionate amount of the gains or losses previously recognized in other comprehensive

income in relation to that associate shall be reclassified to profit or loss on the same basis as would be required if the associate had directly disposed of the related assets or liabilities.

When a consolidated entity transacts with an associate, profits and losses resulting from the transactions with the associate are recognized in the Company's consolidated financial statements only to the extent of interests in the associate that are not owned by the Company.

Property, Plant and Equipment

Property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment. Costs include any incremental costs that are directly attributable to the construction, acquisition of the item of property, plant and equipment or borrowing costs eligible for capitalization.

Property, plant and equipment in the course of construction for production, supply or administrative purposes are carried at cost, less any recognized impairment loss. Such assets are classified to the appropriate categories of property, plant and equipment when completed and ready for intended use. Depreciation of these assets, on the same basis as other identical categories of property, plant and equipment, commences when the assets are available for their intended use.

Depreciation is recognized so as to write off the cost of the assets less their residual values over their useful lives, and it is computed using the straight-line method mainly over the following estimated useful lives: land improvements - 20 years; buildings (assets used by the Company and assets subject to operating leases) - 10 to 20 years; machinery and equipment (assets used by the Company and assets subject to operating leases) - 5 years; and office equipment - 5 years. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for on a prospective basis. Land is not depreciated.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the assets. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

Leases

For a contract that contains a lease component and non-lease component, the Company may elect to account for the lease and non-lease components as a single lease component.

The Company as lessor

Rental income from operating lease is recognized on a straight-line basis over the term of the lease.

The Company as lessee

Except for payments for low-value asset leases and short-term leases (leases of machinery and equipment and others) which are recognized as expenses on a straight-line basis, the Company recognizes right-of-use assets and lease liabilities for all leases at the commencement date of the lease.

Right-of-use assets are measured at cost. The cost of right-of-use assets comprises the initial measurement of lease liabilities adjusted for lease payments and initial direct costs made at or before the commencement date, plus an estimate of costs needed to restore the underlying assets. Subsequent measurement is calculated as cost less accumulated depreciation and accumulated impairment loss and adjusted for changes in lease liabilities as a result of lease term modifications or other related factors. Right-of-use assets are presented separately in the consolidated balance sheets.

Right-of-use assets are depreciated using the straight-line method from the commencement dates to the earlier of the end of the useful lives of the right-of-use assets or the end of the lease terms. If the lease transfers ownership of the underlying assets to the Company by the end of the lease terms or if the cost of right-of-use assets reflects that the Company will exercise a purchase option, the Company depreciates the right-of-use assets from the commencement dates to the end of the useful lives of the underlying assets.

Lease liabilities are measured at the present value of the lease payments. Lease payments comprise fixed payments, variable lease payments which depend on an index or a rate and the exercise price of a purchase option if the Company is reasonably certain to exercise that option. The lease payments are discounted using the lessee's incremental borrowing rates.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in future lease payments resulting from a change in an index or a rate used to determine those payments, or a change in the assessment of an option to purchase an underlying asset, the Company remeasures the lease liabilities with a corresponding adjustment to the right-of-use assets. Lease liabilities are presented on a separate line in the consolidated balance sheets.

Intangible Assets

Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

Other intangible assets

Other separately acquired intangible assets with finite useful lives are carried at cost less accumulated amortization and accumulated impairment losses. Amortization is recognized using the straight-line method over the following estimated useful lives: Technology license fees - the estimated life of the technology or the term of the technology transfer contract; software and system design costs - 3 years or contract period; patent and others - the economic life or contract period. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Impairment of Tangible Assets, Right-of-use Assets and Intangible Assets

Goodwill

Goodwill is not amortized and instead is tested for impairment annually, or more frequently when there is an indication that the cash generating unit may be impaired. For the purpose of impairment testing, goodwill is allocated to each of the Company's cash-generating units or groups of cash-generating units that are expected to benefit from the synergies of the combination. If the recoverable amount of a cash-generating unit is less than its carrying amount, the difference is allocated first to reduce the carrying amount of any goodwill allocated to such cash generating unit and then to the other assets of the cash generating unit pro rata based on the carrying amount of each asset in the cash generating unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

Tangible assets, right-of-use assets and other intangible assets

At the end of each reporting period, the Company reviews the carrying amounts of its tangible assets (property, plant and equipment), right-of-use assets and other intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of

the cash-generating unit to which the asset belongs. When a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset or cash-generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash-generating unit is reduced to its recoverable amount. An impairment loss is recognized immediately in profit or loss.

When an impairment loss subsequently reverses, the carrying amount of the asset or a cash-generating unit is increased to the revised estimate of its recoverable amount, but the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset or cash-generating unit in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

Revenue Recognition

The Company recognizes revenue when performance obligations are satisfied. The performance obligations are satisfied when customers obtain control of the promised goods, which is generally when the goods are delivered to the customers' specified locations.

Revenue from sale of goods is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. Estimated sales returns and other allowances is generally made and adjusted based on historical experience and the consideration of varying contractual terms to recognize refund liabilities, which is classified under accrued expenses and other current liabilities.

In principle, payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month of when the invoice is issued. Due to the short term nature of the receivables from sale of goods with the immaterial discounted effect, the Company measures them at the original invoice amounts without discounting.

Employee Benefits

Short-term employee benefits

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for service rendered by employees.

Retirement benefits

For defined contribution retirement benefit plans, payments to the benefit plan are recognized as an expense when the employees have rendered service entitling them to the contribution. For defined benefit retirement benefit plans, the cost of providing benefit is recognized based on actuarial calculations.

Defined benefit costs (including service cost, net interest and rereasurement) under the defined benefit retirement benefit plans are determined using the Projected Unit Credit Method. Service cost (including current service cost), and net interest on the net defined benefit liability (asset) are recognized as employee benefits expense in the period they occur. Rereasurement, comprising actuarial gains and losses and the return on plan assets (excluding interest), is recognized in other comprehensive income in the period in which

they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss.

Net defined benefit liability represents the actual deficit in the Company's defined benefit plan.

Treasury Stock

Treasury stock represents the outstanding shares that the Company buys back from market, which is stated at cost and shown as a deduction in shareholders' equity. When the Company retires treasury stock, the treasury stock account is reduced and the common stock as well as the capital surplus - additional paid-in capital are reversed on a pro rata basis. When the book value of the treasury stock exceeds the sum of the par value and additional paid-in capital, the difference is charged to capital surplus - treasury stock transactions and to retained earnings for any remaining amount.

Share-based payment arrangements

a. Equity-settled share-based payment arrangements

Restricted shares for employees are expensed on a straight-line basis over the vesting period, based on the fair value at the grant date and the Company's best estimate of the number expected to ultimately vest, with a corresponding increase in other equity - unearned employee benefits.

When restricted shares for employees are issued, other equity - unearned employee benefits is recognized on the grant date, with a corresponding increase in capital surplus - restricted shares for employees. Dividends paid to employees on restricted shares which do not need to be returned if employees resign in the vesting period are recognized as expenses upon the dividend declaration with a corresponding adjustment in retained earnings.

At the end of each reporting period, the Company revises its estimate of the number of restricted shares for employees that are expected to vest. The impact from such revision is recognized in profit or loss so that the cumulative expenses reflect the revised estimate, with a corresponding adjustment to capital surplus - restricted shares for employees.

b. Cash-settled share-based payment arrangements

For cash-settled share-based payments, a liability is recognized for the services acquired, measured at the fair value of the liability incurred. At the end of each reporting period until the liability is settled, and at the date of settlement, the fair value of the liability is remeasured, with any changes in fair value recognized in profit or loss.

Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

Current tax

Income tax on unappropriated earnings (excluding earnings from foreign consolidated subsidiaries) is expensed in the year the shareholders approved the appropriation of earnings which is the year subsequent to the year the earnings are generated.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences, net operating loss carryforwards and tax credits for research and development expenses to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, except where the Company is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered. The deferred tax assets which originally not recognized is also reviewed at the end of each reporting period and recognized to the extent that it is probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the year in which the liability is settled or the asset is realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Current and deferred tax for the year

Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity, respectively.

Government Grants

Government grants are not recognized until there is reasonable assurance that the Company will comply with the conditions attaching to them and that the grants will be received.

Government grants whose primary condition is that the Company should purchase, construct or otherwise acquire noncurrent assets (mainly including land use right and depreciable assets) are recognized as a deduction from the carrying amount of the related assets and recognized as a reduced depreciation or amortization charge in profit or loss over the contract period or useful lives of the related assets. Government grants that are receivables as compensation for expenses already incurred are deducted from incurred expenses in the period in which they become receivables.

5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY

The Company has considered the economic implications of COVID-19 on critical accounting estimates and will continue evaluating the impact on its financial position and financial performance as a result of the pandemic.

In the application of the aforementioned Company's accounting policies, the Company is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimate is revised if the revision affects only that year, or in the year of the revision and future years if the revision affects both current and future years.

Critical Accounting Judgments

Revenue Recognition

The Company recognizes revenue when the conditions described in Note 4 are satisfied.

Commencement of Depreciation Related to Property, Plant and Equipment Classified as Equipment under Installation and Construction in Progress (EUI/CIP)

As described in Note 4, commencement of depreciation related to EUI/CIP involves determining when the assets are available for their intended use. The criteria the Company uses to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets to be capable of operating in the intended manner.

Judgments on Lease Terms

In determining a lease term, the Company considers all facts and circumstances that create an economic incentive to exercise or not to exercise an option, including any expected changes in facts and circumstances from the commencement date until the exercise date of the option. Main factors considered include contractual terms and conditions covered by the optional periods, and the importance of the underlying asset to the lessee's operations, etc. The lease term is reassessed if a significant change in circumstances that are within the control of the Company occurs.

Key Sources of Estimation and Uncertainty

Estimation of Sales Returns and Allowances

Sales returns and other allowance is estimated and recorded based on historical experience and in consideration of different contractual terms. The amount is deducted from revenue in the same period the related revenue is recorded. The Company periodically reviews the reasonableness of the estimates.

Valuation of Inventory

Inventories are stated at the lower of cost or net realizable value, and the Company uses estimate to determine the net realizable value of inventory at the end of each reporting period.

The Company estimates the net realizable value of inventory for normal waste, obsolescence and unmarketable items at the end of reporting period and then writes down the cost of inventories to net realizable value. The net realizable value of the inventory is determined mainly based on assumptions of future demand within a specific time horizon.

Impairment of Tangible Assets, Right-of-use Assets and Intangible Assets Other than Goodwill

In the process of evaluating the potential impairment of tangible assets, right-of-use assets and intangible assets other than goodwill, the Company determines the independent cash flows, useful lives, expected future revenue and expenses related to the specific asset groups with the consideration of the nature of

semiconductor industry. Any change in these estimates based on changed economic conditions or business strategies could result in significant impairment charges or reversal in future years.

Realization of Deferred Income Tax Assets

Deferred tax assets are recognized to the extent that it is probable that future taxable profits will be available against which those deferred tax assets can be utilized. Assessment of the realization of the deferred tax assets requires subjective judgment and estimate, including the future revenue growth and profitability, tax holidays, the amount of tax credits can be utilized and feasible tax planning strategies. Any changes in the global economic environment, the industry trends and relevant laws and regulations could result in significant adjustments to the deferred tax assets.

Determination of Lessees' Incremental Borrowing Rates

In determining a lessee's incremental borrowing rate used in discounting lease payments, the Company mainly takes into account the market risk-free rates, the estimated lessee's credit spreads and secured status in a similar economic environment.

6. CASH AND CASH EQUIVALENTS

	December 31, 2022	December 31, 2021
Cash and deposits in banks	\$1,329,291,394	\$1,058,808,104
Commercial paper	9,566,430	-
Government bonds	2,451,570	906,743
Repurchase agreements	1,133,310	5,275,345
Corporate bonds	<u>371,379</u>	<u>-</u>
	<u>\$1,342,814,083</u>	<u>\$1,064,990,192</u>

Deposits in banks consisted of highly liquid time deposits that were readily convertible to known amounts of cash and were subject to an insignificant risk of changes in value.

7. FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS

	December 31, 2022	December 31, 2021
<u>Financial assets</u>		
Mandatorily measured at FVTPL		
Forward exchange contracts	\$ 947,546	\$ 159,048
Convertible bonds	<u>122,852</u>	<u>-</u>
	<u>\$ 1,070,398</u>	<u>\$ 159,048</u>
<u>Financial liabilities</u>		
Held for trading		
Forward exchange contracts	<u>\$ 116,215</u>	<u>\$ 681,914</u>

The Company entered into forward exchange contracts to manage exposures due to fluctuations of foreign exchange rates. These forward exchange contracts did not meet the criteria for hedge accounting. Therefore, the Company did not apply hedge accounting treatment for these forward exchange contracts.

Outstanding forward exchange contracts consisted of the following:

	Maturity Date	Contract Amount (In Thousands)
<u>December 31, 2022</u>		
Sell NT\$	January 2023 to March 2023	NT\$ 79,610,590
Sell US\$	January 2023 to March 2023	US\$ 752,486
Sell RMB	January 2023 to March 2023	RMB 1,448,371
<u>December 31, 2021</u>		
Sell NT\$	January 2022 to March 2022	NT\$ 132,734,482
Sell US\$	January 2022 to March 2022	US\$ 2,009,148

8. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	December 31, 2022	December 31, 2021
Investments in debt instruments at FVTOCI		
Corporate bonds	\$ 66,116,166	\$ 57,253,161
Agency bonds/Agency mortgage-backed securities	28,399,890	32,070,114
Government bonds	18,929,924	21,345,794
Asset-backed securities	<u>9,274,697</u>	<u>8,660,424</u>
	<u>122,720,677</u>	<u>119,329,493</u>
Investments in equity instruments at FVTOCI		
Non-publicly traded equity investments	6,159,200	5,887,892
Publicly traded stocks	<u>277,866</u>	<u>189,758</u>
	<u>6,437,066</u>	<u>6,077,650</u>
	<u>\$ 129,157,743</u>	<u>\$ 125,407,143</u>
Current	\$ 122,998,543	\$ 119,519,251
Noncurrent	<u>6,159,200</u>	<u>5,887,892</u>
	<u>\$ 129,157,743</u>	<u>\$ 125,407,143</u>

These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as FVTOCI. For dividends recognized from these investments, please refer to consolidated statements of cash flows. All of the dividends are mainly from investments held at the end of the reporting period.

For the years ended December 31, 2022 and 2021, as non-publicly traded investees were acquired and the Company adjusted its investment portfolio, equity investments designated at FVTOCI were divested for NT\$561,600 thousand and NT\$628,711 thousand, respectively. The related other equity-unrealized gain/loss on financial assets at FVTOCI of NT\$303,242 thousand and NT\$185,993 thousand were transferred to increase retained earnings, respectively.

As of December 31, 2022 and 2021, the cumulative loss allowance for expected credit loss of NT\$37,783 thousand and NT\$33,209 thousand was recognized under investments in debt instruments at FVTOCI, respectively. Refer to Note 33 for information relating to the credit risk management and expected credit loss.

9. FINANCIAL ASSETS AT AMORTIZED COST

	December 31, 2022	December 31, 2021
Corporate bonds	\$ 81,041,056	\$ 5,310,039
Commercial paper	48,742,817	-
Less: Allowance for impairment loss	<u>(56,439)</u>	<u>(3,077)</u>
	<u>\$ 129,727,434</u>	<u>\$ 5,306,962</u>
Current	\$ 94,600,219	\$ 3,773,571
Noncurrent	<u>35,127,215</u>	<u>1,533,391</u>
	<u>\$ 129,727,434</u>	<u>\$ 5,306,962</u>

Refer to Note 33 for information relating to credit risk management and expected credit loss for financial assets at amortized cost.

10. HEDGING FINANCIAL INSTRUMENTS

	December 31, 2022	December 31, 2021
<u>Financial assets- current</u>		
Fair value hedges		
Interest rate futures contracts	\$ 2,329	\$ -
Cash flow hedges		
Forward interest rate contracts	<u>-</u>	<u>13,468</u>
	<u>\$ 2,329</u>	<u>\$ 13,468</u>
<u>Financial liabilities- current</u>		
Fair value hedges		
Interest rate futures contracts	<u>\$ 813</u>	<u>\$ 9,642</u>
<u>Fair value hedge</u>		

The Company entered into interest rate futures contracts, which are used to partially hedge against the fair value changes caused by interest rate fluctuation in the Company's fixed income investments. The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%.

On the basis of economic relationships, the value of the interest rate futures contracts and the value of the hedged financial assets change in opposite directions in response to movements in interest rates.

The main source of hedge ineffectiveness in these hedging relationships is the credit risk of the hedged financial assets, which is not reflected in the fair value of the interest rate futures contracts. No other sources of ineffectiveness emerged from these hedging relationships during the hedging period. Amount of hedge ineffectiveness recognized in profit or loss is classified under other gains and losses, net.

The following tables summarize the information relating to the hedges of interest rate risks.

December 31, 2022

Hedging Instruments	Contract Amount (US\$ in Thousands)	Maturity
Interest rate futures contracts - US Treasury futures	US\$ 74,300	March 2023

Hedged Items	Asset Carrying Amount	Accumulated Amount of Fair Value Hedge Adjustments
Financial assets at FVTOCI	\$ 4,008,179	\$ (1,516)

December 31, 2021

Hedging Instruments	Contract Amount (US\$ in Thousands)	Maturity
Interest rate futures contracts - US Treasury futures	US\$ 53,900	March 2022

Hedged Items	Asset Carrying Amount	Accumulated Amount of Fair Value Hedge Adjustments
Financial assets at FVTOCI	\$ 4,079,274	\$ 9,642

The effect for the years ended December 31, 2022 and 2021 is detailed below:

Hedging Instruments/Hedged Items	Change in Value Used for Calculating Hedge Ineffectiveness	
	Years Ended December 31	
	2022	2021
Hedging Instruments		
Interest rate futures contracts - US Treasury futures	\$ 283,995	\$ 148,817
Hedged Items		
Financial assets at FVTOCI	<u>(283,995)</u>	<u>(148,817)</u>
	<u>\$ -</u>	<u>\$ -</u>

Cash flow hedge

The Company entered into forward contracts to partially hedge foreign exchange rate risks or interest rate risks associated with certain highly probable forecast transactions (capital expenditures or issuance of debts). The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%. The forward contracts have maturities of 12 months or less.

On the basis of economic relationships, the Company expects that the value of forward contracts and the value of hedged transactions will change in opposite directions in response to movements in foreign exchange rates or interest rates.

The main source of hedge ineffectiveness in these hedging relationships is driven by the effect of the counterparty's own credit risk on the fair value of forward contracts. No other sources of ineffectiveness emerged from these hedging relationships during the hedging period. For the years ended December 31, 2022 and 2021, refer to Note 21(d) for gain or loss arising from changes in the fair value of hedging instruments, the amount transferred to initial carrying amount of hedged items and the amount reclassified to finance costs of hedged items.

The following tables summarize the information relating to the hedges of interest rate risks.

December 31, 2021

Hedging Instruments	Contract Amount (In Thousands)	Maturity	Balance in Other Equity (Continuing Hedges)
Forward interest rate contracts	US\$ 328,000	January 2022	\$ 128,165

The effect for the years ended December 31, 2022 and 2021 is detailed below:

Hedging Instruments/Hedged Items	Change in Value Used for Calculating Hedge Ineffectiveness	
	Years Ended December 31	
	2022	2021
Hedging Instruments		
Forward exchange contracts (capital expenditures)	\$ _____ -	\$ (41,416)
Forward interest rate contracts (issuance of debts)	\$ 1,379,119	\$ 132,508
Hedged Items		
Forecast transaction (capital expenditures)	\$ _____ -	\$ 41,416
Forecast transaction (issuance of debts)	\$ (1,379,119)	\$ (132,508)

11. NOTES AND ACCOUNTS RECEIVABLE, NET

	December 31, 2022	December 31, 2021
At amortized cost		
Notes and accounts receivable	\$ 222,761,927	\$ 193,733,220
Less: Loss allowance	(331,646)	(347,020)
	222,430,281	193,386,200
At FVTOCI	7,325,606	4,199,909
	<u>\$ 229,755,887</u>	<u>\$ 197,586,109</u>

The Company signed a contract with the bank to sell certain accounts receivable without recourse and transaction cost required. These accounts receivable are classified as at FVTOCI because they are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets.

In principle, the payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month when the invoice is issued. Aside from recognizing impairment loss for credit-impaired accounts receivable, the Company recognizes loss allowance based on the expected credit loss ratio of

customers by different risk levels with consideration of factors of historical loss ratios and customers' financial conditions, competitiveness and business outlook. For accounts receivable past due over 90 days without collaterals or guarantees, the Company recognizes loss allowance at full amount.

Aging analysis of notes and accounts receivable

	December 31, 2022	December 31, 2021
Not past due	\$ 205,053,142	\$ 191,740,045
Past due		
Past due within 30 days	24,516,277	6,186,814
Past due over 31 days	518,114	6,270
Less: Loss allowance	<u>(331,646)</u>	<u>(347,020)</u>
	<u>\$ 229,755,887</u>	<u>\$ 197,586,109</u>

All of the Company's accounts receivable classified as at FVTOCI were not past due.

Movements of the loss allowance for accounts receivable

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 347,020	\$ 246,626
Provision (Reversal)	(15,449)	100,408
Effect of exchange rate changes	<u>75</u>	<u>(14)</u>
Balance, end of year	<u>\$ 331,646</u>	<u>\$ 347,020</u>

For the years ended December 31, 2022 and 2021, the changes in loss allowance were mainly due to the variations in the balance of accounts receivable of different risk levels.

12. INVENTORIES

	December 31, 2022	December 31, 2021
Finished goods	\$ 54,818,402	\$ 32,562,750
Work in process	125,661,912	137,700,402
Raw materials	20,389,115	11,111,122
Supplies and spare parts	<u>20,279,719</u>	<u>11,728,047</u>
	<u>\$ 221,149,148</u>	<u>\$ 193,102,321</u>

Write-down of inventories to net realizable value and reversal of write-down of inventories resulting from the increase in net realizable value were included in the cost of revenue during reporting period. The amounts are illustrated below:

	Years Ended December 31	
	2022	2021
Inventory losses	<u>\$ 4,689,112</u>	<u>\$ 533,034</u>

13. INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD

Associates consisted of the following:

Name of Associate	Principal Activities	Place of Incorporation and Operation	Carrying Amount		% of Ownership and Voting Rights Held by the Company	
			December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Vanguard International Semiconductor Corporation (VIS)	Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks	Hsinchu, Taiwan	\$ 13,492,653	\$ 10,613,127	28%	28%
Systems on Silicon Manufacturing Company Pte Ltd. (SSMC)	Manufacturing and sales of integrated circuits and other semiconductor devices	Singapore	8,934,731	6,795,699	39%	39%
Xintec Inc. (Xintec)	Wafer level chip size packaging and wafer level post passivation interconnection service	Taoyuan, Taiwan	3,528,417	3,046,961	41%	41%
Global Unichip Corporation (GUC)	Researching, developing, manufacturing, testing and marketing of integrated circuits	Hsinchu, Taiwan	1,666,651	1,484,683	35%	35%
Mutual-Pak Technology Co., Ltd. (Mutual-Pak)	Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID	New Taipei, Taiwan	<u>19,053</u>	<u>22,948</u>	28%	28%
			<u>\$ 27,641,505</u>	<u>\$ 21,963,418</u>		

As of December 31, 2022 and 2021, no investments in associates are individually material to the Company. Please refer to the consolidated statements of comprehensive income for recognition of share of both profit (loss) and other comprehensive income (loss) of associates that are not individually material.

The market prices of the associates' ownership held by the Company in publicly traded stocks calculated by the closing price at the end of the reporting period are summarized as follows. The closing price represents the quoted price in active markets, the level 1 fair value measurement.

Name of Associate	December 31, 2022	December 31, 2021
VIS	<u>\$ 35,977,321</u>	<u>\$ 73,347,312</u>
GUC	<u>\$ 29,926,918</u>	<u>\$ 27,359,085</u>
Xintec	<u>\$ 10,716,449</u>	<u>\$ 15,913,315</u>

14. PROPERTY, PLANT AND EQUIPMENT

	December 31, 2022	December 31, 2021
Assets used by the Company	\$2,693,815,688	\$1,975,113,974
Assets subject to operating leases	<u>21,282</u>	<u>4,730</u>
	<u>\$2,693,836,970</u>	<u>\$1,975,118,704</u>

Assets used by the Company

	Land and Land Improvements	Buildings	Machinery and Equipment	Office Equipment	Equipment under Installation and Construction in Progress	Total
<u>Cost</u>						
Balance at January 1, 2022	\$ 6,488,230	\$ 576,597,777	\$ 3,984,749,236	\$ 76,154,170	\$ 593,155,733	\$ 5,237,145,146
Additions	816,366	59,443,801	330,782,690	10,325,337	738,523,914	1,139,892,108
Disposals or retirements	-	(236,765)	(25,846,536)	(1,709,151)	-	(27,792,452)
Transfers to assets subject to operating leases	-	-	(65,779)	-	-	(65,779)
Effect of exchange rate changes	<u>357,221</u>	<u>1,242,136</u>	<u>6,322,919</u>	<u>257,684</u>	<u>5,162,961</u>	<u>13,342,921</u>
Balance at December 31, 2022	<u>\$ 7,661,817</u>	<u>\$ 637,046,949</u>	<u>\$ 4,295,942,530</u>	<u>\$ 85,028,040</u>	<u>\$ 1,336,842,608</u>	<u>\$ 6,362,521,944</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2022	\$ 499,826	\$ 306,165,242	\$ 2,903,539,441	\$ 51,826,663	\$ -	\$ 3,262,031,172
Additions	1,402	35,982,373	380,216,160	9,216,278	-	425,416,213
Disposals or retirements	-	(225,637)	(24,706,719)	(1,708,639)	-	(26,640,995)
Transfers to assets subject to operating leases	-	-	(40,266)	-	-	(40,266)
Impairment	-	-	-	-	790,740	790,740
Effect of exchange rate changes	<u>54,933</u>	<u>1,016,381</u>	<u>5,872,264</u>	<u>205,814</u>	<u>-</u>	<u>7,149,392</u>
Balance at December 31, 2022	<u>\$ 556,161</u>	<u>\$ 342,938,359</u>	<u>\$ 3,264,880,880</u>	<u>\$ 59,540,116</u>	<u>\$ 790,740</u>	<u>\$ 3,668,706,256</u>
Carrying amounts at December 31, 2022	<u>\$ 7,105,656</u>	<u>\$ 294,108,590</u>	<u>\$ 1,031,061,650</u>	<u>\$ 25,487,924</u>	<u>\$ 1,336,051,868</u>	<u>\$ 2,693,815,688</u>
<u>Cost</u>						
Balance at January 1, 2021	\$ 3,942,625	\$ 522,447,474	\$ 3,607,005,732	\$ 68,862,648	\$ 223,965,360	\$ 4,426,223,839
Additions	2,587,183	53,971,271	401,659,011	7,642,962	369,545,869	835,406,296
Disposals or retirements	-	(41,143)	(26,192,191)	(333,385)	-	(26,566,719)
Transfers from assets subject to operating leases	-	35,478	1,443,590	-	-	1,479,068
Transfers to assets subject to operating leases	-	-	(244,579)	-	-	(244,579)
Effect of exchange rate changes	<u>(41,578)</u>	<u>184,697</u>	<u>1,077,673</u>	<u>(18,055)</u>	<u>(355,496)</u>	<u>847,241</u>
Balance at December 31, 2021	<u>\$ 6,488,230</u>	<u>\$ 576,597,777</u>	<u>\$ 3,984,749,236</u>	<u>\$ 76,154,170</u>	<u>\$ 593,155,733</u>	<u>\$ 5,237,145,146</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2021	\$ 506,129	\$ 271,799,471	\$ 2,555,529,969	\$ 43,802,332	\$ -	\$ 2,871,637,901
Additions	1,329	34,331,645	368,777,680	8,373,282	-	411,483,936
Disposals or retirements	-	(36,527)	(22,230,098)	(332,557)	-	(22,599,182)
Transfers from assets subject to operating leases	-	15,066	436,816	-	-	451,882
Transfers to assets subject to operating leases	-	-	(68,279)	-	-	(68,279)
Impairment	-	-	274,388	-	-	274,388
Effect of exchange rate changes	<u>(7,632)</u>	<u>55,587</u>	<u>818,965</u>	<u>(16,394)</u>	<u>-</u>	<u>850,526</u>
Balance at December 31, 2021	<u>\$ 499,826</u>	<u>\$ 306,165,242</u>	<u>\$ 2,903,539,441</u>	<u>\$ 51,826,663</u>	<u>\$ -</u>	<u>\$ 3,262,031,172</u>
Carrying amounts at December 31, 2021	<u>\$ 5,988,404</u>	<u>\$ 270,432,535</u>	<u>\$ 1,081,209,795</u>	<u>\$ 24,327,507</u>	<u>\$ 593,155,733</u>	<u>\$ 1,975,113,974</u>

The significant part of the Company's buildings includes main plants, mechanical and electrical power equipment and clean rooms, and the related depreciation is calculated using the estimated useful lives of 20 years, 10 years and 10 years, respectively.

In the first quarter of 2022 and 2021, the Company recognized an impairment loss of NT\$790,740 thousand and NT\$274,388 thousand for certain machinery and equipment that were assessed to have no future use, and the recoverable amount of the aforementioned assets were nil. Such impairment loss was recognized in other operating income and expenses.

Information about capitalized interest is set out in Note 24.

15. LEASE ARRANGEMENTS

a. Right-of-use assets

	December 31, 2022	December 31, 2021
<u>Carrying amounts</u>		
Land	\$ 38,525,856	\$ 29,778,636
Buildings	3,356,700	2,918,133
Machinery and equipment	2,965	3,474
Office equipment	<u>28,615</u>	<u>34,294</u>
	<u>\$ 41,914,136</u>	<u>\$ 32,734,537</u>
	Years Ended December 31	
	2022	2021
Additions to right-of-use assets	<u>\$ 12,610,664</u>	<u>\$ 7,769,782</u>
Depreciation of right-of-use assets		
Land	\$ 2,119,828	\$ 1,825,712
Buildings	928,726	707,856
Machinery and equipment	863	539
Office equipment	<u>23,588</u>	<u>22,091</u>
	<u>\$ 3,073,005</u>	<u>\$ 2,556,198</u>

b. Lease liabilities

	December 31, 2022	December 31, 2021
<u>Carrying amounts</u>		
Current portion (classified under accrued expenses and other current liabilities)	\$ 2,603,504	\$ 2,176,451
Noncurrent portion	<u>29,764,097</u>	<u>20,764,214</u>
	<u>\$ 32,367,601</u>	<u>\$ 22,940,665</u>

Ranges of discount rates for lease liabilities are as follows:

	December 31, 2022	December 31, 2021
Land	0.39%-2.30%	0.39%-2.14%
Buildings	0.39%-5.63%	0.39%-3.88%
Machinery and equipment	0.71%	0.71%
Office equipment	0.28%-4.71%	0.28%-3.88%

c. Material terms of right-of-use assets

The Company leases land and buildings mainly for the use of plants and offices with lease terms of 1 to 36 years. The lease contracts for land located in the R.O.C. specify that lease payments will be adjusted every 2 years on the basis of changes in announced land value prices. The Company does not have purchase options to acquire the leasehold land and buildings at the end of the lease terms.

d. Other lease information

	Years Ended December 31	
	2022	2021
Expenses relating to short-term leases	<u>\$ 4,731,087</u>	<u>\$ 5,250,279</u>
Total cash outflow for leases	<u>\$ 7,618,290</u>	<u>\$ 7,510,762</u>

16. INTANGIBLE ASSETS

	Goodwill	Technology License Fees	Software and System Design Costs	Patent and Others	Total
<u>Cost</u>					
Balance at January 1, 2022	\$ 5,379,164	\$ 23,533,959	\$ 43,650,957	\$ 11,497,309	\$ 84,061,389
Additions	-	2,253,095	5,078,967	203,030	7,535,092
Disposals or retirements	-	(29,991)	(66,261)	-	(96,252)
Effect of exchange rate changes	<u>412,657</u>	<u>1,956</u>	<u>12,131</u>	<u>1,553</u>	<u>428,297</u>
Balance at December 31, 2022	<u>\$ 5,791,821</u>	<u>\$ 25,759,019</u>	<u>\$ 48,675,794</u>	<u>\$ 11,701,892</u>	<u>\$ 91,928,526</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2022	\$ -	\$ 14,912,293	\$ 34,121,578	\$ 8,205,821	\$ 57,239,692
Additions	-	2,793,539	4,774,522	1,188,033	8,756,094
Disposals or retirements	-	(11,351)	(66,261)	-	(77,612)
Effect of exchange rate changes	<u>-</u>	<u>1,956</u>	<u>8,555</u>	<u>686</u>	<u>11,197</u>
Balance at December 31, 2022	<u>\$ -</u>	<u>\$ 17,696,437</u>	<u>\$ 38,838,394</u>	<u>\$ 9,394,540</u>	<u>\$ 65,929,371</u>
Carrying amounts at December 31, 2022	<u>\$ 5,791,821</u>	<u>\$ 8,062,582</u>	<u>\$ 9,837,400</u>	<u>\$ 2,307,352</u>	<u>\$ 25,999,155</u>
<u>Cost</u>					
Balance at January 1, 2021	\$ 5,436,602	\$ 22,161,712	\$ 36,238,967	\$ 11,277,701	\$ 75,114,982
Additions	-	1,372,806	7,726,168	219,504	9,318,478
Disposals or retirements	-	-	(318,736)	-	(318,736)
Effect of exchange rate changes	<u>(57,438)</u>	<u>(559)</u>	<u>4,558</u>	<u>104</u>	<u>(53,335)</u>
Balance at December 31, 2021	<u>\$ 5,379,164</u>	<u>\$ 23,533,959</u>	<u>\$ 43,650,957</u>	<u>\$ 11,497,309</u>	<u>\$ 84,061,389</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2021	\$ -	\$ 12,226,066	\$ 30,111,759	\$ 7,008,978	\$ 49,346,803
Additions	-	2,686,786	4,323,860	1,196,523	8,207,169
Disposals or retirements	-	-	(317,508)	-	(317,508)
Effect of exchange rate changes	<u>-</u>	<u>(559)</u>	<u>3,467</u>	<u>320</u>	<u>3,228</u>
Balance at December 31, 2021	<u>\$ -</u>	<u>\$ 14,912,293</u>	<u>\$ 34,121,578</u>	<u>\$ 8,205,821</u>	<u>\$ 57,239,692</u>
Carrying amounts at December 31, 2021	<u>\$ 5,379,164</u>	<u>\$ 8,621,666</u>	<u>\$ 9,529,379</u>	<u>\$ 3,291,488</u>	<u>\$ 26,821,697</u>

The Company's goodwill has been tested for impairment at the end of the annual reporting period and the recoverable amount is determined based on the value in use. The value in use was calculated based on the cash flow forecast from the financial budgets covering the future five-year period, and the Company used

annual discount rates of 8.7% and 8.0% in its test of impairment as of December 31, 2022 and 2021, respectively, to reflect the relevant specific risk in the cash-generating unit.

For the years ended December 31, 2022 and 2021, the Company did not recognize any impairment loss on goodwill.

17. SHORT-TERM LOANS

	December 31, 2021
Unsecured loans	
Amount	<u>\$ 114,921,333</u>
Loan content	
EUR (in thousands)	\$ 3,652,935
Annual interest rate	(0.73)%-0%
Maturity date	Due by June 2022

18. BONDS PAYABLE

	December 31, 2022	December 31, 2021
Domestic unsecured bonds	\$ 379,526,000	\$ 312,448,000
Overseas unsecured bonds	476,051,500	304,414,000
Less: Discounts on bonds payable	(3,141,061)	(2,391,348)
Less: Current portion	<u>(18,100,000)</u>	<u>(4,400,000)</u>
	<u>\$ 834,336,439</u>	<u>\$ 610,070,652</u>

The major terms of domestic unsecured bonds are as follows:

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
NT\$ unsecured bonds					
101-3	-	October 2012 to October 2022	\$ 4,400,000	1.53%	Bullet repayment; interest payable annually
101-4	C	January 2013 to January 2023	3,000,000	1.49%	The same as above
102-1	C	February 2013 to February 2023	3,600,000	1.50%	The same as above
102-2	B	July 2013 to July 2023	3,500,000	1.70%	The same as above

(Continued)

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
102-4	D	September 2013 to March 2021	\$ 2,600,000	1.85%	Bullet repayment; interest payable annually (interest for the six months prior to maturity will accrue on the basis of actual days and be repayable at maturity)
	E	September 2013 to March 2023	5,400,000	2.05%	The same as above
	F	September 2013 to September 2023	2,600,000	2.10%	Bullet repayment; interest payable annually
109-1	A	March 2020 to March 2025	3,000,000	0.58%	The same as above
	B	March 2020 to March 2027	10,500,000	0.62%	The same as above
	C	March 2020 to March 2030	10,500,000	0.64%	The same as above
109-2	A	April 2020 to April 2025	5,900,000	0.52%	The same as above
	B	April 2020 to April 2027	10,400,000	0.58%	The same as above
	C	April 2020 to April 2030	5,300,000	0.60%	The same as above
109-3	A	May 2020 to May 2025	4,500,000	0.55%	The same as above
	B	May 2020 to May 2027	7,500,000	0.60%	The same as above
	C	May 2020 to May 2030	2,400,000	0.64%	The same as above
109-4	A	July 2020 to July 2025	5,700,000	0.58%	Two equal installments in last two years; interest payable annually
	B	July 2020 to July 2027	6,300,000	0.65%	The same as above
	C	July 2020 to July 2030	1,900,000	0.67%	The same as above
109-5	A	September 2020 to September 2025	4,800,000	0.50%	The same as above
	B	September 2020 to September 2027	8,000,000	0.58%	The same as above
	C	September 2020 to September 2030	2,800,000	0.60%	The same as above
109-6 (Green bond)	A	December 2020 to December 2025	1,600,000	0.40%	The same as above
	B	December 2020 to December 2027	5,600,000	0.44%	The same as above
	C	December 2020 to December 2030	4,800,000	0.48%	The same as above

(Continued)

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
109-7	A	December 2020 to December 2025	\$ 1,900,000	0.36%	Two equal installments in last two years; interest payable annually
	B	December 2020 to December 2027	10,200,000	0.41%	The same as above
	C	December 2020 to December 2030	6,400,000	0.45%	The same as above
110-1	A	March 2021 to March 2026	4,800,000	0.50%	Bullet repayment; interest payable annually
	B	March 2021 to March 2028	11,400,000	0.55%	The same as above
	C	March 2021 to March 2031	4,900,000	0.60%	The same as above
110-2	A	May 2021 to May 2026	5,200,000	0.50%	The same as above
	B	May 2021 to May 2028	8,400,000	0.58%	The same as above
	C	May 2021 to May 2031	5,600,000	0.65%	The same as above
110-3	A	June 2021 to June 2026	6,900,000	0.52%	The same as above
	B	June 2021 to June 2028	7,900,000	0.58%	The same as above
	C	June 2021 to June 2031	4,900,000	0.65%	The same as above
110-4	A	August 2021 to August 2025	4,000,000	0.485%	The same as above
	B	August 2021 to August 2026	8,000,000	0.50%	The same as above
	C	August 2021 to August 2028	5,400,000	0.55%	The same as above
	D	August 2021 to August 2031	4,200,000	0.62%	The same as above
110-6	A	October 2021 to April 2026	3,200,000	0.535%	The same as above
	B	October 2021 to October 2026	6,900,000	0.54%	The same as above
	C	October 2021 to October 2028	4,600,000	0.60%	The same as above
	D	October 2021 to October 2031	1,600,000	0.62%	The same as above
110-7	A	December 2021 to December 2026	7,700,000	0.65%	The same as above
	B	December 2021 to June 2027	3,500,000	0.675%	The same as above
	C	December 2021 to December 2028	5,500,000	0.72%	The same as above
111-1 (Green bond)	A	January 2022 to January 2027	2,100,000	0.63%	The same as above
	B	January 2022 to January 2029	3,300,000	0.72%	The same as above

(Continued)

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
111-2	A	March 2022 to September 2026	\$ 3,000,000	0.84%	Bullet repayment; interest payable annually
	B	March 2022 to March 2027	9,600,000	0.85%	The same as above
	C	March 2022 to March 2029	1,600,000	0.90%	The same as above
111-3 (Green bond)	-	May 2022 to May 2027	6,100,000	1.50%	The same as above
111-4 (Green bond)	A	July 2022 to July 2026	1,200,000	1.60%	The same as above
	B	July 2022 to July 2027	10,100,000	1.70%	The same as above
	C	July 2022 to July 2029	1,200,000	1.75%	The same as above
	D	July 2022 to July 2032	1,400,000	1.95%	The same as above
111-5	A	August 2022 to June 2027	2,000,000	1.65%	The same as above
	B	August 2022 to August 2027	8,900,000	1.65%	The same as above
	C	August 2022 to August 2029	2,200,000	1.65%	The same as above
	D	August 2022 to August 2032	2,500,000	1.82%	The same as above
111-6 (Green bond)	A	October 2022 to October 2027	5,700,000	1.75%	The same as above
	B	October 2022 to October 2029	1,000,000	1.80%	The same as above
	C	October 2022 to October 2032	3,500,000	2.00%	The same as above

(Concluded)

Issuance	Tranche	Issuance Period	Total Amount (US\$ in Thousands)	Coupon Rate	Repayment and Interest Payment
<u>US\$ unsecured bonds</u>					
109-1	-	September 2020 to September 2060	US\$1,000,000	2.70%	Bullet repayment (callable on the 5th anniversary of the issue date and every anniversary thereafter); interest payable annually
110-5	-	September 2021 to September 2051	1,000,000	3.10%	The same as above

The major terms of overseas unsecured bonds are as follows:

Issuance Period	Total Amount (US\$ in Thousands)	Coupon Rate	Repayment and Interest Payment
September 2020 to September 2025	US\$1,000,000	0.75%	Bullet repayment (callable at any time, in whole or in part, at the relevant redemption price according to relevant agreements); interest payable semi-annually
September 2020 to September 2027	750,000	1.00%	The same as above
September 2020 to September 2030	1,250,000	1.375%	The same as above
April 2021 to April 2026	1,100,000	1.25%	The same as above
April 2021 to April 2028	900,000	1.75%	The same as above
April 2021 to April 2031	1,500,000	2.25%	The same as above
October 2021 to October 2026	1,250,000	1.75%	The same as above
October 2021 to October 2031	1,250,000	2.50%	The same as above
October 2021 to October 2041	1,000,000	3.125%	The same as above
October 2021 to October 2051	1,000,000	3.25%	The same as above
April 2022 to April 2027	1,000,000	3.875%	The same as above
April 2022 to April 2029	500,000	4.125%	The same as above
April 2022 to April 2032	1,000,000	4.25%	The same as above
April 2022 to April 2052	1,000,000	4.50%	The same as above
July 2022 to July 2027	400,000	4.375%	The same as above
July 2022 to July 2032	600,000	4.625%	The same as above

19. LONG-TERM BANK LOANS

	December 31, 2022	December 31, 2021
Unsecured loans	\$ 6,013,333	\$ 3,510,000
Less: Discounts on government grants	(39,397)	(34,202)
Less: Current portion	<u>(1,213,889)</u>	<u>(166,667)</u>
	<u>\$ 4,760,047</u>	<u>\$ 3,309,131</u>
Loan content		
Annual interest rate	1.03%-1.23%	0.40%-0.90%
Maturity date	Due by December 2027	Due by September 2026

The long-term bank loans of the Company are with preferential interest rates subsidized by the government, and the loans are used to fund capital expenditure qualifying for the subsidy.

20. RETIREMENT BENEFIT PLANS

a. Defined contribution plans

The plan under the R.O.C. Labor Pension Act (the “Act”) is deemed a defined contribution plan. Pursuant to the Act, TSMC and VisEra Tech have made monthly contributions equal to 6% of each employee’s monthly salary to employees’ pension accounts. Furthermore, TSMC North America, TSMC China, TSMC Nanjing, TSMC Arizona, TSMC Europe, TSMC Canada, TSMC Technology and JASM also make monthly contributions at certain percentages of the basic salary of their employees. Accordingly, the Company recognized expenses of NT\$4,550,387 thousand and NT\$3,711,010 thousand for the years ended December 31, 2022 and 2021, respectively.

b. Defined benefit plans

TSMC has defined benefit plans under the R.O.C. Labor Standards Law that provide benefits based on an employee’s length of service and average monthly salary for the six-month period prior to retirement. The Company contributes an amount equal to 2% of salaries paid each month to their respective pension funds (the Funds), which are administered by the Labor Pension Fund Supervisory Committee (the Committee) and deposited in the Committee’s name in the Bank of Taiwan. Before the end of each year, the Company assesses the balance in the Funds. If the amount of the balance in the Funds is inadequate to pay retirement benefits for employees who conform to retirement requirements in the next year, the Company is required to fund the difference in one appropriation that should be made before the end of March of the next year. The Funds are operated and managed by the government’s designated authorities; as such, the Company does not have any right to intervene in the investments of the Funds.

Amounts recognized in respect of these defined benefit plans were as follows:

	Years Ended December 31	
	2022	2021
Current service cost	\$ 134,376	\$ 145,289
Net interest expense	<u>74,265</u>	<u>47,196</u>
Components of defined benefit costs recognized in profit or loss	<u>208,641</u>	<u>192,485</u>
Remeasurement on the net defined benefit liability:		
Return on plan assets (excluding amounts included in net interest expense)	(429,948)	(73,298)
Actuarial loss arising from experience adjustments	1,413,760	94,278
Actuarial loss arising from changes in demographic assumptions	-	277,454
Actuarial gain arising from changes in financial assumptions	<u>(160,752)</u>	<u>(540,513)</u>
Components of defined benefit costs recognized in other comprehensive income	<u>823,060</u>	<u>(242,079)</u>
Total	<u>\$ 1,031,701</u>	<u>\$ (49,594)</u>

The pension costs of the aforementioned defined benefit plans were recognized in profit or loss by the following categories:

	Years Ended December 31	
	2022	2021
Cost of revenue	\$ 135,125	\$ 124,548
Research and development expenses	55,632	52,801
General and administrative expenses	15,129	12,430
Marketing expenses	<u>2,755</u>	<u>2,706</u>
	<u>\$ 208,641</u>	<u>\$ 192,485</u>

The amounts arising from the defined benefit obligation of the Company were as follows:

	December 31, 2022	December 31, 2021
Present value of defined benefit obligation	\$ 17,483,951	\$ 16,585,442
Fair value of plan assets	<u>(8,162,860)</u>	<u>(5,548,563)</u>
Net defined benefit liability	<u>\$ 9,321,091</u>	<u>\$ 11,036,879</u>

Movements in the present value of the defined benefit obligation were as follows:

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 16,585,442	\$ 16,980,277
Current service cost	134,376	145,289
Interest expense	120,791	66,664
Remeasurement:		
Actuarial loss arising from experience adjustments	1,413,760	94,278
Actuarial loss arising from changes in demographic assumptions	-	277,454
Actuarial gain arising from changes in financial assumptions	(160,752)	(540,513)
Benefits paid from plan assets	(585,343)	(431,817)
Benefits paid directly by the Company	<u>(24,323)</u>	<u>(6,190)</u>
Balance, end of year	<u>\$ 17,483,951</u>	<u>\$ 16,585,442</u>

Movements in the fair value of the plan assets were as follows:

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 5,548,563	\$ 5,066,203
Interest income	46,526	19,468
Remeasurement:		
Return on plan assets (excluding amounts included in net interest expense)	429,948	73,298
Contributions from employer	2,723,166	821,411
Benefits paid from plan assets	<u>(585,343)</u>	<u>(431,817)</u>
Balance, end of year	<u>\$ 8,162,860</u>	<u>\$ 5,548,563</u>

The fair value of the plan assets by major categories at the end of reporting period was as follows:

	December 31, 2022	December 31, 2021
Cash	\$ 1,337,893	\$ 1,000,961
Equity instruments	4,696,909	2,951,835
Debt instruments	<u>2,128,058</u>	<u>1,595,767</u>
	<u>\$ 8,162,860</u>	<u>\$ 5,548,563</u>

The actuarial valuations of the present value of the defined benefit obligation were carried out by qualified actuaries. The principal assumptions of the actuarial valuation were as follows:

	Measurement Date	
	December 31, 2022	December 31, 2021
Discount rate	1.80%	0.75%
Future salary increase rate	4.00%	3.00%

Through the defined benefit plans under the R.O.C. Labor Standards Law, the Company is exposed to the following risks:

- 1) **Investment risk:** The pension funds are invested in equity and debt securities, bank deposits, etc. The investment is conducted at the discretion of the government's designated authorities or under the mandated management. However, under the R.O.C. Labor Standards Law, the rate of return on assets shall not be less than the average interest rate on a two-year time deposit published by the local banks and the government is responsible for any shortfall in the event that the rate of return is less than the required rate of return.
- 2) **Interest risk:** A decrease in the government bond interest rate will increase the present value of the defined benefit obligation; however, this will be partially offset by an increase in the return on the debt investments of the plan assets.

Assuming a hypothetical decrease in interest rate at the end of the reporting period contributed to a decrease of 0.5% (and not below 0.0%) in the discount rate and all other assumptions were held constant, the present value of the defined benefit obligation would increase by NT\$766,692 thousand and NT\$780,460 thousand as of December 31, 2022 and 2021, respectively.

- 3) **Salary risk:** The present value of the defined benefit obligation is calculated by reference to the future salaries of plan participants. As such, an increase in the salary of the plan participants will increase the present value of the defined benefit obligation.

Assuming the expected salary rate increases by 0.5% at the end of the reporting period and all other assumptions were held constant, the present value of the defined benefit obligation would increase by NT\$746,933 thousand and NT\$759,527 thousand as of December 31, 2022 and 2021, respectively.

The sensitivity analysis presented above may not be representative of the actual change in the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

Furthermore, in presenting the above sensitivity analysis, the present value of the defined benefit obligation has been calculated using the projected unit credit method at the end of the reporting period, which is the same as that applied in calculating the defined benefit obligation liability.

The Company expects to make contributions of NT\$2,832,093 thousand to the defined benefit plans in the next year starting from December 31, 2022. The weighted average duration of the defined benefit obligation is 9 years.

21. EQUITY

a. Capital stock

	December 31, 2022	December 31, 2021
Authorized shares (in thousands)	<u>28,050,000</u>	<u>28,050,000</u>
Authorized capital	<u>\$ 280,500,000</u>	<u>\$ 280,500,000</u>
Issued and paid shares (in thousands)	<u>25,930,380</u>	<u>25,930,380</u>
Issued capital	<u>\$ 259,303,805</u>	<u>\$ 259,303,805</u>

A holder of issued common shares with par value of NT\$10 per share is entitled to vote and to receive dividends.

The authorized shares include 500,000 thousand shares allocated for the exercise of employee stock options.

On March 1, 2022, the Company issued employee restricted stocks awards (RSAs) for its employees in a total of 1,387 thousand shares with a par value of NT\$10 each. The aforementioned issuance of new shares was approved by the relevant authority and the registration has been completed. Refer to Note 28 for the information on RSAs.

On May 10, 2022, TSMC's Board of Directors resolved to cancel 1,387 thousand treasury shares. Refer to Note 21(e) for the information.

As of the end of reporting period, 1,063,847 thousand ADSs of TSMC were traded on the NYSE. The number of common shares represented by the ADSs was 5,319,234 thousand shares (one ADS represents five common shares).

b. Capital surplus

The categories of uses and the sources of capital surplus based on regulations were as follows:

	December 31, 2022	December 31, 2021
<u>May be used to offset a deficit, distributed as cash dividends, or transferred to share capital</u>		
Additional paid-in capital	\$ 24,183,645	\$ 24,184,939
From merger	22,803,291	22,804,510
From convertible bonds	8,892,371	8,892,847
From difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal	8,406,282	8,406,282
Donations - donated by shareholders	11,275	11,275
		(Continued)

	December 31, 2022	December 31, 2021
<u>May only be used to offset a deficit</u>		
From share of changes in equities of subsidiaries	\$ 4,229,892	\$ 113,952
From share of changes in equities of associates	311,863	307,322
Donations - unclaimed dividend	53,680	40,475
<u>May not be used for any purpose</u>		
Employee restricted shares	<u>438,029</u>	<u>-</u>
	<u>\$ 69,330,328</u>	<u>\$ 64,761,602</u>
		(Concluded)

If such capital surplus is distributed as transferred to share capital, it is limited to a certain percentage of the Company's paid-in capital each year.

c. Retained earnings and dividend policy

TSMC's Articles of Incorporation provide that, earnings distribution may be made on a quarterly basis after the close of each quarter. Distribution of earnings by way of cash dividends should be approved by TSMC's Board of Directors and reported to TSMC's shareholders in its meeting. When allocating earnings, TSMC shall first estimate and reserve the taxes to be paid, offset its losses, set aside a legal capital reserve at 10% of the remaining earnings (until the accumulated legal capital reserve equals TSMC's paid-in capital), then set aside a special capital reserve in accordance with relevant laws or regulations or as requested by the authorities in charge. Any balance left over shall be allocated according to relevant laws and TSMC's Articles of Incorporation.

TSMC's Articles of Incorporation also provide that profits of TSMC may be distributed by way of cash dividend and/or stock dividend. However, distribution of earnings shall be made preferably by way of cash dividend. Distribution of earnings may also be made by way of stock dividend, provided that the ratio for stock dividend shall not exceed 50% of the total distribution.

The legal capital reserve may be used to offset a deficit, or be distributed as dividends in cash or stocks for the portion in excess of 25% of the paid-in capital if the Company incurs no loss.

Pursuant to existing regulations, the Company is required to set aside additional special capital reserve equivalent to the net debit balance of the other components of stockholders' equity, such as the accumulated balance of foreign currency translation reserve, unrealized valuation gain or loss from fair value through other comprehensive income financial assets, gain or loss from changes in fair value of hedging instruments in cash flow hedges, etc. For the subsequent decrease in the deduction amount to stockholders' equity, any special reserve appropriated may be reversed to the extent that the net debit balance reverses.

The appropriations of 2022, 2021 and 2020 quarterly earnings have been approved by TSMC's Board of Directors in its meeting, respectively. The appropriations and cash dividends per share were as follows:

Resolution Date of TSMC's Board of Directors in its meeting	Fourth Quarter of 2022	Third Quarter of 2022	Second Quarter of 2022	First Quarter of 2022
	February 14, 2023	November 8, 2022	August 9, 2022	May 10, 2022
Special capital reserve	<u>\$ 17,166,163</u>	<u>\$ (31,910,353)</u>	<u>\$ (12,002,798)</u>	<u>\$ (15,541,054)</u>
Cash dividends to shareholders	<u>\$ 71,308,546</u>	<u>\$ 71,308,547</u>	<u>\$ 71,308,546</u>	<u>\$ 71,308,546</u>
Cash dividends per share (NT\$)	<u>\$ 2.75</u>	<u>\$ 2.75</u>	<u>\$ 2.75</u>	<u>\$ 2.75</u>

Resolution Date of TSMC's Board of Directors in its meeting	Fourth Quarter of 2021	Third Quarter of 2021	Second Quarter of 2021	First Quarter of 2021
	February 15, 2022	November 9, 2021	August 10, 2021	June 9, 2021
Special capital reserve	\$ 3,304,303	\$ 710,169	\$ 10,201,220	\$ (6,287,050)
Cash dividends to shareholders	\$ 71,308,546	\$ 71,308,547	\$ 71,308,546	\$ 71,308,546
Cash dividends per share (NT\$)	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75
Resolution Date of TSMC's Board of Directors in its meeting	Fourth Quarter of 2020	Third Quarter of 2020	Second Quarter of 2020	First Quarter of 2020
	February 9, 2021	November 10, 2020	August 11, 2020	May 12, 2020
Special capital reserve	\$ 12,420,727	\$ 5,501,351	\$ 11,884,457	\$ (2,694,841)
Cash dividends to shareholders	\$ 64,825,951	\$ 64,825,951	\$ 64,825,951	\$ 64,825,951
Cash dividends per share (NT\$)	\$ 2.5	\$ 2.5	\$ 2.5	\$ 2.5

The special capital reserve for 2022 is to be presented for approval in TSMC's shareholders' meeting to be held on June 6, 2023 (expected).

d. Others

Changes in others were as follows:

	Year Ended December 31, 2022				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total
Balance, beginning of year	\$ (63,303,361)	\$ 574,310	\$ 120,536	\$ -	\$ (62,608,515)
Exchange differences arising on translation of foreign operations	51,009,722	-	-	-	51,009,722
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	(263,380)	-	-	(263,380)
Debt instruments	-	(10,513,643)	-	-	(10,513,643)
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	(303,242)	-	-	(303,242)
Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal	-	410,076	-	-	410,076
Loss allowance adjustments from debt instruments	-	909	-	-	909
Gain (loss) arising on changes in the fair value of hedging instruments	-	-	1,329,231	-	1,329,231
Transferred to initial carrying amount of hedged items	-	-	(52,929)	-	(52,929)
Issuance of shares				(451,899)	(451,899)
Share-based payment expenses recognized				266,746	266,746
Share of other comprehensive income (loss) of associates	550,338	38,696	76,307	-	665,341
Income tax effect	-	(79)	6,036	-	5,957
Balance, end of year	\$ (11,743,301)	\$ (10,056,353)	\$ 1,479,181	\$ (185,153)	\$ (20,505,626)

	Year Ended December 31, 2021				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total
Balance, beginning of year	\$ (57,001,627)	\$ 2,321,754	\$ -	\$ -	\$ (54,679,873)
Exchange differences arising on translation of foreign operations	(6,181,737)	-	-	-	(6,181,737)
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	1,898,206	-	-	1,898,206
Debt instruments	-	(3,339,796)	-	-	(3,339,796)
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	(187,654)	-	-	(187,654)
Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal	-	(93,229)	-	-	(93,229)
Loss allowance adjustments from debt instruments	-	1,234	-	-	1,234
Gain (loss) arising on changes in the fair value of hedging instruments	-	-	90,119	-	90,119
Transferred to initial carrying amount of hedged items	-	-	48,469	-	48,469
Share of other comprehensive income (loss) of associates	(119,997)	30,015	(14,682)	-	(104,664)
Income tax effect	-	(56,220)	(3,370)	-	(59,590)
Balance, end of year	<u>\$ (63,303,361)</u>	<u>\$ 574,310</u>	<u>\$ 120,536</u>	<u>\$ -</u>	<u>\$ (62,608,515)</u>

The aforementioned other equity includes the changes in other equities of TSMC and TSMC's share of its subsidiaries and associates.

e. Treasury stock

For TSMC's shareholders' interests, TSMC's Board of Directors approved a share buyback program on February 15, 2022 to repurchase 1,387 thousand shares. TSMC has completed this share buyback program during the first quarter of 2022. On May 10, 2022, TSMC's Board of Directors resolved to cancel the 1,387 thousand shares and set May 10, 2022 as the record date for capital reduction. The registration for share cancellation was completed on May 20, 2022.

22. NET REVENUE

a. Disaggregation of revenue from contracts with customers

Product	Years Ended December 31	
	2022	2021
Wafer	\$1,991,855,947	\$1,405,300,273
Others	<u>272,035,345</u>	<u>182,114,764</u>
	<u>\$2,263,891,292</u>	<u>\$1,587,415,037</u>

Geography	Years Ended December 31	
	2022	2021
Taiwan	\$ 210,470,783	\$ 203,963,760
United States	1,493,328,765	1,015,996,424
China	245,168,746	164,552,063
Europe, the Middle East and Africa	123,767,140	89,010,064
Japan	119,099,336	71,920,856
Others	<u>72,056,522</u>	<u>41,971,870</u>
	<u>\$2,263,891,292</u>	<u>\$1,587,415,037</u>

The Company categorized the net revenue mainly based on the countries where the customers are headquartered.

Platform	Years Ended December 31	
	2022	2021
High Performance Computing	\$ 932,383,729	\$ 587,780,144
Smartphone	888,879,250	695,091,191
Internet of Things	196,114,987	133,005,979
Automotive	116,380,987	67,076,353
Digital Consumer Electronics	56,158,772	55,577,223
Others	<u>73,973,567</u>	<u>48,884,147</u>
	<u>\$2,263,891,292</u>	<u>\$1,587,415,037</u>

Resolution	Years Ended December 31	
	2022	2021
5-nanometer	\$ 508,689,881	\$ 262,327,365
7-nanometer	535,153,763	440,383,100
10-nanometer	24,871	659,989
16-nanometer	258,544,274	191,058,940
20-nanometer	8,853,291	5,668,752
28-nanometer	206,611,955	153,066,563
40/45-nanometer	145,546,243	103,413,639
65-nanometer	93,288,614	66,467,903
90-nanometer	40,184,169	32,260,288
0.11/0.13 micron	57,992,328	40,558,534
0.15/0.18 micron	110,571,222	86,700,287
0.25 micron and above	<u>26,395,336</u>	<u>22,734,913</u>
Wafer revenue	<u>\$1,991,855,947</u>	<u>\$1,405,300,273</u>

b. Contract balances

	December 31, 2022	December 31, 2021	January 1, 2021
Contract liabilities (classified under accrued expenses and other current liabilities)	<u>\$ 70,806,617</u>	<u>\$ 39,762,588</u>	<u>\$ 13,775,088</u>

The changes in the contract liability balances primarily result from the timing difference between the satisfaction of performance obligation and the customer's payment.

The Company recognized revenue from the beginning balance of contract liability, which amounted to NT\$38,433,111 thousand and NT\$11,590,400 thousand for the years ended December 31, 2022 and 2021, respectively.

c. Temporary receipts from customers

	December 31, 2022	December 31, 2021
Current portion (classified under accrued expenses and other current liabilities)	\$ 107,723,580	\$ 30,612,702
Noncurrent portion (classified under other noncurrent liabilities)	<u>168,399,207</u>	<u>155,381,485</u>
	<u>\$ 276,122,787</u>	<u>\$ 185,994,187</u>

The Company's temporary receipts from customer are payments made by customers to the Company to retain the Company's capacity. When the terms and conditions set forth in the agreements are subsequently satisfied, the treatment of temporary receipts, either by refund or by accounts receivable offsetting, will be determined by mutual consent.

d. Refund liabilities

Estimated sales returns and other allowances is made and adjusted based on historical experience and the consideration of varying contractual terms. As of December 31, 2022 and 2021, the aforementioned refund liabilities amounted to NT\$ 53,078,351 thousand and NT\$41,038,041 thousand (classified under accrued expenses and other current liabilities), respectively.

23. INTEREST INCOME

	Years Ended December 31	
	2022	2021
Interest income		
Bank deposits	\$ 17,831,257	\$ 2,834,838
Financial assets at FVTOCI	2,582,341	2,192,470
Financial assets at amortized cost	<u>2,008,611</u>	<u>681,457</u>
	<u>\$ 22,422,209</u>	<u>\$ 5,708,765</u>

24. FINANCE COSTS

	Years Ended December 31	
	2022	2021
Interest expense		
Corporate bonds	\$ 14,116,112	\$ 5,202,999
Lease liabilities	267,050	193,324
Bank loans	32,017	17,546
Others	1,673	349
Less: Capitalized interest under property, plant and equipment	<u>(2,666,868)</u>	<u>-</u>
	<u>\$ 11,749,984</u>	<u>\$ 5,414,218</u>

Information about capitalized interest is as follows:

	Years Ended December 31, 2022
Capitalization rate	0.56%-3.36%

25. OTHER GAINS AND LOSSES, NET

	Years Ended December 31	
	2022	2021
Gain (loss) on disposal of financial assets, net		
Investments in debt instruments at FVTOCI	\$ (410,076)	\$ 93,229
Loss on financial instruments at FVTPL, net		
Mandatorily measured at FVTPL	(622,537)	(7,973,667)
The reversal (accrual) of expected credit loss of financial assets		
Investments in debt instruments at FVTOCI	(909)	(1,234)
Financial assets at amortized cost	(51,442)	3,969
Other gains, net	<u>72,766</u>	<u>489,693</u>
	<u>\$ (1,012,198)</u>	<u>\$ (7,388,010)</u>

26. INCOME TAX

a. Income tax expense recognized in profit or loss

Income tax expense consisted of the following:

	Years Ended December 31	
	2022	2021
Current income tax expense		
Current tax expense recognized in the current year	\$ 147,685,403	\$ 88,844,915
Income tax adjustments on prior years	(563,555)	207,801
Other income tax adjustments	<u>206,136</u>	<u>152,232</u>
	<u>147,327,984</u>	<u>89,204,948</u>
Deferred income tax benefit		
The origination and reversal of temporary differences	(24,714,488)	(17,530,023)
Investment tax credits	<u>4,676,707</u>	<u>(5,621,745)</u>
	<u>(20,037,781)</u>	<u>(23,151,768)</u>
Income tax expense recognized in profit or loss	<u>\$ 127,290,203</u>	<u>\$ 66,053,180</u>

A reconciliation of income before income tax and income tax expense recognized in profit or loss was as follows:

	Years Ended December 31	
	2022	2021
Income before tax	<u>\$1,144,190,718</u>	<u>\$ 663,126,314</u>
Income tax expense at the statutory rate	\$ 231,799,774	\$ 134,613,312
Tax effect of adjusting items:		
Nondeductible items in determining taxable income	12,286,136	11,261,407
Tax-exempt income	(157,955,934)	(89,852,940)
Additional income tax under the Alternative Minimum Tax Act	61,578,020	32,852,688
The origination and reversal of temporary differences	(24,714,488)	(17,530,023)
Income tax credits	<u>4,654,114</u>	<u>(5,651,297)</u>
	127,647,622	65,693,147
Income tax adjustments on prior years	(563,555)	207,801
Other income tax adjustments	<u>206,136</u>	<u>152,232</u>
Income tax expense recognized in profit or loss	<u>\$ 127,290,203</u>	<u>\$ 66,053,180</u>

For the years ended December 31, 2022 and 2021, the Company applied a tax rate of 20% for entities subject to the R.O.C. Income Tax Law; for other jurisdictions, taxes are calculated using the applicable tax rate for each individual jurisdiction.

b. Deferred income tax balance

The analysis of deferred income tax assets and liabilities was as follows:

	December 31, 2022	December 31, 2021
<u>Deferred income tax assets</u>		
Temporary differences		
Depreciation	\$ 45,299,310	\$ 34,720,661
Refund liability	12,089,451	5,986,173
Unrealized exchange losses	5,782,345	-
Unrealized loss on inventories	2,305,328	898,998
Net defined benefit liability	1,722,005	1,237,086
Investment tax credits	945,038	5,621,745
Deferred compensation cost	361,241	373,983
Others	<u>681,124</u>	<u>315,240</u>
	<u>\$ 69,185,842</u>	<u>\$ 49,153,886</u>
<u>Deferred income tax liabilities</u>		
Temporary differences		
Unrealized exchange gains	\$ -	\$ (706,311)
Others	<u>(1,031,383)</u>	<u>(1,167,566)</u>
	<u>\$ (1,031,383)</u>	<u>\$ (1,873,877)</u>

	Year Ended December 31, 2022					
	Balance, Beginning of Year	Recognized in			Effect of Exchange Rate Changes	Balance, End of Year
		Profit or Loss	Other Comprehensive Income			
<u>Deferred income tax assets</u>						
Temporary differences						
Depreciation	\$ 34,720,661	\$ 10,552,264	\$ -	\$ 26,385	\$ 45,299,310	
Refund liability	5,986,173	6,100,849	-	2,429	12,089,451	
Unrealized exchange losses	-	5,782,345	-	-	5,782,345	
Unrealized loss on inventories	898,998	1,402,241	-	4,089	2,305,328	
Net defined benefit liability	1,237,086	(249,116)	734,035	-	1,722,005	
Investment tax credits	5,621,745	(4,676,707)	-	-	945,038	
Deferred compensation cost	373,983	(48,180)	-	35,438	361,241	
Others	315,240	334,801	(79)	31,162	681,124	
	<u>\$ 49,153,886</u>	<u>\$ 19,198,497</u>	<u>\$ 733,956</u>	<u>\$ 99,503</u>	<u>\$ 69,185,842</u>	
<u>Deferred income tax liabilities</u>						
Temporary differences						
Unrealized exchange gains	\$ (706,311)	\$ 706,311	\$ -	\$ -	\$ -	
Others	(1,167,566)	132,973	6,036	(2,826)	(1,031,383)	
	<u>\$ (1,873,877)</u>	<u>\$ 839,284</u>	<u>\$ 6,036</u>	<u>\$ (2,826)</u>	<u>\$ (1,031,383)</u>	
Year Ended December 31, 2021						
	Balance, Beginning of Year	Recognized in			Balance, End of Year	
		Profit or Loss	Other Comprehensive Income			
<u>Deferred income tax assets</u>						
Temporary differences						
Depreciation	\$ 19,354,383	\$ 15,365,737	\$ -	\$ 541	\$ 34,720,661	
Refund liability	3,755,131	2,231,450	-	(408)	5,986,173	
Investment tax credits	-	5,621,745	-	-	5,621,745	
Net defined benefit liability	1,341,960	(75,825)	(29,049)	-	1,237,086	
Unrealized loss on inventories	858,463	41,061	-	(526)	898,998	
Deferred compensation cost	330,340	49,113	-	(5,470)	373,983	
Others	317,907	59,045	(56,220)	(5,492)	315,240	
	<u>\$ 25,958,184</u>	<u>\$ 23,292,326</u>	<u>\$ (85,269)</u>	<u>\$ (11,355)</u>	<u>\$ 49,153,886</u>	
<u>Deferred income tax liabilities</u>						
Temporary differences						
Unrealized exchange gains	\$ (866,495)	\$ 160,184	\$ -	\$ -	\$ (706,311)	
Others	(863,446)	(300,742)	(3,370)	(8)	(1,167,566)	
	<u>\$ (1,729,941)</u>	<u>\$ (140,558)</u>	<u>\$ (3,370)</u>	<u>\$ (8)</u>	<u>\$ (1,873,877)</u>	

- c. The deductible temporary differences for which no deferred income tax assets have been recognized

As of December 31, 2022 and 2021, the aggregate deductible temporary differences for which no deferred income tax assets have been recognized amounted to NT\$26,790,935 thousand and NT\$66,431,255 thousand, respectively.

d. Unused tax-exemption information

As of the end of reporting period, the profits generated from the following project of TSMC are exempt from income tax for a five-year period:

Tax-exemption Period

Construction and expansion of 2009 by TSMC 2018 to 2022

e. The information of unrecognized deferred income tax liabilities associated with investments

As of December 31, 2022 and 2021, the aggregate taxable temporary differences associated with investments in subsidiaries not recognized as deferred income tax liabilities amounted to NT\$222,682,649 thousand and NT\$177,552,831 thousand, respectively.

f. Income tax examination

The tax authorities have examined income tax returns of TSMC through 2020. All investment tax credit adjustments assessed by the tax authorities have been recognized accordingly.

27. EARNINGS PER SHARE

	Years Ended December 31	
	2022	2021
Basic EPS	<u>\$ 39.20</u>	<u>\$ 23.01</u>
Diluted EPS	<u>\$ 39.20</u>	<u>\$ 23.01</u>

EPS is computed as follows:

	Years Ended December 31	
	2022	2021
Basic EPS		
Net income available to common shareholders of the parent	<u>\$1,016,530,249</u>	<u>\$ 596,540,013</u>
Weighted average number of common shares outstanding used in the computation of basic EPS (in thousands)	<u>25,929,190</u>	<u>25,930,380</u>
Basic EPS (in dollars)	<u>\$ 39.20</u>	<u>\$ 23.01</u>
Diluted EPS		
Net income available to common shareholders of the parent	<u>\$1,016,530,249</u>	<u>\$ 596,540,013</u>
Weighted average number of common shares outstanding used in the computation of basic EPS (in thousands)	25,929,190	25,930,380
Effects of all dilutive potential common shares (in thousands)	<u>193</u>	<u>-</u>
Weighted average number of common shares used in the computation of diluted EPS (in thousands)	<u>25,929,383</u>	<u>25,930,380</u>
Diluted EPS (in dollars)	<u>\$ 39.20</u>	<u>\$ 23.01</u>

28. SHARE-BASED PAYMENT ARRANGEMENTS

a. Equity-settled share-based payment- RSAs

The RSAs in each year are as follows:

	<u>2022 RSAs</u>	<u>2021 RSAs</u>
Resolution Date of TSMC's shareholders in its meeting	June 8, 2022	July 26, 2021
Resolution Date of TSMC's Board of Directors in its meeting	February 14, 2023	February 15, 2022
Issuance of stocks (in thousands)	2,110	1,387
Eligible employees	Executive officers and non-executive officers	Executive officers
Grant date/Issuance date	March 1, 2023	March 1, 2022

Vesting conditions of the aforementioned arrangement are as follow:

- 1) The RSAs granted to eligible employees can only be vested if
 - the employee remains employed by the Company on the last date of each vesting period;
 - during the vesting period, the employee may not breach any agreement with the Company or violate the Company's work rules; and
 - certain employee performance metrics and TSMC's business performance metrics are met.
- 2) The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of TSMC's business performance metrics.
- 3) For eligible executive officers of TSMC: The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on TSMC's relative Total Shareholder Return ("TSR", including capital gains and dividends) achievement to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's (rename to Compensation and People Development Committee from February 14, 2023) evaluation of TSMC's Environmental, Social, and Governance ("ESG") achievements. The number of shares so calculated should be rounded down to the nearest integral.

TSMC's TSR relative to the TSR of S&P 500 IT Index	Ratio of Shares to be Vested
Above the Index by X percentage points	$50\% + X * 2.5\%$, with the maximum of 100%
Equal to the Index	50%
Below the Index by X percentage points	$50\% - X * 2.5\%$, with the minimum of 0%

- 4) For eligible employees who are not executive officers of the Company: The number of RSAs to be vested in each year will be calculated in accordance with the below table based on TSMC's audited consolidated financial statements for the year prior to the vesting year. The number of shares so calculated should be rounded down to the nearest integral.

	Threshold	Target	Weight	Ratio of Shares to be Vested
Revenue Growth Rate	10%	15%	1/3	< Threshold: 0 % = Threshold: 50% ≥ Target: 100% Between threshold and target: as calculated by interpolation method
Gross Margin	50%	53%	1/3	
Return on Equity	20%	25%	1/3	

- 5) Restrictions imposed on the employees' rights in the RSAs before the vesting conditions are fulfilled:
- During each vesting period, no employee granted RSAs, except for inheritance, may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.
 - Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and etc. shall be exercised by the engaged trustee/custodian on the employee's behalf. Any other shareholder rights including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of TSMC.
- 6) Details of granted 2021 RSAs are as follows:

	<u>2021 RSAs</u> <u>Number of</u> <u>Stocks</u> <u>(In Thousands)</u>
Balance, beginning of year	-
Issuance of stocks	<u>1,387</u>
Balance, end of year	<u>1,387</u>
Weighted-average fair value of RSAs (in dollars)	<u>\$ 325.81</u>

The 2021 RSAs is measured at fair value at grant date by using the binominal tree approach. Relevant information is as follows:

	<u>2021 RSAs</u> <u>March 1, 2022</u>
Stock price at grant date (in dollars)	\$ 604
Expected price volatility	25.34%-28.28%
Expected option life	1-3 years
Risk-free interest rate	0.57%

Refer to Note 29 for the compensation costs of the 2021 RSAs recognized by TSMC.

On February 14, 2023, TSMC's Board of Directors approved the issuance of RSAs for year 2023 of no more than 6,249 thousand common shares. The grants will be made free of charge. The actual number of shares to be issued will be resolved by the Board of Directors after the RSAs is approved at the shareholders' meeting and by the competent authority.

b. Cash-settled share-based payment arrangements

The cash-settled share-based payment arrangements in each year are as follows:

	<u>2022 Plan</u>	<u>2021 Plan</u>
Resolution Date of TSMC's Board of Directors in its meeting	February 14, 2023	February 15, 2022
Issuance of units (in thousands) (Note)	400	236
Grant date	March 1, 2023	March 1, 2022

Note: One unit of the right represents a right to the market value of one TSMC's common share when vested.

The vesting conditions and the ratio of units to be vested for key management personnel of the plan are the same as the aforementioned RSAs.

The fair value of compensation costs for the cash-settled share-based payment was measured by using binominal tree approach and will be measured at each reporting period until settlement. Relevant information is as follows:

	<u>Years Ended December 31, 2022</u>
	<u>2021 Plan</u>
Stock price at measurement date (in dollars)	\$ 451
Expected price volatility	28.80%-32.19%
Expected option life	1-3 years
Risk-free interest rate	1.09%

Refer to Note 29 for the compensation costs of the cash-settled share-based payment recognized by TSMC. The liabilities under cash-settled share-based payment arrangement amounted to NT\$30,757 thousand as of the end of reporting period.

29. ADDITIONAL INFORMATION OF EXPENSES BY NATURE

	<u>Years Ended December 31</u>	
	<u>2022</u>	<u>2021</u>
a. Depreciation of property, plant and equipment and right-of-use assets		
Recognized in cost of revenue	\$ 399,638,755	\$ 386,103,923
Recognized in operating expenses	28,850,463	27,936,211
Recognized in other operating income and expenses	<u>8,961</u>	<u>147,566</u>
	<u>\$ 428,498,179</u>	<u>\$ 414,187,700</u>
b. Amortization of intangible assets		
Recognized in cost of revenue	\$ 6,086,246	\$ 5,574,246
Recognized in operating expenses	<u>2,669,848</u>	<u>2,632,923</u>
	<u>\$ 8,756,094</u>	<u>\$ 8,207,169</u>

	Years Ended December 31	
	2022	2021
c. Employee benefits expenses		
Post-employment benefits		
Defined contribution plans	\$ 4,550,387	\$ 3,711,010
Defined benefit plans	<u>208,641</u>	<u>192,485</u>
	<u>4,759,028</u>	<u>3,903,495</u>
Share-based payments		
Equity-settled	302,348	7,788
Cash-settled	<u>32,704</u>	<u>-</u>
	<u>335,052</u>	<u>7,788</u>
Other employee benefits	<u>234,367,880</u>	<u>161,035,865</u>
	<u>\$ 239,461,960</u>	<u>\$ 164,947,148</u>
Employee benefits expense summarized by function		
Recognized in cost of revenue	\$ 139,361,369	\$ 98,012,833
Recognized in operating expenses	<u>100,100,591</u>	<u>66,934,315</u>
	<u>\$ 239,461,960</u>	<u>\$ 164,947,148</u>

According to TSMC's Articles of Incorporation, TSMC shall allocate compensation to directors and profit sharing bonus to employees of TSMC not more than 0.3% and not less than 1% of annual profits during the period, respectively.

TSMC accrued profit sharing bonus to employees based on a percentage of net income before income tax, profit sharing bonus to employees and compensation to directors during the period; compensation to directors was expensed based on estimated amount payable. If there is a change in the proposed amounts after the annual consolidated financial statements are authorized for issue, the differences are recorded as a change in accounting estimate. Accrued profit sharing bonus to employees is illustrated below:

	Years Ended December 31	
	2022	2021
Profit sharing bonus to employees	<u>\$ 60,702,047</u>	<u>\$ 35,601,449</u>

TSMC's profit sharing bonus to employees and compensation to directors for 2022, 2021 and 2020 had been approved by the Board of Directors of TSMC, as illustrated below:

	Years Ended December 31		
	2022	2021	2020
Resolution Date of TSMC's Board of Directors in its meeting	February 14, 2023	February 15, 2022	February 9, 2021
Profit sharing bonus to employees	<u>\$ 60,702,047</u>	<u>\$ 35,601,449</u>	<u>\$ 34,753,184</u>
Compensation to directors	<u>\$ 690,128</u>	<u>\$ 487,537</u>	<u>\$ 509,753</u>

There is no significant difference between the aforementioned approved amounts and the amounts charged against earnings of 2022, 2021 and 2020, respectively.

The information about the appropriations of TSMC's profit sharing bonus to employees and compensation to directors is available at the Market Observation Post System website.

30. GOVERNMENT GRANTS

Subsidiaries such as JASM and TSMC Nanjing received subsidies from the governments of Japan and China, respectively, for local plants setup and operation, which were mainly used to subsidize the purchase costs of property, plant and equipment as well as partial costs and expenses incurred from plant construction and production. For the years ended December 31, 2022 and 2021, TSMC received a total of NT\$7,051,432 thousand and NT\$827,917 thousand as government grants respectively.

31. CASH FLOW INFORMATION

a. Non-cash transactions

	Years Ended December 31	
	2022	2021
Additions of financial assets at FVTOCI	\$ 45,126,181	\$ 253,613,917
Exchange of equity instruments	-	(106,185)
Changes in accrued expenses and other current liabilities	<u>9,440,544</u>	<u>2,380,947</u>
Payments for acquisition of financial assets at FVTOCI	<u>\$ 54,566,725</u>	<u>\$ 255,888,679</u>
Disposal of financial assets at FVTOCI	\$ 43,130,926	\$ 251,201,439
Changes in other financial assets	1,832,441	3,509,283
Exchange of equity instruments	<u>-</u>	<u>(106,185)</u>
Proceeds from disposal of financial assets at FVTOCI	<u>\$ 44,963,367</u>	<u>\$ 254,604,537</u>
Additions of property, plant and equipment	\$ 1,139,892,108	\$ 835,406,296
Changes in other financial assets	5,730,104	1,933,965
Exchange of assets	(275,564)	(3,256,517)
Changes in payables to contractors and equipment suppliers	(60,638,244)	5,153,380
Changes in accrued expenses and other current liabilities	630,594	-
Transferred to initial carrying amount of hedged items	-	(41,416)
Capitalized interests	<u>(2,666,868)</u>	<u>-</u>
Payments for acquisition of property, plant and equipment	<u>\$ 1,082,672,130</u>	<u>\$ 839,195,708</u>
Additions of intangible assets	\$ 7,535,092	\$ 9,318,478
Changes in other financial assets	7,584	2,950
Changes in accrued expenses and other current liabilities	<u>(588,350)</u>	<u>(280,677)</u>
Payments for acquisition of intangible assets	<u>\$ 6,954,326</u>	<u>\$ 9,040,751</u>

b. Reconciliation of liabilities arising from financing activities

	Balance as of January 1, 2022	Financing Cash Flow	Non-cash Changes			Balance as of December 31, 2022
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 114,921,333	\$(111,959,992)	\$ (2,372,053)	\$ -	\$ (589,288)	\$ -
Bonds payable	614,470,652	193,479,254	44,183,113	-	303,420	852,436,439
Long-term bank loans	3,475,798	2,503,333	-	-	(5,195)	5,973,936
Lease liabilities	22,940,665	(2,690,784)	137,196	11,713,474	267,050	32,367,601
Total	<u>\$ 755,808,448</u>	<u>\$ 81,331,811</u>	<u>\$ 41,948,256</u>	<u>\$ 11,713,474</u>	<u>\$ (24,013)</u>	<u>\$ 890,777,976</u>

	Balance as of January 1, 2021	Financing Cash Flow	Non-cash Changes			Balance as of December 31, 2021
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 88,559,026	\$ 35,668,397	\$ (8,777,416)	\$ -	\$ (528,674)	\$ 114,921,333
Bonds payable	256,705,084	361,255,068	(3,646,920)	-	157,420	614,470,652
Long-term bank loans	1,967,611	1,510,000	-	-	(1,813)	3,475,798
Lease liabilities	22,388,674	(2,178,297)	(82,377)	2,619,341	193,324	22,940,665
Total	<u>\$ 369,620,395</u>	<u>\$ 396,255,168</u>	<u>\$ (12,506,713)</u>	<u>\$ 2,619,341</u>	<u>\$ (179,743)</u>	<u>\$ 755,808,448</u>

Note: Other changes include discounts on short-term loans, amortization of bonds payable, amortization of long-term bank loan interest subsidy and financial cost of lease liabilities.

32. CAPITAL MANAGEMENT

The Company requires significant amounts of capital to build and expand its production facilities and acquire additional equipment. In consideration of the industry dynamics, the Company manages its capital in a manner to ensure that it has sufficient and necessary financial resources to fund its working capital needs, capital expenditures, research and development activities, dividend payments, debt service requirements and other business requirements associated with its existing operations over the next 12 months.

33. FINANCIAL INSTRUMENTS

a. Categories of financial instruments

	December 31, 2022	December 31, 2021
Financial assets		
FVTPL (Note 1)	\$ 1,070,398	\$ 159,048
FVTOCI (Note 2)	136,483,349	129,607,052
Hedging financial assets	2,329	13,468
Amortized cost (Note 3)	<u>1,727,306,556</u>	<u>1,283,715,674</u>
	<u>\$1,864,862,632</u>	<u>\$ 1,413,495,242</u>
Financial liabilities		
FVTPL (Note 4)	\$ 116,215	\$ 681,914
Hedging financial liabilities	813	9,642
Amortized cost (Note 5)	<u>1,669,270,659</u>	<u>1,355,957,244</u>
	<u>\$1,669,387,687</u>	<u>\$1,356,648,800</u>

Note 1: Financial assets mandatorily measured at FVTPL.

Note 2: Including notes and accounts receivable (net), equity and debt investments.

Note 3: Including cash and cash equivalents, financial assets at amortized cost, notes and accounts receivable (including related parties), other receivables, refundable deposits and temporary payments (including those classified under other current assets and other noncurrent assets).

Note 4: Held for trading.

Note 5: Including short-term loans, accounts payable (including related parties), payables to contractors and equipment suppliers, cash dividends payable, accrued expenses and other current liabilities, bonds payable, long-term bank loans, guarantee deposits and other noncurrent liabilities.

b. Financial risk management objectives

The Company manages its exposure to foreign currency risk, interest rate risk, equity price risk, credit risk and liquidity risk with the objective to reduce the potentially adverse effects the market uncertainties may have on its financial performance.

The plans for material treasury activities are reviewed by the Audit Committees (rename to Audit and Risk Committee from February 14, 2023) and/or Board of Directors in accordance with procedures required by relevant regulations or internal controls. During the implementation of such plans, the Company must comply with certain treasury procedures that provide guiding principles for overall financial risk management and segregation of duties.

c. Market risk

The Company is exposed to the financial market risks, primarily changes in foreign currency exchange rates, interest rates and equity investment prices. A portion of these risks is hedged.

Foreign currency risk

Substantially all the Company's sales are denominated in U.S. dollars and over half of its capital expenditures are denominated in currencies other than NT dollars, primarily in U.S. dollars, Japanese yen and Euros. As a result, any significant fluctuations to its disadvantage in the exchanges rate of NT dollar against such currencies, in particular a weakening of U.S. dollar against NT dollar, would have an adverse impact on the revenue and operating profit as expressed in NT dollars. The Company uses foreign currency derivative contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT dollar-denominated assets and liabilities and certain forecasted transactions. These hedges reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on the assets and liabilities.

Based on a sensitivity analysis performed on the Company's total monetary assets and liabilities for the years ended December 31, 2022 and 2021, a hypothetical adverse foreign currency exchange rate change of 10% would have decreased its net income by NT\$1,704,553 thousand and NT\$1,435,346 thousand, respectively, after taking into account hedges and offsetting positions.

Interest rate risk

The Company is exposed to interest rate risks primarily in relation to its investment portfolio and outstanding debt. Changes in interest rates affect the interest earned on the Company's cash and cash equivalents and fixed income securities, the fair value of those securities, as well as the interest paid on its debt.

The Company's cash and cash equivalents as well as fixed income investments in both fixed- and floating-rate securities carry a degree of interest rate risk. The majority of the Company's fixed income investments are fixed-rate securities, which are classified as financial assets at FVTOCI, and may have

their fair value adversely affected due to a rise in interest rates. At the same time, if interest rates fall, cash and cash equivalents as well as floating-rate securities may generate less interest income than expected. The Company has entered and may in the future enter into interest rate derivatives to partially hedge the interest rate risk on its fixed income investments and anticipated debt issuance. However, these hedges can offset only a limited portion of the financial impact from movements in interest rates.

Based on a sensitivity analysis performed on the Company's fixed income investments at the end of the reporting period, interest rates increase of 100 basis points (1.00%) across all maturities would have decreased the Company's other comprehensive income by NT\$3,831,326 thousand and NT\$3,767,071 thousand for the years ended December 31, 2022 and 2021, respectively.

All of the Company's short-term debt is floating-rate, hence a rise in interest rates may result in higher interest expense than expected. The majority of the Company's long-term debt is fixed-rate and measured at amortized cost and as such, changes in interest rates would not affect future cash flows or the carrying amount.

Other price risk

The Company is exposed to equity price risk arising from financial assets at FVTOCI.

Assuming a hypothetical decrease of 10% in prices of the equity investments at the end of the reporting period for the years ended December 31, 2022 and 2021, the other comprehensive income would have decreased by NT\$631,530 thousand and NT\$595,766 thousand, respectively.

d. Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial losses to the Company. The Company is exposed to credit risks from operating activities, primarily accounts receivable, and from investing activities, primarily deposits, fixed-income investments and other financial instruments with banks. Credit risk is managed separately for business related and financial related exposures. As of the end of the reporting period, the Company's maximum credit risk exposure is equal to the carrying amount of financial assets.

Business related credit risk

The Company's accounts receivable are from its customers worldwide. The majority of the Company's outstanding accounts receivable are not covered by collaterals or guarantees. While the Company has procedures to monitor and manage credit risk exposure on accounts receivable, there is no assurance such procedures will effectively eliminate losses resulting from its credit risk. This risk is heightened during periods when economic conditions worsen.

As of December 31, 2022 and 2021, the Company's ten largest customers accounted for 82% and 79% of accounts receivable, respectively. The Company considers the concentration of credit risk for the remaining accounts receivable not material.

Financial credit risk

The Company mitigates its financial credit risk by selecting counterparties with investment grade credit ratings and by limiting the exposure to any individual counterparty. The Company regularly monitors and reviews the limit applied to counterparties and adjusts the limit according to market conditions and the credit standing of the counterparties.

The objective of the Company's investment policy is to achieve a return that will allow the Company to preserve principal and support liquidity requirements. The policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. The Company assesses whether there has been a significant increase in credit risk in the invested securities since initial

recognition by reviewing changes in external credit ratings, financial market conditions and material information of the issuers.

The Company assesses the 12-month expected credit loss and lifetime expected credit loss based on the probability of default and loss given default provided by external credit rating agencies. The current credit risk assessment policies are as follows:

Category	Description	Basis for Recognizing Expected Credit Loss	Expected Credit Loss Ratio
Performing	Credit rating is investment grade on valuation date	12 months expected credit loss	0-0.09%
Doubtful	Credit rating is non-investment grade on valuation date	Lifetime expected credit loss-not credit impaired	-
In default	Credit rating is CC or below on valuation date	Lifetime expected credit loss-credit impaired	-
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the Company has no realistic prospect of recovery	Amount is written off	-

For the years ended December 31, 2022 and 2021, the expected credit loss increased NT\$57,936 thousand and decreased NT\$3,293 thousand, respectively. The changes were mainly due to increased investment amount and adjusted investment portfolio.

e. Liquidity risk management

The objective of liquidity risk management is to ensure the Company has sufficient liquidity to fund its business operations over the next 12 months. The Company manages its liquidity risk by maintaining adequate cash and cash equivalents, financial assets at FVTOCI-current, financial assets at amortized cost-current and sufficient cost-efficient funding.

The table below summarizes the maturity profile of the Company's financial liabilities based on contractual undiscounted payments, including principal and interest.

	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
<u>December 31, 2022</u>					
<u>Non-derivative financial liabilities</u>					
Accounts payable (including related parties)	\$ 56,522,345	\$ -	\$ -	\$ -	\$ 56,522,345
Payables to contractors and equipment suppliers	213,499,613	-	-	-	213,499,613
Accrued expenses and other current liabilities	219,587,908	-	-	-	219,587,908
Bonds payable	34,668,909	94,869,159	320,211,460	625,049,539	1,074,799,067
Long-term bank loans	1,278,130	3,533,152	1,360,549	-	6,171,831
Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note)	2,999,840	5,367,809	4,754,007	22,589,117	35,710,773
Others	-	166,266,718	10,518,481	783,182	177,568,381
	<u>528,556,745</u>	<u>270,036,838</u>	<u>336,844,497</u>	<u>648,421,838</u>	<u>1,783,859,918</u>

(Continued)

	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
<u>December 31, 2022</u>					
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	\$ 103,617,399	\$ -	\$ -	\$ -	\$ 103,617,399
Inflows	<u>(104,600,085)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(104,600,085)</u>
	<u>(982,686)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(982,686)</u>
	<u>\$ 527,574,059</u>	<u>\$ 270,036,838</u>	<u>\$ 336,844,497</u>	<u>\$ 648,421,838</u>	<u>\$ 1,782,877,232</u>
<u>December 31, 2021</u>					
<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 114,767,034	\$ -	\$ -	\$ -	\$ 114,767,034
Accounts payable (including related parties)	48,722,789	-	-	-	48,722,789
Payables to contractors and equipment suppliers	145,742,148	-	-	-	145,742,148
Accrued expenses and other current liabilities	120,240,359	-	-	-	120,240,359
Bonds payable	13,580,628	42,801,397	191,458,126	506,504,958	754,345,109
Long-term bank loans	183,671	2,217,112	1,153,900	-	3,554,683
Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note)	2,371,568	3,896,249	3,385,295	14,649,235	24,302,347
Others	<u>-</u>	<u>164,991,929</u>	<u>-</u>	<u>-</u>	<u>164,991,929</u>
	<u>445,608,197</u>	<u>213,906,687</u>	<u>195,997,321</u>	<u>521,154,193</u>	<u>1,376,666,398</u>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	187,708,035	-	-	-	187,708,035
Inflows	<u>(187,631,930)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(187,631,930)</u>
	<u>76,105</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>76,105</u>
	<u>\$ 445,684,302</u>	<u>\$ 213,906,687</u>	<u>\$ 195,997,321</u>	<u>\$ 521,154,193</u>	<u>\$ 1,376,742,503</u>
					(Concluded)

Note: Information about the maturity analysis for lease liabilities more than 5 years:

	5-10 Years	10-15 Years	15-20 Years	More Than 20 Years	Total
<u>December 31, 2022</u>					
Lease liabilities	<u>\$ 10,241,734</u>	<u>\$ 7,329,012</u>	<u>\$ 4,233,886</u>	<u>\$ 784,485</u>	<u>\$ 22,589,117</u>
<u>December 31, 2021</u>					
Lease liabilities	<u>\$ 7,513,939</u>	<u>\$ 5,043,067</u>	<u>\$ 1,972,740</u>	<u>\$ 119,489</u>	<u>\$ 14,649,235</u>

f. Fair value of financial instruments

1) Fair value measurements recognized in the consolidated balance sheets

Fair value measurements are grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;

- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The timing of transfers between levels within the fair value hierarchy is at the end of reporting period.

2) Fair value of financial instruments that are measured at fair value on a recurring basis

Fair value hierarchy

The following table presents the Company's financial assets and liabilities measured at fair value on a recurring basis:

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Forward exchange contracts	\$ -	\$ 947,546	\$ -	\$ 947,546
Convertible bonds	-	-	122,852	122,852
	<u>\$ -</u>	<u>\$ 947,546</u>	<u>\$ 122,852</u>	<u>\$ 1,070,398</u>
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 66,116,166	\$ -	\$ 66,116,166
Agency bonds/Agency mortgage-backed securities	-	28,399,890	-	28,399,890
Government bonds	18,845,577	84,347	-	18,929,924
Asset-backed securities	-	9,274,697	-	9,274,697
Investments in equity instruments				
Non-publicly traded equity investments	-	-	6,159,200	6,159,200
Publicly traded stocks	277,866	-	-	277,866
Notes and accounts receivable, net	-	7,325,606	-	7,325,606
	<u>\$ 19,123,443</u>	<u>\$ 111,200,706</u>	<u>\$ 6,159,200</u>	<u>\$ 136,483,349</u>
<u>Hedging financial assets</u>				
Fair value hedges				
Interest rate futures contracts	<u>\$ 2,329</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 2,329</u>
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	<u>\$ -</u>	<u>\$ 116,215</u>	<u>\$ -</u>	<u>\$ 116,215</u>
<u>Hedging financial liabilities</u>				
Fair value hedges				
Interest rate futures contracts	<u>\$ 813</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 813</u>

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Forward exchange contracts	\$ -	\$ 159,048	\$ -	\$ 159,048
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 57,253,161	\$ -	\$ 57,253,161
Agency bonds/Agency mortgage-backed securities	-	32,070,114	-	32,070,114
Government bonds	21,267,002	78,792	-	21,345,794
Asset-backed securities	-	8,660,424	-	8,660,424
Investments in equity instruments				
Non-publicly traded equity investments	-	-	5,887,892	5,887,892
Publicly traded stocks	189,758	-	-	189,758
Notes and accounts receivable, net	-	4,199,909	-	4,199,909
	<u>\$ 21,456,760</u>	<u>\$ 102,262,400</u>	<u>\$ 5,887,892</u>	<u>\$ 129,607,052</u>
<u>Hedging financial assets</u>				
Cash flow hedges				
Forward interest rate contracts	\$ -	\$ 13,468	\$ -	\$ 13,468
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 681,914	\$ -	\$ 681,914
<u>Hedging financial liabilities</u>				
Fair value hedges				
Interest rate futures contracts	\$ 9,642	\$ -	\$ -	\$ 9,642

Reconciliation of Level 3 fair value measurements of financial assets

The financial assets measured at Level 3 fair value were equity investments classified as financial assets at FVTOCI and financial assets at FVTPL. Reconciliations for the years ended December 31, 2022 and 2021 are as follows:

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 5,887,892	\$ 4,514,940
Additions	715,612	319,177
Recognized in other comprehensive income or loss	(373,263)	1,821,762
Disposals and proceeds from return of capital of investments	(359,506)	(700,224)
Transfers out of level 3 (Note)	(139,770)	-
Effect of exchange rate changes	<u>551,087</u>	<u>(67,763)</u>
Balance, end of year	<u>\$ 6,282,052</u>	<u>\$ 5,887,892</u>

Note: The transfer from level 3 to level 1 is because quoted prices (unadjusted) in active markets data became available for the equity investments.

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of financial assets and financial liabilities are determined as follows:

- The fair values of corporate bonds, agency bonds, agency mortgage-backed securities, asset-backed securities and government bonds are determined by quoted market prices provided by third party pricing services.
- The fair values of forward contracts are measured using forward rates and discount rates derived from quoted market prices.
- The fair value of accounts receivable classified as at FVTOCI is determined by the present value of future cash flows based on the discount rate that reflects the credit risk of counterparties

Valuation techniques and assumptions used in Level 3 fair value measurement

The fair values of non-publicly traded equity investments (excluding those trading on the Emerging Stock Board) are mainly determined by using the asset approach and market approach.

The asset approach takes into account the net asset value measured at the fair value by independent parties. On December 31, 2022 and 2021, the Company uses unobservable inputs derived from discount for lack of marketability of 10%. When other inputs remain equal, the fair value will decrease by NT\$48,704 thousand and NT\$51,372 thousand, respectively, if discounts for lack of marketability increase by 1%.

For the remaining few investments, the market approach is used to arrive at their fair values, for which the recent financing activities of investees, the market transaction prices of the similar companies and market conditions are considered.

In addition, the fair values of convertible bonds are prior transaction prices.

3) Fair value of financial instruments that are not measured at fair value

Except as detailed in the following table, the Company considers that the carrying amounts of financial instruments in the consolidated financial statements that are not measured at fair value approximate their fair values.

Fair value hierarchy

The table below sets out the fair value hierarchy for the Company's financial assets and liabilities which are not required to be measured at fair value:

	<u>December 31, 2022</u>	
	<u>Carrying Amount</u>	<u>Level 2 Fair Value</u>
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	\$ 80,994,958	\$ 80,236,142
Commercial paper	<u>48,732,476</u>	<u>48,882,028</u>
	<u>\$ 129,727,434</u>	<u>\$ 129,118,170</u>
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	<u>\$ 852,436,439</u>	<u>\$ 765,301,535</u>

	December 31, 2021	
	Carrying Amount	Level 2 Fair Value
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	\$ <u>5,306,962</u>	\$ <u>5,317,957</u>
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	\$ <u>614,470,652</u>	\$ <u>613,514,692</u>

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of corporate bonds and the Company's bonds payable are determined by quoted market prices provided by third party pricing services.

The fair value of commercial paper is determined by the present value of future cash flows based on the discounted curves that are derived from the quoted market prices.

34. RELATED PARTY TRANSACTIONS

Intercompany balances and transactions between TSMC and its subsidiaries, which are related parties of TSMC, have been eliminated upon consolidation; therefore, those items are not disclosed in this note. The following is a summary of significant transactions between the Company and other related parties:

- a. Related party name and categories

<u>Related Party Name</u>	<u>Related Party Categories</u>
GUC	Associates
VIS	Associates
SSMC	Associates
Xintec	Associates

- b. Net revenue

		Years Ended December 31	
		2022	2021
<u>Item</u>	<u>Related Party Categories</u>		
Net revenue from sale of goods	Associates	\$ <u>15,351,465</u>	\$ <u>8,475,908</u>

c. Purchases

<u>Years Ended December 31</u>	
<u>2022</u>	<u>2021</u>

Related Party Categories

Associates	\$ <u>6,423,913</u>	\$ <u>7,569,787</u>
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d. Receivables from related parties

	December 31, 2022	December 31, 2021
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<u>Item</u>	<u>Related Party Name</u>		
Receivables from related parties	GUC	\$ 1,471,351	\$ 597,836
	Xintec	<u>112,607</u>	<u>117,488</u>
		<u>\$ 1,583,958</u>	<u>\$ 715,324</u>
Other receivables from related parties	SSMC	\$ 68,277	\$ 50,375
	VIS	669	11,156
	Others	<u>29</u>	<u>-</u>
		<u>\$ 68,975</u>	<u>\$ 61,531</u>

e. Payables to related parties

	December 31, 2022	December 31, 2021
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<u>Item</u>	<u>Related Party Name</u>		
Payables to related parties	Xintec	\$ 1,047,452	\$ 725,325
	SSMC	385,979	349,211
	VIS	190,587	357,151
	Others	<u>18,619</u>	<u>5,499</u>
		<u>\$ 1,642,637</u>	<u>\$ 1,437,186</u>

f. Accrued expenses and other current liabilities

	December 31, 2022	December 31, 2021
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<u>Item</u>	<u>Related Party Categories</u>		
Contract liabilities	Associates	\$ <u>1,075,659</u>	\$ <u>726,350</u>

g. Others

<u>Item</u>	<u>Related Party Categories</u>	<u>Years Ended December 31</u>	
		<u>2022</u>	<u>2021</u>
Manufacturing expenses	Associates	<u>\$ 6,011,522</u>	<u>\$ 5,459,919</u>

The sales prices and payment terms to related parties were not significantly different from those of sales to third parties. For other related party transactions, price and terms were determined in accordance with mutual agreements.

The Company leased factory and office from associates. The lease terms and prices were both determined in accordance with mutual agreements. The rental expenses were paid to associates monthly; the related expenses were both classified under manufacturing expenses.

h. Compensation of key management personnel

The compensation to directors and other key management personnel were as follows:

	<u>Years Ended December 31</u>	
	<u>2022</u>	<u>2021</u>
Short-term employee benefits	\$ 4,369,097	\$ 2,886,786
Post-employment benefits	3,013	2,900
Share-based payments	<u>286,227</u>	<u>-</u>
	<u>\$ 4,658,337</u>	<u>\$ 2,889,686</u>

The compensation to directors and other key management personnel were determined by the Compensation Committee (rename to Compensation and People Development Committee from February 14, 2023) of TSMC in accordance with the individual performance and market trends.

35. PLEDGED ASSETS

The Company provided certificate of deposits recorded in other financial assets as collateral mainly for building construction, building lease agreements and energy purchase agreements. As of December 31, 2022 and 2021, the aforementioned other financial assets amounted to NT\$129,138 thousand and NT\$210,235 thousand, respectively.

36. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

Significant contingent liabilities and unrecognized commitments of the Company as of the end of the reporting period, excluding those disclosed in other notes, were as follows:

- a. Under a technical cooperation agreement with Industrial Technology Research Institute, the R.O.C. Government or its designee approved by TSMC can use up to 35% of TSMC's capacity provided TSMC's outstanding commitments to its customers are not prejudiced. The term of this agreement is for five years beginning from January 1, 1987 and is automatically renewed for successive periods of five years unless otherwise terminated by either party with one year prior notice. As of the end of reporting period, the R.O.C. Government did not invoke such right.
- b. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company, SSMC, which is an integrated circuit foundry in

Singapore. TSMC's equity interest in SSMC was 32%. Nevertheless, in September 2006, Philips spun-off its semiconductor subsidiary which was renamed as NXP B.V. Further, TSMC and NXP B.V. purchased all the SSMC shares owned by EDB Investments Pte Ltd. pro rata according to the Shareholders Agreement on November 15, 2006. After the purchase, TSMC and NXP B.V. currently own approximately 39% and 61% of the SSMC shares, respectively. TSMC and NXP B.V. are required, in the aggregate, to purchase at least 70% of SSMC's capacity, but TSMC alone is not required to purchase more than 28% of the capacity. If any party defaults on the commitment and the capacity utilization of SSMC falls below a specific percentage of its capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs. There was no default from the aforementioned commitment as of the end of reporting period.

- c. In September 2022, Daedalus Prime LLC ("Daedalus") filed complaints in the U.S. International Trade Commission ("ITC") and the U.S. District Court for the Eastern District of Texas alleging that TSMC, TSMC North America, and other companies infringe four U.S. patents. The ITC instituted an investigation in October 2022. The outcome cannot be determined and we cannot make a reliable estimate of the contingent liability at this time.
- d. TSMC entered into long-term purchase agreements of materials and supplies and agreements of waste disposal with multiple suppliers. The relative minimum fulfillment quantity and price are specified in the agreements.
- e. TSMC entered into a long-term purchase agreement of equipment. The relative fulfillment quantity and price are specified in the agreement.
- f. TSMC entered into long-term energy purchase agreements with multiple suppliers. The relative fulfillment period, quantity and price are specified in the agreements.
- g. Amounts available under unused letters of credit as of December 31, 2022 and 2021 were NT\$383,974 thousand and NT\$136,710 thousand, respectively.
- h. The Company entrusted financial institutions to open performance guarantee mainly for import and export of goods, lease agreement and energy purchase agreement. As of December 31, 2022 and 2021, the aforementioned guarantee amounted to NT\$7,623,262 thousand and NT\$4,954,798 thousand, respectively.

37. EXCHANGE RATE INFORMATION OF FOREIGN-CURRENCY FINANCIAL ASSETS AND LIABILITIES

The following information was summarized according to the foreign currencies other than the functional currency of the Company. The exchange rates disclosed were used to translate the foreign currencies into the functional currency. The significant financial assets and liabilities denominated in foreign currencies were as follows:

	Foreign Currencies (In Thousands)	Exchange Rate (Note 1)	Carrying Amount (In Thousands)
<u>December 31, 2022</u>			
<u>Financial assets</u>			
Monetary items			
USD	\$ 15,214,896	30.713	\$ 467,295,097
EUR	8,375	32.838	275,006
			(Continued)

	Foreign Currencies (In Thousands)	Exchange Rate (Note 1)	Carrying Amount (In Thousands)
EUR	\$ 29,161	7.432(Note 2)	\$ 957,587
JPY	133,034,271	0.2331	31,010,288
<u>Financial liabilities</u>			
Monetary items			
USD	15,190,659	30.713	466,550,704
EUR	2,375,378	32.838	78,002,647
JPY	134,608,488	0.2331	31,377,239
<u>December 31, 2021</u>			
<u>Financial assets</u>			
Monetary items			
USD	11,445,396	27.674	316,739,883
USD	2,023,233	6.379(Note 3)	55,990,951
EUR	14,964	31.460	470,776
EUR	40,326	7.252(Note 2)	1,268,665
JPY	10,921,880	0.2414	2,636,542
<u>Financial liabilities</u>			
Monetary items			
USD	11,958,503	27.674	330,939,620
EUR	3,539,320	31.460	111,347,020
JPY	112,456,908	0.2414	27,147,098
			(Concluded)

Note 1: Except as otherwise noted, exchange rate represents the number of NT dollar for which one foreign currency could be exchanged.

Note 2: The exchange rate represents the number of RMB for which one Euro could be exchanged.

Note 3: The exchange rate represents the number of RMB for which one U.S. dollar could be exchanged.

Please refer to the consolidated statements of comprehensive income for the total of realized and unrealized foreign exchange gain and loss for the years ended December 31, 2022 and 2021, respectively. Since there were varieties of foreign currency transactions and functional currencies within the subsidiaries of the Company, the Company was unable to disclose foreign exchange gain (loss) towards each foreign currency with significant impact.

38. ADDITIONAL DISCLOSURES

Following are the additional disclosures required by the Securities and Futures Bureau for TSMC:

- a. Financings provided: See Table 1 attached;
- b. Endorsement/guarantee provided: See Table 2 attached;
- c. Marketable securities held (excluding investments in subsidiaries and associates): See Table 3 attached;

- d. Marketable securities acquired and disposed of at costs or prices of at least NT\$300 million or 20% of the paid-in capital: See Table 4 attached;
- e. Acquisition of individual real estate properties at costs of at least NT\$300 million or 20% of the paid-in capital: See Table 5 attached;
- f. Disposal of individual real estate properties at prices of at least NT\$300 million or 20% of the paid-in capital: None;
- g. Total purchases from or sales to related parties of at least NT\$100 million or 20% of the paid-in capital: See Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: See Table 7 attached;
- i. Information about the derivative financial instruments transaction: See Notes 7 and 10;
- j. Others: The business relationship between the parent and the subsidiaries and significant transactions between them: See Table 8 attached;
- k. Names, locations, and related information of investees over which TSMC exercises significant influence (excluding information on investment in mainland China): See Table 9 attached;
- l. Information on investment in mainland China
 - 1) The name of the investee in mainland China, the main businesses and products, its issued capital, method of investment, information on inflow or outflow of capital, percentage of ownership, income (losses) of the investee, share of profits/losses of investee, ending balance, amount received as dividends from the investee, and the limitation on investee: See Table 10 attached.
 - 2) Significant direct or indirect transactions with the investee, its prices and terms of payment, unrealized gain or loss, and other related information which is helpful to understand the impact of investment in mainland China on financial reports: See Table 8 attached.
- m. Information of major shareholders

List of all shareholders with ownership of 5 percent or greater showing the names and the number of shares and percentage of ownership held by each shareholder: See Table 11 attached.

39. OPERATING SEGMENTS INFORMATION

- a. Operating segments, segment revenue and operating results

TSMC's chief operating decision makers periodically review operating results, focusing on operating income generated by foundry segment. Operating results are used for resource allocation and/or performance assessment. As a result, the Company has only one operating segment, the foundry segment. The foundry segment engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

The basis for the measurement of income from operations is the same as that for the preparation of financial statements. Please refer to the consolidated statements of comprehensive income for the related segment revenue and operating results.

b. Geographic and major customers' information were as follows:

1) Geographic information

Noncurrent Assets	December 31, 2022	December 31, 2021
Taiwan	\$2,510,238,722	\$1,953,007,722
United States	153,137,833	41,208,723
China	90,349,673	41,895,164
Europe, the Middle East and Africa	140,709	143,916
Japan	15,432,491	1,011,043
Others	<u>1,922</u>	<u>539</u>
	<u>\$2,769,301,350</u>	<u>\$2,037,267,107</u>

Noncurrent assets include property, plant and equipment, right-of-use assets, intangible assets and other noncurrent assets.

2) Major customers representing at least 10% of net revenue

	Years Ended December 31			
	2022		2021	
	Amount	%	Amount	%
Customer A	\$ 529,649,200	23	\$ 405,402,955	26
Customer B	NA (Note)	NA	153,740,831	10

Note: Revenue less than 10% of the Company's net revenue.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

FINANCINGS PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Financing Company	Counterparty	Financial Statement Account	Related Party	Maximum Balance for the Period (Foreign Currencies in Thousands) (Note 2)	Ending Balance (Foreign Currencies in Thousands) (Note 2)	Amount Actually Drawn (Foreign Currencies in Thousands)	Interest Rate	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company (Note 1)	Financing Company's Total Financing Amount Limits (Note 1)
													Item	Value		
1	TSMC China	TSMC Nanjing	Other receivables from related parties	Yes	\$ 74,200,110 (RMB 8,800,000)& (USD 1,150,000)	\$ 74,200,110 (RMB 8,800,000)& (USD 1,150,000)	\$ 45,211,510 (RMB 7,800,000)& (USD 350,000)	0.75%-1.50%	The need for short-term and long-term financing	\$ -	Operating capital	\$ -	\$ -	\$ 87,432,993	\$ 87,432,993	

Note 1: The aggregate amount available for lending to TSMC Nanjing from TSMC China shall not exceed the net worth of TSMC China.

Note 2: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

TABLE 2

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

**ENDORSEMENTS/GUARANTEES PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022**
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Endorsement/ Guarantee Provider	Guaranteed Party		Limits on Endorsement/ Guarantee Amount Provided to Each Guaranteed Party (Notes 1 and 2)	Maximum Balance for the Period (Foreign Currencies in Thousands) (Note 3)	Ending Balance (Foreign Currencies in Thousands) (Note 3)	Amount Actually Drawn (US\$ in Thousands)	Amount of Endorsement/ Guarantee Collateralized by Properties	Ratio of Accumulated Endorsement/ Guarantee to Net Equity per Latest Financial Statements	Maximum Endorsement/ Guarantee Amount Allowable (Notes 1 and 2)	Guarantee Provided by Parent Company	Guarantee Provided by Subsidiary A Subsidiary	Guarantee Provided to Subsidiaries in Mainland China
		Name	Nature of Relationship										
0	TSMC	TSMC North America	Subsidiary	\$ 736,413,299	\$ 2,555,730 (US\$ 83,213)	\$ 2,555,730 (US\$ 83,213)	\$ 2,555,730 (US\$ 83,213)	\$ -	0.09%	\$ 736,413,299	Yes	No	No
		TSMC Global	Subsidiary	736,413,299	230,347,500 (US\$ 7,500,000)	230,347,500 (US\$ 7,500,000)	230,347,500 (US\$ 7,500,000)	-	7.82%	736,413,299	Yes	No	No
		TSMC Arizona	Subsidiary	736,413,299	369,551,715 (US\$12,032,420)	369,551,715 (US\$12,032,420)	246,699,701 (US\$ 8,032,420)	-	12.55%	736,413,299	Yes	No	No
1	TSMC Japan	TSMC JDC	The same parent company	336,399	307,692 (JPY 1,320,000)	307,692 (JPY 1,320,000)	307,692 (JPY 1,320,000)	-	0.01%	336,399	No	No	No

Note 1: The total amount of the endorsement/guarantee provided by TSMC to TSMC North America, TSMC Global and TSMC Arizona shall not exceed twenty-five percent (25%) of TSMC's net worth.

Note 2: The total amount of the endorsement/guarantee provided by TSMC Japan to TSMC JDC shall not exceed two hundred and fifty percent (250%) of TSMC Japan's net worth.

Note 3: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

MARKETABLE SECURITIES HELD

December 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022			Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	
TSMC	Commercial paper	-	Financial assets at amortized cost	2,950	\$ 29,335,729	N/A	\$ 29,421,735
	Taiwan Power Company	-	"	750	7,458,936	N/A	7,481,537
	CPC Corporation, Taiwan	-	"	450	4,476,301	N/A	4,492,086
	Nan Ya Plastics Corporation	-	"	300	2,985,385	N/A	2,994,951
	Formosa Petrochemical Corporation	-	"	250	2,485,666	N/A	2,494,159
	Formosa Chemicals & Fibre Corporation	-	"	200	1,990,459	N/A	1,997,560
	Formosa Plastics Corporation	-	"				
	Non-publicly traded equity investments	-	Financial assets at fair value through other comprehensive income	10,500	473,508	7	473,508
	Shin-Etsu Handotai Taiwan Co., Ltd.	-	"	21,230	443,461	10	443,461
	United Industrial Gases Co., Ltd.	-	"	10,442	97,772	6	97,772
TSMC Partners	Global Investment Holding Inc.	-	"	-	-	1	-
	Crimson Asia Capital	-	"	-	-	-	-
	Non-publicly traded equity investments	-	Financial assets at fair value through other comprehensive income	-	US\$ 26,441	6	US\$ 26,441
	Shanghai Walden Venture Capital Enterprise	-	"	-	US\$ 18,454	9	US\$ 18,454
	China Walden Venture Investments II, L.P.	-	"	-	US\$ 13,602	4	US\$ 13,602
	China Walden Venture Investments III, L.P.	-	"	-	-	22	-
	Tela Innovations	-	"	6,942	-	-	-
	Movella Inc.	-	"	6,333	-	9	-
	Corporate bond	-	Financial assets at fair value through other comprehensive income	-	US\$ 83,242	N/A	US\$ 83,242
	Morgan Stanley	-	"	-	US\$ 76,626	N/A	US\$ 76,626
TSMC Global	Bank of America Corporation	-	"	-	US\$ 61,493	N/A	US\$ 61,493
	Citigroup Inc.	-	"	-	US\$ 59,735	N/A	US\$ 59,735
	Wells Fargo & Company	-	"	-	US\$ 51,439	N/A	US\$ 51,439
	The Goldman Sachs Group, Inc.	-	"	-	US\$ 50,629	N/A	US\$ 50,629
	JPMorgan Chase & Co.	-	"	-	US\$ 32,949	N/A	US\$ 32,949
	Mitsubishi UFJ Financial Group, Inc.	-	"	-	US\$ 32,402	N/A	US\$ 32,402
	HSEC Holdings plc	-	"	-	US\$ 27,892	N/A	US\$ 27,892
	AbbVie Inc.	-	"	-	US\$ 27,658	N/A	US\$ 27,658
	Sumitomo Mitsui Financial Group, Inc.	-	"	-	US\$ 26,257	N/A	US\$ 26,257
	Banco Santander, S.A.	-	"	-	US\$ 24,408	N/A	US\$ 24,408
	Metropolitan Life Global Funding I	-	"	-	US\$ 23,191	N/A	US\$ 23,191
	Athene Global Funding	-	"	-	US\$ 21,865	N/A	US\$ 21,865
	Oracle Corporation	-	"	-	US\$ 21,423	N/A	US\$ 21,423
	Royal Bank of Canada	-	"	-	US\$ 19,768	N/A	US\$ 19,768
	Principal Life Global Funding II	-	"	-	US\$ 19,510	N/A	US\$ 19,510
	The Toronto-Dominion Bank	-	"	-	US\$ 18,979	N/A	US\$ 18,979
Equitable Financial Life Global Funding	-	"	-	US\$ 18,931	N/A	US\$ 18,931	
BNP Paribas SA	-	"	-	US\$ 18,931	N/A	US\$ 18,931	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Nordea Bank Abp	-	Financial assets at fair value through other comprehensive income	-	US\$ 18,263	N/A	US\$ 18,263	
	Fédération des caisses Desjardins du Québec	-	"	-	US\$ 18,086	N/A	US\$ 18,086	
	Sumitomo Mitsui Trust Bank, Limited	-	"	-	US\$ 17,158	N/A	US\$ 17,158	
	Guardian Life Global Funding	-	"	-	US\$ 16,412	N/A	US\$ 16,412	
	Mizuho Financial Group, Inc.	-	"	-	US\$ 16,169	N/A	US\$ 16,169	
	Deutsche Bank AG - New York Branch	-	"	-	US\$ 16,038	N/A	US\$ 16,038	
	Hyundai Capital America	-	"	-	US\$ 15,807	N/A	US\$ 15,807	
	Volkswagen Group of America Finance, LLC	-	"	-	US\$ 15,613	N/A	US\$ 15,613	
	Nationwide Building Society	-	"	-	US\$ 15,375	N/A	US\$ 15,375	
	NatWest Markets Plc	-	"	-	US\$ 15,314	N/A	US\$ 15,314	
	Bank of Montreal	-	"	-	US\$ 15,224	N/A	US\$ 15,224	
	Protective Life Global Funding	-	"	-	US\$ 15,045	N/A	US\$ 15,045	
	BPCE SA	-	"	-	US\$ 14,691	N/A	US\$ 14,691	
	Capital One Financial Corporation	-	"	-	US\$ 14,125	N/A	US\$ 14,125	
	ING Groep N.V.	-	"	-	US\$ 14,050	N/A	US\$ 14,050	
	NTT Finance Corporation	-	"	-	US\$ 13,744	N/A	US\$ 13,744	
	Svenska Handelsbanken AB (publ)	-	"	-	US\$ 13,508	N/A	US\$ 13,508	
	Société Générale Société anonyme	-	"	-	US\$ 13,327	N/A	US\$ 13,327	
	The Bank of Nova Scotia	-	"	-	US\$ 12,914	N/A	US\$ 12,914	
	Credit Suisse AG, New York Branch	-	"	-	US\$ 12,688	N/A	US\$ 12,688	
	Apple Inc.	-	"	-	US\$ 12,233	N/A	US\$ 12,233	
	Macquarie Group Limited	-	"	-	US\$ 11,654	N/A	US\$ 11,654	
	Santander UK Group Holdings plc	-	"	-	US\$ 11,628	N/A	US\$ 11,628	
	Credit Agricole SA London Branch	-	"	-	US\$ 11,611	N/A	US\$ 11,611	
	Toyota Motor Credit Corporation	-	"	-	US\$ 11,609	N/A	US\$ 11,609	
	Standard Chartered PLC	-	"	-	US\$ 11,541	N/A	US\$ 11,541	
	UBS Group AG	-	"	-	US\$ 11,473	N/A	US\$ 11,473	
	The Bank of New York Mellon Corporation	-	"	-	US\$ 11,282	N/A	US\$ 11,282	
	Barclays PLC	-	"	-	US\$ 11,263	N/A	US\$ 11,263	
	Fifth Third Bancorp	-	"	-	US\$ 10,917	N/A	US\$ 10,917	
	National Securities Clearing Corporation	-	"	-	US\$ 10,878	N/A	US\$ 10,878	
	Banque Fédérative du Crédit Mutuel Société anonyme	-	"	-	US\$ 10,738	N/A	US\$ 10,738	
	Lloyds Banking Group plc	-	"	-	US\$ 10,533	N/A	US\$ 10,533	
	AT&T Inc.	-	"	-	US\$ 10,528	N/A	US\$ 10,528	
	S&P Global Inc.	-	"	-	US\$ 10,246	N/A	US\$ 10,246	
	Nomura Holdings, Inc.	-	"	-	US\$ 10,195	N/A	US\$ 10,195	
	U.S. Bancorp	-	"	-	US\$ 9,781	N/A	US\$ 9,781	
	Verizon Communications Inc.	-	"	-	US\$ 9,765	N/A	US\$ 9,765	
	Citizens Bank, National Association	-	"	-	US\$ 9,364	N/A	US\$ 9,364	
	Enel Finance International N.V.	-	"	-	US\$ 9,104	N/A	US\$ 9,104	
	Roper Technologies, Inc.	-	"	-	US\$ 9,035	N/A	US\$ 9,035	
	Equifax Inc.	-	"	-	US\$ 8,925	N/A	US\$ 8,925	
	Equinor ASA	-	"	-	US\$ 8,832	N/A	US\$ 8,832	
	Amazon.com, Inc.	-	"	-	US\$ 8,820	N/A	US\$ 8,820	
	Merck & Co., Inc.	-	"	-	US\$ 8,616	N/A	US\$ 8,616	
	Bristol-Myers Squibb Company	-	"	-	US\$ 8,441	N/A	US\$ 8,441	
	GSK Consumer Healthcare Capital US LLC	-	"	-	US\$ 8,314	N/A	US\$ 8,314	
	AIG Global Funding	-	"	-	US\$ 8,209	N/A	US\$ 8,209	
	New York Life Global Funding	-	"	-	US\$ 8,192	N/A	US\$ 8,192	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	American Express Company	-	Financial assets at fair value through other comprehensive income	-	US\$ 8,037	N/A	US\$ 8,037	
	Truist Financial Corporation	-	"	-	US\$ 7,851	N/A	US\$ 7,851	
	International Bank for Reconstruction and Development	-	"	-	US\$ 7,608	N/A	US\$ 7,608	
	KfW	-	"	-	US\$ 7,594	N/A	US\$ 7,594	
	UnitedHealth Group Incorporated	-	"	-	US\$ 7,504	N/A	US\$ 7,504	
	AstraZeneca Finance LLC	-	"	-	US\$ 7,477	N/A	US\$ 7,477	
	Canadian Imperial Bank of Commerce	-	"	-	US\$ 7,443	N/A	US\$ 7,443	
	Inter-American Development Bank	-	"	-	US\$ 7,346	N/A	US\$ 7,346	
	Suncorp-Metway Limited	-	"	-	US\$ 7,315	N/A	US\$ 7,315	
	Great-West Lifeco U.S. Finance 2020, Lp	-	"	-	US\$ 7,287	N/A	US\$ 7,287	
	Lowe's Companies, Inc.	-	"	-	US\$ 7,135	N/A	US\$ 7,135	
	Northwestern Mutual Global Funding	-	"	-	US\$ 6,853	N/A	US\$ 6,853	
	Chevron Corporation	-	"	-	US\$ 6,838	N/A	US\$ 6,838	
	Fidelity National Information Services, Inc.	-	"	-	US\$ 6,619	N/A	US\$ 6,619	
	AstraZeneca PLC	-	"	-	US\$ 6,500	N/A	US\$ 6,500	
	Prudential Funding Corp.	-	"	-	US\$ 6,447	N/A	US\$ 6,447	
	John Deere Capital Corporation	-	"	-	US\$ 6,437	N/A	US\$ 6,437	
	Intuit Inc.	-	"	-	US\$ 6,421	N/A	US\$ 6,421	
	Cargill, Incorporated	-	"	-	US\$ 6,378	N/A	US\$ 6,378	
	Daimler Trucks Finance North America LLC	-	"	-	US\$ 6,367	N/A	US\$ 6,367	
	Roche Holdings, Inc.	-	"	-	US\$ 6,339	N/A	US\$ 6,339	
	The East Ohio Gas Company	-	"	-	US\$ 6,333	N/A	US\$ 6,333	
	Jackson National Life Global Funding	-	"	-	US\$ 6,283	N/A	US\$ 6,283	
	Danske Bank A/S	-	"	-	US\$ 6,149	N/A	US\$ 6,149	
	Ameren Corporation	-	"	-	US\$ 5,960	N/A	US\$ 5,960	
	Huntington Bancshares Incorporated	-	"	-	US\$ 5,865	N/A	US\$ 5,865	
	Discover Bank (New Castle, Delaware)	-	"	-	US\$ 5,864	N/A	US\$ 5,864	
	Exxon Mobil Corporation	-	"	-	US\$ 5,749	N/A	US\$ 5,749	
	Swedbank AB (publ)	-	"	-	US\$ 5,733	N/A	US\$ 5,733	
	Fox Corporation	-	"	-	US\$ 5,630	N/A	US\$ 5,630	
	ANZ New Zealand (Int'l) Limited	-	"	-	US\$ 5,604	N/A	US\$ 5,604	
	Exelon Corporation	-	"	-	US\$ 5,591	N/A	US\$ 5,591	
	Take-Two Interactive Software, Inc.	-	"	-	US\$ 5,576	N/A	US\$ 5,576	
	Macquarie Bank Limited	-	"	-	US\$ 5,541	N/A	US\$ 5,541	
	Scentre Group Trust 1	-	"	-	US\$ 5,525	N/A	US\$ 5,525	
	WEC Energy Group, Inc.	-	"	-	US\$ 5,498	N/A	US\$ 5,498	
	WPP Finance 2010	-	"	-	US\$ 5,459	N/A	US\$ 5,459	
	Huntington National Bank	-	"	-	US\$ 5,415	N/A	US\$ 5,415	
	Intercontinental Exchange, Inc.	-	"	-	US\$ 5,388	N/A	US\$ 5,388	
	UBS AG, London Branch	-	"	-	US\$ 5,387	N/A	US\$ 5,387	
	Pacific Life Global Funding II	-	"	-	US\$ 5,359	N/A	US\$ 5,359	
	Siemens Financieringsmaatschappij N.V.	-	"	-	US\$ 5,302	N/A	US\$ 5,302	
	The Charles Schwab Corporation	-	"	-	US\$ 5,292	N/A	US\$ 5,292	
	Alabama Power Company	-	"	-	US\$ 5,263	N/A	US\$ 5,263	
	Pioneer Natural Resources Company	-	"	-	US\$ 5,254	N/A	US\$ 5,254	
	ASB Bank Limited	-	"	-	US\$ 5,239	N/A	US\$ 5,239	
	Cox Communications, Inc.	-	"	-	US\$ 5,112	N/A	US\$ 5,112	
	Intel Corporation	-	"	-	US\$ 5,109	N/A	US\$ 5,109	
	Nutrien Ltd.	-	"	-	US\$ 5,048	N/A	US\$ 5,048	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Southern California Edison Company	-	Financial assets at fair value through other comprehensive income	-	US\$ 5,017	N/A	US\$ 5,017	
	Fiserv, Inc.	-	"	-	US\$ 4,999	N/A	US\$ 4,999	
	Five Corners Funding Trust	-	"	-	US\$ 4,958	N/A	US\$ 4,958	
	Penske Truck Leasing Co., L.P.	-	"	-	US\$ 4,774	N/A	US\$ 4,774	
	CVS Health Corporation	-	"	-	US\$ 4,750	N/A	US\$ 4,750	
	CGI Inc.	-	"	-	US\$ 4,713	N/A	US\$ 4,713	
	Brookfield Finance Inc.	-	"	-	US\$ 4,601	N/A	US\$ 4,601	
	Thermo Fisher Scientific Inc.	-	"	-	US\$ 4,558	N/A	US\$ 4,558	
	Virginia Electric and Power Company	-	"	-	US\$ 4,468	N/A	US\$ 4,468	
	NextEra Energy Capital Holdings, Inc.	-	"	-	US\$ 4,439	N/A	US\$ 4,439	
	W. P. Carey Inc.	-	"	-	US\$ 4,414	N/A	US\$ 4,414	
	HP Inc.	-	"	-	US\$ 4,388	N/A	US\$ 4,388	
	CenterPoint Energy, Inc.	-	"	-	US\$ 4,342	N/A	US\$ 4,342	
	CNH Industrial Capital LLC	-	"	-	US\$ 4,260	N/A	US\$ 4,260	
	Comcast Corporation	-	"	-	US\$ 4,232	N/A	US\$ 4,232	
	Bank of New Zealand	-	"	-	US\$ 4,231	N/A	US\$ 4,231	
	Eversource Energy	-	"	-	US\$ 4,185	N/A	US\$ 4,185	
	BrightHouse Financial Global Funding	-	"	-	US\$ 4,100	N/A	US\$ 4,100	
	Mercedes-Benz Finance North America LLC	-	"	-	US\$ 4,089	N/A	US\$ 4,089	
	Korea Electric Power Corporation	-	"	-	US\$ 4,037	N/A	US\$ 4,037	
	Florida Power & Light Company	-	"	-	US\$ 4,026	N/A	US\$ 4,026	
	Dollar General Corporation	-	"	-	US\$ 4,005	N/A	US\$ 4,005	
	F&G Global Funding	-	"	-	US\$ 4,003	N/A	US\$ 4,003	
	7-Eleven, Inc.	-	"	-	US\$ 3,981	N/A	US\$ 3,981	
	Element Fleet Management Corp.	-	"	-	US\$ 3,873	N/A	US\$ 3,873	
	CNO Global Funding	-	"	-	US\$ 3,858	N/A	US\$ 3,858	
	Coca-Cola Europacific Partners PLC	-	"	-	US\$ 3,837	N/A	US\$ 3,837	
	AvolonBay Communities, Inc.	-	"	-	US\$ 3,831	N/A	US\$ 3,831	
	European Bank for Reconstruction and Development	-	"	-	US\$ 3,802	N/A	US\$ 3,802	
	Mondelez International, Inc.	-	"	-	US\$ 3,696	N/A	US\$ 3,696	
	B.A.T. International Finance p.l.c.	-	"	-	US\$ 3,619	N/A	US\$ 3,619	
	Appalachian Power Company	-	"	-	US\$ 3,618	N/A	US\$ 3,618	
	Public Storage	-	"	-	US\$ 3,506	N/A	US\$ 3,506	
	V.F. Corporation	-	"	-	US\$ 3,503	N/A	US\$ 3,503	
	Monongahela Power Company	-	"	-	US\$ 3,415	N/A	US\$ 3,415	
	DNB Bank ASA	-	"	-	US\$ 3,407	N/A	US\$ 3,407	
	Ryder System, Inc.	-	"	-	US\$ 3,399	N/A	US\$ 3,399	
	Truist Bank	-	"	-	US\$ 3,397	N/A	US\$ 3,397	
	BorgWarner Inc.	-	"	-	US\$ 3,392	N/A	US\$ 3,392	
	OGX Energy Corp.	-	"	-	US\$ 3,390	N/A	US\$ 3,390	
	Welltower Inc.	-	"	-	US\$ 3,389	N/A	US\$ 3,389	
	HSBC Bank Canada	-	"	-	US\$ 3,351	N/A	US\$ 3,351	
	Kimco Realty Corporation	-	"	-	US\$ 3,348	N/A	US\$ 3,348	
	Diageo Capital plc	-	"	-	US\$ 3,339	N/A	US\$ 3,339	
	Ross Stores, Inc.	-	"	-	US\$ 3,275	N/A	US\$ 3,275	
	Sprint Spectrum Co Llc	-	"	-	US\$ 3,248	N/A	US\$ 3,248	
	SMBC Aviation Capital Finance DAC	-	"	-	US\$ 3,222	N/A	US\$ 3,222	
	U.S. Bancorp.	-	"	-	US\$ 3,205	N/A	US\$ 3,205	
	Pfizer Inc.	-	"	-	US\$ 3,174	N/A	US\$ 3,174	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Highmark Inc.	-	Financial assets at fair value through other comprehensive income	-	US\$ 3,171	N/A	US\$ 3,171	
	Dominion Energy, Inc.	-	"	-	US\$ 3,167	N/A	US\$ 3,167	
	Verisk Analytics, Inc.	-	"	-	US\$ 3,163	N/A	US\$ 3,163	
	Realty Income Corporation	-	"	-	US\$ 3,162	N/A	US\$ 3,162	
	ERAC USA Finance LLC	-	"	-	US\$ 3,112	N/A	US\$ 3,112	
	Anheuser-Busch Companies, LLC	-	"	-	US\$ 3,035	N/A	US\$ 3,035	
	Xcel Energy Inc.	-	"	-	US\$ 3,029	N/A	US\$ 3,029	
	Simon Property Group, L.P.	-	"	-	US\$ 3,018	N/A	US\$ 3,018	
	ONE Gas, Inc.	-	"	-	US\$ 3,012	N/A	US\$ 3,012	
	Public Service Enterprise Group Incorporated	-	"	-	US\$ 2,996	N/A	US\$ 2,996	
	The Western Union Company	-	"	-	US\$ 2,983	N/A	US\$ 2,983	
	Gilead Sciences, Inc.	-	"	-	US\$ 2,970	N/A	US\$ 2,970	
	CNA Financial Corporation	-	"	-	US\$ 2,950	N/A	US\$ 2,950	
	MPLX LP	-	"	-	US\$ 2,941	N/A	US\$ 2,941	
	Atmos Energy Corporation	-	"	-	US\$ 2,934	N/A	US\$ 2,934	
	Johnson & Johnson	-	"	-	US\$ 2,914	N/A	US\$ 2,914	
	Rio Tinto Finance (USA) Limited	-	"	-	US\$ 2,908	N/A	US\$ 2,908	
	Oncor Electric Delivery Company LLC	-	"	-	US\$ 2,905	N/A	US\$ 2,905	
	Nestlé Holdings, Inc.	-	"	-	US\$ 2,905	N/A	US\$ 2,905	
	Air Lease Corporation	-	"	-	US\$ 2,895	N/A	US\$ 2,895	
	Avangrid, Inc.	-	"	-	US\$ 2,861	N/A	US\$ 2,861	
	Southern California Gas Company	-	"	-	US\$ 2,848	N/A	US\$ 2,848	
	Parker-Hannifin Corporation	-	"	-	US\$ 2,768	N/A	US\$ 2,768	
	TORONTO-DOMINION BANK/THE	-	"	-	US\$ 2,768	N/A	US\$ 2,768	
	Coöperatieve Rabobank U.A.	-	"	-	US\$ 2,767	N/A	US\$ 2,767	
	Novartis Capital Corporation	-	"	-	US\$ 2,734	N/A	US\$ 2,734	
	Baxalta Incorporated	-	"	-	US\$ 2,728	N/A	US\$ 2,728	
	PPL Electric Utilities Corporation	-	"	-	US\$ 2,718	N/A	US\$ 2,718	
	Amazon.com, Inc	-	"	-	US\$ 2,691	N/A	US\$ 2,691	
	Ameriprise Financial, Inc.	-	"	-	US\$ 2,677	N/A	US\$ 2,677	
	B.A.T Capital Corporation	-	"	-	US\$ 2,671	N/A	US\$ 2,671	
	Hewlett Packard Enterprise Company	-	"	-	US\$ 2,635	N/A	US\$ 2,635	
	Venus Realty, Limited Partnership	-	"	-	US\$ 2,600	N/A	US\$ 2,600	
	Eastern Energy Gas Holdings, LLC	-	"	-	US\$ 2,598	N/A	US\$ 2,598	
	Chevron Phillips Chemical Company LLC	-	"	-	US\$ 2,579	N/A	US\$ 2,579	
	Mondelez International Holdings Netherlands B.V.	-	"	-	US\$ 2,577	N/A	US\$ 2,577	
	Masco Corporation	-	"	-	US\$ 2,519	N/A	US\$ 2,519	
	GA Global Funding Trust	-	"	-	US\$ 2,484	N/A	US\$ 2,484	
	Baxter International Inc.	-	"	-	US\$ 2,469	N/A	US\$ 2,469	
	NBN Co Limited	-	"	-	US\$ 2,461	N/A	US\$ 2,461	
	M&T Bank Corporation	-	"	-	US\$ 2,459	N/A	US\$ 2,459	
	Air Products and Chemicals, Inc.	-	"	-	US\$ 2,447	N/A	US\$ 2,447	
	International Business Machines Corporation	-	"	-	US\$ 2,445	N/A	US\$ 2,445	
	Nuveen Finance, LLC	-	"	-	US\$ 2,437	N/A	US\$ 2,437	
	Cigna Corporation	-	"	-	US\$ 2,426	N/A	US\$ 2,426	
	The PNC Financial Services Group, Inc.	-	"	-	US\$ 2,424	N/A	US\$ 2,424	
	Santander UK plc	-	"	-	US\$ 2,417	N/A	US\$ 2,417	
	Pinnacle West Capital Corporation	-	"	-	US\$ 2,397	N/A	US\$ 2,397	
	Bayer US Finance II LLC	-	"	-	US\$ 2,374	N/A	US\$ 2,374	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	AutoZone, Inc.	-	Financial assets at fair value through other comprehensive income	-	US\$ 2,373	N/A	US\$ 2,373	
	CRH America, Inc.	-	"	-	US\$ 2,371	N/A	US\$ 2,371	
	Phillips 66	-	"	-	US\$ 2,352	N/A	US\$ 2,352	
	American Electric Power Company, Inc.	-	"	-	US\$ 2,343	N/A	US\$ 2,343	
	Workday, Inc.	-	"	-	US\$ 2,333	N/A	US\$ 2,333	
	CMS Energy Corporation	-	"	-	US\$ 2,324	N/A	US\$ 2,324	
	Magellan Midstream Partners, L.P.	-	"	-	US\$ 2,299	N/A	US\$ 2,299	
	Georgia Power Company	-	"	-	US\$ 2,281	N/A	US\$ 2,281	
	Texas Instruments Incorporated	-	"	-	US\$ 2,279	N/A	US\$ 2,279	
	Chevron U.S.A. Inc.	-	"	-	US\$ 2,262	N/A	US\$ 2,262	
	USAA Capital Corp.	-	"	-	US\$ 2,242	N/A	US\$ 2,242	
	Reynolds American Inc.	-	"	-	US\$ 2,228	N/A	US\$ 2,228	
	BOC Aviation Limited	-	"	-	US\$ 2,223	N/A	US\$ 2,223	
	O'Reilly Automotive, Inc.	-	"	-	US\$ 2,223	N/A	US\$ 2,223	
	RGA Global Funding	-	"	-	US\$ 2,216	N/A	US\$ 2,216	
	Yara International ASA	-	"	-	US\$ 2,215	N/A	US\$ 2,215	
	National Australia Bank - New York Branch	-	"	-	US\$ 2,200	N/A	US\$ 2,200	
	NiSource Inc.	-	"	-	US\$ 2,178	N/A	US\$ 2,178	
	Berkshire Hathaway Inc.	-	"	-	US\$ 2,161	N/A	US\$ 2,161	
	Empower Finance 2020, LP	-	"	-	US\$ 2,129	N/A	US\$ 2,129	
	Union Pacific Corporation	-	"	-	US\$ 2,082	N/A	US\$ 2,082	
	Health Care Service Corporation, a Mutual Legal Reserve Company	-	"	-	US\$ 2,065	N/A	US\$ 2,065	
	Georgia-Pacific LLC	-	"	-	US\$ 2,028	N/A	US\$ 2,028	
	General Electric Company	-	"	-	US\$ 1,991	N/A	US\$ 1,991	
	The Sherwin-Williams Company	-	"	-	US\$ 1,967	N/A	US\$ 1,967	
	Mead Johnson Nutrition Company	-	"	-	US\$ 1,961	N/A	US\$ 1,961	
	Magna International Inc.	-	"	-	US\$ 1,956	N/A	US\$ 1,956	
	Reliance Standard Life Global Funding II	-	"	-	US\$ 1,948	N/A	US\$ 1,948	
	Public Service Electric and Gas Company	-	"	-	US\$ 1,948	N/A	US\$ 1,948	
	Tucson Electric Power Company	-	"	-	US\$ 1,918	N/A	US\$ 1,918	
	Gulf Power Company	-	"	-	US\$ 1,884	N/A	US\$ 1,884	
	National Rural Utilities Cooperative Finance Corporation	-	"	-	US\$ 1,881	N/A	US\$ 1,881	
	Duke Energy Corporation	-	"	-	US\$ 1,871	N/A	US\$ 1,871	
	Olympus Corporation	-	"	-	US\$ 1,860	N/A	US\$ 1,860	
	Otis Worldwide Corporation	-	"	-	US\$ 1,859	N/A	US\$ 1,859	
	Kinder Morgan, Inc.	-	"	-	US\$ 1,787	N/A	US\$ 1,787	
	Shinhan Financial Group Co., Ltd.	-	"	-	US\$ 1,785	N/A	US\$ 1,785	
	NBK SFC Limited	-	"	-	US\$ 1,754	N/A	US\$ 1,754	
	Mitsubishi Corporation	-	"	-	US\$ 1,752	N/A	US\$ 1,752	
	Sydney Airport Finance Company Pty Ltd.	-	"	-	US\$ 1,733	N/A	US\$ 1,733	
	Caterpillar Financial Services Corporation	-	"	-	US\$ 1,726	N/A	US\$ 1,726	
	Kentucky Utilities Company	-	"	-	US\$ 1,717	N/A	US\$ 1,717	
	Wipro IT Services LLC	-	"	-	US\$ 1,674	N/A	US\$ 1,674	
	Enbridge Inc.	-	"	-	US\$ 1,672	N/A	US\$ 1,672	
	Infor, Inc.	-	"	-	US\$ 1,670	N/A	US\$ 1,670	
	Energy Kansas Central, Inc.	-	"	-	US\$ 1,658	N/A	US\$ 1,658	
	DTE Energy Company	-	"	-	US\$ 1,647	N/A	US\$ 1,647	
	Tyson Foods, Inc.	-	"	-	US\$ 1,624	N/A	US\$ 1,624	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Quest Diagnostics Incorporated	-	Financial assets, at fair value through other comprehensive income	-	US\$ 1,601	N/A	US\$ 1,601	
	Gulfstream Natural Gas System, L.L.C.	-	"	-	US\$ 1,595	N/A	US\$ 1,595	
	NatWest Group plc	-	"	-	US\$ 1,594	N/A	US\$ 1,594	
	Burlington Northern Santa Fe, LLC	-	"	-	US\$ 1,591	N/A	US\$ 1,591	
	Berkshire Hathaway Energy Company	-	"	-	US\$ 1,587	N/A	US\$ 1,587	
	Walmart Inc.	-	"	-	US\$ 1,583	N/A	US\$ 1,583	
	University of California	-	"	-	US\$ 1,578	N/A	US\$ 1,578	
	CSL Finance plc	-	"	-	US\$ 1,577	N/A	US\$ 1,577	
	Raytheon Technologies Corporation	-	"	-	US\$ 1,576	N/A	US\$ 1,576	
	AIA Group Limited	-	"	-	US\$ 1,554	N/A	US\$ 1,554	
	Midwest Connector Capital Company LLC	-	"	-	US\$ 1,551	N/A	US\$ 1,551	
	eBay Inc.	-	"	-	US\$ 1,532	N/A	US\$ 1,532	
	UBS AG (LONDON BRANCH)	-	"	-	US\$ 1,522	N/A	US\$ 1,522	
	Emerson Electric Co.	-	"	-	US\$ 1,508	N/A	US\$ 1,508	
	MetLife, Inc.	-	"	-	US\$ 1,507	N/A	US\$ 1,507	
	Westpac Banking Corporation	-	"	-	US\$ 1,503	N/A	US\$ 1,503	
	Glencore Funding LLC	-	"	-	US\$ 1,493	N/A	US\$ 1,493	
	APA Infrastructure Limited	-	"	-	US\$ 1,483	N/A	US\$ 1,483	
	Brookfield Finance LLC	-	"	-	US\$ 1,473	N/A	US\$ 1,473	
	CK Hutchison International (19) Limited	-	"	-	US\$ 1,465	N/A	US\$ 1,465	
	Amcor Flexibles North America Inc.	-	"	-	US\$ 1,461	N/A	US\$ 1,461	
	Microchip Technology Incorporated	-	"	-	US\$ 1,458	N/A	US\$ 1,458	
	Commonwealth Bank of Australia	-	"	-	US\$ 1,452	N/A	US\$ 1,452	
	UBS Group Funding (Jersey) Ltd.	-	"	-	US\$ 1,443	N/A	US\$ 1,443	
	Marsh & McLennan Companies, Inc.	-	"	-	US\$ 1,427	N/A	US\$ 1,427	
	The Southern Company	-	"	-	US\$ 1,423	N/A	US\$ 1,423	
	NSTAR Electric Company	-	"	-	US\$ 1,420	N/A	US\$ 1,420	
	Duke Energy Florida, LLC	-	"	-	US\$ 1,419	N/A	US\$ 1,419	
	Marathon Petroleum Corporation	-	"	-	US\$ 1,411	N/A	US\$ 1,411	
	Essex Porfolio, L.P.	-	"	-	US\$ 1,409	N/A	US\$ 1,409	
	Alimentation Couche-Tard Inc.	-	"	-	US\$ 1,389	N/A	US\$ 1,389	
	ITC Holdings Corp.	-	"	-	US\$ 1,353	N/A	US\$ 1,353	
	Alliant Energy Finance, LLC	-	"	-	US\$ 1,321	N/A	US\$ 1,321	
	Eastern Gas Transmission and Storage, Inc.	-	"	-	US\$ 1,299	N/A	US\$ 1,299	
	NetApp, Inc.	-	"	-	US\$ 1,265	N/A	US\$ 1,265	
	Amphenol Corporation	-	"	-	US\$ 1,256	N/A	US\$ 1,256	
	PACCAR Financial Corp.	-	"	-	US\$ 1,227	N/A	US\$ 1,227	
	State Of Tennessee	-	"	-	US\$ 1,225	N/A	US\$ 1,225	
	Met Tower Global Funding	-	"	-	US\$ 1,223	N/A	US\$ 1,223	
	Elevance Health Inc.	-	"	-	US\$ 1,215	N/A	US\$ 1,215	
	Andrew W. Mellon Foundation, The	-	"	-	US\$ 1,208	N/A	US\$ 1,208	
	American Honda Finance Corporation	-	"	-	US\$ 1,174	N/A	US\$ 1,174	
	Corebridge Financial, Inc.	-	"	-	US\$ 1,167	N/A	US\$ 1,167	
	Banco Bilbao Vizcaya Argentaria, S.A.	-	"	-	US\$ 1,162	N/A	US\$ 1,162	
	The Curators of the University of Missouri	-	"	-	US\$ 1,080	N/A	US\$ 1,080	
	Ferguson Finance PLC	-	"	-	US\$ 1,077	N/A	US\$ 1,077	
	Nucor Corporation	-	"	-	US\$ 1,067	N/A	US\$ 1,067	
	Baker Hughes Holdings LLC	-	"	-	US\$ 1,038	N/A	US\$ 1,038	
	State Street Corporation	-	"	-	US\$ 1,035	N/A	US\$ 1,035	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Enterprise Products Operating LLC	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,028	N/A	US\$ 1,028	
	IBERDROLA INTL BV	-	"	-	US\$ 1,015	N/A	US\$ 1,015	
	The Cleveland Electric Illuminating Company	-	"	-	US\$ 1,005	N/A	US\$ 1,005	
	Baltimore Gas and Electric Company	-	"	-	US\$ 993	N/A	US\$ 993	
	Sinopec Group Overseas Development (2014) Ltd.	-	"	-	US\$ 993	N/A	US\$ 993	
	Energy Mississippi, LLC	-	"	-	US\$ 989	N/A	US\$ 989	
	Foxconn (Far East) Limited	-	"	-	US\$ 987	N/A	US\$ 987	
	MassMutual Global Funding II	-	"	-	US\$ 987	N/A	US\$ 987	
	BBVA México, S.A., Institución de Banca Múltiple, Grupo Financiero BBVA México	-	"	-	US\$ 985	N/A	US\$ 985	
	Denver City & County Housing Authority	-	"	-	US\$ 973	N/A	US\$ 973	
	Prisco Global Funding 1	-	"	-	US\$ 963	N/A	US\$ 963	
	Kansas City Southern	-	"	-	US\$ 940	N/A	US\$ 940	
	Sunory Holdings Limited	-	"	-	US\$ 939	N/A	US\$ 939	
	Shire Acquisitions Investments Ireland Designated Activity Company	-	"	-	US\$ 919	N/A	US\$ 919	
	Unilever Capital Corporation	-	"	-	US\$ 873	N/A	US\$ 873	
	KeyBank National Association	-	"	-	US\$ 864	N/A	US\$ 864	
	QNB Finance Ltd.	-	"	-	US\$ 859	N/A	US\$ 859	
	AmerisourceBergen Corporation	-	"	-	US\$ 834	N/A	US\$ 834	
	Hormel Foods Corporation	-	"	-	US\$ 820	N/A	US\$ 820	
	BMW US Capital, LLC	-	"	-	US\$ 797	N/A	US\$ 797	
	Palm Beach County, Florida	-	"	-	US\$ 795	N/A	US\$ 795	
	Sinopec Capital (2013) Ltd.	-	"	-	US\$ 795	N/A	US\$ 795	
	BHP Billiton Finance (USA) Limited	-	"	-	US\$ 787	N/A	US\$ 787	
	TransCanada Pipelines Limited	-	"	-	US\$ 772	N/A	US\$ 772	
	Oregon Health & Science University	-	"	-	US\$ 749	N/A	US\$ 749	
	Tencent Holdings Limited	-	"	-	US\$ 745	N/A	US\$ 745	
	Niagara Mohawk Power Corporation	-	"	-	US\$ 735	N/A	US\$ 735	
	CubeSmart, L.P.	-	"	-	US\$ 732	N/A	US\$ 732	
	The Walt Disney Company	-	"	-	US\$ 718	N/A	US\$ 718	
	Southern Power Company	-	"	-	US\$ 717	N/A	US\$ 717	
	Visa Inc.	-	"	-	US\$ 700	N/A	US\$ 700	
	Canadian Natural Resources Limited	-	"	-	US\$ 684	N/A	US\$ 684	
	Sky Limited	-	"	-	US\$ 652	N/A	US\$ 652	
	Hyundai Capital Services, Inc.	-	"	-	US\$ 645	N/A	US\$ 645	
	State Of Washington	-	"	-	US\$ 643	N/A	US\$ 643	
	Abbott Laboratories	-	"	-	US\$ 640	N/A	US\$ 640	
	Sodexo, Inc.	-	"	-	US\$ 639	N/A	US\$ 639	
	Norsk Hydro ASA	-	"	-	US\$ 635	N/A	US\$ 635	
	Stryker Corporation	-	"	-	US\$ 626	N/A	US\$ 626	
	Automatic Data Processing, Inc.	-	"	-	US\$ 617	N/A	US\$ 617	
	Bell Canada, Inc.	-	"	-	US\$ 594	N/A	US\$ 594	
	Keurig Dr Pepper Inc.	-	"	-	US\$ 592	N/A	US\$ 592	
	QUALCOMM Incorporated	-	"	-	US\$ 578	N/A	US\$ 578	
	Republic Services, Inc.	-	"	-	US\$ 572	N/A	US\$ 572	
	Florida Hurricane Catastrophe Fund Finance Corporation	-	"	-	US\$ 571	N/A	US\$ 571	
	Lincoln National Corporation	-	"	-	US\$ 565	N/A	US\$ 565	
	Port of Morrow	-	"	-	US\$ 558	N/A	US\$ 558	
	American Water Capital Corp.	-	"	-	US\$ 558	N/A	US\$ 558	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Fifth Third Bank, National Association	-	Financial assets at fair value through other comprehensive income	-	US\$ 549	N/A	US\$ 549	
	Duke Energy Progress, LLC	-	"	-	US\$ 544	N/A	US\$ 544	
	Shell International Finance B.V.	-	"	-	US\$ 524	N/A	US\$ 524	
	American International Group, Inc.	-	"	-	US\$ 518	N/A	US\$ 518	
	Intesa Sanpaolo S.p.A.	-	"	-	US\$ 510	N/A	US\$ 510	
	Arizona Public Service Company	-	"	-	US\$ 501	N/A	US\$ 501	
	ConocoPhillips Company	-	"	-	US\$ 499	N/A	US\$ 499	
	State of Hawaii	-	"	-	US\$ 498	N/A	US\$ 498	
	United Parcel Services, Inc.	-	"	-	US\$ 493	N/A	US\$ 493	
	Skandinaviska Enskilda Banken AB (publ)	-	"	-	US\$ 491	N/A	US\$ 491	
	Gsk Consumer Healthcare Capital UK Plc	-	"	-	US\$ 476	N/A	US\$ 476	
	Trane Technologies Luxembourg Finance S.A.	-	"	-	US\$ 472	N/A	US\$ 472	
	Genuine Parts Company	-	"	-	US\$ 467	N/A	US\$ 467	
	Altria Group, Inc.	-	"	-	US\$ 466	N/A	US\$ 466	
	McCormick & Company, Incorporated	-	"	-	US\$ 466	N/A	US\$ 466	
	Ecolab Inc.	-	"	-	US\$ 465	N/A	US\$ 465	
	DENSO Corporation	-	"	-	US\$ 435	N/A	US\$ 435	
	Brazos Higher Education Authority Inc	-	"	-	US\$ 429	N/A	US\$ 429	
	PayPal Holdings, Inc.	-	"	-	US\$ 407	N/A	US\$ 407	
	The Home Depot, Inc.	-	"	-	US\$ 406	N/A	US\$ 406	
	Target Corporation	-	"	-	US\$ 404	N/A	US\$ 404	
	National Australia Bank Limited	-	"	-	US\$ 397	N/A	US\$ 397	
	Aetna Inc.	-	"	-	US\$ 396	N/A	US\$ 396	
	Boston Properties Limited Partnership	-	"	-	US\$ 394	N/A	US\$ 394	
	University of Massachusetts Building Authority	-	"	-	US\$ 387	N/A	US\$ 387	
	Comerica Bank	-	"	-	US\$ 384	N/A	US\$ 384	
	Energy Corporation	-	"	-	US\$ 379	N/A	US\$ 379	
	Aflac Incorporated	-	"	-	US\$ 377	N/A	US\$ 377	
	Banco del Estado de Chile	-	"	-	US\$ 377	N/A	US\$ 377	
	McKesson Corporation	-	"	-	US\$ 374	N/A	US\$ 374	
	Sierra Pacific Power Company	-	"	-	US\$ 372	N/A	US\$ 372	
	Honeywell International Inc.	-	"	-	US\$ 370	N/A	US\$ 370	
	NIKE, Inc.	-	"	-	US\$ 359	N/A	US\$ 359	
	PepsiCo, Inc.	-	"	-	US\$ 357	N/A	US\$ 357	
	First Republic Bank	-	"	-	US\$ 349	N/A	US\$ 349	
	The Norinchukin Bank	-	"	-	US\$ 349	N/A	US\$ 349	
	Principal Financial Group, Inc.	-	"	-	US\$ 348	N/A	US\$ 348	
	Rabobank Nederland - New York Branch	-	"	-	US\$ 334	N/A	US\$ 334	
	Amgen Inc.	-	"	-	US\$ 310	N/A	US\$ 310	
	Philip Morris International Inc.	-	"	-	US\$ 297	N/A	US\$ 297	
	Mid-America Apartments, L.P.	-	"	-	US\$ 295	N/A	US\$ 295	
	The Allstate Corporation	-	"	-	US\$ 293	N/A	US\$ 293	
	Alabama State Federal Aid Highway Finance Authority	-	"	-	US\$ 292	N/A	US\$ 292	
	TotalEnergies Capital International	-	"	-	US\$ 287	N/A	US\$ 287	
	BOC Aviation (USA) Corporation	-	"	-	US\$ 285	N/A	US\$ 285	
	Aptiv PLC	-	"	-	US\$ 282	N/A	US\$ 282	
	Salesforce, Inc.	-	"	-	US\$ 282	N/A	US\$ 282	
	Barclays Bank PLC	-	"	-	US\$ 270	N/A	US\$ 270	
	Johnson Controls International plc	-	"	-	US\$ 269	N/A	US\$ 269	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	QatarEnergy	-	Financial assets at fair value through other comprehensive income	-	US\$ 266	N/A	US\$ 266	
	Sales Tax Securitization Corporation Of Chicago	-	"	-	US\$ 250	N/A	US\$ 250	
	Equitable Holdings, Inc.	-	"	-	US\$ 243	N/A	US\$ 243	
	Starbucks Corporation	-	"	-	US\$ 237	N/A	US\$ 237	
	E. I. du Pont de Nemours and Company	-	"	-	US\$ 227	N/A	US\$ 227	
	Waste Management, Inc.	-	"	-	US\$ 224	N/A	US\$ 224	
	Entergy Louisiana, LLC	-	"	-	US\$ 218	N/A	US\$ 218	
	Children's Hospital Of Orange County	-	"	-	US\$ 214	N/A	US\$ 214	
	The Pennsylvania State University	-	"	-	US\$ 206	N/A	US\$ 206	
	Marrin Marietta Materials, Inc.	-	"	-	US\$ 205	N/A	US\$ 205	
	Riverside County Infrastructure Financing Authority	-	"	-	US\$ 198	N/A	US\$ 198	
	Deere & Company	-	"	-	US\$ 192	N/A	US\$ 192	
	Saudi Arabian Oil Company	-	"	-	US\$ 192	N/A	US\$ 192	
	Los Angeles Department of Water and Power, California	-	"	-	US\$ 191	N/A	US\$ 191	
	NonHyup Bank	-	"	-	US\$ 187	N/A	US\$ 187	
	Hoover Alabama Board Of Education	-	"	-	US\$ 175	N/A	US\$ 175	
	Dormitory Authority of the State of New York	-	"	-	US\$ 154	N/A	US\$ 154	
	Oregon Education Districts	-	"	-	US\$ 152	N/A	US\$ 152	
	Electricité de France S.A.	-	"	-	US\$ 96	N/A	US\$ 96	
	Beth Israel Deaconess Medical Center, Inc.	-	"	-	US\$ 85	N/A	US\$ 85	
	Prima County, Arizona	-	"	-	US\$ 76	N/A	US\$ 76	
	State of Wisconsin	-	"	-	US\$ 61	N/A	US\$ 61	
	Aon Corporation	-	"	-	US\$ 51	N/A	US\$ 51	
	Huntington Beach California	-	"	-	US\$ 49	N/A	US\$ 49	
	Nueces County	-	"	-	US\$ 24	N/A	US\$ 24	
	The Goldman Sachs Group, Inc.	-	Financial assets at amortized cost	-	US\$ 440,655	N/A	US\$ 436,003	
	Citigroup Global Markets Inc.	-	"	-	US\$ 349,886	N/A	US\$ 347,251	
	Bank of America Corporation	-	"	-	US\$ 324,757	N/A	US\$ 323,371	
	JPMorgan Chase & Co.	-	"	-	US\$ 280,213	N/A	US\$ 278,222	
	Wells Fargo & Company	-	"	-	US\$ 274,713	N/A	US\$ 273,120	
	Citigroup Inc.	-	"	-	US\$ 174,540	N/A	US\$ 174,301	
	Citigroup Global Markets Holdings Inc.	-	"	-	US\$ 149,951	N/A	US\$ 146,964	
	Goldman Sachs Finance Corp International Ltd.	-	"	-	US\$ 149,870	N/A	US\$ 146,872	
	Morgan Stanley	-	"	-	US\$ 60,207	N/A	US\$ 60,267	
	Jpmorgan LLC	-	"	-	US\$ 49,984	N/A	US\$ 49,077	
	Banco Bilbao Vizcaya Argentaria, S.A.	-	"	-	US\$ 10,534	N/A	US\$ 10,440	
	Hyundai Capital Services, Inc.	-	"	-	US\$ 9,278	N/A	US\$ 9,068	
	Great-West Lifeco U.S. Finance 2020, Lp	-	"	-	US\$ 9,233	N/A	US\$ 8,994	
	Nomura Holdings, Inc.	-	"	-	US\$ 9,197	N/A	US\$ 9,009	
	Fédération des caisses Desjardins du Québec	-	"	-	US\$ 9,165	N/A	US\$ 8,997	
	UBS Group AG	-	"	-	US\$ 9,104	N/A	US\$ 9,061	
	Sumitomo Mitsui Trust Bank, Limited	-	"	-	US\$ 9,057	N/A	US\$ 8,910	
	Deutsche Bank AG - New York Branch	-	"	-	US\$ 9,023	N/A	US\$ 8,923	
	Lloyds Banking Group plc	-	"	-	US\$ 8,972	N/A	US\$ 8,891	
	NatWest Markets Plc	-	"	-	US\$ 8,956	N/A	US\$ 8,834	
	Athene Global Funding	-	"	-	US\$ 8,915	N/A	US\$ 8,733	
	NonHyup Bank	-	"	-	US\$ 8,545	N/A	US\$ 8,431	
	BPCE SA	-	"	-	US\$ 8,431	N/A	US\$ 8,243	
	Banco Santander, S.A.	-	"	-	US\$ 8,307	N/A	US\$ 8,223	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Enel Finance International N.V.	-	Financial assets at amortized cost	-	US\$ 8,215	N/A	US\$ 8,062	
	Ventus Realty, Limited Partnership	-	"	-	US\$ 8,181	N/A	US\$ 8,076	
	Protective Life Global Funding	-	"	-	US\$ 8,088	N/A	US\$ 7,913	
	Volkswagen Group of America Finance, LLC	-	"	-	US\$ 8,058	N/A	US\$ 7,937	
	Sydney Airport Finance Company Pty Ltd.	-	"	-	US\$ 7,631	N/A	US\$ 7,476	
	BNP Paribas SA	-	"	-	US\$ 7,552	N/A	US\$ 7,448	
	AIG Global Funding	-	"	-	US\$ 7,200	N/A	US\$ 7,151	
	Nationwide Building Society	-	"	-	US\$ 7,200	N/A	US\$ 6,971	
	KeyBank National Association	-	"	-	US\$ 7,014	N/A	US\$ 6,844	
	GA Global Funding Trust	-	"	-	US\$ 6,285	N/A	US\$ 6,185	
	Canadian Imperial Bank of Commerce	-	"	-	US\$ 6,167	N/A	US\$ 6,065	
	Mitsubishi UFJ Financial Group, Inc.	-	"	-	US\$ 6,062	N/A	US\$ 5,983	
	CRH America, Inc.	-	"	-	US\$ 5,975	N/A	US\$ 5,822	
	Sumitomo Mitsui Financial Group, Inc.	-	"	-	US\$ 5,754	N/A	US\$ 5,702	
	Daimler Trucks Finance North America LLC	-	"	-	US\$ 5,706	N/A	US\$ 5,582	
	Swedbank AB (publ)	-	"	-	US\$ 5,248	N/A	US\$ 5,173	
	F&G Global Funding	-	"	-	US\$ 5,185	N/A	US\$ 5,098	
	Bayer US Finance II LLC	-	"	-	US\$ 4,988	N/A	US\$ 4,929	
	Ecolab Inc.	-	"	-	US\$ 4,878	N/A	US\$ 4,812	
	Kinder Morgan, Inc.	-	"	-	US\$ 4,681	N/A	US\$ 4,643	
	Jackson Financial Inc.	-	"	-	US\$ 4,678	N/A	US\$ 4,632	
	Bristol-Myers Squibb Company	-	"	-	US\$ 4,674	N/A	US\$ 4,621	
	ING Groep N.V.	-	"	-	US\$ 4,504	N/A	US\$ 4,465	
	Toyota Motor Credit Corporation	-	"	-	US\$ 4,497	N/A	US\$ 4,449	
	Five Corners Funding Trust	-	"	-	US\$ 4,415	N/A	US\$ 4,356	
	Svenska Handelsbanken AB (publ)	-	"	-	US\$ 4,182	N/A	US\$ 4,105	
	Danone S.A.	-	"	-	US\$ 4,156	N/A	US\$ 4,113	
	National Australia Bank - New York Branch	-	"	-	US\$ 4,005	N/A	US\$ 3,979	
	Société Générale Société anonyme	-	"	-	US\$ 4,005	N/A	US\$ 3,965	
	Mercedes-Benz Finance North America LLC	-	"	-	US\$ 4,002	N/A	US\$ 3,979	
	Mizuho Financial Group, Inc.	-	"	-	US\$ 4,000	N/A	US\$ 3,991	
	BMW US Capital, LLC	-	"	-	US\$ 3,999	N/A	US\$ 3,983	
	Penske Truck Leasing Co., L.P.	-	"	-	US\$ 3,998	N/A	US\$ 3,978	
	Georgia-Pacific LLC	-	"	-	US\$ 3,996	N/A	US\$ 3,963	
	Simon Property Group, L.P.	-	"	-	US\$ 3,987	N/A	US\$ 3,960	
	SMBC Aviation Capital Finance DAC	-	"	-	US\$ 3,979	N/A	US\$ 3,961	
	Philip Morris International Inc.	-	"	-	US\$ 3,969	N/A	US\$ 3,950	
	Danske Bank A/S	-	"	-	US\$ 3,966	N/A	US\$ 3,921	
	The Bank of Nova Scotia	-	"	-	US\$ 3,914	N/A	US\$ 3,875	
	Komatsu Finance America, Inc.	-	"	-	US\$ 3,912	N/A	US\$ 3,879	
	Nordea Bank Abp	-	"	-	US\$ 3,788	N/A	US\$ 3,751	
	Shire Acquisitions Investments Ireland Designated Activity Company	-	"	-	US\$ 3,740	N/A	US\$ 3,703	
	Georgia Power Company	-	"	-	US\$ 3,553	N/A	US\$ 3,532	
	Enbridge Inc.	-	"	-	US\$ 3,423	N/A	US\$ 3,382	
	Central Japan Railway Company	-	"	-	US\$ 3,389	N/A	US\$ 3,361	
	Jackson National Life Global Funding	-	"	-	US\$ 3,326	N/A	US\$ 3,242	
	Nestlé Holdings, Inc.	-	"	-	US\$ 3,276	N/A	US\$ 3,237	
	ANZ New Zealand (Int'l) Limited	-	"	-	US\$ 3,191	N/A	US\$ 3,122	
	Spectra Energy Partners, LP	-	"	-	US\$ 2,831	N/A	US\$ 2,770	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	MRCDD 2019-Ptkc Mortgage Trust	-	Financial assets at fair value through other comprehensive income	-	US\$ 4,306	N/A	US\$ 4,306	
	Bank 2017-BNK9	-	"	-	US\$ 4,245	N/A	US\$ 4,245	
	Citigroup Commercial Mortgage Trust 2014-GC21	-	"	-	US\$ 4,127	N/A	US\$ 4,127	
	Bank 2017 - BNK7	-	"	-	US\$ 3,967	N/A	US\$ 3,967	
	Bank 2019-Bnk17	-	"	-	US\$ 3,904	N/A	US\$ 3,904	
	JPMCC 2017-JP7	-	"	-	US\$ 3,849	N/A	US\$ 3,849	
	BANK 2017-BNK5	-	"	-	US\$ 3,458	N/A	US\$ 3,458	
	Msham 2016-C29	-	"	-	US\$ 3,433	N/A	US\$ 3,433	
	Bank 2019-Bnk22	-	"	-	US\$ 3,270	N/A	US\$ 3,270	
	Citigroup Commercial Mortgage Trust 2019-Gc43	-	"	-	US\$ 3,162	N/A	US\$ 3,162	
	Commerce 2015-CCRE24 Mortgage Trust	-	"	-	US\$ 3,030	N/A	US\$ 3,030	
	Msham 2016-C31	-	"	-	US\$ 2,983	N/A	US\$ 2,983	
	WFRBS Commercial Mortgage Trust 2014-C25	-	"	-	US\$ 2,882	N/A	US\$ 2,882	
	Ford Credit Auto Owner Trust 2022-B	-	"	-	US\$ 2,850	N/A	US\$ 2,850	
	Benchmark 2019-B15 Mortgage Trust	-	"	-	US\$ 2,790	N/A	US\$ 2,790	
	Sreit Commercial Mortgage Trust 2021-Mfp	-	"	-	US\$ 2,789	N/A	US\$ 2,789	
	GS Mortgage Securities Corporation Trust 2018-R1VR	-	"	-	US\$ 2,787	N/A	US\$ 2,787	
	JPMDB 2017-C7	-	"	-	US\$ 2,622	N/A	US\$ 2,622	
	GS Mortgage Securities Trust 2015-GC32	-	"	-	US\$ 2,600	N/A	US\$ 2,600	
	Benchmark 2018-B3 Commercial Mortgage Trust	-	"	-	US\$ 2,473	N/A	US\$ 2,473	
	Ford Credit Auto Owner Trust 2020-Rev1	-	"	-	US\$ 2,343	N/A	US\$ 2,343	
	GS Mortgage Securities Trust 2013-GC12	-	"	-	US\$ 2,313	N/A	US\$ 2,313	
	Mhc Commercial Mortgage Trust 2021-Mhc	-	"	-	US\$ 2,221	N/A	US\$ 2,221	
	Citigroup Commercial Mortgage Trust 2015-P1	-	"	-	US\$ 2,144	N/A	US\$ 2,144	
	GM Financial Consumer Automobile Receivables Trust 2021-4	-	"	-	US\$ 2,069	N/A	US\$ 2,069	
	Citigroup Commercial Mortgage Trust 2015-GC27	-	"	-	US\$ 2,055	N/A	US\$ 2,055	
	Wells Fargo Commercial Mortgage Trust 2020-C55	-	"	-	US\$ 2,046	N/A	US\$ 2,046	
	UBS Commercial Mortgage Trust 2018-C11	-	"	-	US\$ 1,983	N/A	US\$ 1,983	
	Morgan Stanley Capital I Trust 2018-H3	-	"	-	US\$ 1,970	N/A	US\$ 1,970	
	Commerce 2013-CCRE12 Mortgage Trust	-	"	-	US\$ 1,962	N/A	US\$ 1,962	
	Benchmark 2018-B4 Mortgage Trust	-	"	-	US\$ 1,946	N/A	US\$ 1,946	
	Morgan Stanley Capital I Trust	-	"	-	US\$ 1,830	N/A	US\$ 1,830	
	Dolp Trust 2021-NYC	-	"	-	US\$ 1,759	N/A	US\$ 1,759	
	CGCMT 2017-P8 Mortgage Trust	-	"	-	US\$ 1,690	N/A	US\$ 1,690	
	JPMBB Commercial Mortgage Securities Trust 2015-C28	-	"	-	US\$ 1,585	N/A	US\$ 1,585	
	Wells Fargo Commercial Mortgage Trust 2015-C30	-	"	-	US\$ 1,547	N/A	US\$ 1,547	
	JPMBB Commercial Mortgage Securities Trust 2015-C27	-	"	-	US\$ 1,498	N/A	US\$ 1,498	
	Wells Fargo Commercial Mortgage Trust 2018-C44	-	"	-	US\$ 1,455	N/A	US\$ 1,455	
	JPMBB Commercial Mortgage Securities Trust 2013-C12	-	"	-	US\$ 1,450	N/A	US\$ 1,450	
	COMM 2020-CBM Mortgage Trust	-	"	-	US\$ 1,421	N/A	US\$ 1,421	
	Morgan Stanley Capital I Trust 2021-L5	-	"	-	US\$ 1,331	N/A	US\$ 1,331	
	Dpqs 2018-Biod Mortgage Trust	-	"	-	US\$ 1,257	N/A	US\$ 1,257	
	Wells Fargo Commercial Mortgage Trust 2015-C29	-	"	-	US\$ 1,225	N/A	US\$ 1,225	
	WFRBS Commercial Mortgage Trust 2013-UBS1	-	"	-	US\$ 1,217	N/A	US\$ 1,217	
	Honda Auto Receivables 2021-2 Owner Trust	-	"	-	US\$ 1,209	N/A	US\$ 1,209	
	WFRBS Commercial Mortgage Trust 2013-C13	-	"	-	US\$ 1,164	N/A	US\$ 1,164	
	Toyota Auto Receivables 2021-D Owner Trust	-	"	-	US\$ 1,131	N/A	US\$ 1,131	
	Wells Fargo Commercial Mortgage Trust 2017-C40	-	"	-	US\$ 1,054	N/A	US\$ 1,054	
	Morgan Stanley Capital I Trust 2015 - UBS8	-	"	-	US\$ 946	N/A	US\$ 946	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Morgan Stanley Bank Of America Merrill Lynch Trust 2013-C13 JPMCC Commercial Mortgage Securities Trust 2016 - JP3 UBS Barclays Commercial Mortgage Trust 2013-C6 BX Trust 2021-BXMF 280 Park Avenue Trust 2017 - 280P Elp Commercial Mortgage Trust 2021-Elp COMM Mortgage Trust Series 2015-LC19 UBS Commercial Mortgage Trust 2018-C10 Equis 2021-Eqaz Mortgage Trust Benchmark 2019-B14 Mortgage Trust Bx 2021-21M Mortgage Trust Gs Mortgage Securities Corporation Trust 2020-Uptn Wells Fargo Commercial Mortgage Trust 2015-C28 Bx Commercial Mortgage Trust 2021-C1P Commerce 2014-Cre17 Mortgage Trust Morgan Stanley Capital I Trust 2019-H6 GS Mortgage Securities Trust 2014-GC22 Citigroup Commercial Mortgage Trust 2018-C5 Wells Fargo Commercial Mortgage Trust 2015-LC20 GS Mortgage Securities Trust 2014-GC24 Bank 2019-BNK23 Wells Fargo Commercial Mortgage Trust 2015-NXS3 WFRBS Commercial Mortgage Trust 2013-C17 Morgan Stanley Capital I Trust 2019-H7 CF 2019-CF1 Mortgage Trust Benchmark 2019-B9 Mortgage Trust JPMBB Commercial Mortgage Securities Trust 2014-C19 Citigroup Commercial Mortgage Trust 2014-GC23 COMM 2015-CCRE22 Mortgage Trust JPMCC 2015 - JP1 JPMDB Commercial Mortgage Securities Trust 2019-COR6 Citigroup Commercial Mortgage Trust 2015-GC35 GS Mortgage Securities Trust 2014-GC26 Citigroup Commercial Mortgage Trust 2014-GC19 Morgan Stanley Bank Of America Merrill Lynch Trust 2013-C12 BBCMS Mortgage Trust 2020-C7 Bank 2020-BNK28 Wells Fargo Commercial Mortgage Trust 2015-NXS1 Non-publicly traded equity investments Primavera Capital Fund II L.P.	-	Financial assets at fair value through other comprehensive income "	-	US\$ 874	N/A	US\$ 874	
		-	"	-	US\$ 838	N/A	US\$ 838	
		-	"	-	US\$ 836	N/A	US\$ 836	
		-	"	-	US\$ 815	N/A	US\$ 815	
		-	"	-	US\$ 810	N/A	US\$ 810	
		-	"	-	US\$ 768	N/A	US\$ 768	
		-	"	-	US\$ 763	N/A	US\$ 763	
		-	"	-	US\$ 750	N/A	US\$ 750	
		-	"	-	US\$ 577	N/A	US\$ 577	
		-	"	-	US\$ 576	N/A	US\$ 576	
		-	"	-	US\$ 573	N/A	US\$ 573	
		-	"	-	US\$ 539	N/A	US\$ 539	
		-	"	-	US\$ 532	N/A	US\$ 532	
		-	"	-	US\$ 531	N/A	US\$ 531	
		-	"	-	US\$ 518	N/A	US\$ 518	
		-	"	-	US\$ 516	N/A	US\$ 516	
		-	"	-	US\$ 505	N/A	US\$ 505	
		-	"	-	US\$ 482	N/A	US\$ 482	
		-	"	-	US\$ 478	N/A	US\$ 478	
		-	"	-	US\$ 470	N/A	US\$ 470	
		-	"	-	US\$ 392	N/A	US\$ 392	
		-	"	-	US\$ 373	N/A	US\$ 373	
		-	"	-	US\$ 365	N/A	US\$ 365	
		-	"	-	US\$ 349	N/A	US\$ 349	
		-	"	-	US\$ 336	N/A	US\$ 336	
		-	"	-	US\$ 328	N/A	US\$ 328	
		-	"	-	US\$ 315	N/A	US\$ 315	
		-	"	-	US\$ 308	N/A	US\$ 308	
		-	"	-	US\$ 301	N/A	US\$ 301	
		-	"	-	US\$ 269	N/A	US\$ 269	
		-	"	-	US\$ 237	N/A	US\$ 237	
		-	"	-	US\$ 203	N/A	US\$ 203	
		-	"	-	US\$ 170	N/A	US\$ 170	
		-	"	-	US\$ 137	N/A	US\$ 137	
		-	"	-	US\$ 117	N/A	US\$ 117	
		-	"	-	US\$ 69	N/A	US\$ 69	
		-	"	-	US\$ 25	N/A	US\$ 25	
		-	"	-	US\$ 3	N/A	US\$ 3	
		-	Financial assets at fair value through other comprehensive income	-	US\$ 81,039	4	US\$ 81,039	
VTAF II	Non-publicly traded equity investments Aether Systems, Inc. 5V Technologies, Inc. Publicly traded stocks Sentelic Corporation	-	Financial assets at fair value through other comprehensive income "	1,085	-	20	-	
		-	"	1	-	-	-	
		-	Financial assets at fair value through other comprehensive income	971	US\$ 1,422	3	US\$ 1,422	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
VTAF III	Non-publicly traded equity investments LiquidLeads Lighting Corp.	-	Financial assets at fair value through other comprehensive income	1,952	US\$ 800	14	US\$ 800	
	Neocomx, Inc.	-	"	4,147	US\$ 174	-	US\$ 174	
Growth Fund	Non-publicly traded equity investments Aster Labs, Inc.	-	Financial assets at fair value through other comprehensive income	637	US\$ 4,146	-	US\$ 4,146	
	CNEX Labs, Inc.	-	"	33	US\$ 166	-	US\$ 166	
Emerging Fund	Publicly traded stocks Marvel Technology Group Ltd.	-	Financial assets at fair value through other comprehensive income	30	US\$ 1,097	-	US\$ 1,097	
	Convertible bonds EdgeQ Inc.	-	Financial assets at fair value through profit or loss	-	US\$ 4,000	N/A	US\$ 4,000	
	Non-publicly traded equity investments Aster Labs, Inc.	-	Financial assets at fair value through other comprehensive income	1,487	US\$ 9,680	-	US\$ 9,680	
	Empower Semiconductor, Inc. Kinara, Inc. NeuReality Ltd. RiVos, Inc.	- - - -	" " " "	868 2,015 122 750	US\$ 5,000 US\$ 3,000 US\$ 3,000 US\$ 2,000	3 2 3 -	US\$ 5,000 US\$ 3,000 US\$ 3,000 US\$ 2,000	
	Publicly traded stocks Credo Technology Group Holding Ltd.	-	Financial assets at fair value through other comprehensive income	491	US\$ 6,529	-	US\$ 6,529	

(Concluded)

TABLE 4

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

MARKETABLE SECURITIES ACQUIRED AND DISPOSED OF AT COSTS OR PRICES OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counterparty	Nature of Relationship	Beginning Balance		Acquisition		Disposal		Ending Balance (Note)			
					Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Gain/Loss on Disposal (Foreign Currencies in Thousands)	Amount (Foreign Currencies in Thousands)
TSMC	Commercial paper Taiwan Power Company	Financial assets at amortized cost	-	-	-	\$	5,610	\$ 55,830,298	2,660	\$ 26,600,000	-	2,950	\$ 29,335,729	
	CPC Corporation, Taiwan	"	-	-	3,009	29,969,655	2,259	22,590,000	-	750	7,458,936	-	750	7,458,936
	Nan Ya Plastics Corporation	"	-	-	450	4,480,179	-	-	-	450	4,476,301	-	450	4,476,301
	Fomosa Petrochemical Corporation	"	-	-	300	2,987,971	-	-	-	300	2,985,385	-	300	2,985,385
	Fomosa Chemicals & Fibre Corporation	"	-	-	250	2,487,819	-	-	-	250	2,485,666	-	250	2,485,666
	Fomosa Plastics Corporation	"	-	-	200	1,992,183	-	-	-	200	1,990,459	-	200	1,990,459
	Non-publicly traded equity investments TSMC Arizona	Investments accounted for using equity method	-	-	770	16,667,696	500	15,372,500	-	-	-	-	1,270	25,639,079
	JASM	"	-	-	58	1,383,554	962	23,150,164	-	-	-	-	1,020	23,330,125
	TSMC 3DIC	"	-	-	11	270,513	38	865,370	-	-	-	-	49	1,172,706
	Capital Emerging Fund	Investments accounted for using equity method	-	-	-	286,205	-	1,033,339	-	-	62,532	-	-	1,760,885
TSMC Global	Corporate bond Morgan Stanley	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 65,115	-	US\$ 27,545	-	US\$ 4,750	US\$ 4,678	US\$ 72	-	US\$ 83,242
	Bank of America Corporation	"	-	-	-	US\$ 75,265	-	US\$ 20,231	-	US\$ 13,680	US\$ 13,631	US\$ 49	-	US\$ 76,626
	Citigroup Inc.	"	-	-	-	US\$ 49,298	-	US\$ 21,416	-	US\$ 5,787	US\$ 5,779	US\$ 8	-	US\$ 61,493
	Wells Fargo & Company	"	-	-	-	US\$ 38,439	-	US\$ 24,456	-	US\$ -	US\$ -	US\$ -	-	US\$ 59,735
	The Goldman Sachs Group, Inc.	"	-	-	-	US\$ 53,756	-	US\$ 15,998	-	US\$ 14,852	US\$ 14,906	US\$ (54)	-	US\$ 51,439
	JPMorgan Chase & Co.	"	-	-	-	US\$ 45,332	-	US\$ 12,125	-	US\$ 3,842	US\$ 3,869	US\$ (27)	-	US\$ 50,629
	Banco Santander, S.A.	"	-	-	-	US\$ 18,461	-	US\$ 10,094	-	US\$ 410	US\$ 420	US\$ (10)	-	US\$ 26,257
	Metropolitan Life Global Funding I	"	-	-	-	US\$ 17,341	-	US\$ 10,758	-	US\$ 3,000	US\$ 3,000	US\$ -	-	US\$ 24,408
	The Toronto-Dominion Bank	"	-	-	-	US\$ 14,786	-	US\$ 15,598	-	US\$ 9,344	US\$ 9,685	US\$ (341)	-	US\$ 19,510
	Bank of Montreal	"	-	-	-	US\$ 6,295	-	US\$ 14,842	-	US\$ 5,076	US\$ 4,999	US\$ 77	-	US\$ 15,224
	The Bank of New York Mellon Corporation	"	-	-	-	US\$ 6,072	-	US\$ 11,290	-	US\$ 6,177	US\$ 6,165	US\$ 12	-	US\$ 11,282
	Lloyds Banking Group plc	"	-	-	-	US\$ 21,675	-	US\$ 2,210	-	US\$ 12,370	US\$ 12,339	US\$ 31	-	US\$ 10,533
	S&P Global Inc.	"	-	-	-	US\$ -	-	US\$ 14,096	-	US\$ 2,893	US\$ 2,934	US\$ (41)	-	US\$ 10,246
The Goldman Sachs Group, Inc.	Financial assets at amortized cost	-	-	-	US\$ 51,347	-	US\$ 561,607	-	US\$ 171,000	US\$ 171,000	US\$ -	-	US\$ 440,655	

(Continued)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counterparty	Nature of Relationship	Beginning Balance		Acquisition		Disposal			Ending Balance (Note)		
					Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Carrying Value (Foreign Currencies in Thousands)	Gain/Loss on Disposal (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)
TSMC Global	Citigroup Global Markets Inc.	Financial assets at amortized cost	-	-	-	US\$ 99,968	-	US\$ 350,000	-	US\$ 100,000	US\$ 100,000	US\$ -	-	US\$ 349,886
	Bank of America Corporation	"	-	-	-	US\$ -	-	US\$ 448,254	-	US\$ 124,000	US\$ 123,818	US\$ 182	-	US\$ 324,757
	JPMorgan Chase & Co.	"	-	-	-	US\$ 10,054	-	US\$ 268,126	-	US\$ -	US\$ -	US\$ -	-	US\$ 280,213
	Wells Fargo & Company	"	-	-	-	US\$ 30,399	-	US\$ 243,897	-	US\$ -	US\$ -	US\$ -	-	US\$ 274,713
	Citigroup Inc.	"	-	-	-	US\$ -	-	US\$ 188,138	-	US\$ 14,000	US\$ 14,000	US\$ -	-	US\$ 174,540
	Citigroup Global Markets Holdings Inc.	"	-	-	-	US\$ -	-	US\$ 150,000	-	US\$ -	US\$ -	US\$ -	-	US\$ 149,951
	Goldman Sachs Finance Corp International Ltd.	"	-	-	-	US\$ -	-	US\$ 150,000	-	US\$ -	US\$ -	US\$ -	-	US\$ 149,870
	Morgan Stanley	"	-	-	-	US\$ -	-	US\$ 60,255	-	US\$ -	US\$ -	US\$ -	-	US\$ 60,207
	Jpmorgan LLC	"	-	-	-	US\$ -	-	US\$ 50,000	-	US\$ -	US\$ -	US\$ -	-	US\$ 49,984
	Banco Bilbao Vizcaya Argentaria, S.A.	"	-	-	-	US\$ -	-	US\$ 10,418	-	US\$ -	US\$ -	US\$ -	-	US\$ 10,534
	Government bond United States Department of The Treasury	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 768,483	-	US\$ 93,078	-	US\$ 193,697	US\$ 195,409	US\$ (1,712)	-	US\$ 613,603
	Agency bonds/Agency mortgage-backed securities FEDERAL NATIONAL MORTGAGE ASSOCIATION	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 460,205	-	US\$ 251,791	-	US\$ 170,673	US\$ 174,005	US\$ (3,332)	-	US\$ 464,686
	Federal Home Loan Mortgage Corporation	"	-	-	-	US\$ 253,075	-	US\$ 146,242	-	US\$ 74,099	US\$ 75,623	US\$ (1,524)	-	US\$ 284,933
	Government National Mortgage Association	"	-	-	-	US\$ 285,581	-	US\$ 75,508	-	US\$ 158,836	US\$ 162,184	US\$ (3,348)	-	US\$ 175,067
Emerging Fund	Non-publicly traded equity investments Solanium Labs, Ltd.	Financial assets at fair value through other comprehensive income	-	-	-	US\$ -	1,429	US\$ 5,000	1,429	US\$ 11,370	US\$ 5,000	US\$ 6,370	-	US\$ -

Note: The ending balance includes the realized gain/loss on equity investment, the amortization of premium/discount on bonds investments and other related adjustment.

(Concluded)

TABLE 5

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

ACQUISITION OF INDIVIDUAL REAL ESTATE PROPERTIES AT COSTS OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate	February 15, 2022 (Note)	\$ 213,300,000 (Note)	Based on the terms in the purchase order	122 counterparties (Note), including: ABB Ltd. Accudevice Co., Ltd. Addiron Technology (Japan), Inc. Aegis Technology Co. Air Liquid Japan G.K. Air Liquide Far Eastern Ltd. Air Water Plant Engineering Co., Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd. Atlas Technology Corp. Capital Machinery Limited Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. Chien Kuo Construction Co., Ltd. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd.	-	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None	

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate				<p>Chung-Lin General Contractors, Ltd. Chunghwa Telecom Japan Co., Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cin Construction Co., Ltd. Desiccant Technology Corporation Eaton Electric Japan Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Fuji Electric Co., Ltd. Fuji Furukawa E&C Co., Ltd. Green Partners Industry Co., Ltd. Haitech Engineering Co., Ltd. Hitachi Energy Ltd. Hsieh Kun Co., Ltd. Huang Luei Process Industry Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates Japan Material Co., Ltd. JG Environmental Technology Co., Ltd. Jienshian Information Engineering Co., Ltd. Jjmr-Clean-Air Solution Tech.Services Co., Ltd.</p>								

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				Johnson Controls York Taiwan Co, Ltd. Jusun Instruments Co., Ltd. Kajima Corporation Kanto Chemical Engineering Co., Ltd. Kao Hsin Engineering Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation Koei International Corp. Kuiken Kogyo Co., Ltd. Kurita Water Industries Ltd., Taiwan Kyudenko Corporation L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Lee Ming Construction Co., Ltd. Lumax International Corp., Ltd. Mandartech Interiors Inc. Marketech International Corp. Mega Union Technology Incorporated Mitsubishi Heavy Industries Air-Conditioning & Refrigeration Corporation Mitsubishi Heavy Industries, Ltd. NAGASE & CO. LTD. NEC Facilities, Ltd. Organo Corporation Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd.									

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate				<p>Pan Asia (Engineers & Constructors) Corporation Quicken System Integration Co., Ltd. Ruentex Engineering & Construction Co., Ltd. SACHEM Inc. San Fu Chemical Co., Ltd. Schneider Electric Taiwan Co., Ltd. Seibu Giken Co., Ltd. Shihlin Electric & Engineering Corporation Shimizu Corporation Siemens Limited SN Tech Corporation Solomon Technology Corporation Sumitomo Corporation Swift Engineering Co., Ltd. Taikisha Ltd. Taisei Corporation Taiwan Gleno Enterprise Co., Ltd. Taiwan Obayashi Corporation Taiwan Puritic Corp. Taiyo Nippon Sanso Corporation TASA Construction Corporation Techgo Industrial Co., Ltd. Toshiba Mitsubishi-Electric Industrial Systems Corporation Toyoko Kagaku Co., Ltd. Trane Taiwan Distribution Limited</p>								

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Vertiv Weltall Technology Corporation Wholetech System Hitech Limited Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp. 19 counterparties (Note), including: Southern Taiwan Science Park Bureau, Ministry of Science and Technology 115 counterparties (Note), including: ABB Ltd. Accudvice Co., Ltd. Air Liquide Far Eastern Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd.	-								
	Real estate	May 10, 2022 (Note)	US\$ 2,147,000 (Note)	Based on the terms in the purchase order		-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None	
	Real estate	November 8, 2022 (Note)	US\$ 1,119,000 (Note)	Based on the terms in the purchase order		-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None	

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				Atlas Technology Corp. Capital Machinery Limited Central Taiwan Science Park Bureau, Ministry of Science and Technology Century Iron and Steel Industrial Co., Ltd. Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. Chien Kuo Construction Co., Ltd. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd. Chung-Lin General Contractors, Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cin Construction Co., Ltd. Desiccant Technology Corporation Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Hantech Engineering Co., Ltd. Hsieh Kun Co., Ltd. Hsinchu Science Park Bureau, Ministry of Science and Technology Huang Luei Process Industry Co., Ltd.									

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				Immense Team Construction & Building Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates Jate Haour Industry Corporation JG Environmental Technology Co., Ltd. Jjmr-Clean-Air Solution Tech.Services Co., Ltd. Ju Yao Construction Co., Ltd. Jusun Instruments Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Lee Ming Construction Co., Ltd. Li Jin Engineering Co., Ltd. Mandartech Interiors Inc. Marketech International Corp. Mega Union Technology Incorporated Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd. Pan Asia (Engineers & Constructors) Corporation Ruentex Engineering & Construction Co., Ltd. San Fu Chemical Co., Ltd. Schneider Electric Taiwan Co., Ltd. Shihlin Electric & Engineering Corporation									

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate				Siemens Limited Solomon Technology Corporation Southern Taiwan Science Park Bureau, Ministry of Science and Technology Swift Engineering Co., Ltd. Taiwan Gleno Enterprise Co., Ltd. Taiwan Obayashi Corporation Taiwan Puritic Corp. TASA Construction Corporation Techgo Industrial Co., Ltd. Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Weltall Technology Corporation Wholetech System Hitech Limited Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp.								

Note: The disclosures are expected information based on the capital appropriation approved by the Board of Directors (Right-of-use assets are included). The actual information shall be subject to the final purchase order of TSMC.

(Concluded)

TABLE 6

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES OF AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Nature of Relationships	Transaction Details			Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount (Foreign Currencies in Thousands)	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance (Foreign Currencies in Thousands)	
TSMC	TSMC North America	Subsidiary	Sales	\$ 1,538,849,403	68	Net 30 days from invoice date (Note)	-	(Note)	\$ 171,738,863	80
	TSMC Nanjing	Subsidiary	Sales	155,024	-	Net 30 days from the end of the month of when invoice is issued	-	-	-	-
	GUC	Associate	Sales	11,346,289	1	Net 30 days from the end of the month of when invoice is issued	-	-	1,300,302	1
	TSMC Nanjing	Subsidiary	Purchases	43,186,122	26	Net 30 days from the end of the month of when invoice is issued	-	-	(4,105,919)	7
	TSMC China	Subsidiary	Purchases	28,400,454	17	Net 30 days from the end of the month of when invoice is issued	-	-	(2,296,083)	4
	WaferTech	Indirect subsidiary	Purchases	10,336,735	6	Net 30 days from the end of the month of when invoice is issued	-	-	(855,952)	1
	SSMC	Associate	Purchases	4,572,894	3	Net 30 days from the end of the month of when invoice is issued	-	-	(385,979)	1
	VIS	Associate	Purchases	1,849,937	1	Net 30 days from the end of the month of when invoice is issued	-	-	(190,587)	-
	TSMC North America	GUC	Associate of TSMC	Sales	3,204,489 (US\$ 106,695)	-	Net 30 days from invoice date	-	-	171,049 (US\$ 5,569)
VisEra Tech	Xintec	Associate of TSMC	Sales	787,702	9	Net 60 days from the end of the month of when invoice is issued	-	-	112,607	15

Note: The tenor is determined by the payment terms granted to its clients by TSMC North America.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL
December 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Nature of Relationships	Ending Balance (Foreign Currencies in Thousands)	Turnover Days (Note 1)	Overdue		Allowance for Bad Debts
					Amount	Action Taken	
TSMC	TSMC North America GUC	Subsidiary Associate	\$ 177,923,661 1,300,302	37 27	\$ - -	- -	\$ - -
TSMC North America	GUC	Associate of TSMC	171,078 (US\$ 5,570)	22	-	-	-
TSMC.JDC	TSMC	Parent company	108,835 (JPY 466,905)	Note 2	-	-	-
TSMC China	TSMC	Parent company	2,296,083 (RMB 519,682)	26	-	-	-
	TSMC Nanjing	The same parent company	45,353,940 (RMB10,265,253)	Note 2	-	-	-
TSMC Nanjing	TSMC	Parent company	4,105,919 (RMB 929,191)	29	-	-	-
VisEra Tech	Xintec	Associate of TSMC	112,607	53	-	-	-
TSMC Technology	TSMC	The ultimate parent of the Company	744,620 (US\$ 24,244)	Note 2	-	-	-
WaferTech	TSMC	The ultimate parent of the Company	855,952 (US\$ 27,869)	29	-	-	-
	TSMC Development	Parent company	192,719 (US\$ 6,275)	Note 2	-	-	-

Note 1: The calculation of turnover days excludes other receivables from related parties.

Note 2: The ending balance is primarily consisted of other receivables, which is not applicable for the calculation of turnover days.

TABLE 8

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

**INTERCOMPANY RELATIONSHIPS AND SIGNIFICANT INTERCOMPANY TRANSACTIONS
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars)**

No.	Company Name	Counterparty	Nature of Relationship (Note 1)	Intercompany Transactions			
				Financial Statements Item	Amount	Terms (Note 2)	Percentage of Consolidated Net Revenue or Total Assets
0	TSMC	TSMC North America	1	Net revenue from sale of goods	\$ 1,538,849,403	-	68%
				Receivables from related parties	171,738,863	-	3%
				Other receivables from related parties	6,184,798	-	-
				Accrued expenses and other current liabilities	98,595,725	-	2%
				Other noncurrent liabilities	142,132,113	-	3%
				Other noncurrent assets	6,925,782	-	-
				Research and development expenses	505,454	-	-
				Research and development expenses	787,114	-	-
				Marketing expenses-commission	541,200	-	-
				Purchases	28,400,454	-	1%
1	TSMC China	TSMC Nanjing	1	Marketing expenses-commission	329,166	-	-
				Payables to related parties	2,296,083	-	-
				Purchases	43,186,122	-	2%
				Proceeds from disposal of property, plant and equipment	673,945	-	-
				Gains from disposal of property, plant and equipment	302,234	-	-
				Payables to related parties	4,105,919	-	-
				Research and development expenses	3,653,480	-	-
				Payables to related parties	744,620	-	-
				Purchases	10,336,735	-	-
				Payables to related parties	855,952	-	-
1	TSMC China	TSMC Nanjing	3	Interest income	436,902	-	-
				Other receivables from related parties	45,353,940	-	1%

Note 1: No. 1 represents the transactions from parent company to subsidiary.

No. 3 represents the transactions between subsidiaries.

Note 2: The sales prices and payment terms of intercompany sales are not significantly different from those to third parties. For other intercompany transactions, prices and terms are determined in accordance with mutual agreements.

TABLE 9

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

NAMES, LOCATIONS, AND RELATED INFORMATION OF INVESTEEES OVER WHICH THE COMPANY EXERCISES SIGNIFICANT INFLUENCE (EXCLUDING INFORMATION ON INVESTMENT IN MAINLAND CHINA)
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022		Percentage of Ownership	Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				December 31, 2022 (Foreign Currencies in Thousands)	December 31, 2021 (Foreign Currencies in Thousands)	Shares (In Thousands)	Carrying Value (Foreign Currencies in Thousands)				
TSMC	TSMC Global	Torola, British Virgin Islands	Investment activities	\$ 355,162,309	\$ 355,162,309	11	\$ 411,992,426	100	\$ 7,308,722	\$ 7,308,722	Subsidiary
	TSMC Partners	Torola, British Virgin Islands	Investing in companies involved in the semiconductor design and manufacturing, and other investment activities	31,456,130	31,456,130	988,268	63,697,217	100	3,135,764	3,135,764	Subsidiary
	TSMC Arizona	Phoenix, Arizona, U.S.A.	Manufacturing, sales and testing of integrated circuits and other semiconductor devices	37,015,800	21,643,300	1,270	25,639,079	100	(9,430,070)	(9,430,070)	Subsidiary
	JASM	Kumamoto, Japan	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	24,567,085	1,416,921	1,020	23,330,125	71	(593,429)	(452,020)	Subsidiary
	VIS	Hsin-Chu, Taiwan	Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks	10,180,677	10,180,677	464,223	13,492,653	28	15,280,388	4,322,799	Associate
	VisEra Tech	Hsin-Chu, Taiwan	Research, design, development, manufacturing, sales, packaging and test of color filter	4,224,082	4,224,082	213,619	11,467,860	68	1,765,796	1,253,986	Subsidiary
	SSMC	Singapore	Manufacturing and sales of integrated circuits and other semiconductor devices	5,120,028	5,120,028	314	8,934,731	39	3,540,176	1,373,234	Associate
	TSMC North America	San Jose, California, U.S.A	Sales and marketing of integrated circuits and other semiconductor devices	333,718	333,718	11,000	5,449,755	100	62,213	62,213	Subsidiary
	Xintec	Taoyuan, Taiwan	Wafer level chip size packaging and wafer level post passivation interconnection service	1,988,317	1,988,317	111,282	3,528,417	41	1,983,736	813,516	Associate
	Emerging Fund	Cayman Islands	Investing in technology start-up companies	1,269,425	298,618	-	1,760,885	99.9	(6,917)	(6,910)	Subsidiary
	GUC	Hsin-Chu, Taiwan	Researching, developing, manufacturing, testing and marketing of integrated circuits	386,568	386,568	46,688	1,666,651	35	3,710,442	1,292,705	Associate
	TSMC 3DJC	Yokohama, Japan	Engineering support activities	1,144,356	278,986	49	1,172,706	100	27,950	27,950	Subsidiary
	TSMC Europe	Amsterdam, the Netherlands	Customer service and supporting activities	15,749	15,749	-	527,693	100	(4,926)	(4,926)	Subsidiary
	TSMC JDC	Yokohama, Japan	Engineering support activities	410,680	410,680	15	376,176	100	20,303	20,303	Subsidiary
VTAF III	Cayman Islands	Investing in technology start-up companies	1,239,621	1,321,594	-	246,702	98	(6,700)	(6,566)	Subsidiary	
TSMC Japan	Yokohama, Japan	Customer service and supporting activities	83,760	83,760	6	134,560	100	6,559	6,559	Subsidiary	
VTAF II	Cayman Islands	Investing in technology start-up companies	260,300	260,300	-	71,429	98	319	313	Subsidiary	
TSMC Korea	Seoul, Korea	Customer service and supporting activities	13,656	13,656	80	44,082	100	1,408	1,408	Subsidiary	
TSMC Development	Delaware, U.S.A	Investing in companies involved in semiconductor manufacturing	18,026,652	18,026,652	-	36,609,536	100	2,620,596	Note 2	Subsidiary	
TSMC Technology	Delaware, U.S.A	Engineering support activities	(US\$ 586,939)	(US\$ 586,939)	-	(US\$1,191,988)	(US\$ 87,795)	100	66,998	Note 2	Subsidiary
TSMC Canada	Ontario, Canada	Engineering support activities	(US\$ 14,282)	(US\$ 14,282)	-	(US\$ 32,354)	(US\$ 2,150)	100	31,997	Note 2	Subsidiary
Growth Fund	Cayman Islands	Investing in technology start-up companies	67,429	79,970	-	166,549	100	(609)	(609)	Subsidiary	
Mutual-Pak	New Taipei, Taiwan	Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID	(US\$ 2,195)	(US\$ 2,604)	-	(US\$ 5,423)	(US\$ (21))	28	(13,738)	Note 2	Associate
				(US\$ 48,937)	48,937	4,693	(US\$ 620)		(US\$ (464))		
				(US\$ 1,593)	(US\$ 1,593)						

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				December 31, 2022 (Foreign Currencies in Thousands)	December 31, 2021 (Foreign Currencies in Thousands)	Shares (In Thousands)	Percentage of Ownership	Carrying Value (Foreign Currencies in Thousands)			
TSMC Development	WaferTech	Washington, U.S.A	Manufacturing, sales and testing of integrated circuits and other semiconductor devices	\$ -	\$ -	293,637	100	\$ 6,251,109 (US\$ 203,533)	\$ 2,299,054 (US\$ 77,303)	Note 2 Subsidiary	

Note 1: The share of profits/losses of investee includes the effect of unrealized gross profit on intercompany transactions.

Note 2: The share of profits/losses of the investee company is not reflected herein as such amount is already included in the share of profits/losses of the investor company.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

INFORMATION ON INVESTMENT IN MAINLAND CHINA

FOR YEAR ENDED DECEMBER 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investee Company	Main Businesses and Products	Total Amount of Paid-in Capital (RMB in Thousands)	Method of Investment	Accumulated Outflow of Investment from Taiwan as of January 1, 2022 (US\$ in Thousands)	Investment Flows		Accumulated Outflow of Investment from Taiwan as of December 31, 2022 (US\$ in Thousands)	Net Income (Losses) of the Investee Company	Percentage of Ownership	Share of Profits/Losses	Carrying Amount as of Balance as of December 31, 2022	Accumulated Inward Remittance of Earnings as of December 31, 2022
					Outflow (US\$ in Thousands)	Inflow						
TSMC China	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	\$ 18,939,667 (RMB 4,502,080)	Note 1	\$ 18,939,667 (US\$ 596,000)	\$ -	\$ -	\$ 18,939,667 (US\$ 596,000)	\$ 12,411,290	100%	\$ 12,223,165 (Note 2)	\$ 87,028,722	\$ -
TSMC Nanjing	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	30,521,412 (RMB 6,650,119)	Note 1	30,521,412 (US\$ 1,000,000)	-	-	30,521,412 (US\$ 1,000,000)	20,486,591	100%	20,473,263 (Note 2)	67,385,300	-

Accumulated Investment in Mainland China as of S December 31, 2022 (US\$ in Thousands)	Investment Amounts Authorized by Investment Commission, MOEA (US\$ in Thousands)	Upper Limit on Investment
\$ 49,461,079 (US\$ 1,596,000)	\$ 119,412,667 (US\$ 3,596,000)	\$ 1,776,293,320 (Note 3)

Note 1: TSMC directly invested US\$596,000 thousand in TSMC China and US\$ 1,000,000 thousand in TSMC Nanjing.

Note 2: Amount was recognized based on the audited financial statements.

Note 3: The upper limit on investment in mainland China is determined by sixty percent (60%) of the Company's consolidated net worth.

TABLE 11

Taiwan Semiconductor Manufacturing Company Limited

**INFORMATION ON MAJOR SHAREHOLDERS
DECEMBER 31, 2022**

Shareholders (Note)	Shares	
	Total Shares Owned	Ownership Percentage
ADR-Taiwan Semiconductor Manufacturing Company, Ltd. National Development Fund, Executive Yuan	5,319,233,558 1,653,709,980	20.51% 6.38%

Note: Major shareholders shows the list of all shareholders with ownership of 5 percent or greater.

**Taiwan Semiconductor Manufacturing
Company Limited**

**Parent Company Only Financial Statements for the
Years Ended December 31, 2022 and 2021 and
Independent Auditors' Report**

INDEPENDENT AUDITORS' REPORT

The Board of Directors and Shareholders
Taiwan Semiconductor Manufacturing Company Limited

Opinion

We have audited the accompanying parent company only financial statements of Taiwan Semiconductor Manufacturing Company Limited (the "Company"), which comprise the parent company only balance sheets as of December 31, 2022 and 2021, and the parent company only statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes to the parent company only financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying parent company only financial statements present fairly, in all material respects, the accompanying parent company only financial position of the Company as of December 31, 2022 and 2021, and its parent company only financial performance and its parent company only cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and the Standards on Auditing of the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Parent Company Only Financial Statements section of our report. We are independent of the Company in accordance with The Norm of Professional Ethics for Certified Public Accountant of the Republic of China, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the parent company only financial statements for the year ended December 31, 2022. These matters were addressed in the context of our audit of the parent company only financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter for the Company's parent company only financial statements for the year ended December 31, 2022 is stated as follows:

Property, plant and equipment (PP&E) – commencement of depreciation related to PP&E classified as equipment under installation and construction in progress (EUI/CIP)

Refer to Notes 4, 5 and 13 to the parent company only financial statements.

The Company's evaluation of when to commence depreciation of EUI/CIP involves determining when the assets are available for their intended use. The criteria the Company uses to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets

to be capable of operating in the intended manner. Changes in these assumptions could have a significant impact on when depreciation is recognized.

Given the subjectivity in determining the date to commence depreciation of EUI/CIP, performing audit procedures to evaluate the reasonableness of the Company's judgments and assumptions required a high degree of auditor judgment. Consequently, the validity of commencement of depreciation related to PP&E classified as EUI/CIP is identified as a key audit matter.

Our audit procedures related to the evaluation of when to commence depreciation of EUI/CIP included the following, among others:

1. We read the Company's policy and understood the criteria used to determine when to commence depreciation.
2. We tested the effectiveness of the controls over the evaluation of when to commence depreciation of EUI/CIP.
3. We sampled the year-end balance of EUI/CIP and performed the following for each selection:
 - a. Evaluated whether the selection did not meet the criteria specified by the Company for commencement of depreciation.
 - b. Observed the assets and evaluated their status.
4. We sampled and evaluated whether the selection of EUI/CIP met the criteria specified by the Company for commencement of depreciation during the year.
5. We sampled and evaluated whether the selection of EUI/CIP met the criteria specified by the Company for commencement of depreciation subsequent to year end.

Responsibilities of Management and Those Charged with Governance for the Parent Company Only Financial Statements

Management is responsible for the preparation and fair presentation of the parent company only financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers, and for such internal control as management determines is necessary to enable the preparation of parent company only financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the parent company only financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance (including members of the Audit Committee) are responsible for overseeing the Company's financial reporting process.

Auditors' Responsibilities for the Audit of the Parent Company Only Financial Statements

Our objectives are to obtain reasonable assurance about whether the parent company only financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Standards on Auditing of the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these parent company only financial statements.

As part of an audit in accordance with the Standards on Auditing of the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

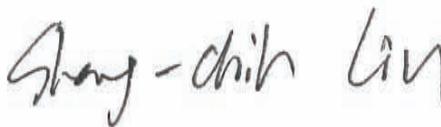
1. Identify and assess the risks of material misstatement of the parent company only financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the parent company only financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
5. Evaluate the overall presentation, structure and content of the parent company only financial statements, including the disclosures, and whether the parent company only financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
6. Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the parent company only financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the parent company only financial statements for the year ended December 31, 2022 and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audits resulting in this independent auditors' report are Mei Yen Chiang and Shang Chih Lin.



Deloitte & Touche
Taipei, Taiwan
Republic of China

February 14, 2023

Notice to Readers

The accompanying financial statements are intended only to present the financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such financial statements are those generally applied in the Republic of China.

For the convenience of readers, the independent auditors' report and the accompanying financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' report and financial statements shall prevail.

Taiwan Semiconductor Manufacturing Company Limited

PARENT COMPANY ONLY BALANCE SHEETS (In Thousands of New Taiwan Dollars)

	December 31, 2022		December 31, 2021	
	Amount	%	Amount	%
ASSETS				
CURRENT ASSETS				
Cash and cash equivalents (Note 6)	\$ 628,875,897	14	\$ 396,294,241	12
Financial assets at fair value through profit or loss (Note 7)	552,255	-	145,280	-
Financial assets at amortized cost (Note 8)	48,732,476	1	-	-
Notes and accounts receivable, net (Note 10)	41,311,836	1	45,900,297	2
Receivables from related parties (Note 31)	173,044,812	4	138,352,374	4
Other receivables from related parties (Note 31)	6,357,925	-	5,227,425	-
Inventories (Notes 5 and 11)	208,282,895	5	185,159,848	5
Other financial assets	2,801,253	-	3,861,859	-
Other current assets	8,591,040	-	8,264,613	-
Total current assets	<u>1,118,550,389</u>	<u>25</u>	<u>783,205,937</u>	<u>23</u>
NONCURRENT ASSETS				
Financial assets at fair value through other comprehensive income	1,014,741	-	998,400	-
Investments accounted for using equity method (Note 12)	727,947,169	16	602,642,544	18
Property, plant and equipment (Notes 5 and 13)	2,432,675,050	55	1,889,970,529	56
Right-of-use assets (Notes 5 and 14)	39,051,427	1	30,123,052	1
Intangible assets (Notes 5 and 15)	21,456,104	1	22,910,400	1
Deferred income tax assets (Notes 5 and 24)	67,708,061	2	47,780,990	1
Refundable deposits	2,095,656	-	862,893	-
Other noncurrent assets (Note 31)	11,920,467	-	400	-
Total noncurrent assets	<u>3,303,868,675</u>	<u>75</u>	<u>2,595,289,208</u>	<u>77</u>
TOTAL	<u>\$ 4,422,419,064</u>	<u>100</u>	<u>\$ 3,378,495,145</u>	<u>100</u>
LIABILITIES AND EQUITY				
CURRENT LIABILITIES				
Short-term loans (Notes 16 and 28)	\$ -	-	\$ 114,921,333	3
Financial liabilities at fair value through profit or loss (Note 7)	17,468	-	636,472	-
Accounts payable	48,732,542	1	41,204,422	1
Payables to related parties (Note 31)	10,051,044	-	7,687,673	-
Salary and bonus payable	31,308,620	1	20,814,434	1
Accrued profit sharing bonus to employees and compensation to directors (Note 27)	61,392,175	1	36,088,986	1
Payables to contractors and equipment suppliers	200,046,018	5	136,212,285	4
Cash dividends payable (Note 19)	142,617,093	3	142,617,093	4
Income tax payable (Notes 5 and 24)	120,077,567	3	58,755,245	2
Long-term liabilities - current portion (Notes 17 and 28)	18,100,000	-	4,400,000	-
Accrued expenses and other current liabilities (Notes 5, 14, 20, 28 and 31)	266,903,073	6	141,495,427	4
Total current liabilities	<u>899,245,600</u>	<u>20</u>	<u>704,833,370</u>	<u>20</u>
NONCURRENT LIABILITIES				
Bonds payable (Notes 17 and 28)	361,130,474	8	307,783,409	9
Deferred income tax liabilities (Notes 5 and 24)	908,273	-	1,848,966	-
Lease liabilities (Notes 5, 14 and 28)	27,593,900	1	18,742,323	1
Net defined benefit liability (Note 18)	9,321,091	-	11,036,879	-
Guarantee deposits	885,273	-	680,137	-
Others (Notes 20 and 31)	177,681,258	4	165,283,508	5
Total noncurrent liabilities	<u>577,520,269</u>	<u>13</u>	<u>505,375,222</u>	<u>15</u>
Total liabilities	<u>1,476,765,869</u>	<u>33</u>	<u>1,210,208,592</u>	<u>35</u>
EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT				
Capital stock (Note 19)	259,303,805	6	259,303,805	8
Capital surplus (Note 19)	69,330,328	2	64,761,602	2
Retained earnings (Note 19)				
Appropriated as legal capital reserve	311,146,899	7	311,146,899	9
Appropriated as special capital reserve	3,154,310	-	59,304,212	2
Unappropriated earnings	2,323,223,479	53	1,536,378,550	46
	<u>2,637,524,688</u>	<u>60</u>	<u>1,906,829,661</u>	<u>57</u>
Others (Note 19)	(20,505,626)	(1)	(62,608,515)	(2)
Total equity	<u>2,945,653,195</u>	<u>67</u>	<u>2,168,286,553</u>	<u>65</u>
TOTAL	<u>\$ 4,422,419,064</u>	<u>100</u>	<u>\$ 3,378,495,145</u>	<u>100</u>

The accompanying notes are an integral part of the parent company only financial statements.

Taiwan Semiconductor Manufacturing Company Limited

PARENT COMPANY ONLY STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	2022		2021	
	Amount	%	Amount	%
NET REVENUE (Notes 5, 20 and 31)	\$ 2,252,320,561	100	\$ 1,574,745,881	100
COST OF REVENUE (Notes 5, 11, 27 and 31)	<u>951,927,673</u>	<u>42</u>	<u>786,116,844</u>	<u>50</u>
GROSS PROFIT	<u>1,300,392,888</u>	<u>58</u>	<u>788,629,037</u>	<u>50</u>
OPERATING EXPENSES (Notes 5, 27 and 31)				
Research and development	160,813,633	7	123,417,275	8
General and administrative	42,764,642	2	30,967,600	2
Marketing	<u>6,059,649</u>	<u>-</u>	<u>4,282,882</u>	<u>-</u>
Total operating expenses	<u>209,637,924</u>	<u>9</u>	<u>158,667,757</u>	<u>10</u>
OTHER OPERATING INCOME AND EXPENSES, NET (Notes 13 and 27)	<u>(8,275)</u>	<u>(1)</u>	<u>(328,444)</u>	<u>-</u>
INCOME FROM OPERATIONS	<u>1,090,746,689</u>	<u>48</u>	<u>629,632,836</u>	<u>40</u>
NON-OPERATING INCOME AND EXPENSES				
Share of profits of subsidiaries and associates (Note 12)	42,415,408	2	26,837,174	2
Interest income (Note 21)	5,957,864	1	927,754	-
Other income	887,958	-	789,810	-
Foreign exchange gain, net (Note 33)	853,022	-	14,682,696	1
Finance costs (Note 22)	(3,240,406)	-	(2,534,721)	-
Other gains and losses, net (Note 23)	<u>3,053,281</u>	<u>-</u>	<u>(9,833,358)</u>	<u>(1)</u>
Total non-operating income and expenses	<u>49,927,127</u>	<u>3</u>	<u>30,869,355</u>	<u>2</u>
INCOME BEFORE INCOME TAX	1,140,673,816	51	660,502,191	42
INCOME TAX EXPENSE (Notes 5 and 24)	<u>124,143,567</u>	<u>6</u>	<u>63,962,178</u>	<u>4</u>
NET INCOME	<u>1,016,530,249</u>	<u>45</u>	<u>596,540,013</u>	<u>38</u>
OTHER COMPREHENSIVE INCOME (LOSS) (Notes 5, 12, 18, 19 and 24)				
Items that will not be reclassified subsequently to profit or loss:				
Remeasurement of defined benefit obligation	(823,060)	-	242,079	-
Unrealized gain on investments in equity instruments at fair value through other comprehensive income	18,979	-	170,127	-
Loss on hedging instruments	-	-	(41,416)	-
Share of other comprehensive gain/(loss) of subsidiaries and associates	(127,903)	-	1,697,885	-
Income tax benefit (expense) related to items that will not be reclassified subsequently	<u>733,956</u>	<u>-</u>	<u>(85,269)</u>	<u>-</u>
	<u>(198,028)</u>	<u>-</u>	<u>1,983,406</u>	<u>-</u>

(Continued)

Taiwan Semiconductor Manufacturing Company Limited

PARENT COMPANY ONLY STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

	2022		2021	
	Amount	%	Amount	%
Items that may be reclassified subsequently to profit or loss:				
Exchange differences arising on translation of foreign operations	\$ 51,030,928	2	\$ (6,182,507)	-
Share of other comprehensive loss of subsidiaries and associates	(8,244,295)	-	(3,419,483)	-
Income tax benefit (expense) related to items that may be reclassified subsequently	<u>6,036</u>	<u>-</u>	<u>(3,370)</u>	<u>-</u>
	<u>42,792,669</u>	<u>2</u>	<u>(9,605,360)</u>	<u>-</u>
Other comprehensive income (loss), net of income tax	<u>42,594,641</u>	<u>2</u>	<u>(7,621,954)</u>	<u>-</u>
TOTAL COMPREHENSIVE INCOME	<u>\$ 1,059,124,890</u>	<u>47</u>	<u>\$ 588,918,059</u>	<u>38</u>
EARNINGS PER SHARE (NT\$, Note 25)				
Basic earnings per share	<u>\$ 39.20</u>		<u>\$ 23.01</u>	
Diluted earnings per share	<u>\$ 39.20</u>		<u>\$ 23.01</u>	

The accompanying notes are an integral part of the parent company only financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited

PARENT COMPANY ONLY STATEMENTS OF CHANGES IN EQUITY
(In Thousands of New Taiwan Dollars)

	Capital Stock - Common Stock		Legal Capital Reserve		Retained Earnings		Capital Surplus		Others		Total Equity	
	Shares (In Thousands)	Amount	Legal Capital Reserve	Special Capital Reserve	Unappropriated Earnings	Total	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at Fair Value Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation		Treasury Stock
BALANCE, JANUARY 1, 2021	25,930,380	\$ 259,303,805	\$ 311,146,899	\$ 42,259,146	\$ 1,235,280,036	\$ 1,588,686,081	\$ (57,001,627)	\$ 2,321,754	\$ -	\$ -	\$ -	\$ 1,849,657,256
Appropriations of earnings	-	-	-	17,045,066	(17,045,066)	-	-	-	-	-	-	-
Special capital reserve	-	-	-	17,045,066	(295,296,656)	(278,751,590)	-	-	-	-	-	(278,751,590)
Cash dividends to shareholders	-	-	-	-	596,540,013	596,540,013	-	-	-	-	-	596,540,013
Total	-	-	-	-	167,503	167,503	(6,301,734)	(1,559,790)	72,067	(7,789,457)	-	(7,621,954)
Net income	-	-	-	-	596,707,516	596,707,516	(6,301,734)	(1,559,790)	72,067	(7,789,457)	-	588,918,059
Other comprehensive income (loss), net of income tax	-	-	-	-	187,654	187,654	-	(187,654)	-	(187,654)	-	-
Total comprehensive income (loss)	-	-	-	-	187,654	187,654	-	(187,654)	-	(187,654)	-	-
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	-	-	-	48,469	48,469	-	48,469
Basis adjustment for gain on hedging instruments	-	-	-	-	-	-	-	-	-	-	-	-
Adjustments to share of changes in equities of associates	-	-	-	-	4,796	4,796	-	-	-	-	-	4,796
From difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal	-	-	-	-	-	-	-	-	-	-	-	-
From share of changes in equities of subsidiaries	-	-	-	-	-	-	-	-	-	-	-	-
Donation from shareholders	-	-	-	-	-	-	-	-	-	-	-	-
BALANCE, DECEMBER 31, 2021	25,930,380	\$ 259,303,805	\$ 311,146,899	\$ 59,304,212	\$ 1,536,378,550	\$ 1,906,829,661	\$ (63,303,361)	\$ 574,310	\$ 120,536	\$ -	\$ -	\$ 2,168,286,553
Appropriations of earnings	-	-	-	(56,149,902)	56,149,902	-	-	-	-	-	-	-
Special capital reserve	-	-	-	(56,149,902)	(285,234,185)	(285,234,185)	-	-	-	-	-	(285,234,185)
Cash dividends to shareholders	-	-	-	-	(229,084,283)	(229,084,283)	-	-	-	-	-	(229,084,283)
Total	-	-	-	-	1,016,530,249	1,016,530,249	-	-	-	-	-	1,016,530,249
Net income	-	-	-	-	1,016,530,249	1,016,530,249	-	-	-	-	-	1,016,530,249
Other comprehensive income (loss), net of income tax	-	-	-	-	(49,572)	(49,572)	51,560,060	(10,327,421)	1,411,574	(185,153)	-	266,746
Total comprehensive income (loss)	-	-	-	-	(49,572)	(49,572)	51,560,060	(10,327,421)	1,411,574	(185,153)	-	266,746
Share-based payment arrangements	1,387	13,870	-	-	-	-	-	-	-	(871,566)	(871,566)	(871,566)
Treasury stock acquired	-	-	-	-	-	-	-	-	-	-	-	-
Treasury stock retired	(1,387)	(13,870)	-	-	-	-	-	-	-	-	-	-
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	303,242	303,242	-	(303,242)	-	(303,242)	-	-
Basis adjustment for loss on hedging instruments	-	-	-	-	-	-	-	-	(62,929)	-	-	(62,929)
Adjustments to share of changes in equities of associates	-	-	-	-	4,541	4,541	-	-	-	-	-	4,541
From share of changes in equities of subsidiaries	-	-	-	-	4,115,940	4,115,940	-	-	-	-	-	4,115,940
Donation from shareholders	-	-	-	-	13,205	13,205	-	-	-	-	-	13,205
BALANCE, DECEMBER 31, 2022	25,930,380	\$ 259,303,805	\$ 311,146,899	\$ 3,154,310	\$ 2,323,224,479	\$ 2,637,524,688	\$ (117,743,301)	\$ (10,056,553)	\$ 1,479,181	\$ -	\$ -	\$ 2,945,653,195

The accompanying notes are an integral part of the parent company only financial statements.

Taiwan Semiconductor Manufacturing Company Limited

PARENT COMPANY ONLY STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES		
Income before income tax	\$ 1,140,673,816	\$ 660,502,191
Adjustments for:		
Depreciation expense	413,595,082	402,931,257
Amortization expense	8,706,961	8,100,730
Expected credit losses recognized on investments in debt instruments	10,341	-
Finance costs	3,240,406	2,534,721
Share of profits of subsidiaries and associates	(42,415,408)	(26,837,174)
Interest income	(5,957,864)	(927,754)
Share-based compensation	266,746	-
Loss (gain) on disposal or retirement of property, plant and equipment, net	(436,567)	222,387
Loss (gain) on disposal or retirement of intangible assets, net	3,720	(7,332)
Impairment loss on property, plant and equipment	790,740	274,388
Loss (gain) on foreign exchange, net	9,965,603	(16,975,706)
Dividend income	(207,028)	(178,979)
Others	131,637	(370,086)
Changes in operating assets and liabilities:		
Financial instruments at fair value through profit or loss	(1,025,979)	2,482,448
Notes and accounts receivable, net	4,588,461	(11,289,182)
Receivables from related parties	(34,692,438)	(36,571,200)
Other receivables from related parties	(1,074,087)	(3,503,728)
Inventories	(23,123,047)	(54,861,812)
Other financial assets	1,894,328	(2,371,699)
Other current assets	(712,233)	(2,445,945)
Other noncurrent assets	(8,532,751)	-
Accounts payable	7,528,120	4,965,785
Payables to related parties	2,362,846	(746,871)
Salary and bonus payable	10,494,186	3,336,396
Accrued profit sharing bonus to employees and compensation to directors	25,303,189	826,049
Accrued expenses and other current liabilities	47,110,082	82,992,551
Other noncurrent liabilities	86,831,552	154,036,474
Net defined benefit liability	(2,538,848)	(635,116)
Cash generated from operations	1,642,781,566	1,165,482,793
Income taxes paid	(83,364,086)	(81,550,608)
Net cash generated by operating activities	<u>1,559,417,480</u>	<u>1,083,932,185</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of:		
Financial assets at amortized cost	(97,748,105)	-
Equity interest in subsidiary	-	(157,243)
Property, plant and equipment	(897,574,802)	(793,327,208)
Intangible assets	(6,679,871)	(8,998,084)
Proceeds from disposal or redemption of:		
Financial assets at amortized cost	49,190,000	-
Property, plant and equipment	1,665,212	462,138
Intangible assets	3,750	-
Proceeds from return of capital of investments in equity instruments at fair value through other comprehensive income	2,938	6,257

(Continued)

Taiwan Semiconductor Manufacturing Company Limited

PARENT COMPANY ONLY STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

	2022	2021
Interest received	\$ 4,889,786	\$ 902,872
Other dividends received	207,028	178,979
Dividends received from investments accounted for using equity method	3,248,044	2,560,790
Increase in prepayments for leases	-	(1,200,000)
Refundable deposits paid	(1,611,716)	(225,347)
Refundable deposits refunded	<u>406,185</u>	<u>605,714</u>
Net cash used in investing activities	<u>(944,001,551)</u>	<u>(799,191,132)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Decrease in short-term loans	(111,959,992)	(50,538,933)
Proceeds from issuance of bonds	65,400,000	142,318,000
Repayment of bonds	(4,400,000)	(2,600,000)
Payments for transaction costs attributable to the issuance of bonds	(69,528)	(146,157)
Treasury stock acquired	(871,566)	-
Repayment of the principal portion of lease liabilities	(1,848,257)	(1,466,130)
Interest paid	(3,757,985)	(1,997,383)
Guarantee deposits received	216,589	467,964
Guarantee deposits refunded	(45,643)	(7,234)
Cash dividends	(285,234,185)	(265,786,399)
Disposal of ownership interests in subsidiaries (without losing control)	-	9,451,798
Payment of partial acquisition of interests in subsidiaries	(40,421,374)	(21,318,931)
Proceeds from partial disposal of interests in subsidiaries	144,505	-
Donation from shareholders	<u>13,163</u>	<u>10,876</u>
Net cash used in financing activities	<u>(382,834,273)</u>	<u>(191,612,529)</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	232,581,656	93,128,524
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	<u>396,294,241</u>	<u>303,165,717</u>
CASH AND CASH EQUIVALENTS, END OF YEAR	<u>\$ 628,875,897</u>	<u>\$ 396,294,241</u>

The accompanying notes are an integral part of the parent company only financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited

NOTES TO PARENT COMPANY ONLY FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

1. GENERAL

Taiwan Semiconductor Manufacturing Company Limited (the “Company” or “TSMC”), a Republic of China (R.O.C.) corporation, was incorporated on February 21, 1987. The Company is a dedicated foundry in the semiconductor industry which engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

On September 5, 1994, the Company’s shares were listed on the Taiwan Stock Exchange (TWSE). On October 8, 1997, the Company listed some of its shares of stock on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs).

The address of its registered office and principal place of business is No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Taiwan.

2. THE AUTHORIZATION OF FINANCIAL STATEMENTS

The accompanying parent company only financial statements were approved and authorized for issue by the Board of Directors on February 14, 2023.

3. APPLICATION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS

- a. Initial application of the amendments to the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) (collectively, “IFRSs”) endorsed and issued into effect by the Financial Supervisory Commission (FSC)

The initial application of the amendments to the IFRSs endorsed and issued into effect by the FSC did not have a significant effect on the Company’s accounting policies.

- b. The IFRSs issued by International Accounting Standards Board (IASB) and endorsed by the FSC with effective date starting 2023

New, Revised or Amended Standards and Interpretations	Effective Date Issued by IASB
Amendments to IAS 1 “Disclosure of Accounting Policies”	January 1, 2023
Amendments to IAS 8 “Definition of Accounting Estimates”	January 1, 2023
Amendments to IAS 12 “Deferred Tax related to Assets and Liabilities arising from a Single Transaction”	January 1, 2023

- c. The IFRSs issued by IASB but not yet endorsed and issued into effect by the FSC

New, Revised or Amended Standards and Interpretations	Effective Date Issued by IASB
Amendments to IFRS 10 and IAS 28 “Sale or Contribution of Assets between an Investor and its Associate or Joint Venture”	To be determined by IASB
Amendments to IAS 1 “Classification of Liabilities as Current or Non-current” and “Non-current Liabilities with Covenants”	January 1, 2024

As of the date the accompanying parent company only financial statements were authorized for issue, the Company continues in evaluating the impact on its financial position and financial performance from the initial adoption of the aforementioned standards or interpretations and related applicable period. The related impact will be disclosed when the Company completes its evaluation.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

For the convenience of readers, the accompanying parent company only financial statements have been translated into English from the original Chinese version prepared and used in the R.O.C. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language parent company only financial statements shall prevail.

Statement of Compliance

The accompanying parent company only financial statements have been prepared in conformity with the Regulations Governing the Preparation of Financial Reports by Securities Issuers (the “Accounting Standards Used in Preparation of the Parent Company Only Financial Statements”).

Basis of Preparation

The accompanying parent company only financial statements have been prepared on the historical cost basis except for financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for the assets.

When preparing the parent company only financial statements, the Company account for subsidiaries and associates by using the equity method. In order to agree with the amount of net income, other comprehensive income and equity attributable to shareholders of the parent in the consolidated financial statements, the differences of the accounting treatment between the parent company only basis and the consolidated basis are adjusted under the heading of investments accounted for using equity method, share of profits of subsidiaries and associates and share of other comprehensive income of subsidiaries and associates in the parent company only financial statements.

Foreign Currencies

In preparing the parent company only financial statements, transactions in currencies other than the entity’s functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Such exchange differences are recognized in profit or loss in the year in which they arise. Non-monetary items measured at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Exchange differences arising on the retranslation of non-monetary items are included in profit or loss for the year except for exchange differences arising on the retranslation of non-monetary items in respect of which gains and losses are recognized directly in other comprehensive income, in which case, the exchange differences are also recognized directly in other comprehensive income. Non-monetary items that are measured in terms of historical cost in foreign currencies are not retranslated.

For the purposes of presenting parent company only financial statements, the assets and liabilities of the Company's foreign operations are translated into NT\$ using exchange rates prevailing at the end of each reporting period. Income and expense items are translated at the average exchange rates for the period. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity.

Classification of Current and Noncurrent Assets and Liabilities

Current assets are assets held for trading purposes and assets expected to be converted to cash, sold or consumed within one year from the end of the reporting period. Current liabilities are obligations incurred for trading purposes and obligations expected to be settled within one year from the end of the reporting period. Assets and liabilities that are not classified as current are noncurrent assets and liabilities, respectively.

Cash Equivalents

Cash equivalents, for the purpose of meeting short-term cash commitments, consist of highly liquid time deposits and investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Financial Instruments

Financial assets and liabilities shall be recognized when the Company becomes a party to the contractual provisions of the instruments.

Financial assets and liabilities are initially recognized at fair values. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

Financial Assets

The classification of financial assets depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Regular way purchases or sales of financial assets are recognized and derecognized on a trade date or settlement date basis for which financial assets were classified in the same way, respectively. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

a. Category of financial assets and measurement

Financial assets are classified into the following categories: financial assets at FVTPL, investments in debt instruments and equity instruments at FVTOCI, and financial assets at amortized cost.

1) Financial asset at FVTPL

For certain financial assets which include debt instruments that do not meet the criteria of amortized cost or FVTOCI, it is mandatorily required to measure them at FVTPL. Any gain or loss arising from remeasurement is recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any interest earned on the financial asset.

2) Investments in debt instruments at FVTOCI

Debt instruments with contractual terms specifying that cash flows are solely payments of principal and interest on the principal amount outstanding, together with objective of collecting contractual cash flows and selling the financial assets, are measured at FVTOCI.

Interest income calculated using the effective interest method, foreign exchange gains and losses and impairment gains or losses on investments in debt instruments at FVTOCI are recognized in profit or loss. Other changes in the carrying amount of these debt instruments are recognized in other comprehensive income and will be reclassified to profit or loss when these debt instruments are disposed.

3) Investments in equity instruments at FVTOCI

On initial recognition, the Company may irrevocably designate investments in equity investments that is not held for trading as at FVTOCI.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in other equity.

Dividends on these investments in equity instruments at FVTOCI are recognized in profit or loss when the Company's right to receive the dividends is established, unless the Company's rights clearly represent a recovery of part of the cost of the investment.

4) Measured at amortized cost

Cash and cash equivalents, commercial paper, debt instrument investments, notes and accounts receivable (including related parties), other receivables, refundable deposits and temporary payments (classified under other current assets and other noncurrent assets) are measured at amortized cost.

Debt instruments with contractual terms specifying that cash flows are solely payments of principal and interest on the principal amount outstanding, together with objective of holding financial assets in order to collect contractual cash flows, are measured at amortized cost.

Subsequent to initial recognition, financial assets measured at amortized cost are measured at amortized cost, which equals to carrying amount determined by the effective interest method less any impairment loss.

b. Impairment of financial assets

At the end of each reporting period, a loss allowance for expected credit loss is recognized for financial assets at amortized cost (including accounts receivable) and for investments in debt instruments that are measured at FVTOCI.

The loss allowance for accounts receivable is measured at an amount equal to lifetime expected credit losses. For financial assets at amortized cost and investments in debt instruments that are measured at FVTOCI, when the credit risk on the financial instrument has not increased significantly since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from possible default events of a financial instrument within 12 months after the reporting date. If, on the other hand, there has been a significant increase in credit risk since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from all possible default events over the expected life of a financial instrument.

The Company recognizes an impairment loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVTOCI, for which the loss allowance is recognized in other comprehensive income and does not reduce the carrying amount of the financial asset.

c. Derecognition of financial assets

The Company derecognizes a financial asset only when the contractual rights to the cash flows from the financial asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the financial asset to another entity.

On derecognition of a financial asset at amortized cost in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. On derecognition of an investment in a debt instrument at FVTOCI, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss that had been recognized in other comprehensive income is recognized in profit or loss. However, on derecognition of an investment in an equity instrument at FVTOCI, the cumulative gain or loss that had been recognized in other comprehensive income is transferred directly to retained earnings, without recycling through profit or loss.

Financial Liabilities and Equity Instruments

Classification as debt or equity

Debt and equity instruments issued by the Company are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Company are recognized at the proceeds received, net of direct issue costs.

Financial liabilities

Financial liabilities are subsequently measured either at amortized cost using effective interest method or at FVTPL.

Financial liabilities are classified as at fair value through profit or loss when the financial liability is either held for trading or is designated as at fair value through profit or loss.

Financial liabilities at fair value through profit or loss are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss.

Financial liabilities other than those held for trading purposes and designated as at FVTPL are subsequently measured at amortized cost at the end of each reporting period.

Derecognition of financial liabilities

The Company derecognizes financial liabilities when, and only when, the Company's obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

Derivative Financial Instruments

Derivative financial instruments are initially recognized at fair value at the date the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately unless the derivative financial instrument is designated and effective as a hedging instrument, in which event the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

Hedge Accounting

Cash flow hedge

The Company designates certain hedging instruments, such as forward exchange contracts, to partially hedge its foreign exchange rate risks associated with certain highly probable forecast transactions (capital expenditures). The effective portion of changes in the fair value of hedging instruments is recognized in other comprehensive income. When the forecast transactions actually take place, the associated gains or losses that were recognized in other comprehensive income are transferred from equity to the initial cost of the hedged items. The gains or losses from hedging instruments relating to the ineffective portion are recognized immediately in profit or loss.

The Company prospectively discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance, when the hedging instrument expires or is sold, terminated, or exercised.

Inventories

Inventories are stated at the lower of cost or net realizable value. Inventories are recorded at standard cost and adjusted to approximate weighted-average cost at the end of the reporting period. Net realizable value represents the estimated selling price of inventories less all estimated costs of completion and costs necessary to make the sale.

Investments Accounted for Using Equity Method

Investments accounted for using the equity method include investments in subsidiaries and associates.

Investment in subsidiaries

A subsidiary is an entity that is controlled by the Company.

Under the equity method, an investment in a subsidiary is initially recognized at cost and adjusted thereafter to recognize the Company's share of profit or loss and other comprehensive income of the subsidiary as well as the distribution received. The Company also recognized its share in the changes in the equity of subsidiaries.

Changes in the Company's ownership interests in subsidiaries that do not result in the Company losing control over the subsidiaries are accounted for as equity transactions. Any difference between the carrying amount of the subsidiary and the fair value of the consideration paid or received is recognized directly in equity.

When the Company loses control of a subsidiary, any retained investment of the former subsidiary is measured at the fair value at that date. A gain or loss is recognized in profit or loss and calculated as the difference between (a) the aggregate of the fair value of consideration received and the fair value of any retained interest at the date when control is lost; and (b) the previous carrying amount of the investments in such subsidiary. In addition, the Company shall account for all amounts previously recognized in other comprehensive income in relation to the subsidiary on the same basis as would be required if the subsidiary had directly disposed of the related assets and liabilities.

When the Company transacts with its subsidiaries, profits and losses resulting from the transactions with the subsidiaries are recognized in the Company's parent company only financial statements only to the extent of interests in the subsidiaries that are not owned by the Company.

Investment in associates

An associate is an entity over which the Company has significant influence and that is neither a subsidiary nor a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The operating results and assets and liabilities of associates are incorporated in these parent company only financial statements using the equity method of accounting. Under the equity method, an investment in an associate is initially recognized in the statement of financial position at cost and adjusted thereafter to recognize the Company's share of profit or loss and other comprehensive income of the associate as well as the distribution received. The Company also recognizes its share in the changes in the equities of associates.

Any excess of the cost of acquisition over the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs to sell) with its carrying amount. Any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

When the Company subscribes to additional shares in an associate at a percentage different from its existing ownership percentage, the resulting carrying amount of the investment differs from the amount of the Company's proportionate interest in the net assets of the associate. The Company records such a difference as an adjustment to investments with the corresponding amount charged or credited to capital surplus. If the Company's ownership interest is reduced due to the additional subscription to the shares of associate by other investors, the proportionate amount of the gains or losses previously recognized in other comprehensive income in relation to that associate shall be reclassified to profit or loss on the same basis as would be required if the associate had directly disposed of the related assets or liabilities.

When the Company transacts with an associate, profits and losses resulting from the transactions with the associate are recognized in the Company's parent company only financial statements only to the extent of interests in the associate that are not owned by the Company.

Property, Plant and Equipment

Property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment. Costs include any incremental costs that are directly attributable to the construction, acquisition of the item of property, plant and equipment or borrowing costs eligible for capitalization.

Property, plant and equipment in the course of construction for production, supply or administrative purposes are carried at cost, less any recognized impairment loss. Such assets are classified to the appropriate categories of property, plant and equipment when completed and ready for intended use. Depreciation of these assets, on the same basis as other identical categories of property, plant and equipment, commences when the assets are available for their intended use.

Depreciation is recognized so as to write off the cost of the assets less their residual values over their useful lives, and it is computed using the straight-line method mainly over the following estimated useful lives: buildings (assets used by the Company and assets subject to operating leases) - 10 to 20 years; machinery and equipment (assets used by the Company and assets subject to operating leases) - 5 years; and office equipment - 5 years. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for on a prospective basis. Land is not depreciated.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the assets. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

Leases

For a contract that contains a lease component and non-lease component, the Company may elect to account for the lease and non-lease components as a single lease component.

The Company as lessor

Rental income from operating lease is recognized on a straight-line basis over the term of the lease.

The Company as lessee

Except for payments for low-value asset leases and short-term leases (leases of machinery and equipment and others) which are recognized as expenses on a straight-line basis, the Company recognizes right-of-use assets and lease liabilities for all leases at the commencement date of the lease.

Right-of-use assets are measured at cost. The cost of right-of-use assets comprises the initial measurement of lease liabilities adjusted for lease payments and initial direct costs made at or before the commencement date, plus an estimate of costs needed to restore the underlying assets. Subsequent measurement is calculated as cost less accumulated depreciation and accumulated impairment loss and adjusted for changes in lease liabilities as a result of lease term modifications or other related factors. Right-of-use assets are presented separately in the parent company only balance sheets.

Right-of-use assets are depreciated using the straight-line method from the commencement dates to the earlier of the end of the useful lives of the right-of-use assets or the end of the lease terms. If the lease transfers ownership of the underlying assets to the Company by the end of the lease terms or if the cost of right-of-use assets reflects that the Company will exercise a purchase option, the Company depreciates the right-of-use assets from the commencement dates to the end of the useful lives of the underlying assets.

Lease liabilities are measured at the present value of the lease payments. Lease payments comprise fixed payments, variable lease payments which depend on an index or a rate and the exercise price of a purchase option if the Company is reasonably certain to exercise that option. The lease payments are discounted using the lessee's incremental borrowing rates.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in future lease payments resulting from a change in an index or a rate used to determine those payments, or a change in the assessment of an option to purchase an underlying asset, the Company remeasures the lease liabilities with a corresponding adjustment to the right-of-use assets. Lease liabilities are presented on a separate line in the parent company only balance sheets.

Intangible Assets

Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

Other intangible assets

Other separately acquired intangible assets with finite useful lives are carried at cost less accumulated amortization and accumulated impairment losses. Amortization is recognized using the straight-line method over the following estimated useful lives: Technology license fees - the estimated life of the technology or the term of the technology transfer contract; software and system design costs - 3 years or contract period; patent and others - the economic life or contract period. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Impairment of Tangible Assets, Right-of-use Assets and Intangible Assets

Goodwill

Goodwill is not amortized and instead is tested for impairment annually, or more frequently when there is an indication that the cash generating unit may be impaired. For the purpose of impairment testing, goodwill is allocated to each of the Company's cash generating units or groups of cash-generating units that are expected to benefit. If the recoverable amount of a cash generating unit is less than its carrying amount, the difference is allocated first to reduce the carrying amount of any goodwill allocated to such cash-generating unit and then to the other assets of the cash generating unit pro rata based on the carrying amount of each asset in the cash generating unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

Tangible assets, right-of-use assets and other intangible assets

At the end of each reporting period, the Company reviews the carrying amounts of its tangible assets (property, plant and equipment), right-of-use assets and other intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs. When a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset or cash-generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash-generating unit is reduced to its recoverable amount. An impairment loss is recognized immediately in profit or loss.

When an impairment loss subsequently reverses, the carrying amount of the asset or a cash-generating unit is increased to the revised estimate of its recoverable amount, but the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset or cash-generating unit in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

Revenue Recognition

The Company recognizes revenue when performance obligations are satisfied. The performance obligations are satisfied when customers obtain control of the promised goods which is generally when the goods are delivered to the customers' specified locations.

Revenue from sale of goods is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. Estimated sales returns and other allowances is generally made and adjusted based on historical experience and the consideration of varying contractual terms to recognize refund liabilities, which is classified under accrued expenses and other current liabilities.

In principle, payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month of when the invoice is issued. Due to the short term nature of the receivables from sale of goods with the immaterial discounted effect, the Company measures them at the original invoice amounts without discounting.

Employee Benefits

Short-term employee benefits

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for service rendered by employees.

Retirement benefits

For defined contribution retirement benefit plans, payments to the benefit plan are recognized as an expense when the employees have rendered service entitling them to the contribution. For defined benefit retirement benefit plans, the cost of providing benefit is recognized based on actuarial calculations.

Defined benefit costs (including service cost, net interest and remeasurement) under the defined benefit retirement benefit plans are determined using the Projected Unit Credit Method. Service cost (including current service cost), and net interest on the net defined benefit liability (asset) are recognized as employee benefits expense in the period they occur. Remeasurement, comprising actuarial gains and losses and the return on plan assets (excluding interest), is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss.

Net defined benefit liability represents the actual deficit in the Company's defined benefit plan.

Treasury Stock

Treasury stock represents the outstanding shares that the Company buys back from market, which is stated at cost and shown as a deduction in shareholders' equity. When the Company retires treasury stock, the treasury stock account is reduced and the common stock as well as the capital surplus - additional paid-in capital are reversed on a pro rata basis. When the book value of the treasury stock exceeds the sum of the par value and additional paid-in capital, the difference is charged to capital surplus - treasury stock transactions and to retained earnings for any remaining amount.

Share-based payment arrangements

a. Equity-settled share-based payment arrangements

Restricted shares for employees are expensed on a straight-line basis over the vesting period, based on the fair value at the grant date and the Company's best estimate of the number expected to ultimately vest, with a corresponding increase in other equity - unearned employee benefits.

When restricted shares for employees are issued, other equity - unearned employee benefits is recognized on the grant date, with a corresponding increase in capital surplus - restricted shares for employees. Dividends paid to employees on restricted shares which do not need to be returned if employees resign in the vesting period are recognized as expenses upon the dividend declaration with a corresponding adjustment in retained earnings.

At the end of each reporting period, the Company revises its estimate of the number of restricted shares for employees that are expected to vest. The impact from such revision is recognized in profit or loss so that the cumulative expenses reflect the revised estimate, with a corresponding adjustment to capital surplus - restricted shares for employees.

b. Cash-settled share-based payment arrangements

For cash-settled share-based payments, a liability is recognized for the services acquired, measured at the fair value of the liability incurred. At the end of each reporting period until the liability is settled, and at the date of settlement, the fair value of the liability is remeasured, with any changes in fair value recognized in profit or loss.

Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

Current tax

Income tax on unappropriated earnings is expensed in the year the shareholders approved the appropriation of earnings which is the year subsequent to the year the earnings are generated.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the parent company only financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences, net operating loss carryforwards and tax credits for research and development expenses to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, except where the Company is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered. The deferred tax assets which originally not recognized is also reviewed

at the end of each reporting period and recognized to the extent that it is probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the year in which the liability is settled or the asset is realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Current and deferred tax for the year

Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity, respectively.

5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY

The Company has considered the economic implications of COVID-19 on critical accounting estimates and will continue evaluating the impact on its financial position and financial performance as a result of the pandemic.

In the application of the aforementioned Company's accounting policies, the Company is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimate is revised if the revision affects only that year, or in the year of the revision and future years if the revision affects both current and future years.

Critical Accounting Judgments

Revenue Recognition

The Company recognizes revenue when the conditions described in Note 4 are satisfied.

Commencement of Depreciation Related to Property, Plant and Equipment Classified as Equipment under Installation and Construction in Progress (EUI/CIP)

As described in Note 4, commencement of depreciation related to EUI/CIP involves determining when the assets are available for their intended use. The criteria the Company uses to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets to be capable of operating in the intended manner.

Judgments on Lease Terms

In determining a lease term, the Company considers all facts and circumstances that create an economic incentive to exercise or not to exercise an option, including any expected changes in facts and circumstances from the commencement date until the exercise date of the option. Main factors considered include contractual terms and conditions covered by the optional periods, and the importance of the underlying asset to the lessee's operations, etc. The lease term is reassessed if a significant change in circumstances that are within the control of the Company occurs.

Key Sources of Estimation and Uncertainty

Estimation of Sales Returns and Allowances

Sales returns and other allowance is estimated and recorded based on historical experience and in consideration of different contractual terms. The amount is deducted from revenue in the same period the related revenue is recorded. The Company periodically reviews the reasonableness of the estimates.

Valuation of Inventory

Inventories are stated at the lower of cost or net realizable value, and the Company uses estimate to determine the net realizable value of inventory at the end of each reporting period.

The Company estimates the net realizable value of inventory for normal waste, obsolescence and unmarketable items at the end of reporting period and then writes down the cost of inventories to net realizable value. The net realizable value of the inventory is determined mainly based on assumptions of future demand within a specific time horizon.

Impairment of Tangible Assets, Right-of-use Assets and Intangible Assets Other than Goodwill

In the process of evaluating the potential impairment of tangible assets, right-of-use assets and intangible assets other than goodwill, the Company determines the independent cash flows, useful lives, expected future revenue and expenses related to the specific asset groups with the consideration of the nature of semiconductor industry. Any change in these estimates based on changed economic conditions or business strategies could result in significant impairment charges or reversal in future years.

Realization of Deferred Income Tax Assets

Deferred tax assets are recognized to the extent that it is probable that future taxable profits will be available against which those deferred tax assets can be utilized. Assessment of the realization of the deferred tax assets requires subjective judgment and estimate, including the future revenue growth and profitability, tax holidays, the amount of tax credits can be utilized and feasible tax planning strategies. Any changes in the global economic environment, the industry trends and relevant laws and regulations could result in significant adjustments to the deferred tax assets.

Determination of Lessees' Incremental Borrowing Rates

In determining a lessee's incremental borrowing rate used in discounting lease payments, the Company mainly takes into account the market risk-free rates, the estimated lessee's credit spreads and secured status in a similar economic environment.

6. CASH AND CASH EQUIVALENTS

	December 31, 2022	December 31, 2021
Cash and deposits in banks	\$ 618,449,503	\$ 395,463,340
Commercial paper	9,566,430	-
Repurchase agreements	<u>859,964</u>	<u>830,901</u>
	<u>\$ 628,875,897</u>	<u>\$ 396,294,241</u>

Deposits in banks consisted of highly liquid time deposits that were readily convertible to known amounts of cash and were subject to an insignificant risk of changes in value.

7. FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS

	December 31, 2022	December 31, 2021
<u>Financial assets</u>		
Mandatorily measured at FVTPL		
Forward exchange contracts	<u>\$ 552,255</u>	<u>\$ 145,280</u>
<u>Financial liabilities</u>		
Held for trading		
Forward exchange contracts	<u>\$ 17,468</u>	<u>\$ 636,472</u>

The Company entered into forward exchange contracts to manage exposures due to fluctuations of foreign exchange rates. These forward exchange contracts did not meet the criteria for hedge accounting. Therefore, the Company did not apply hedge accounting treatment for these forward exchange contracts.

Outstanding forward exchange contracts consisted of the following:

	Maturity Date	Contract Amount (In Thousands)
<u>December 31, 2022</u>		
Sell NT\$	January 2023 to March 2023	NT\$ 79,610,590
<u>December 31, 2021</u>		
Sell NT\$	January 2022 to March 2022	NT\$ 132,734,482

8. FINANCIAL ASSETS AT AMORTIZED COST

	December 31, 2022
Commercial paper	\$ 48,742,817
Less: Allowance for impairment loss	<u>(10,341)</u>
	<u>\$ 48,732,476</u>

Refer to Note 30 for information relating to credit risk management and expected credit loss for financial assets at amortized cost.

9. HEDGING FINANCIAL INSTRUMENTS

The Company entered into forward exchange contracts to partially hedge foreign exchange rate risks associated with certain highly probable forecast transactions (capital expenditures). The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%. The forward exchange contracts have maturities of 12 months or less.

On the basis of economic relationships, the Company expects that the value of forward exchange contracts and the value of hedged transactions change in opposite directions in response to movements in foreign exchange rates.

The main source of hedge ineffectiveness in these hedging relationships is driven by the effect of the counterparty's own credit risk on the fair value of forward exchange contracts. No other sources of ineffectiveness emerged from these hedging relationships during the hedging period. For the years ended December 31, 2021, refer to Note 19(d) for gain or loss arising from changes in the fair value of hedging instruments and the amount transferred to initial carrying amount of hedged items.

The effect of hedging foreign currency risk for the years ended December 31, 2021 is detailed below:

Hedging Instruments/Hedged Items	Change in Value Used for Calculating Hedge Ineffectiveness Years Ended December 31, 2021
Hedging Instruments	
Forward exchange contracts	<u>\$ (41,416)</u>
Hedged Items	
Forecast transaction (capital expenditures)	<u>\$ 41,416</u>

10. NOTES AND ACCOUNTS RECEIVABLE, NET

	December 31, 2022	December 31, 2021
At amortized cost		
Notes and accounts receivable	\$ 34,316,916	\$ 42,046,293
Less: Loss allowance	<u>(330,686)</u>	<u>(345,905)</u>
	33,986,230	41,700,388
At FVTOCI	<u>7,325,606</u>	<u>4,199,909</u>
	<u>\$ 41,311,836</u>	<u>\$ 45,900,297</u>

The Company signed a contract with the bank to sell certain accounts receivable without recourse and transaction cost required. These accounts receivable are classified as at FVTOCI because they are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets.

In principle, the payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month when the invoice is issued. Aside from recognizing impairment loss for credit-impaired accounts receivable, the Company recognizes loss allowance based on the expected credit loss ratio of customers by different risk levels with consideration of factors of historical loss ratios and customers' financial conditions, competitiveness and business outlook. For accounts receivable past due over 90 days without collaterals or guarantees, the Company recognizes loss allowance at full amount.

Aging analysis of notes and accounts receivable

	December 31, 2022	December 31, 2021
Not past due	\$ 40,353,856	\$ 44,056,424
Past due		
Past due within 30 days	1,268,778	2,188,337
Past due over 31 days	19,888	1,441
Less: Loss allowance	<u>(330,686)</u>	<u>(345,905)</u>
	<u>\$ 41,311,836</u>	<u>\$ 45,900,297</u>

All of the Company's accounts receivable classified as at FVTOCI were not past due.

Movements of the loss allowance for accounts receivable

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 345,905	\$ 243,710
Provision (Reversal)	<u>(15,219)</u>	<u>102,195</u>
Balance, end of year	<u>\$ 330,686</u>	<u>\$ 345,905</u>

For the years ended December 31, 2022 and 2021, the changes in loss allowance were mainly due to the variations in the balance of accounts receivable of different risk levels.

11. INVENTORIES

	December 31, 2022	December 31, 2021
Finished goods	\$ 52,318,299	\$ 32,290,346
Work in process	120,893,772	134,097,879
Raw materials	19,750,618	10,368,446
Supplies and spare parts	<u>15,320,206</u>	<u>8,403,177</u>
	<u>\$ 208,282,895</u>	<u>\$ 185,159,848</u>

Write-down of inventories to net realizable value and reversal of write-down of inventories resulting from the increase in net realizable value were included in the cost of revenue during reporting period. The amounts are illustrated below:

	Years Ended December 31	
	2022	2021
Inventory losses	<u>\$ 4,613,077</u>	<u>\$ 520,096</u>

12. INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD

Investments accounted for using the equity method consisted of the following:

	December 31, 2022	December 31, 2021
Subsidiaries	\$ 700,324,717	\$ 580,702,074
Associates	<u>27,622,452</u>	<u>21,940,470</u>
	<u>\$ 727,947,169</u>	<u>\$ 602,642,544</u>

a. Investments in subsidiaries

Subsidiaries consisted of the following:

Subsidiaries	Principal Activities	Place of Incorporation and Operation	Carrying Amount		Percentage of Ownership	
			December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
TSMC Global Ltd. (TSMC Global)	Investment activities	Tortola, British Virgin Islands	\$ 411,992,426	\$ 374,639,406	100%	100%
TSMC China Company Limited (TSMC China)	Manufacturing, selling, testing and computer-aided design of integrated circuits and other semiconductor devices	Shanghai, China	87,028,722	73,470,628	100%	100%
TSMC Nanjing Company Limited (TSMC Nanjing)	Manufacturing, selling, testing and computer-aided design of integrated circuits and other semiconductor devices	Nanjing, China	67,385,300	46,159,494	100%	100%
TSMC Partners, Ltd. (TSMC Partners)	Investing in companies involved in the design, manufacture, and other related business in the semiconductor industry and other investment activities	Tortola, British Virgin Islands	63,697,217	54,968,185	100%	100%
TSMC Arizona Corporation (TSMC Arizona)	Manufacturing, selling and testing of integrated circuits and other semiconductor devices	Phoenix, Arizona, U.S.A.	25,639,079	16,667,696	100%	100%
Japan Advanced Semiconductor Manufacturing, Inc. (JASM)	Manufacturing, sales, testing and computer aided design of integrated circuits and other semiconductor devices	Kumamoto, Japan	23,330,125	1,383,554	71%	100%
VisEra Technologies Company Ltd. (VisEra Tech)	Research, design, development, manufacturing, sales, packaging and test of color filter	Hsinchu, Taiwan	11,467,860	6,521,231	68%	73%
TSMC North America	Selling and marketing of integrated circuits and other semiconductor devices	San Jose, California, U.S.A.	5,449,755	4,871,149	100%	100%
Emerging Fund L.P.(Emerging Fund)	Investing in technology start-up companies	Cayman Islands	1,760,885	286,205	99.9%	99.9%
TSMC Japan 3DIC R&D Center, Inc. (TSMC 3DIC)	Engineering support activities	Yokohama, Japan	1,172,706	270,513	100%	100%
TSMC Europe B.V. (TSMC Europe)	Customer service and supporting activities	Amsterdam, the Netherlands	527,693	509,880	100%	100%
TSMC Design Technology Japan, Inc. (TSMC JDC)	Engineering support activities	Yokohama, Japan	376,176	368,144	100%	100%
VentureTech Alliance Fund III, L.P. (VTAF III)	Investing in new start-up technology companies	Cayman Islands	246,702	300,401	98%	98%
TSMC Japan Limited (TSMC Japan)	Customer service and supporting activities	Yokohama, Japan	134,560	132,411	100%	100%
VentureTech Alliance Fund II, L.P. (VTAF II)	Investing in new start-up technology companies	Cayman Islands	71,429	112,320	98%	98%
TSMC Korea Limited (TSMC Korea)	Customer service and supporting activities	Seoul, Korea	<u>44,082</u>	<u>40,857</u>	100%	100%
			<u>\$ 700,324,717</u>	<u>\$ 580,702,074</u>		

The Company increased its investment in TSMC Arizona for the amount of NT\$15,372,500 thousand and NT\$20,787,702 thousand in both of 2022 and 2021, respectively. Under the terms of the development agreement entered into between TSMC Arizona and the City of Phoenix, the City of Phoenix commits approximately US\$205 million toward various public infrastructure projects in the area of the proposed manufacturing facility, conditioned on TSMC Arizona's achieving a minimum project scale with defined spending and job-creation thresholds.

The Company established a subsidiary, JASM, in December 2021 and invested in JASM for the amount of NT\$1,416,921 thousand in January 2022. The Company continually increased its investment in JASM for the amount of NT\$23,150,164 in 2022. After JASM's capital increase in January 2022, the Company's shareholding in JASM decreased from 100% to 81%. In addition, JASM increased its capital by issuing noncumulative preferred shares and common shares in April 2022, the Company's shareholding in JASM decreased from 81% to 71% and the proportion of voting right remain 81%. The aforementioned transactions were accounted for as an equity transaction since the transaction did not change the Company's control over JASM.

To facilitate VisEra's IPO in Taiwan in June 2022, 39,501 thousand common shares of VisEra at a price of NT\$240 were sold by the Company and an increase of NT\$8,406,282 thousand in capital surplus was recognized. The Company's shareholding in VisEra decreased from 87% to 73%. In addition, VisEra has increased its capital in June 2022. After the increase in capital, the Company's shareholding in VisEra decreased from 73% to 68%. The aforementioned transactions were accounted for as an equity transaction since the transaction did not change the Company's control over VisEra.

The Company established a subsidiary in January 2021 and, in both of 2022 and 2021, continually increased its investment in Emerging Fund for the amounts of NT\$1,033,339 thousand and NT\$298,618 thousand, respectively.

The Company established a subsidiary in March 2021 and, in both of 2022 and 2021, continually increased its investment in TSMC 3DIC for the amounts of NT\$865,370 thousand and NT\$278,986 thousand, respectively.

b. Investments in associates

Associates consisted of the following:

Name of Associate	Principal Activities	Place of Incorporation and Operation	Carrying Amount		% of Ownership and Voting Rights Held by the Company	
			December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Vanguard International Semiconductor Corporation (VIS)	Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks	Hsinchu, Taiwan	\$ 13,492,653	\$ 10,613,127	28%	28%
Systems on Silicon Manufacturing Company Pte Ltd. (SSMC)	Manufacturing and selling of integrated circuits and other semiconductor devices	Singapore	8,934,731	6,795,699	39%	39%
Xintec Inc. (Xintec)	Wafer level chip size packaging and wafer level post passivation interconnection service	Taoyuan, Taiwan	3,528,417	3,046,961	41%	41%
Global Unichip Corporation (GUC)	Researching, developing, manufacturing, testing and marketing of integrated circuits	Hsinchu, Taiwan	<u>1,666,651</u>	<u>1,484,683</u>	35%	35%
			<u>\$ 27,622,452</u>	<u>\$ 21,940,470</u>		

As of December 31, 2022 and 2021, no investments in associates are individually material to the Company. Please refer to the parent company only statements of comprehensive income for recognition of share of both profit (loss) and other comprehensive income (loss) of associates that are not individually material.

The market prices of the associates' ownership held by the Company in publicly traded stocks calculated by the closing price at the end of the reporting period are summarized as follows. The closing price represents the quoted price in active markets, the level 1 fair value measurement.

Name of Associate	December 31, 2022	December 31, 2021
VIS	<u>\$ 35,977,321</u>	<u>\$ 73,347,312</u>
GUC	<u>\$ 29,926,918</u>	<u>\$ 27,359,085</u>
Xintec	<u>\$ 10,716,449</u>	<u>\$ 15,913,315</u>

13. PROPERTY, PLANT AND EQUIPMENT

	December 31, 2022	December 31, 2021
Assets used by the Company	\$2,432,657,698	\$1,889,970,502
Assets subject to operating leases	<u>17,352</u>	<u>27</u>
	<u>\$2,432,675,050</u>	<u>\$1,889,970,529</u>

Assets used by the Company

	Land	Buildings	Machinery and Equipment	Office Equipment	Equipment under Installation and Construction in Progress	Total
<u>Cost</u>						
Balance at January 1, 2022	\$ 3,212,000	\$ 536,912,374	\$ 3,814,331,964	\$ 71,312,061	\$ 552,647,944	\$ 4,978,416,343
Additions	-	51,982,217	289,897,592	9,288,321	604,897,876	956,066,006
Disposals or retirements	-	(228,870)	(30,528,791)	(1,659,656)	-	(32,417,317)
Transfers to assets subject to operating leases	-	-	(65,780)	-	-	(65,780)
Balance at December 31, 2022	<u>\$ 3,212,000</u>	<u>\$ 588,665,721</u>	<u>\$ 4,073,634,985</u>	<u>\$ 78,940,726</u>	<u>\$ 1,157,545,820</u>	<u>\$ 5,901,999,252</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2022	\$ -	\$ 281,421,525	\$ 2,758,724,265	\$ 48,300,051	\$ -	\$ 3,088,445,841
Additions	-	33,911,674	368,684,999	8,506,391	-	411,103,064
Disposals or retirements	-	(225,637)	(29,073,004)	(1,659,184)	-	(30,957,825)
Transfers to assets subject to operating leases	-	-	(40,266)	-	-	(40,266)
Impairment	-	-	-	-	790,740	790,740
Balance at December 31, 2022	<u>\$ -</u>	<u>\$ 315,107,562</u>	<u>\$ 3,098,295,994</u>	<u>\$ 55,147,258</u>	<u>\$ 790,740</u>	<u>\$ 3,469,341,554</u>
Carrying amounts at December 31, 2022	<u>\$ 3,212,000</u>	<u>\$ 273,558,159</u>	<u>\$ 975,338,991</u>	<u>\$ 23,793,468</u>	<u>\$ 1,156,755,080</u>	<u>\$ 2,432,657,698</u>
<u>Cost</u>						
Balance at January 1, 2021	\$ 3,212,000	\$ 485,468,808	\$ 3,449,111,312	\$ 63,277,681	\$ 220,142,047	\$ 4,221,211,848
Additions	-	51,472,846	391,166,029	8,187,623	332,505,897	783,332,395
Disposals or retirements	-	(29,280)	(27,144,388)	(153,243)	-	(27,326,911)
Transfers from assets subject to operating leases	-	-	1,443,590	-	-	1,443,590
Transfers to assets subject to operating leases	-	-	(244,579)	-	-	(244,579)
Balance at December 31, 2021	<u>\$ 3,212,000</u>	<u>\$ 536,912,374</u>	<u>\$ 3,814,331,964</u>	<u>\$ 71,312,061</u>	<u>\$ 552,647,944</u>	<u>\$ 4,978,416,343</u>

(Continued)

	Land	Buildings	Machinery and Equipment	Office Equipment	Equipment under Installation and Construction in Progress	Total
Accumulated depreciation and impairment						
Balance at January 1, 2021	\$ -	\$ 249,513,714	\$ 2,420,657,989	\$ 40,232,639	\$ -	\$ 2,710,404,342
Additions	-	31,932,475	360,603,748	8,219,832	-	400,756,055
Disposals or retirements	-	(24,664)	(23,180,397)	(152,420)	-	(23,357,481)
Transfers from assets subject to operating leases	-	-	436,816	-	-	436,816
Transfers to assets subject to operating leases	-	-	(68,279)	-	-	(68,279)
Impairment	-	-	274,388	-	-	274,388
Balance at December 31, 2021	<u>\$ -</u>	<u>\$ 281,421,525</u>	<u>\$ 2,758,724,265</u>	<u>\$ 48,300,051</u>	<u>\$ -</u>	<u>\$ 3,088,445,841</u>
Carrying amounts at December 31, 2021	<u>\$ 3,212,000</u>	<u>\$ 255,490,849</u>	<u>\$ 1,055,607,699</u>	<u>\$ 23,012,010</u>	<u>\$ 552,647,944</u>	<u>\$ 1,889,970,502</u>

(Concluded)

The significant part of the Company's buildings includes main plants, mechanical and electrical power equipment and clean rooms, and the related depreciation is calculated using the estimated useful lives of 20 years, 10 years and 10 years, respectively.

In the first quarter of 2022 and 2021, the Company recognized an impairment loss of NT\$790,740 thousand and NT\$274,388 thousand for certain machinery and equipment that were assessed to have no future use, and the recoverable amount of certain machinery and equipment was nil. Such impairment loss was recognized in other operating income and expenses.

Information about capitalized interest is set out in Note 22.

14. LEASE ARRANGEMENTS

a. Right-of-use assets

	December 31, 2022	December 31, 2021
<u>Carrying amounts</u>		
Land	\$ 38,121,835	\$ 29,525,788
Buildings	911,108	574,009
Office equipment	<u>18,484</u>	<u>23,255</u>
	<u>\$ 39,051,427</u>	<u>\$ 30,123,052</u>
	Years Ended December 31	
	2022	2021
Additions to right-of-use assets	<u>\$ 11,808,591</u>	<u>\$ 7,053,815</u>
Depreciation of right-of-use assets		
Land	\$ 2,102,934	\$ 1,810,555
Buildings	365,167	203,006
Office equipment	<u>15,728</u>	<u>15,092</u>
	<u>\$ 2,483,829</u>	<u>\$ 2,028,653</u>

b. Lease liabilities

	December 31, 2022	December 31, 2021
<u>Carrying amounts</u>		
Current portion (classified under accrued expenses and other current liabilities)	\$ 2,029,362	\$ 1,591,153
Noncurrent portion	<u>27,593,900</u>	<u>18,742,323</u>
	<u>\$ 29,623,262</u>	<u>\$ 20,333,476</u>

Ranges of discount rates for lease liabilities are as follows:

	December 31, 2022	December 31, 2021
Land	0.39%-2.30%	0.39%-0.94%
Buildings	0.39%-1.76%	0.39%-0.71%
Office equipment	0.28%-1.73%	0.28%-0.69%

c. Material terms of right-of-use assets

The Company leases land and buildings mainly for the use of plants and offices with lease terms of 1 to 22 years. The lease contracts for land located in the R.O.C. specify that lease payments will be adjusted every 2 years on the basis of changes in announced land value prices. The Company does not have purchase options to acquire the leasehold land and buildings at the end of the lease terms.

d. Other lease information

	<u>Years Ended December 31</u>	
	2022	2021
Expenses relating to short-term leases	<u>\$ 4,616,518</u>	<u>\$ 5,250,134</u>
Total cash outflow for leases	<u>\$ 7,037,733</u>	<u>\$ 6,975,064</u>

15. INTANGIBLE ASSETS

	Goodwill	Technology License Fees	Software and System Design Costs	Patent and Others	Total
<u>Cost</u>					
Balance at January 1, 2022	\$ 1,567,756	\$ 23,483,138	\$ 43,072,450	\$ 11,465,356	\$ 79,588,700
Additions	-	2,253,096	4,815,294	202,915	7,271,305
Disposals or retirements	-	(29,991)	(66,261)	-	(96,252)
Balance at December 31, 2022	<u>\$ 1,567,756</u>	<u>\$ 25,706,243</u>	<u>\$ 47,821,483</u>	<u>\$ 11,668,271</u>	<u>\$ 86,763,753</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2022	\$ -	\$ 14,861,472	\$ 33,599,582	\$ 8,217,246	\$ 56,678,300
Additions	-	2,793,540	4,722,380	1,191,041	8,706,961
Disposals or retirements	-	(11,351)	(66,261)	-	(77,612)
Balance at December 31, 2022	<u>\$ -</u>	<u>\$ 17,643,661</u>	<u>\$ 38,255,701</u>	<u>\$ 9,408,287</u>	<u>\$ 65,307,649</u>
Carrying amounts at December 31, 2022	<u>\$ 1,567,756</u>	<u>\$ 8,062,582</u>	<u>\$ 9,565,782</u>	<u>\$ 2,259,984</u>	<u>\$ 21,456,104</u>

(Continued)

	Goodwill	Technology License Fees	Software and System Design Costs	Patent and Others	Total
<u>Cost</u>					
Balance at January 1, 2021	\$ 1,567,756	\$ 22,110,332	\$ 35,685,061	\$ 11,245,851	\$ 70,609,000
Additions	-	1,372,806	7,686,449	219,505	9,278,760
Disposals or retirements	-	-	(299,060)	-	(299,060)
Balance at December 31, 2021	<u>\$ 1,567,756</u>	<u>\$ 23,483,138</u>	<u>\$ 43,072,450</u>	<u>\$ 11,465,356</u>	<u>\$ 79,588,700</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2021	\$ -	\$ 12,174,686	\$ 29,683,225	\$ 7,017,492	\$ 48,875,403
Additions	-	2,686,786	4,214,190	1,199,754	8,100,730
Disposals or retirements	-	-	(297,833)	-	(297,833)
Balance at December 31, 2021	<u>\$ -</u>	<u>\$ 14,861,472</u>	<u>\$ 33,599,582</u>	<u>\$ 8,217,246</u>	<u>\$ 56,678,300</u>
Carrying amounts at December 31, 2021	<u>\$ 1,567,756</u>	<u>\$ 8,621,666</u>	<u>\$ 9,472,868</u>	<u>\$ 3,248,110</u>	<u>\$ 22,910,400</u>

(Concluded)

The Company's goodwill has been tested for impairment at the end of the annual reporting period and the recoverable amount is determined based on the value in use. The value in use was calculated based on the cash flow forecast from the financial budgets covering the future five-year period, and the Company used annual discount rates of 8.7% and 8.0% in its test of impairment as of December 31, 2022 and 2021, respectively, to reflect the relevant specific risk in the cash-generating unit.

For the years ended December 31, 2022 and 2021, the Company did not recognize any impairment loss on goodwill.

16. SHORT-TERM LOANS

	December 31, 2021
Unsecured loans	<u>\$ 114,921,333</u>
Loan content	
EUR (in thousands)	\$ 3,652,935
Annual interest rate	(0.73)%-0%
Maturity date	Due by June 2022

17. BONDS PAYABLE

	December 31, 2022	December 31, 2021
Domestic unsecured bonds	\$ 379,526,000	\$ 312,448,000
Less: Discounts on bonds payable	(295,526)	(264,591)
Less: Current portion	<u>(18,100,000)</u>	<u>(4,400,000)</u>
	<u>\$ 361,130,474</u>	<u>\$ 307,783,409</u>

The major terms of domestic unsecured bonds are as follows:

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
<u>NT\$ unsecured bonds</u>					
101-3	-	October 2012 to October 2022	\$ 4,400,000	1.53%	Bullet repayment; interest payable annually
101-4	C	January 2013 to January 2023	3,000,000	1.49%	The same as above
102-1	C	February 2013 to February 2023	3,600,000	1.50%	The same as above
102-2	B	July 2013 to July 2023	3,500,000	1.70%	The same as above
102-4	D	September 2013 to March 2021	2,600,000	1.85%	Bullet repayment; interest payable annually (interest for the six months prior to maturity will accrue on the basis of actual days and be repayable at maturity)
	E	September 2013 to March 2023	5,400,000	2.05%	The same as above
	F	September 2013 to September 2023	2,600,000	2.10%	Bullet repayment; interest payable annually
109-1	A	March 2020 to March 2025	3,000,000	0.58%	The same as above
	B	March 2020 to March 2027	10,500,000	0.62%	The same as above
	C	March 2020 to March 2030	10,500,000	0.64%	The same as above
109-2	A	April 2020 to April 2025	5,900,000	0.52%	The same as above
	B	April 2020 to April 2027	10,400,000	0.58%	The same as above
	C	April 2020 to April 2030	5,300,000	0.60%	The same as above
109-3	A	May 2020 to May 2025	4,500,000	0.55%	The same as above
	B	May 2020 to May 2027	7,500,000	0.60%	The same as above
	C	May 2020 to May 2030	2,400,000	0.64%	The same as above
109-4	A	July 2020 to July 2025	5,700,000	0.58%	Two equal installments in last two years; interest payable annually
	B	July 2020 to July 2027	6,300,000	0.65%	The same as above
	C	July 2020 to July 2030	1,900,000	0.67%	The same as above

(Continued)

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
109-5	A	September 2020 to September 2025	\$ 4,800,000	0.50%	Two equal installments in last two years; interest payable annually
	B	September 2020 to September 2027	8,000,000	0.58%	The same as above
	C	September 2020 to September 2030	2,800,000	0.60%	The same as above
109-6 (Green bond)	A	December 2020 to December 2025	1,600,000	0.40%	The same as above
	B	December 2020 to December 2027	5,600,000	0.44%	The same as above
	C	December 2020 to December 2030	4,800,000	0.48%	The same as above
109-7	A	December 2020 to December 2025	1,900,000	0.36%	The same as above
	B	December 2020 to December 2027	10,200,000	0.41%	The same as above
	C	December 2020 to December 2030	6,400,000	0.45%	The same as above
110-1	A	March 2021 to March 2026	4,800,000	0.50%	Bullet repayment; interest payable annually
	B	March 2021 to March 2028	11,400,000	0.55%	The same as above
	C	March 2021 to March 2031	4,900,000	0.60%	The same as above
110-2	A	May 2021 to May 2026	5,200,000	0.50%	The same as above
	B	May 2021 to May 2028	8,400,000	0.58%	The same as above
	C	May 2021 to May 2031	5,600,000	0.65%	The same as above
110-3	A	June 2021 to June 2026	6,900,000	0.52%	The same as above
	B	June 2021 to June 2028	7,900,000	0.58%	The same as above
	C	June 2021 to June 2031	4,900,000	0.65%	The same as above
110-4	A	August 2021 to August 2025	4,000,000	0.485%	The same as above
	B	August 2021 to August 2026	8,000,000	0.50%	The same as above
	C	August 2021 to August 2028	5,400,000	0.55%	The same as above
	D	August 2021 to August 2031	4,200,000	0.62%	The same as above
110-6	A	October 2021 to April 2026	3,200,000	0.535%	The same as above
	B	October 2021 to October 2026	6,900,000	0.54%	The same as above

(Continued)

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
110-6	C	October 2021 to October 2028	\$ 4,600,000	0.60%	Bullet repayment; interest payable annually
	D	October 2021 to October 2031	1,600,000	0.62%	The same as above
110-7	A	December 2021 to December 2026	7,700,000	0.65%	The same as above
	B	December 2021 to June 2027	3,500,000	0.675%	The same as above
	C	December 2021 to December 2028	5,500,000	0.72%	The same as above
111-1 (Green bond)	A	January 2022 to January 2027	2,100,000	0.63%	The same as above
	B	January 2022 to January 2029	3,300,000	0.72%	The same as above
111-2	A	March 2022 to September 2026	3,000,000	0.84%	The same as above
	B	March 2022 to March 2027	9,600,000	0.85%	The same as above
	C	March 2022 to March 2029	1,600,000	0.90%	The same as above
111-3 (Green bond)	-	May 2022 to May 2027	6,100,000	1.50%	The same as above
111-4 (Green bond)	A	July 2022 to July 2026	1,200,000	1.60%	The same as above
	B	July 2022 to July 2027	10,100,000	1.70%	The same as above
	C	July 2022 to July 2029	1,200,000	1.75%	The same as above
	D	July 2022 to July 2032	1,400,000	1.95%	The same as above
111-5	A	August 2022 to June 2027	2,000,000	1.65%	The same as above
	B	August 2022 to August 2027	8,900,000	1.65%	The same as above
	C	August 2022 to August 2029	2,200,000	1.65%	The same as above
	D	August 2022 to August 2032	2,500,000	1.82%	The same as above
111-6 (Green bond)	A	October 2022 to October 2027	5,700,000	1.75%	The same as above
	B	October 2022 to October 2029	1,000,000	1.80%	The same as above
	C	October 2022 to October 2032	3,500,000	2.00%	The same as above

(Concluded)

Issuance	Tranche	Issuance Period	Total Amount (US\$ in Thousands)	Coupon Rate	Repayment and Interest Payment
US\$ unsecured bonds					
109-1	-	September 2020 to September 2060	US\$1,000,000	2.70%	Bullet repayment (callable on the 5th anniversary of the issue date and every anniversary thereafter); interest payable annually
110-5	-	September 2021 to September 2051	1,000,000	3.10%	The same as above

18. RETIREMENT BENEFIT PLANS

a. Defined contribution plans

The plan under the R.O.C. Labor Pension Act (the “Act”) is deemed a defined contribution plan. Pursuant to the Act, the Company has made monthly contributions equal to 6% of each employee’s monthly salary to employees’ pension accounts. Accordingly, the Company recognized expenses of NT\$3,663,757 thousand and NT\$3,028,282 thousand for the years ended December 31, 2022 and 2021, respectively.

b. Defined benefit plans

The Company has defined benefit plans under the R.O.C. Labor Standards Law that provide benefits based on an employee’s length of service and average monthly salary for the six-month period prior to retirement. The Company contributes an amount equal to 2% of salaries paid each month to their respective pension funds (the Funds), which are administered by the Labor Pension Fund Supervisory Committee (the Committee) and deposited in the Committee’s name in the Bank of Taiwan. Before the end of each year, the Company assesses the balance in the Funds. If the amount of the balance in the Funds is inadequate to pay retirement benefits for employees who conform to retirement requirements in the next year, the Company is required to fund the difference in one appropriation that should be made before the end of March of the next year. The Funds are operated and managed by the government’s designated authorities; as such, the Company does not have any right to intervene in the investments of the Funds.

Amounts recognized in respect of these defined benefit plans were as follows:

	Years Ended December 31	
	2022	2021
Current service cost	\$ 134,376	\$ 145,289
Net interest expense	74,265	47,196
Components of defined benefit costs recognized in profit or loss	208,641	192,485
Remeasurement on the net defined benefit liability:		
Return on plan assets (excluding amounts included in net interest expense)	(429,948)	(73,298)
Actuarial loss arising from experience adjustments	1,413,760	94,278

(Continued)

	Years Ended December 31	
	2022	2021
Actuarial loss arising from changes in demographic assumptions	\$ -	\$ 277,454
Actuarial gain arising from changes in financial assumptions	<u>(160,752)</u>	<u>(540,513)</u>
Components of defined benefit costs recognized in other comprehensive income	<u>823,060</u>	<u>(242,079)</u>
Total	<u>\$ 1,031,701</u>	<u>\$ (49,594)</u> (Concluded)

The pension costs of the aforementioned defined benefit plans were recognized in profit or loss by the following categories:

	Years Ended December 31	
	2022	2021
Cost of revenue	\$ 135,125	\$ 124,548
Research and development expenses	55,632	52,801
General and administrative expenses	15,129	12,430
Marketing expenses	<u>2,755</u>	<u>2,706</u>
	<u>\$ 208,641</u>	<u>\$ 192,485</u>

The amounts arising from the defined benefit obligation of the Company were as follows:

	December 31, 2022	December 31, 2021
Present value of defined benefit obligation	\$ 17,483,951	\$ 16,585,442
Fair value of plan assets	<u>(8,162,860)</u>	<u>(5,548,563)</u>
Net defined benefit liability	<u>\$ 9,321,091</u>	<u>\$ 11,036,879</u>

Movements in the present value of the defined benefit obligation were as follows:

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 16,585,442	\$ 16,980,277
Current service cost	134,376	145,289
Interest expense	120,791	66,664
Remeasurement:		
Actuarial loss arising from experience adjustments	1,413,760	94,278
Actuarial loss arising from changes in demographic assumptions	-	277,454
Actuarial gain arising from changes in financial assumptions	(160,752)	(540,513)
Benefits paid from plan assets	(585,343)	(431,817)
Benefits paid directly by the Company	<u>(24,323)</u>	<u>(6,190)</u>
Balance, end of year	<u>\$ 17,483,951</u>	<u>\$ 16,585,442</u>

Movements in the fair value of the plan assets were as follows:

	Years Ended December 31	
	2022	2021
Balance, beginning of year	\$ 5,548,563	\$ 5,066,203
Interest income	46,526	19,468
Remeasurement:		
Return on plan assets (excluding amounts included in net interest expense)	429,948	73,298
Contributions from employer	2,723,166	821,411
Benefits paid from plan assets	<u>(585,343)</u>	<u>(431,817)</u>
Balance, end of year	<u>\$ 8,162,860</u>	<u>\$ 5,548,563</u>

The fair value of the plan assets by major categories at the end of reporting period was as follows:

	December 31, 2022	December 31, 2021
Cash	\$ 1,337,893	\$ 1,000,961
Equity instruments	4,696,909	2,951,835
Debt instruments	<u>2,128,058</u>	<u>1,595,767</u>
	<u>\$ 8,162,860</u>	<u>\$ 5,548,563</u>

The actuarial valuations of the present value of the defined benefit obligation were carried out by qualified actuaries. The principal assumptions of the actuarial valuation were as follows:

	Measurement Date	
	December 31, 2022	December 31, 2021
Discount rate	1.80%	0.75%
Future salary increase rate	4.00%	3.00%

Through the defined benefit plans under the R.O.C. Labor Standards Law, the Company is exposed to the following risks:

- 1) Investment risk: The pension funds are invested in equity and debt securities, bank deposits, etc. The investment is conducted at the discretion of the government's designated authorities or under the mandated management. However, under the R.O.C. Labor Standards Law, the rate of return on assets shall not be less than the average interest rate on a two-year time deposit published by the local banks and the government is responsible for any shortfall in the event that the rate of return is less than the required rate of return.
- 2) Interest risk: A decrease in the government bond interest rate will increase the present value of the defined benefit obligation; however, this will be partially offset by an increase in the return on the debt investments of the plan assets.

Assuming a hypothetical decrease in interest rate at the end of the reporting period contributed to a decrease of 0.5% (and not below 0.0%) in the discount rate and all other assumptions were held constant, the present value of the defined benefit obligation would increase by NT\$766,692 thousand and NT\$780,460 thousand as of December 31, 2022 and 2021, respectively.

- 3) Salary risk: The present value of the defined benefit obligation is calculated by reference to the future salaries of plan participants. As such, an increase in the salary of the plan participants will increase the present value of the defined benefit obligation.

Assuming the expected salary rate increases by 0.5% at the end of the reporting period and all other assumptions were held constant, the present value of the defined benefit obligation would increase by NT\$746,933 thousand and NT\$759,527 thousand as of December 31, 2022 and 2021, respectively.

The sensitivity analysis presented above may not be representative of the actual change in the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

Furthermore, in presenting the above sensitivity analysis, the present value of the defined benefit obligation has been calculated using the projected unit credit method at the end of the reporting period, which is the same as that applied in calculating the defined benefit obligation liability.

The Company expects to make contributions of NT\$2,832,093 thousand to the defined benefit plans in the next year starting from December 31, 2022. The weighted average duration of the defined benefit obligation is 9 years.

19. EQUITY

a. Capital stock

	December 31, 2022	December 31, 2021
Authorized shares (in thousands)	<u>28,050,000</u>	<u>28,050,000</u>
Authorized capital	<u>\$ 280,500,000</u>	<u>\$ 280,500,000</u>
Issued and paid shares (in thousands)	<u>25,930,380</u>	<u>25,930,380</u>
Issued capital	<u>\$ 259,303,805</u>	<u>\$ 259,303,805</u>

A holder of issued common shares with par value of NT\$10 per share is entitled to vote and to receive dividends.

The authorized shares include 500,000 thousand shares allocated for the exercise of employee stock options.

On March 1, 2022, the Company issued employee restricted stocks awards (RSAs) for its employees in a total of 1,387 thousand shares with a par value of NT\$10 each. The aforementioned issuance of new shares was approved by the relevant authority and the registration has been completed. Refer to Note 26 for the information on RSAs.

On May 10, 2022, the Company's Board of Directors resolved to cancel 1,387 thousand treasury shares. Refer to Note 19(e) for the information.

As of the end of reporting period, 1,063,847 thousand ADSs of the Company were traded on the NYSE. The number of common shares represented by the ADSs was 5,319,234 thousand shares (one ADS represents five common shares).

b. Capital surplus

The categories of uses and the sources of capital surplus based on regulations were as follows:

	December 31, 2022	December 31, 2021
<u>May be used to offset a deficit, distributed as cash dividends, or transferred to share capital</u>		
Additional paid-in capital	\$ 24,183,645	\$ 24,184,939
From merger	22,803,291	22,804,510
From convertible bonds	8,892,371	8,892,847
From difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal	8,406,282	8,406,282
Donations - donated by shareholders	11,275	11,275
<u>May only be used to offset a deficit</u>		
From share of changes in equities of subsidiaries	4,229,892	113,952
From share of changes in equities of associates	311,863	307,322
Donations – unclaimed dividend	53,680	40,475
<u>May not be used for any purpose</u>		
Employee restricted shares	<u>438,029</u>	<u>-</u>
	<u>\$ 69,330,328</u>	<u>\$ 64,761,602</u>

If such capital surplus is distributed as transferred to share capital, it is limited to a certain percentage of the Company's paid-in capital each year.

c. Retained earnings and dividend policy

The Company's Articles of Incorporation provide that, earnings distribution may be made on a quarterly basis after the close of each quarter. Distribution of earnings by way of cash dividends should be approved by the Company's Board of Directors and reported to the Company's shareholders in its meeting. When allocating earnings, the Company shall first estimate and reserve the taxes to be paid, offset its losses, set aside a legal capital reserve at 10% of the remaining earnings (until the accumulated legal capital reserve equals the Company's paid-in capital), then set aside a special capital reserve in accordance with relevant laws or regulations or as requested by the authorities in charge. Any balance left over shall be allocated according to relevant laws and the Company's Articles of Incorporation.

The Company's Articles of Incorporation also provide that profits of the Company may be distributed by way of cash dividend and/or stock dividend. However, distribution of earnings shall be made preferably by way of cash dividend. Distribution of earnings may also be made by way of stock dividend, provided that the ratio for stock dividend shall not exceed 50% of the total distribution.

The legal capital reserve may be used to offset a deficit, or be distributed as dividends in cash or stocks for the portion in excess of 25% of the paid-in capital if the Company incurs no loss.

Pursuant to existing regulations, the Company is required to set aside additional special capital reserve equivalent to the net debit balance of the other components of stockholders' equity, such as the accumulated balance of foreign currency translation reserve, unrealized valuation gain or loss from fair value through other comprehensive income financial assets, gain or loss from changes in fair value of hedging instruments in cash flow hedges, etc. For the subsequent decrease in the deduction amount to stockholders' equity, any special reserve appropriated may be reversed to the extent that the net debit balance reverses.

The appropriations of 2022, 2021 and 2020 quarterly earnings have been approved by the Company's Board of Directors in its meeting, respectively. The appropriations and cash dividends per share were as follows:

Resolution Date of the Company's Board of Directors in its meeting	Fourth Quarter of 2022 February 14, 2023	Third Quarter of 2022 November 8, 2022	Second Quarter of 2022 August 9, 2022	First Quarter of 2022 May 10, 2022
Special capital reserve	<u>\$ 17,166,163</u>	<u>\$ (31,910,353)</u>	<u>\$ (12,002,798)</u>	<u>\$ (15,541,054)</u>
Cash dividends to shareholders	<u>\$ 71,308,546</u>	<u>\$ 71,308,547</u>	<u>\$ 71,308,546</u>	<u>\$ 71,308,546</u>
Cash dividends per share (NT\$)	<u>\$ 2.75</u>	<u>\$ 2.75</u>	<u>\$ 2.75</u>	<u>\$ 2.75</u>
Resolution Date of the Company's Board of Directors in its meeting	Fourth Quarter of 2021 February 15, 2022	Third Quarter of 2021 November 9, 2021	Second Quarter of 2021 August 10, 2021	First Quarter of 2021 June 9, 2021
Special capital reserve	<u>\$ 3,304,303</u>	<u>\$ 710,169</u>	<u>\$ 10,201,220</u>	<u>\$ (6,287,050)</u>
Cash dividends to shareholders	<u>\$ 71,308,546</u>	<u>\$ 71,308,547</u>	<u>\$ 71,308,546</u>	<u>\$ 71,308,546</u>
Cash dividends per share (NT\$)	<u>\$ 2.75</u>	<u>\$ 2.75</u>	<u>\$ 2.75</u>	<u>\$ 2.75</u>
Resolution Date of the Company's Board of Directors in its meeting	Fourth Quarter of 2020 February 9, 2021	Third Quarter of 2020 November 10, 2020	Second Quarter of 2020 August 11, 2020	First Quarter of 2020 May 12, 2020
Special capital reserve	<u>\$ 12,420,727</u>	<u>\$ 5,501,351</u>	<u>\$ 11,884,457</u>	<u>\$ (2,694,841)</u>
Cash dividends to shareholders	<u>\$ 64,825,951</u>	<u>\$ 64,825,951</u>	<u>\$ 64,825,951</u>	<u>\$ 64,825,951</u>
Cash dividends per share (NT\$)	<u>\$ 2.5</u>	<u>\$ 2.5</u>	<u>\$ 2.5</u>	<u>\$ 2.5</u>

The special capital reserve for 2022 is to be presented for approval in the Company's shareholders' meeting to be held on June 6, 2023 (expected).

d. Others

Changes in others were as follows:

	Year Ended December 31, 2022				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total
Balance, beginning of year	\$ (63,303,361)	\$ 574,310	\$ 120,536	\$ -	\$ (62,608,515)
Exchange differences arising on translation of foreign operations	51,030,928	-	-	-	51,030,928
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	18,979	-	-	18,979
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	(303,242)	-	-	(303,242)
Transferred to initial carrying amount of hedged items	-	-	(52,929)	-	(52,929)
Issuance of shares	-	-	-	(451,899)	(451,899)
Share-based payment expenses recognized	-	-	-	266,746	266,746
Share of other comprehensive income (loss) of subsidiaries and associates	529,132	(10,346,321)	1,405,538	-	(8,411,651)
Income tax effect	-	(79)	6,036	-	5,957
Balance, end of year	<u>\$ (11,743,301)</u>	<u>\$ (10,056,353)</u>	<u>\$ 1,479,181</u>	<u>\$ (185,153)</u>	<u>\$ (20,505,626)</u>
	Year Ended December 31, 2021				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total
Balance, beginning of year	\$ (57,001,627)	\$ 2,321,754	\$ -	\$ -	\$ (54,679,873)
Exchange differences arising on translation of foreign operations	(6,182,507)	-	-	-	(6,182,507)
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	170,127	-	-	170,127
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	(187,654)	-	-	(187,654)
Gain (loss) arising on changes in the fair value of hedging instruments	-	-	(41,416)	-	(41,416)
Transferred to initial carrying amount of hedged items	-	-	48,469	-	48,469
Share of other comprehensive income (loss) of subsidiaries and associates	(119,227)	(1,673,697)	113,483	-	(1,679,441)
Income tax effect	-	(56,220)	-	-	(56,220)
Balance, end of year	<u>\$ (63,303,361)</u>	<u>\$ 574,310</u>	<u>\$ 120,536</u>	<u>\$ -</u>	<u>\$ (62,608,515)</u>

The aforementioned other equity includes the changes in other equities of the Company and the Company's share of its subsidiaries and associates.

e. Treasury stock

For the Company's shareholders' interests, the Company's Board of Directors approved a share buyback program on February 15, 2022 to repurchase 1,387 thousand shares. The Company has completed this share buyback program during the first quarter of 2022. On May 10, 2022, the Company's Board of Directors resolved to cancel the 1,387 thousand shares and set May 10, 2022 as the record date for capital reduction. The registration for share cancellation was completed on May 20, 2022.

20. NET REVENUE

a. Disaggregation of revenue from contracts with customers

Product	Years Ended December 31	
	2022	2021
Wafer	\$1,989,174,117	\$1,402,118,668
Others	<u>263,146,444</u>	<u>172,627,213</u>
	<u>\$2,252,320,561</u>	<u>\$1,574,745,881</u>

Geography	Years Ended December 31	
	2022	2021
Taiwan	\$ 210,470,783	\$ 203,963,760
United States	1,488,848,778	1,011,932,438
China	245,168,746	164,552,063
Europe, the Middle East and Africa	123,767,140	89,010,064
Japan	119,099,336	71,920,856
Others	<u>64,965,778</u>	<u>33,366,700</u>
	<u>\$2,252,320,561</u>	<u>\$1,574,745,881</u>

The Company categorized the net revenue mainly based on the countries where the customers are headquartered.

Platform	Years Ended December 31	
	2022	2021
High Performance Computing	\$ 927,459,536	\$ 582,854,806
Smartphone	884,505,210	689,533,461
Internet of Things	194,878,453	132,006,238
Automotive	115,678,391	66,624,542
Digital Consumer Electronics	56,317,962	55,190,318
Others	<u>73,481,009</u>	<u>48,536,516</u>
	<u>\$2,252,320,561</u>	<u>\$1,574,745,881</u>

Resolution	Years Ended December 31	
	2022	2021
5-nanometer	\$ 503,914,841	\$ 261,623,571
7-nanometer	536,730,486	439,070,618
10-nanometer	24,775	656,748
16-nanometer	258,793,242	190,667,571
20-nanometer	8,848,885	5,650,015
28-nanometer	206,578,337	152,807,948
40/45-nanometer	145,748,015	103,286,953
65-nanometer	93,292,327	66,373,107
90-nanometer	40,280,729	32,234,476
0.11/0.13 micron	57,915,290	40,454,036
0.15/0.18 micron	110,631,548	86,589,003
0.25 micron and above	<u>26,415,642</u>	<u>22,704,622</u>
Wafer revenue	<u>\$1,989,174,117</u>	<u>\$1,402,118,668</u>

b. Contract balances

	December 31, 2022	December 31, 2021	January 1, 2021
Contract liabilities (classified under accrued expenses and other current liabilities)	<u>\$ 62,380,554</u>	<u>\$ 33,951,838</u>	<u>\$ 9,365,661</u>

The changes in the contract liability balances primarily result from the timing difference between the satisfaction of performance obligation and the customer's payment.

The Company recognized revenue from the beginning balance of contract liability, which amounted to NT\$33,365,181 thousand and NT\$8,737,297 thousand for the years ended December 31, 2022 and 2021, respectively.

c. Temporary receipts from customers

	December 31, 2022	December 31, 2021
Current portion (classified under accrued expenses and other current liabilities)	\$ 107,723,580	\$ 30,612,702
Noncurrent portion (classified under other noncurrent liabilities)	<u>168,399,207</u>	<u>155,381,485</u>
	<u>\$ 276,122,787</u>	<u>\$ 185,994,187</u>

The Company's temporary receipts from customer are payments made by customers to the Company to retain the Company's capacity. When the terms and conditions set forth in the agreements are subsequently satisfied, the treatment of temporary receipts, either by refund or by accounts receivable offsetting, will be determined by mutual consent.

d. Refund liabilities

Estimated sales returns and other allowances is made and adjusted based on historical experience and the consideration of varying contractual terms. As of December 31, 2022 and 2021, the aforementioned refund liabilities amounted to NT\$50,980,669 thousand and NT\$39,493,180 thousand (classified under accrued expenses and other current liabilities), respectively.

21. INTEREST INCOME

	Years Ended December 31	
	2022	2021
Interest income		
Bank deposits	\$ 5,644,170	\$ 927,754
Financial assets at amortized cost	<u>313,694</u>	<u>-</u>
	<u>\$ 5,957,864</u>	<u>\$ 927,754</u>

22. FINANCE COSTS

	Years Ended December 31	
	2022	2021
Interest expense		
Corporate bonds	\$ 3,888,669	\$ 2,368,729
Lease liabilities	231,037	156,117
Bank loans	279	9,854
Others	1,228	21
Less: Capitalized interest under property, plant and equipment	<u>(880,807)</u>	<u>-</u>
	<u>\$ 3,240,406</u>	<u>\$ 2,534,721</u>

Information about capitalized interest is as follows:

	Years Ended December 31, 2022
Capitalization rate	0.72%-1.20%

23. OTHER GAINS AND LOSSES, NET

	Years Ended December 31	
	2022	2021
Gain (loss) on financial instruments at FVTPL, net		
Mandatorily measured at FVTPL	\$ 2,518,506	\$ (10,091,171)
The accrual of expected credit loss of financial assets		
Financial assets at amortized cost	(10,341)	-
Other gains, net	<u>545,116</u>	<u>257,813</u>
	<u>\$ 3,053,281</u>	<u>\$ (9,833,358)</u>

24. INCOME TAX

- a. Income tax expense recognized in profit or loss

Income tax expense consisted of the following:

	Years Ended December 31	
	2022	2021
Current income tax expense		
Current tax expense recognized in the current year	\$ 144,561,484	\$ 86,705,704
Income tax adjustments on prior years	(489,638)	160,565
Other income tax adjustments	<u>205,529</u>	<u>151,344</u>
	<u>144,277,375</u>	<u>87,017,613</u>
Deferred income tax benefit		
The origination and reversal of temporary differences	(24,810,515)	(17,433,690)
Investment tax credits	<u>4,676,707</u>	<u>(5,621,745)</u>
	<u>(20,133,808)</u>	<u>(23,055,435)</u>
Income tax expense recognized in profit or loss	<u>\$ 124,143,567</u>	<u>\$ 63,962,178</u>

A reconciliation of income before income tax and income tax expense recognized in profit or loss was as follows:

	Years Ended December 31	
	2022	2021
Income before tax	<u>\$ 1,140,673,816</u>	<u>\$ 660,502,191</u>
Income tax expense at the statutory rate	\$ 228,134,763	\$ 132,100,438
Tax effect of adjusting items:		
Nondeductible items in determining taxable income	12,804,635	11,605,518
Tax-exempt income	(157,955,934)	(89,852,940)
Additional income tax under the Alternative Minimum Tax Act	61,578,020	32,852,688
The origination and reversal of temporary differences	(24,810,515)	(17,433,690)
Income tax credits	<u>4,676,707</u>	<u>(5,621,745)</u>
	124,427,676	63,650,269
Income tax adjustments on prior years	(489,638)	160,565
Other income tax adjustments	<u>205,529</u>	<u>151,344</u>
Income tax expense recognized in profit or loss	<u>\$ 124,143,567</u>	<u>\$ 63,962,178</u>

For the years ended December 31, 2022 and 2021, the Company applied a tax rate of 20% subject to the R.O.C. Income Tax Law.

b. Deferred income tax balance

The analysis of deferred income tax assets and liabilities was as follows:

	December 31, 2022	December 31, 2021
Deferred income tax assets		
Temporary differences		
Depreciation	\$ 44,989,153	\$ 34,146,437
Refund liability	12,002,094	5,903,698
Unrealized exchange losses	5,779,739	-
Unrealized loss on inventories	2,260,011	861,924
Net defined benefit liability	1,722,005	1,237,086
Investment tax credits	945,038	5,621,745
Investments in equity instruments at FVTOCI	<u>10,021</u>	<u>10,100</u>
	<u>\$ 67,708,061</u>	<u>\$ 47,780,990</u>
Deferred income tax liabilities		
Temporary differences		
Unrealized exchange gains	\$ -	\$ (706,311)
Others	<u>(908,273)</u>	<u>(1,142,655)</u>
	<u>\$ (908,273)</u>	<u>\$ (1,848,966)</u>

	Year Ended December 31, 2022			Balance, End of Year
	Balance, Beginning of Year	Recognized in		
		Profit or Loss	Other Comprehensive Income	
Deferred income tax assets				
Temporary differences				
Depreciation	\$ 34,146,437	\$ 10,842,716	\$ -	\$ 44,989,153
Refund liability	5,903,698	6,098,396	-	12,002,094
Unrealized exchange losses	-	5,779,739	-	5,779,739
Unrealized loss on inventories	861,924	1,398,087	-	2,260,011
Net defined benefit liability	1,237,086	(249,116)	734,035	1,722,005
Investment tax credits	5,621,745	(4,676,707)	-	945,038
Investments in equity instruments at FVTOCI	<u>10,100</u>	<u>-</u>	<u>(79)</u>	<u>10,021</u>
	<u>\$ 47,780,990</u>	<u>\$ 19,193,115</u>	<u>\$ 733,956</u>	<u>\$ 67,708,061</u>
Deferred income tax liabilities				
Temporary differences				
Unrealized exchange gains	\$ (706,311)	\$ 706,311	\$ -	\$ -
Others	<u>(1,142,655)</u>	<u>234,382</u>	<u>-</u>	<u>(908,273)</u>
	<u>\$ (1,848,966)</u>	<u>\$ 940,693</u>	<u>\$ -</u>	<u>\$ (908,273)</u>
	Year Ended December 31, 2021			
	Balance, Beginning of Year	Recognized in		Balance, End of Year
		Profit or Loss	Other Comprehensive Income	
Deferred income tax assets				
Temporary differences				
Depreciation	\$ 18,723,852	\$ 15,422,585	\$ -	\$ 34,146,437
Refund liability	3,719,427	2,184,271	-	5,903,698
Investment tax credits	-	5,621,745	-	5,621,745
Net defined benefit liability	1,341,960	(75,825)	(29,049)	1,237,086
Unrealized loss on inventories	826,666	35,258	-	861,924
Investments in equity instruments at FVTOCI	<u>66,320</u>	<u>-</u>	<u>(56,220)</u>	<u>10,100</u>
	<u>\$ 24,678,225</u>	<u>\$ 23,188,034</u>	<u>\$ (85,269)</u>	<u>\$ 47,780,990</u>
Deferred income tax liabilities				
Temporary differences				
Unrealized exchange gains	\$ (866,452)	\$ 160,141	\$ -	\$ (706,311)
Others	<u>(849,915)</u>	<u>(292,740)</u>	<u>-</u>	<u>(1,142,655)</u>
	<u>\$ (1,716,367)</u>	<u>\$ (132,599)</u>	<u>\$ -</u>	<u>\$ (1,848,966)</u>

- c. The deductible temporary differences for which no deferred income tax assets have been recognized

As of December 31, 2022 and 2021, the aggregate deductible temporary differences for which no deferred income tax assets have been recognized amounted to NT\$26,790,935 thousand and NT\$66,431,255 thousand, respectively.

d. Unused tax-exemption information

As of the end of reporting period, the profits generated from the following project of the Company are exempt from income tax for a five-year period:

	Tax-exemption Period
Construction and expansion of 2009	2018 to 2022

e. The information of unrecognized deferred income tax liabilities associated with investments

As of December 31, 2022 and 2021, the aggregate taxable temporary differences associated with investments in subsidiaries not recognized as deferred income tax liabilities amounted to NT\$222,682,649 thousand and NT\$177,552,831 thousand, respectively.

f. Income tax examination

The tax authorities have examined income tax returns of the Company through 2020. All investment tax credit adjustments assessed by the tax authorities have been recognized accordingly.

25. EARNINGS PER SHARE

	Years Ended December 31	
	2022	2021
Basic EPS	<u>\$ 39.20</u>	<u>\$ 23.01</u>
Diluted EPS	<u>\$ 39.20</u>	<u>\$ 23.01</u>

EPS is computed as follows:

	Years Ended December 31	
	2022	2021
Basic EPS		
Net income available to common shareholders	<u>\$1,016,530,249</u>	<u>\$ 596,540,013</u>
Weighted average number of common shares outstanding used in the computation of basic EPS (in thousands)	<u>25,929,190</u>	<u>25,930,380</u>
Basic EPS (in dollars)	<u>\$ 39.20</u>	<u>\$ 23.01</u>
Diluted EPS		
Net income available to common shareholders	<u>\$1,016,530,249</u>	<u>\$ 596,540,013</u>
Weighted average number of common shares outstanding used in the computation of basic EPS (in thousands)	25,929,190	25,930,380
Effects of all dilutive potential common shares (in thousands)	<u>193</u>	<u>-</u>
Weighted average number of common shares used in the computation of diluted EPS (in thousands)	<u>25,929,383</u>	<u>25,930,380</u>
Diluted EPS (in dollars)	<u>\$ 39.20</u>	<u>\$ 23.01</u>

26. SHARE-BASED PAYMENT ARRANGEMENTS

a. Equity-settled share-based payment- RSAs

The RSAs in each year are as follows:

	<u>2022 RSAs</u>	<u>2021 RSAs</u>
Resolution Date of the Company's shareholders in its meeting	June 8, 2022	July 26, 2021
Resolution Date of the Company's Board of Directors in its meeting	February 14, 2023	February 15, 2022
Issuance of stocks (in thousands)	2,110	1,387
Eligible employees	Executive officers and non-executive officers	Executive officers
Grant date / Issuance date	March 1, 2023	March 1, 2022

Vesting conditions of the aforementioned arrangement are as follow:

- 1) The RSAs granted to eligible employees can only be vested if
 - the employee remains employed by the Company or the subsidiaries on the last date of each vesting period;
 - during the vesting period, the employee may not breach any agreement with the Company or the subsidiaries or violate the Company's work rules; and
 - certain employee performance metrics and the Company's or the subsidiaries' business performance metrics are met.
- 2) The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of the Company's business performance metrics.
- 3) For eligible executive officers of the Company: The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on the Company's relative Total Shareholder Return ("TSR", including capital gains and dividends) achievement to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's (rename to Compensation and People Development Committee from February 14, 2023) evaluation of the Company's Environmental, Social, and Governance ("ESG") achievements. The number of shares so calculated should be rounded down to the nearest integral.

The Company's TSR relative to the TSR of S&P 500 IT Index	Ratio of Shares to be Vested
Above the Index by X percentage points	50% + X * 2.5%, with the maximum of 100%
Equal to the Index	50%
Below the Index by X percentage points	50% - X * 2.5%, with the minimum of 0%

- 4) For eligible employees who are not executive officers of the Company and the subsidiaries: The number of RSAs to be vested in each year will be calculated in accordance with the below table based on the Company's audited consolidated financial statements for the year prior to the vesting year. The number of shares so calculated should be rounded down to the nearest integral.

	Threshold	Target	Weight	Ratio of Shares to be Vested
Revenue Growth Rate	10%	15%	1/3	< Threshold: 0 % = Threshold: 50% ≥ Target: 100% Between threshold and target: as calculated by interpolation method
Gross Margin	50%	53%	1/3	
Return on Equity	20%	25%	1/3	

- 5) Restrictions imposed on the employees' rights in the RSAs before the vesting conditions are fulfilled:
- During each vesting period, no employee granted RSAs, except for inheritance, may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.
 - Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and etc. shall be exercised by the engaged trustee/custodian on the employee's behalf. Any other shareholder rights including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of the Company.
- 6) Details of granted 2021 RSAs are as follows:

	<u>2021 RSAs</u> <u>Number of</u> <u>Stocks</u> <u>(In Thousands)</u>
Balance, beginning of year	-
Issuance of stocks	<u>1,387</u>
Balance, end of year	<u>1,387</u>
Weighted-average fair value of RSAs (in dollars)	<u>\$ 325.81</u>

The 2021 RSAs is measured at fair value at grant date by using the binominal tree approach. Relevant information is as follows:

	<u>2021 RSAs</u> <u>March 1, 2022</u>
Stock price at grant date (in dollars)	\$ 604
Expected price volatility	25.34%-28.28%
Expected option life	1-3 years
Risk-free interest rate	0.57%

Refer to Note 27 for the compensation costs of the 2021 RSAs recognized by the Company.

On February 14, 2023, the Company's Board of Directors approved the issuance of RSAs for year 2023 of no more than 6,249 thousand common shares. The grants will be made free of charge. The actual number of shares to be issued will be resolved by the Board of Directors after the RSAs is approved at the shareholders' meeting and by the competent authority.

b. Cash-settled share-based payment arrangements

The cash-settled share-based payment arrangements in each year are as follows:

	<u>2022 Plan</u>	<u>2021 Plan</u>
Resolution Date of the Company's Board of Directors in its meeting	February 14, 2023	February 15, 2022
Issuance of units (in thousands) (Note)	400	236
Grant date	March 1, 2023	March 1, 2022

Note: One unit of the right represents a right to the market value of one the Company's common share when vested.

The vesting conditions and the ratio of units to be vested for key management personnel of the plan are the same as the aforementioned 2021 RSAs.

The fair value of compensation costs for the cash-settled share-based payment was measured by using binominal tree approach and will be measured at each reporting period until settlement. Relevant information is as follows:

	<u>Years Ended December 31, 2022</u>
	<u>2021 Plan</u>
Stock price at measurement date (in dollars)	\$ 451
Expected price volatility	28.80%-32.19%
Expected option life	1-3 years
Risk-free interest rate	1.09%

Refer to Note 27 for the compensation costs of the cash-settled share-based payment recognized by the Company. The liabilities under cash-settled share-based payment arrangement amounted to NT\$30,757 thousand as of the end of reporting period.

27. ADDITIONAL INFORMATION OF EXPENSES BY NATURE

	<u>Years Ended December 31</u>	
	<u>2022</u>	<u>2021</u>
a. Depreciation of property, plant and equipment and right-of-use assets		
Recognized in cost of revenue	\$ 385,647,215	\$ 375,608,062
Recognized in operating expenses	27,939,678	27,176,646
Recognized in other operating income and expenses	<u>8,189</u>	<u>146,549</u>
	<u>\$ 413,595,082</u>	<u>\$ 402,931,257</u>
b. Amortization of intangible assets		
Recognized in cost of revenue	\$ 6,069,729	\$ 5,510,463
Recognized in operating expenses	<u>2,637,232</u>	<u>2,590,267</u>
	<u>\$ 8,706,961</u>	<u>\$ 8,100,730</u>

	Years Ended December 31	
	2022	2021
c. Employee benefits expenses		
Post-employment benefits		
Defined contribution plans	\$ 3,663,757	\$ 3,028,282
Defined benefit plans	<u>208,641</u>	<u>192,485</u>
	<u>3,872,398</u>	<u>3,220,767</u>
Share-based payments		
Equity-settled	266,746	-
Cash-settled	<u>32,704</u>	<u>-</u>
	<u>299,450</u>	<u>-</u>
Other employee benefits	<u>209,410,863</u>	<u>143,894,842</u>
	<u>\$ 213,582,711</u>	<u>\$ 147,115,609</u>
Employee benefits expense summarized by function		
Recognized in cost of revenue	\$ 128,714,551	\$ 90,226,056
Recognized in operating expenses	<u>84,868,160</u>	<u>56,889,553</u>
	<u>\$ 213,582,711</u>	<u>\$ 147,115,609</u>

According to the Company's Articles of Incorporation, the Company shall allocate compensation to directors and profit sharing bonus to employees of the Company not more than 0.3% and not less than 1% of annual profits during the period, respectively.

The Company accrued profit sharing bonus to employees based on a percentage of net income before income tax, profit sharing bonus to employees and compensation to directors during the period; compensation to directors was expensed based on estimated amount payable. If there is a change in the proposed amounts after the annual parent company only financial statements are authorized for issue, the differences are recorded as a change in accounting estimate. Accrued profit sharing bonus to employees is illustrated below:

	Years Ended December 31	
	2022	2021
Profit sharing bonus to employees	<u>\$ 60,702,047</u>	<u>\$ 35,601,449</u>

The Company's profit sharing bonus to employees and compensation to directors for 2022, 2021 and 2020 had been approved by the Board of Directors of the Company, as illustrated below:

	Years Ended December 31		
	2022	2021	2020
Resolution Date of the Company's Board of Directors in its meeting	February 14, 2023	February 15, 2022	February 9, 2021
Profit sharing bonus to employees	<u>\$ 60,702,047</u>	<u>\$ 35,601,449</u>	<u>\$ 34,753,184</u>
Compensation to directors	<u>\$ 690,128</u>	<u>\$ 487,537</u>	<u>\$ 509,753</u>

There is no significant difference between the aforementioned approved amounts and the amounts charged against earnings of 2022, 2021 and 2020, respectively.

The information about the appropriations of the Company's profit sharing bonus to employees and compensation to directors is available at the Market Observation Post System website.

28. CASH FLOW INFORMATION

a. Non-cash transactions

	Years Ended December 31	
	2022	2021
Additions of property, plant and equipment	\$ 956,066,006	\$ 783,332,395
Exchange of assets	(275,564)	(3,256,517)
Changes in payables to contractors and equipment suppliers	(57,334,833)	13,292,746
Transferred to initial carrying amount of hedged items	-	(41,416)
Capitalized interests	<u>(880,807)</u>	<u>-</u>
Payments for acquisition of property, plant and equipment	<u>\$ 897,574,802</u>	<u>\$ 793,327,208</u>
Additions of intangible assets	\$ 7,271,305	\$ 9,278,760
Changes in accrued expenses and other current liabilities	<u>(591,434)</u>	<u>(280,676)</u>
Payments for acquisition of intangible assets	<u>\$ 6,679,871</u>	<u>\$ 8,998,084</u>

b. Reconciliation of liabilities arising from financing activities

	Balance as of January 1, 2022	Financing Cash Flow	Non-cash Changes			Balance as of December 31, 2022
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 114,921,333	\$ (111,959,992)	\$ (2,372,053)	\$ -	\$ (589,288)	\$ -
Bonds payable	312,183,409	60,930,472	6,071,821	-	44,772	379,230,474
Lease liabilities	<u>20,333,476</u>	<u>(2,076,495)</u>	<u>-</u>	<u>11,135,244</u>	<u>231,037</u>	<u>29,623,262</u>
Total	<u>\$ 447,438,218</u>	<u>\$ (53,106,015)</u>	<u>\$ 3,699,768</u>	<u>\$ 11,135,244</u>	<u>\$ (313,479)</u>	<u>\$ 408,853,736</u>

	Balance as of January 1, 2021	Financing Cash Flow	Non-cash Changes			Balance as of December 31, 2021
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 175,659,726	\$ (50,538,933)	\$ (9,670,786)	\$ -	\$ (528,674)	\$ 114,921,333
Bonds payable	173,050,745	139,571,843	(466,391)	-	27,212	312,183,409
Lease liabilities	<u>19,859,208</u>	<u>(1,622,246)</u>	<u>-</u>	<u>1,940,397</u>	<u>156,117</u>	<u>20,333,476</u>
Total	<u>\$ 368,569,679</u>	<u>\$ 87,410,664</u>	<u>\$ (10,137,177)</u>	<u>\$ 1,940,397</u>	<u>\$ (345,345)</u>	<u>\$ 447,438,218</u>

Note: Other changes include discounts on short-term loans, amortization of bonds payable and financial cost of lease liabilities.

29. CAPITAL MANAGEMENT

The Company requires significant amounts of capital to build and expand its production facilities and acquire additional equipment. In consideration of the industry dynamics, the Company manages its capital in a manner to ensure that it has sufficient and necessary financial resources to fund its working capital needs, capital expenditures, research and development activities, dividend payments, debt service requirements and other business requirements associated with its existing operations over the next 12 months.

30. FINANCIAL INSTRUMENTS

a. Categories of financial instruments

	December 31, 2022	December 31, 2021
Financial assets		
FVTPL (Note 1)	\$ 552,255	\$ 145,280
FVTOCI (Note 2)	8,340,347	5,198,309
Amortized cost (Note 3)	<u>903,070,406</u>	<u>586,299,180</u>
	<u>\$ 911,963,008</u>	<u>\$ 591,642,769</u>
Financial liabilities		
FVTPL (Note 4)	\$ 17,468	\$ 636,472
Amortized cost (Note 5)	<u>1,161,623,982</u>	<u>1,026,450,717</u>
	<u>\$1,161,641,450</u>	<u>\$1,027,087,189</u>

Note 1: Financial assets mandatorily measured at FVTPL.

Note 2: Including notes and accounts receivable (net) and equity investments.

Note 3: Including cash and cash equivalents, financial assets at amortized cost, notes and accounts receivable (including related parties), other receivables, refundable deposits, and temporary payments (classified under other current assets and other noncurrent assets).

Note 4: Held for trading.

Note 5: Including short-term loans, accounts payable (including related parties), payables to contractors and equipment suppliers, cash dividends payable, accrued expenses and other current liabilities, bonds payable, guarantee deposits and other noncurrent liabilities.

b. Financial risk management objectives

The Company manages its exposure to foreign currency risk, interest rate risk, equity price risk, credit risk and liquidity risk with the objective to reduce the potentially adverse effects the market uncertainties may have on its financial performance.

The plans for material treasury activities are reviewed by the Audit Committees (rename to Audit and Risk Committee from February 14, 2023) and/or Board of Directors in accordance with procedures required by relevant regulations or internal controls. During the implementation of such plans, the Company must comply with certain treasury procedures that provide guiding principles for overall financial risk management and segregation of duties.

c. Market risk

The Company is exposed to the financial market risks, primarily changes in foreign currency exchange rates, interest rates and equity investment prices. A portion of these risks is hedged.

Foreign currency risk

Substantially the Company's sales is denominated in U.S. dollars and over half of its capital expenditures are denominated in currencies other than NT dollars, primarily in U.S. dollars, Japanese yen and Euros. As a result, any significant fluctuations to its disadvantage in the exchanges rate of NT dollar against such currencies, in particular a weakening of U.S. dollar against NT dollars, would have an adverse impact on

the revenue and operating profit as expressed in NT dollar. The Company uses foreign currency derivative contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT dollar-denominated assets and liabilities and certain forecasted transactions. These hedges reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on the assets and liabilities.

Based on a sensitivity analysis performed on the Company's total monetary assets and liabilities for the years ended December 31, 2022 and 2021, a hypothetical adverse foreign currency exchange rate change of 10% would have decreased its net income by NT\$1,649,664 thousand and NT\$1,196,014 thousand, respectively, after taking into account hedges and offsetting positions.

Interest rate risk

The Company is exposed to interest rate risks primarily in relation to its bank deposits and bank loans. Changes in interest rates affect the interest earned on the Company's bank deposits, as well as the interest paid on its bank loans. Because all of the Company's bonds issued are fixed-rate and measured at amortized cost, changes in interest rates would not affect the future cash flows or the carrying amount.

Other price risk

The Company is exposed to equity price risk arising from financial assets at FVTOCI.

Assuming a hypothetical decrease of 10% in prices of the equity investments at the end of the reporting period for the years ended December 31, 2022 and 2021, the other comprehensive income would have decreased by NT\$89,297 thousand and NT\$87,841 thousand, respectively.

d. Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial losses to the Company. The Company is exposed to credit risks from operating activities, primarily accounts receivable, and from investing activities, primarily deposits, fixed-income investments and other financial instruments with banks. Credit risk is managed separately for business related and financial related exposures. As of the end of the reporting period, the Company's maximum credit risk exposure is equal to the carrying amount of financial assets.

Business related credit risk

The Company's accounts receivable are from its customers worldwide. The majority of the Company's outstanding accounts receivable are not covered by collaterals or guarantees. While the Company has procedures to monitor and manage credit risk exposure on accounts receivable, there is no assurance such procedures will effectively eliminate losses resulting from its credit risk. This risk is heightened during periods when economic conditions worsen.

As of December 31, 2022 and 2021, the Company's ten largest customers accounted for 69% and 67% of accounts receivable, respectively. The Company considers the concentration of credit risk for the remaining accounts receivable not material.

Financial credit risk

The Company mitigates its financial credit risk by selecting counterparties with investment-grade credit ratings and by limiting the exposure to any individual counterparty. The Company regularly monitors and reviews the limit applied to counterparties and adjusts the limit according to market conditions and the credit standing of the counterparties.

The Company assesses the 12-month expected credit loss and lifetime expected credit loss based on the probability of default and loss given default provided by external credit rating agencies. The current credit risk assessment policies are as follows:

Category	Description	Basis for Recognizing Expected Credit Loss	Expected Credit Loss Ratio
Performing	Credit rating is investment grade on valuation date	12 months expected credit loss	0-0.09%
Doubtful	Credit rating is non-investment grade on valuation date	Lifetime expected credit loss-not credit impaired	-
In default	Credit rating is CC or below on valuation date	Lifetime expected credit loss-credit impaired	-
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the Company has no realistic prospect of recovery	Amount is written off	-

For the years ended December 31, 2022, the expected credit loss increased NT\$10,341 thousand. The changes were mainly due to increased investment amount and adjusted investment portfolio.

e. Liquidity risk management

The objective of liquidity risk management is to ensure the Company has sufficient liquidity to fund its business operations over the next 12 months. The Company manages its liquidity risk by maintaining adequate cash and cash equivalents and sufficient cost-efficient funding.

The table below summarizes the maturity profile of the Company's financial liabilities based on contractual undiscounted payments, including principal and interest.

	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
<u>December 31, 2022</u>					
<u>Non-derivative financial liabilities</u>					
Accounts payable (including related parties)	\$ 58,783,586	\$ -	\$ -	\$ -	\$ 58,783,586
Payables to contractors and equipment suppliers	200,046,018	-	-	-	200,046,018
Accrued expenses and other current liabilities	202,361,596	-	-	-	202,361,596
Bonds payable	22,247,420	39,372,048	160,243,071	228,241,509	450,104,048
Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note)	2,356,314	4,358,739	4,163,558	21,795,680	32,674,291
Others	-	166,266,719	10,518,481	783,181	177,568,381
	<u>485,794,934</u>	<u>209,997,506</u>	<u>174,925,110</u>	<u>250,820,370</u>	<u>1,121,537,920</u>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	74,107,091	-	-	-	74,107,091
Inflows	(74,837,641)	-	-	-	(74,837,641)
	<u>(730,550)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(730,550)</u>
	<u>\$ 485,064,384</u>	<u>\$ 209,997,506</u>	<u>\$ 174,925,110</u>	<u>\$ 250,820,370</u>	<u>\$ 1,120,807,370</u>

(Continued)

	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
<u>December 31, 2021</u>					
<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 114,767,034	\$ -	\$ -	\$ -	\$ 114,767,034
Accounts payable (including related parties)	48,892,095	-	-	-	48,892,095
Payables to contractors and equipment suppliers	136,212,285	-	-	-	136,212,285
Accrued expenses and other current liabilities	105,867,008	-	-	-	105,867,008
Bonds payable	7,705,092	31,050,325	87,631,487	248,960,671	375,347,575
Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note)	1,740,990	3,129,411	2,868,048	13,739,223	21,477,672
Others	-	164,991,929	-	-	164,991,929
	<u>415,184,504</u>	<u>199,171,665</u>	<u>90,499,535</u>	<u>262,699,894</u>	<u>967,555,598</u>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	132,106,866	-	-	-	132,106,866
Inflows	<u>(132,001,910)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(132,001,910)</u>
	104,956	-	-	-	104,956
	<u>\$ 415,289,460</u>	<u>\$ 199,171,665</u>	<u>\$ 90,499,535</u>	<u>\$ 262,699,894</u>	<u>\$ 967,660,554</u>
					(Concluded)

Note: Information about the maturity analysis for lease liabilities more than 5 years:

	5-10 Years	10-15 Years	15-20 Years	More Than 20 Years	Total
<u>December 31, 2022</u>					
Lease liabilities	<u>\$ 9,497,599</u>	<u>\$ 7,291,192</u>	<u>\$ 4,222,404</u>	<u>\$ 784,485</u>	<u>\$ 21,795,680</u>
<u>December 31, 2021</u>					
Lease liabilities	<u>\$ 6,665,672</u>	<u>\$ 4,994,134</u>	<u>\$ 1,959,928</u>	<u>\$ 119,489</u>	<u>\$ 13,739,223</u>

f. Fair value of financial instruments

1) Fair value measurements recognized in the parent company only balance sheets

Fair value measurements are grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

2) Fair value of financial instruments that are measured at fair value on a recurring basis

Fair value hierarchy

The following table presents the Company's financial assets and liabilities measured at fair value on a recurring basis:

	December 31, 2022		
	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>			
Mandatorily measured at FVTPL			
Forward exchange contracts	\$ 552,255	\$ -	\$ 552,255
<u>Financial assets at FVTOCI</u>			
Investments in equity instruments			
Non-publicly traded equity investments	\$ -	\$ 1,014,741	\$ 1,014,741
Notes and accounts receivable, net	7,325,606	-	7,325,606
	<u>\$ 7,325,606</u>	<u>\$ 1,014,741</u>	<u>\$ 8,340,347</u>
<u>Financial liabilities at FVTPL</u>			
Held for trading			
Forward exchange contracts	\$ 17,468	\$ -	\$ 17,468
	December 31, 2021		
	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>			
Mandatorily measured at FVTPL			
Forward exchange contracts	\$ 145,280	\$ -	\$ 145,280
<u>Financial assets at FVTOCI</u>			
Investments in equity instruments			
Non-publicly traded equity investments	\$ -	\$ 998,400	\$ 998,400
Notes and accounts receivable, net	4,199,909	-	4,199,909
	<u>\$ 4,199,909</u>	<u>\$ 998,400</u>	<u>\$ 5,198,309</u>
<u>Financial liabilities at FVTPL</u>			
Held for trading			
Forward exchange contracts	\$ 636,472	\$ -	\$ 636,472

Reconciliation of Level 3 fair value measurements of financial assets

The financial assets measured at Level 3 fair value were equity investments classified as financial assets at FVTOCI. Reconciliations for the years ended December 31, 2022 and 2021 were as follows:

	<u>Years Ended December 31</u>	
	<u>2022</u>	<u>2021</u>
Balance, beginning of year	\$ 998,400	\$ 834,830
Recognized in other comprehensive income	18,979	170,127
Disposals and proceeds from return of capital of investments	<u>(2,638)</u>	<u>(6,557)</u>
Balance, end of year	<u>\$ 1,014,741</u>	<u>\$ 998,400</u>

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of financial assets and financial liabilities are determined as follows:

- Forward exchange contracts are measured using forward exchange rates and discount rates derived from quoted market prices.
- The fair value of accounts receivable classified as at FVTOCI is determined by the present value of future cash flows based on the discount rate that reflects the credit risk of counterparties.

Valuation techniques and assumptions used in Level 3 fair value measurement

The fair values of non-publicly traded equity investments are mainly determined by using the asset approach and market approach.

The asset approach takes into account the net asset value measured at the fair value by independent parties.

The market approach is used to arrive at their fair values, for which the recent financing activities of investees, the market transaction prices of the similar companies and market conditions are considered.

3) Fair value of financial instruments that are not measured at fair value

Except as detailed in the following table, the Company considers that the carrying amounts of financial instruments in the parent company only financial statements that are not measured at fair value approximate their fair values.

Fair value hierarchy

The table below sets out the fair value hierarchy for the Company's financial assets and liabilities which are not required to be measured at fair value:

	<u>December 31, 2022</u>	
	<u>Carrying Amount</u>	<u>Level 2 Fair Value</u>
<u>Financial assets</u>		
Financial assets at amortized costs		
Commercial paper	<u>\$ 48,732,476</u>	<u>\$ 48,882,028</u>

(Continued)

	<u>December 31, 2022</u>	
	Carrying Amount	Level 2 Fair Value
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	<u>\$ 379,230,474</u>	<u>\$ 349,956,767</u> (Concluded)

	<u>December 31, 2021</u>	
	Carrying Amount	Level 2 Fair Value
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	<u>\$ 312,183,409</u>	<u>\$ 310,632,379</u>

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair value of the Company's bonds payable is determined by quoted market prices provided by third party pricing services.

The fair value of commercial paper is determined by the present value of future cash flows based on the discounted curves that are derived from the quoted market prices.

31. RELATED PARTY TRANSACTIONS

The significant transactions between the Company and its related parties, other than those disclosed in other notes, are summarized as follows:

a. Related party name and categories

<u>Related Party Name</u>	<u>Related Party Categories</u>
TSMC China	Subsidiaries
TSMC Nanjing	Subsidiaries
TSMC Arizona	Subsidiaries
VisEra Tech	Subsidiaries
TSMC North America	Subsidiaries
TSMC Europe	Subsidiaries
TSMC JDC	Subsidiaries
TSMC 3DIC	Subsidiaries
JASM	Subsidiaries
TSMC Japan	Subsidiaries
TSMC Korea	Subsidiaries
TSMC Design Technology Canada Inc. (TSMC Canada)	Indirect Subsidiaries
TSMC Technology, Inc. (TSMC Technology)	Indirect Subsidiaries
WaferTech, LLC (WaferTech)	Indirect Subsidiaries
GUC	Associates
VIS	Associates
SSMC	Associates
Xintec	Associates

b. Net revenue

		Years Ended December 31	
		2022	2021
<u>Item</u>	<u>Related Party Name/Categories</u>		
Net revenue from sale of goods	TSMC North America	\$ 1,538,849,403	\$ 1,040,985,786
	Associates	11,356,410	5,898,780
	Other subsidiaries	<u>187,169</u>	<u>110,849</u>
		<u>\$ 1,550,392,982</u>	<u>\$ 1,046,995,415</u>
Net revenue from royalties	Subsidiaries	\$ 13	\$ 243
	Associates	<u>266,952</u>	<u>223,196</u>
		<u>\$ 266,965</u>	<u>\$ 223,439</u>

c. Purchases

		Years Ended December 31	
		2022	2021
<u>Related Party Categories</u>			
Subsidiaries		\$ 81,923,311	\$ 56,134,681
Associates		<u>6,422,831</u>	<u>7,569,787</u>
		<u>\$ 88,346,142</u>	<u>\$ 63,704,468</u>

d. Receivables from related parties

		December 31, 2022	December 31, 2021
<u>Item</u>	<u>Related Party Name/Categories</u>		
Receivables from related parties	TSMC North America	\$ 171,738,863	\$ 137,956,681
	Associates	1,300,302	391,647
	Other subsidiaries	<u>5,647</u>	<u>4,046</u>
		<u>\$ 173,044,812</u>	<u>\$ 138,352,374</u>
Other receivables from related parties	TSMC North America	\$ 6,184,798	\$ 5,000,563
	TSMC Nanjing	75,610	59,935
	Other subsidiaries	29,030	105,396
	Associates	<u>68,487</u>	<u>61,531</u>
		<u>\$ 6,357,925</u>	<u>\$ 5,227,425</u>

e. Other noncurrent assets

		December 31, 2022	December 31, 2021
<u>Item</u>	<u>Related Party Name</u>		
Temporary payments	JASM	<u>\$ 6,925,782</u>	<u>\$ -</u>

f. Payables to related parties

		December 31, 2022	December 31, 2021
<u>Item</u>	<u>Related Party Name/Categories</u>		
Payables to related parties	TSMC Nanjing	\$ 4,105,919	\$ 2,761,080
	TSMC China	2,296,083	1,802,314
	Xintec	1,047,374	725,261
	Other subsidiaries	2,006,484	1,687,157
	Other associates	<u>595,184</u>	<u>711,861</u>
		<u>\$ 10,051,044</u>	<u>\$ 7,687,673</u>

g. Accrued expenses and other current liabilities

		December 31, 2022	December 31, 2021
<u>Item</u>	<u>Related Party Name/Categories</u>		
Other payables and other current liabilities	Subsidiaries	\$ 961,365	\$ 1,389,861
	Associates	<u>111,834</u>	<u>726,350</u>
		<u>\$ 1,073,199</u>	<u>\$ 2,116,211</u>
Temporary receipts	TSMC North America	<u>\$ 97,634,360</u>	<u>\$ 20,650,062</u>

h. Other noncurrent liabilities

		December 31, 2022	December 31, 2021
<u>Item</u>	<u>Related Party Name</u>		
Temporary receipts	TSMC North America	<u>\$ 142,132,113</u>	<u>\$ 127,361,560</u>

i. Disposal of property, plant and equipment

		Proceeds	
		Years Ended December 31	
		2022	2021
<u>Related Party Name/Categories</u>			
TSMC Nanjing		\$ 673,945	\$ 102,721
Other subsidiaries		102,099	21,103
Associates		<u>100</u>	<u>-</u>
		<u>\$ 776,144</u>	<u>\$ 123,824</u>
		Gains	
		Years Ended December 31	
		2022	2021
<u>Related Party Name/Categories</u>			
TSMC Nanjing		\$ 302,234	\$ 24,765
Other subsidiaries		50,882	38,931
Associates		<u>100</u>	<u>-</u>
		<u>\$ 353,216</u>	<u>\$ 63,696</u>
		Deferred Gains from Disposal of Property, Plant and Equipment	
		December 31, 2022	December 31, 2021
<u>Related Party Name/Categories</u>			
TSMC Nanjing		\$ 99,272	\$ 50,816
WaferTech		75,440	32,116
Other subsidiaries		<u>36,596</u>	<u>35,667</u>
		<u>\$ 211,308</u>	<u>\$ 118,599</u>

j. Others

		Years Ended December 31	
		2022	2021
<u>Item</u>	<u>Related Party Name/Categories</u>		
Manufacturing expenses	Associates	\$ 5,997,687	\$ 5,445,819
	Subsidiaries	<u>21,662</u>	<u>20,791</u>
		<u>\$ 6,019,349</u>	<u>\$ 5,466,610</u>
Research and development expenses	Subsidiaries	\$ 5,264,358	\$ 3,719,115
	Associates	<u>258,008</u>	<u>252,054</u>
		<u>\$ 5,522,366</u>	<u>\$ 3,971,169</u>

(Continued)

		Years Ended December 31	
		2022	2021
Marketing expenses -	TSMC Europe	\$ 541,200	\$ 465,783
commission	Other subsidiaries	<u>618,880</u>	<u>517,205</u>
		<u>\$ 1,160,080</u>	<u>\$ 982,988</u>
			(Concluded)

The sales prices and payment terms to related parties were not significantly different from those of sales to third parties. For other related party transactions, price and terms were determined in accordance with mutual agreements.

The Company leased factory and office from associates. The lease terms and prices were both determined in accordance with mutual agreements. The rental expenses were paid to associates monthly; the related expenses were both classified under manufacturing expenses.

The Company deferred the disposal gain or loss derived from sales of property, plant and equipment to related parties using equity method, and then recognized such gain or loss over the depreciable lives of the disposed assets.

k. Compensation of key management personnel

The compensation to directors and other key management personnel were as follows:

		Years Ended December 31	
		2022	2021
Short-term employee benefits		\$ 4,221,962	\$ 2,768,725
Post-employment benefits		2,618	2,458
Share-based payments		<u>286,227</u>	<u>-</u>
		<u>\$ 4,510,807</u>	<u>\$ 2,771,183</u>

The compensation to directors and other key management personnel were determined by the Compensation Committee (rename to Compensation and People Development Committee from February 14, 2023) of the Company in accordance with the individual performance and the market trends.

32. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

Significant contingent liabilities and unrecognized commitments of the Company as of the end of the reporting period, excluding those disclosed in other notes, were as follows:

- a. Under a technical cooperation agreement with Industrial Technology Research Institute, the R.O.C. Government or its designee approved by the Company can use up to 35% of the Company's capacity provided the Company's outstanding commitments to its customers are not prejudiced. The term of this agreement is for five years beginning from January 1, 1987 and is automatically renewed for successive periods of five years unless otherwise terminated by either party with one year prior notice. As of the end of reporting period, the R.O.C. Government did not invoke such right.

- b. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company, SSMC, which is an integrated circuit foundry in Singapore. The Company's equity interest in SSMC was 32%. Nevertheless, in September 2006, Philips spun-off its semiconductor subsidiary which was renamed as NXP B.V. Further, the Company and NXP B.V. purchased all the SSMC shares owned by EDB Investments Pte Ltd. pro rata according to the Shareholders Agreement on November 15, 2006. After the purchase, the Company and NXP B.V. currently own approximately 39% and 61% of the SSMC shares, respectively. The Company and NXP B.V. are required, in the aggregate, to purchase at least 70% of SSMC's capacity, but the Company alone is not required to purchase more than 28% of the capacity. If any party defaults on the commitment and the capacity utilization of SSMC falls below a specific percentage of its capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs. There was no default from the aforementioned commitment as of the end of reporting period.
- c. In September 2022, Daedalus Prime LLC ("Daedalus") filed complaints in the U.S. International Trade Commission ("ITC") and the U.S. District Court for the Eastern District of Texas alleging that the Company, TSMC North America, and other companies infringe four U.S. patents. The ITC instituted an investigation in October 2022. The outcome cannot be determined and we cannot make a reliable estimate of the contingent liability at this time.
- d. The Company entered into long-term purchase agreements of materials and supplies and agreements of waste disposal with multiple suppliers. The relative minimum fulfillment quantity and price are specified in the agreements.
- e. The Company entered into a long-term purchase agreement of equipment. The relative fulfillment quantity and price are specified in the agreement.
- f. The Company entered into long-term energy purchase agreements with multiple suppliers. The relative fulfillment period, quantity and price are specified in the agreements.
- g. As of the end of reporting period, the Company provided endorsement guarantees of NT\$2,555,730 thousand to its subsidiary, TSMC North America, in respect of providing endorsement guarantees for office leasing contract.
- h. As of the end of reporting period, the Company provided a NT\$230,347,500 thousand endorsement guarantee for its subsidiary, TSMC Global, in respect of its issuance of US dollar-denominated senior unsecured corporate bonds.
- i. As of the end of reporting period, the Company provided a NT\$369,551,715 thousand endorsement guarantee for its subsidiary, TSMC Arizona, in respect of its issuance of US dollar-denominated senior unsecured corporate bonds and operation needs.
- j. The Company entrusted financial institutions to open performance guarantee mainly for import and export of goods, lease agreement and energy purchase agreement. As of December 31, 2022 and December 31, 2021, the aforementioned guarantee amounted to NT\$7,623,262 thousand and NT\$4,954,798 thousand, respectively.

33. EXCHANGE RATE INFORMATION OF FOREIGN-CURRENCY FINANCIAL ASSETS AND LIABILITIES

The following information was summarized according to the foreign currencies other than the functional currency of the Company. The exchange rates disclosed were used to translate the foreign currencies into the functional currency. The significant financial assets and liabilities denominated in foreign currencies were as follows:

	Foreign Currencies (In Thousands)	Exchange Rate (Note)	Carrying Amount (In Thousands)
<u>December 31, 2022</u>			
<u>Financial assets</u>			
Monetary items			
USD	\$ 13,953,942	30.713	\$ 428,567,422
EUR	7,863	32.838	258,211
JPY	124,526,582	0.2331	29,027,146
<u>Financial liabilities</u>			
Monetary items			
USD	14,450,017	30.713	443,803,373
EUR	2,352,220	32.838	77,242,213
JPY	125,984,842	0.2331	29,367,067
<u>December 31, 2021</u>			
<u>Financial assets</u>			
Monetary items			
USD	11,386,512	27.674	315,110,347
EUR	14,420	31.460	453,666
JPY	10,673,383	0.2414	2,576,555
<u>Financial liabilities</u>			
Monetary items			
USD	11,851,225	27.674	327,970,810
EUR	3,494,588	31.460	109,939,747
JPY	109,729,158	0.2414	26,488,619

Note: Exchange rate represents the number of NT dollar for which one foreign currency could be exchanged.

Please refer to the parent company only statements of comprehensive income for the total of realized and unrealized foreign exchange gain and loss for the years ended December 31, 2022 and 2021, respectively. Since there were varieties of foreign currency transactions of the Company, the Company was unable to disclose foreign exchange gain (loss) towards each foreign currency with significant impact.

34. ADDITIONAL DISCLOSURES

Following are the additional disclosures required by the Securities and Futures Bureau for the Company:

- a. Financings provided: See Table 1 attached;
- b. Endorsement/guarantee provided: See Table 2 attached;
- c. Marketable securities held (excluding investments in subsidiaries and associates): See Table 3 attached;
- d. Marketable securities acquired and disposed of at costs or prices of at least NT\$300 million or 20% of the paid-in capital: See Table 4 attached;
- e. Acquisition of individual real estate properties at costs of at least NT\$300 million or 20% of the paid-in capital: See Table 5 attached;
- f. Disposal of individual real estate properties at prices of at least NT\$300 million or 20% of the paid-in capital: None;
- g. Total purchases from or sales to related parties of at least NT\$100 million or 20% of the paid-in capital: See Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: See Table 7 attached;
- i. Information about the derivative financial instruments transaction: See Notes 7 and 9;
- j. Names, locations, and related information of investees over which the Company exercises significant influence (excluding information on investment in mainland China): See Table 8 attached;
- k. Information on investment in mainland China
 - 1) The name of the investee in mainland China, the main businesses and products, its issued capital, method of investment, information on inflow or outflow of capital, percentage of ownership, income (losses) of the investee, share of profits/losses of investee, ending balance, amount received as dividends from the investee, and the limitation on investee: See Table 9 attached.
 - 2) Significant direct or indirect transactions with the investee, its prices and terms of payment, unrealized gain or loss, and other related information which is helpful to understand the impact of investment in mainland China on financial reports: See Note 31.
- l. Information of major shareholder

List of all shareholders with ownership of 5 percent or greater showing the names and the number of shares and percentage of ownership held by each shareholder: See Table 10 attached.

35. OPERATING SEGMENTS INFORMATION

The Company has provided the operating segments disclosure in the consolidated financial statements.

Taiwan Semiconductor Manufacturing Company Limited and Investees

FINANCINGS PROVIDED

FOR THE YEAR ENDED DECEMBER 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Financing Company	Counterparty	Financial Statement Account	Related Party	Maximum Balance for the Period (Foreign Currencies in Thousands) (Note 2)	Ending Balance (Foreign Currencies in Thousands) (Note 2)	Amount Actually Drawn (Foreign Currencies in Thousands)	Interest Rate	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company (Note 1)	Financing Company's Total Financing Amount Limits (Note 1)
													Item	Value		
1	TSMC China	TSMC Nanjing	Other receivables from related parties	Yes	\$ 74,200,110 (RMB 8,800,000)& (USD 1,150,000)	\$ 74,200,110 (RMB 8,800,000)& (USD 1,150,000)	\$ 45,211,510 (RMB 7,800,000)& (USD 590,000)	0.75%-1.50%	The need for short-term and long-term financing	\$ -	Operating capital	\$ -	\$ -	\$ 87,432,993	\$ 87,432,993	

Note 1: The aggregate amount available for lending to TSMC Nanjing from TSMC China shall not exceed the net worth of TSMC China.

Note 2: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

TABLE 2

Taiwan Semiconductor Manufacturing Company Limited and Investees

ENDORSEMENTS/GUARANTEES PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Endorsee/ Guarantee Provider	Guaranteed Party		Limits on Endorsement/ Guarantee Amount Provided to Each Party (Notes 1 and 2)	Maximum Balance for the Period for Foreign Currencies in Thousands (Note 3)	Ending Balance (Foreign Currencies in Thousands) (Note 3)	Amount Actually Drawn (US\$ in Thousands)	Amount of Endorsement/ Guarantee Collateralized by Properties	Ratio of Accumulated Endorsement/ Guarantee to Net Equity per Latest Financial Statements	Maximum Endorsement/ Guarantee Amount Allowable (Notes 1 and 2)	Guarantee Provided by Parent Company	Guarantee Provided by A Subsidiary	Guarantee Provided to Subsidiaries in Mainland China
		Name	Nature of Relationship										
0	TSMC	TSMC North America TSMC Global	Subsidiary Subsidiary	\$ 736,413,299	\$ 2,555,730 (US\$ 83,213) 230,347,500 (US\$ 7,500,000)	\$ 2,555,730 (US\$ 83,213) 230,347,500 (US\$ 7,500,000)	\$ 2,555,730 (US\$ 83,213) 230,347,500 (US\$ 7,500,000)	-	0.09%	\$ 736,413,299	Yes	No	No
		TSMC Arizona	Subsidiary	736,413,299	369,551,715 (US\$12,032,420)	369,551,715 (US\$12,032,420)	246,699,701 (US\$ 8,032,420)	-	12.55%	736,413,299	Yes	No	No
1	TSMC Japan	TSMC JDC	The same parent company	336,399	307,692 (JPY 1,320,000)	307,692 (JPY 1,320,000)	307,692 (JPY 1,320,000)	-	0.01%	336,399	No	No	No

Note 1: The total amount of the endorsement/guarantee provided by TSMC to TSMC North America, TSMC Global and TSMC Arizona shall not exceed twenty-five percent (25%) of TSMC's net worth.

Note 2: The total amount of the endorsement/guarantee provided by TSMC Japan to TSMC JDC shall not exceed two hundred and fifty percent (250%) of TSMC Japan's net worth.

Note 3: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

Taiwan Semiconductor Manufacturing Company Limited and Investees

MARKETABLE SECURITIES HELD

December 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022			Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	
TSMC	Commercial paper	-	Financial assets at amortized cost	2,950	\$ 29,335,729	N/A	\$ 29,421,735
	Taiwan Power Company	-	"	750	7,458,936	N/A	7,481,537
	CPC Corporation, Taiwan	-	"	450	4,476,301	N/A	4,492,086
	Nan Ya Plastics Corporation	-	"	300	2,985,385	N/A	2,994,951
	Formosa Petrochemical Corporation	-	"	250	2,485,666	N/A	2,494,159
	Formosa Chemicals & Fibre Corporation	-	"	200	1,990,459	N/A	1,997,560
	Formosa Plastics Corporation	-	"	-	-	-	-
	Non-publicly traded equity investments	-	Financial assets at fair value through other comprehensive income	10,500	473,508	7	473,508
	Shin-Etsu Handotai Taiwan Co., Ltd.	-	"	21,230	443,461	10	443,461
	United Industrial Gases Co., Ltd.	-	"	10,442	97,772	6	97,772
Global Investment Holding Inc.	-	"	-	-	1	-	
Crimson Asia Capital	-	"	-	-	-	-	
TSMC Partners	Non-publicly traded equity investments	-	Financial assets at fair value through other comprehensive income	-	US\$ 26,441	6	US\$ 26,441
	Shanghai Walden Venture Capital Enterprise	-	"	-	US\$ 18,454	9	US\$ 18,454
	China Walden Venture Investments II, L.P.	-	"	-	US\$ 13,602	4	US\$ 13,602
	China Walden Venture Investments III, L.P.	-	"	6,942	-	22	-
	Tela Innovations	-	"	6,333	-	9	-
	Movella Inc.	-	"	-	-	-	-
	Corporate bond	-	Financial assets at fair value through other comprehensive income	-	US\$ 83,242	N/A	US\$ 83,242
	Morgan Stanley	-	"	-	US\$ 76,626	N/A	US\$ 76,626
	Bank of America Corporation	-	"	-	US\$ 61,493	N/A	US\$ 61,493
	Citigroup Inc.	-	"	-	US\$ 59,735	N/A	US\$ 59,735
Wells Fargo & Company	-	"	-	US\$ 51,439	N/A	US\$ 51,439	
The Goldman Sachs Group, Inc.	-	"	-	US\$ 50,629	N/A	US\$ 50,629	
JPMorgan Chase & Co.	-	"	-	US\$ 32,949	N/A	US\$ 32,949	
Mitsubishi UFJ Financial Group, Inc.	-	"	-	US\$ 32,402	N/A	US\$ 32,402	
HSBC Holdings plc	-	"	-	US\$ 27,892	N/A	US\$ 27,892	
AbbVie Inc.	-	"	-	US\$ 27,658	N/A	US\$ 27,658	
Sumitomo Mitsui Financial Group, Inc.	-	"	-	US\$ 26,257	N/A	US\$ 26,257	
Banco Santander, S.A.	-	"	-	US\$ 24,408	N/A	US\$ 24,408	
Metropolitan Life Global Funding I	-	"	-	US\$ 23,191	N/A	US\$ 23,191	
Athene Global Funding	-	"	-	US\$ 21,865	N/A	US\$ 21,865	
Oracle Corporation	-	"	-	US\$ 21,423	N/A	US\$ 21,423	
Royal Bank of Canada	-	"	-	US\$ 19,768	N/A	US\$ 19,768	
Principal Life Global Funding II	-	"	-	US\$ 19,510	N/A	US\$ 19,510	
The Toronto-Dominion Bank	-	"	-	US\$ 18,979	N/A	US\$ 18,979	
Equitable Financial Life Global Funding	-	"	-	US\$ 18,931	N/A	US\$ 18,931	
BNP Paribas SA	-	"	-	US\$ 18,931	N/A	US\$ 18,931	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Nordea Bank Abp	-	Financial assets at fair value through other comprehensive income	-	US\$ 18,263	N/A	US\$ 18,263	
	Fédération des caisses Desjardins du Québec	-	"	-	US\$ 18,086	N/A	US\$ 18,086	
	Sumitomo Mitsui Trust Bank, Limited	-	"	-	US\$ 17,158	N/A	US\$ 17,158	
	Guardian Life Global Funding	-	"	-	US\$ 16,412	N/A	US\$ 16,412	
	Mizuho Financial Group, Inc.	-	"	-	US\$ 16,169	N/A	US\$ 16,169	
	Deutsche Bank AG - New York Branch	-	"	-	US\$ 16,038	N/A	US\$ 16,038	
	Hyundai Capital America	-	"	-	US\$ 15,807	N/A	US\$ 15,807	
	Volkswagen Group of America Finance, LLC	-	"	-	US\$ 15,613	N/A	US\$ 15,613	
	Nationwide Building Society	-	"	-	US\$ 15,375	N/A	US\$ 15,375	
	Nat West Markets Plc	-	"	-	US\$ 15,314	N/A	US\$ 15,314	
	Bank of Montreal	-	"	-	US\$ 15,224	N/A	US\$ 15,224	
	Protective Life Global Funding	-	"	-	US\$ 15,045	N/A	US\$ 15,045	
	BPCE SA	-	"	-	US\$ 14,691	N/A	US\$ 14,691	
	Capital One Financial Corporation	-	"	-	US\$ 14,125	N/A	US\$ 14,125	
	ING Groep N.V.	-	"	-	US\$ 14,050	N/A	US\$ 14,050	
	NTT Finance Corporation	-	"	-	US\$ 13,744	N/A	US\$ 13,744	
	Svenska Handelsbanken AB (publ)	-	"	-	US\$ 13,508	N/A	US\$ 13,508	
	Société Générale Société anonyme	-	"	-	US\$ 13,327	N/A	US\$ 13,327	
	The Bank of Nova Scotia	-	"	-	US\$ 12,914	N/A	US\$ 12,914	
	Credit Suisse AG, New York Branch	-	"	-	US\$ 12,688	N/A	US\$ 12,688	
	Apple Inc.	-	"	-	US\$ 12,233	N/A	US\$ 12,233	
	Macquarie Group Limited	-	"	-	US\$ 11,654	N/A	US\$ 11,654	
	Santander UK Group Holdings plc	-	"	-	US\$ 11,628	N/A	US\$ 11,628	
	Credit Agricole SA London Branch	-	"	-	US\$ 11,611	N/A	US\$ 11,611	
	Toyota Motor Credit Corporation	-	"	-	US\$ 11,609	N/A	US\$ 11,609	
	Standard Chartered PLC	-	"	-	US\$ 11,541	N/A	US\$ 11,541	
	UBS Group AG	-	"	-	US\$ 11,473	N/A	US\$ 11,473	
	The Bank of New York Mellon Corporation	-	"	-	US\$ 11,282	N/A	US\$ 11,282	
	Barelays PLC	-	"	-	US\$ 11,263	N/A	US\$ 11,263	
	Fifth Third Bancorp	-	"	-	US\$ 10,917	N/A	US\$ 10,917	
	National Securities Clearing Corporation	-	"	-	US\$ 10,878	N/A	US\$ 10,878	
	Banque Fédérative du Crédit Mutuel Société anonyme	-	"	-	US\$ 10,738	N/A	US\$ 10,738	
	Lloyds Banking Group plc	-	"	-	US\$ 10,533	N/A	US\$ 10,533	
	AT&T Inc.	-	"	-	US\$ 10,528	N/A	US\$ 10,528	
	S&P Global Inc.	-	"	-	US\$ 10,246	N/A	US\$ 10,246	
	Nomura Holdings, Inc.	-	"	-	US\$ 10,195	N/A	US\$ 10,195	
	U.S. Bancorp	-	"	-	US\$ 9,781	N/A	US\$ 9,781	
	Verizon Communications Inc.	-	"	-	US\$ 9,765	N/A	US\$ 9,765	
	Citizens Bank, National Association	-	"	-	US\$ 9,364	N/A	US\$ 9,364	
	Enel Finance International N.V.	-	"	-	US\$ 9,104	N/A	US\$ 9,104	
	Roper Technologies, Inc.	-	"	-	US\$ 9,035	N/A	US\$ 9,035	
	Equifax Inc.	-	"	-	US\$ 8,925	N/A	US\$ 8,925	
	Equinor ASA	-	"	-	US\$ 8,832	N/A	US\$ 8,832	
	Amazon.com, Inc.	-	"	-	US\$ 8,820	N/A	US\$ 8,820	
	Merck & Co., Inc.	-	"	-	US\$ 8,616	N/A	US\$ 8,616	
	Bristol-Myers Squibb Company	-	"	-	US\$ 8,441	N/A	US\$ 8,441	
	GSK Consumer Healthcare Capital US LLC	-	"	-	US\$ 8,314	N/A	US\$ 8,314	
	AIG Global Funding	-	"	-	US\$ 8,209	N/A	US\$ 8,209	
	New York Life Global Funding	-	"	-	US\$ 8,192	N/A	US\$ 8,192	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	American Express Company	-	Financial assets at fair value through other comprehensive income	-	US\$ 8,037	N/A	US\$ 8,037	
	Truist Financial Corporation	-	"	-	US\$ 7,851	N/A	US\$ 7,851	
	International Bank for Reconstruction and Development	-	"	-	US\$ 7,608	N/A	US\$ 7,608	
	KfW	-	"	-	US\$ 7,594	N/A	US\$ 7,594	
	UnitedHealth Group Incorporated	-	"	-	US\$ 7,504	N/A	US\$ 7,504	
	AstraZeneca Finance LLC	-	"	-	US\$ 7,477	N/A	US\$ 7,477	
	Canadian Imperial Bank of Commerce	-	"	-	US\$ 7,443	N/A	US\$ 7,443	
	Inter-American Development Bank	-	"	-	US\$ 7,346	N/A	US\$ 7,346	
	Suncorp-Metway Limited	-	"	-	US\$ 7,315	N/A	US\$ 7,315	
	Great-West Lifeco U.S. Finance 2020, Lp	-	"	-	US\$ 7,287	N/A	US\$ 7,287	
	Lowe's Companies, Inc.	-	"	-	US\$ 7,135	N/A	US\$ 7,135	
	Northwestern Mutual Global Funding	-	"	-	US\$ 6,853	N/A	US\$ 6,853	
	Chevron Corporation	-	"	-	US\$ 6,838	N/A	US\$ 6,838	
	Fidelity National Information Services, Inc.	-	"	-	US\$ 6,619	N/A	US\$ 6,619	
	AstraZeneca PLC	-	"	-	US\$ 6,500	N/A	US\$ 6,500	
	Prudential Funding Corp.	-	"	-	US\$ 6,447	N/A	US\$ 6,447	
	John Deere Capital Corporation	-	"	-	US\$ 6,437	N/A	US\$ 6,437	
	Intuit Inc.	-	"	-	US\$ 6,421	N/A	US\$ 6,421	
	Cargill, Incorporated	-	"	-	US\$ 6,378	N/A	US\$ 6,378	
	Daimler Trucks Finance North America LLC	-	"	-	US\$ 6,367	N/A	US\$ 6,367	
	Roche Holdings, Inc.	-	"	-	US\$ 6,339	N/A	US\$ 6,339	
	The East Ohio Gas Company	-	"	-	US\$ 6,333	N/A	US\$ 6,333	
	Jackson National Life Global Funding	-	"	-	US\$ 6,283	N/A	US\$ 6,283	
	Danske Bank A/S	-	"	-	US\$ 6,149	N/A	US\$ 6,149	
	Ameren Corporation	-	"	-	US\$ 5,960	N/A	US\$ 5,960	
	Huntington Bancshares Incorporated	-	"	-	US\$ 5,865	N/A	US\$ 5,865	
	Discover Bank (New Castle, Delaware)	-	"	-	US\$ 5,864	N/A	US\$ 5,864	
	Exxon Mobil Corporation	-	"	-	US\$ 5,749	N/A	US\$ 5,749	
	Swedbank AB (publ)	-	"	-	US\$ 5,733	N/A	US\$ 5,733	
	Fox Corporation	-	"	-	US\$ 5,630	N/A	US\$ 5,630	
	ANZ New Zealand (Int'l) Limited	-	"	-	US\$ 5,604	N/A	US\$ 5,604	
	Exelon Corporation	-	"	-	US\$ 5,591	N/A	US\$ 5,591	
	Take-Two Interactive Software, Inc.	-	"	-	US\$ 5,576	N/A	US\$ 5,576	
	Macquarie Bank Limited	-	"	-	US\$ 5,541	N/A	US\$ 5,541	
	Seentre Group Trust 1	-	"	-	US\$ 5,525	N/A	US\$ 5,525	
	WEC Energy Group, Inc.	-	"	-	US\$ 5,498	N/A	US\$ 5,498	
	WPP Finance 2010	-	"	-	US\$ 5,459	N/A	US\$ 5,459	
	Huntington National Bank	-	"	-	US\$ 5,415	N/A	US\$ 5,415	
	Intercontinental Exchange, Inc.	-	"	-	US\$ 5,388	N/A	US\$ 5,388	
	UBS AG, London Branch	-	"	-	US\$ 5,387	N/A	US\$ 5,387	
	Pacific Life Global Funding II	-	"	-	US\$ 5,359	N/A	US\$ 5,359	
	Siemens Financieringsmaatschappij N.V.	-	"	-	US\$ 5,302	N/A	US\$ 5,302	
	The Charles Schwab Corporation	-	"	-	US\$ 5,292	N/A	US\$ 5,292	
	Alabama Power Company	-	"	-	US\$ 5,263	N/A	US\$ 5,263	
	Pioneer Natural Resources Company	-	"	-	US\$ 5,254	N/A	US\$ 5,254	
	ASB Bank Limited	-	"	-	US\$ 5,239	N/A	US\$ 5,239	
	Cox Communications, Inc.	-	"	-	US\$ 5,112	N/A	US\$ 5,112	
	Intel Corporation	-	"	-	US\$ 5,109	N/A	US\$ 5,109	
	Nutrien Ltd.	-	"	-	US\$ 5,048	N/A	US\$ 5,048	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Southern California Edison Company	-	Financial assets at fair value through other comprehensive income	-	US\$ 5,017	N/A	US\$ 5,017	
	Fiserv, Inc.	-	"	-	US\$ 4,999	N/A	US\$ 4,999	
	Five Corners Funding Trust	-	"	-	US\$ 4,958	N/A	US\$ 4,958	
	Penske Truck Leasing Co., L.P.	-	"	-	US\$ 4,774	N/A	US\$ 4,774	
	CVS Health Corporation	-	"	-	US\$ 4,750	N/A	US\$ 4,750	
	CGH Inc.	-	"	-	US\$ 4,713	N/A	US\$ 4,713	
	Brookfield Finance Inc.	-	"	-	US\$ 4,601	N/A	US\$ 4,601	
	Thermo Fisher Scientific Inc.	-	"	-	US\$ 4,558	N/A	US\$ 4,558	
	Virginia Electric and Power Company	-	"	-	US\$ 4,468	N/A	US\$ 4,468	
	NextEra Energy Capital Holdings, Inc.	-	"	-	US\$ 4,439	N/A	US\$ 4,439	
	W. P. Carey Inc.	-	"	-	US\$ 4,414	N/A	US\$ 4,414	
	HP Inc.	-	"	-	US\$ 4,388	N/A	US\$ 4,388	
	CenterPoint Energy, Inc.	-	"	-	US\$ 4,342	N/A	US\$ 4,342	
	CNH Industrial Capital LLC	-	"	-	US\$ 4,260	N/A	US\$ 4,260	
	Comcast Corporation	-	"	-	US\$ 4,232	N/A	US\$ 4,232	
	Bank of New Zealand	-	"	-	US\$ 4,231	N/A	US\$ 4,231	
	Eversource Energy	-	"	-	US\$ 4,185	N/A	US\$ 4,185	
	Brighthouse Financial Global Funding	-	"	-	US\$ 4,100	N/A	US\$ 4,100	
	Mercedes-Benz Finance North America LLC	-	"	-	US\$ 4,089	N/A	US\$ 4,089	
	Korea Electric Power Corporation	-	"	-	US\$ 4,037	N/A	US\$ 4,037	
	Florida Power & Light Company	-	"	-	US\$ 4,026	N/A	US\$ 4,026	
	Dollar General Corporation	-	"	-	US\$ 4,005	N/A	US\$ 4,005	
	F&G Global Funding	-	"	-	US\$ 4,003	N/A	US\$ 4,003	
	7-Eleven, Inc.	-	"	-	US\$ 3,981	N/A	US\$ 3,981	
	Element Fleet Management Corp.	-	"	-	US\$ 3,873	N/A	US\$ 3,873	
	CNO Global Funding	-	"	-	US\$ 3,858	N/A	US\$ 3,858	
	Coca-Cola Europacific Partners PLC	-	"	-	US\$ 3,837	N/A	US\$ 3,837	
	AvalonBay Communities, Inc.	-	"	-	US\$ 3,831	N/A	US\$ 3,831	
	European Bank for Reconstruction and Development	-	"	-	US\$ 3,802	N/A	US\$ 3,802	
	Mondelez International, Inc.	-	"	-	US\$ 3,696	N/A	US\$ 3,696	
	B.A.T. International Finance p.l.c.	-	"	-	US\$ 3,619	N/A	US\$ 3,619	
	Appalachian Power Company	-	"	-	US\$ 3,618	N/A	US\$ 3,618	
	Public Storage	-	"	-	US\$ 3,506	N/A	US\$ 3,506	
	V.F. Corporation	-	"	-	US\$ 3,503	N/A	US\$ 3,503	
	Monongahela Power Company	-	"	-	US\$ 3,415	N/A	US\$ 3,415	
	DNB Bank ASA	-	"	-	US\$ 3,407	N/A	US\$ 3,407	
	Ryder System, Inc.	-	"	-	US\$ 3,399	N/A	US\$ 3,399	
	Truist Bank	-	"	-	US\$ 3,397	N/A	US\$ 3,397	
	BorgWarner Inc.	-	"	-	US\$ 3,392	N/A	US\$ 3,392	
	OGX Energy Corp.	-	"	-	US\$ 3,390	N/A	US\$ 3,390	
	Welltower Inc.	-	"	-	US\$ 3,389	N/A	US\$ 3,389	
	HSEC Bank Canada	-	"	-	US\$ 3,351	N/A	US\$ 3,351	
	Kimco Realty Corporation	-	"	-	US\$ 3,348	N/A	US\$ 3,348	
	Diageo Capital plc	-	"	-	US\$ 3,339	N/A	US\$ 3,339	
	Ross Stores, Inc.	-	"	-	US\$ 3,275	N/A	US\$ 3,275	
	Sprint Spectrum Co Llc	-	"	-	US\$ 3,248	N/A	US\$ 3,248	
	SMBC Aviation Capital Finance DAC	-	"	-	US\$ 3,222	N/A	US\$ 3,222	
	U.S. Bancorp.	-	"	-	US\$ 3,205	N/A	US\$ 3,205	
	Pfizer Inc.	-	"	-	US\$ 3,174	N/A	US\$ 3,174	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Highmark Inc.	-	Financial assets at fair value through other comprehensive income	-	US\$ 3,171	N/A	US\$ 3,171	
	Dominion Energy, Inc.	-	"	-	US\$ 3,167	N/A	US\$ 3,167	
	Versk Analytics, Inc.	-	"	-	US\$ 3,163	N/A	US\$ 3,163	
	Realty Income Corporation	-	"	-	US\$ 3,162	N/A	US\$ 3,162	
	ERAC USA Finance LLC	-	"	-	US\$ 3,112	N/A	US\$ 3,112	
	Anheuser-Busch Companies, LLC	-	"	-	US\$ 3,035	N/A	US\$ 3,035	
	Xcel Energy Inc.	-	"	-	US\$ 3,029	N/A	US\$ 3,029	
	Simon Property Group, L.P.	-	"	-	US\$ 3,018	N/A	US\$ 3,018	
	ONE Gas, Inc.	-	"	-	US\$ 3,012	N/A	US\$ 3,012	
	Public Service Enterprise Group Incorporated	-	"	-	US\$ 2,996	N/A	US\$ 2,996	
	The Western Union Company	-	"	-	US\$ 2,983	N/A	US\$ 2,983	
	Gilead Sciences, Inc.	-	"	-	US\$ 2,970	N/A	US\$ 2,970	
	CNA Financial Corporation	-	"	-	US\$ 2,950	N/A	US\$ 2,950	
	MPLX LP	-	"	-	US\$ 2,941	N/A	US\$ 2,941	
	Amos Energy Corporation	-	"	-	US\$ 2,934	N/A	US\$ 2,934	
	Johnson & Johnson	-	"	-	US\$ 2,914	N/A	US\$ 2,914	
	Rio Tinto Finance (USA) Limited	-	"	-	US\$ 2,908	N/A	US\$ 2,908	
	Norcor Electric Delivery Company LLC	-	"	-	US\$ 2,905	N/A	US\$ 2,905	
	Nestlé Holdings, Inc.	-	"	-	US\$ 2,905	N/A	US\$ 2,905	
	Air Lease Corporation	-	"	-	US\$ 2,895	N/A	US\$ 2,895	
	Avangrid, Inc.	-	"	-	US\$ 2,861	N/A	US\$ 2,861	
	Southern California Gas Company	-	"	-	US\$ 2,848	N/A	US\$ 2,848	
	Parker-Hannifin Corporation	-	"	-	US\$ 2,768	N/A	US\$ 2,768	
	TORONTO-DOMINION BANK/THE	-	"	-	US\$ 2,768	N/A	US\$ 2,768	
	Coöperatieve Rabobank U.A.	-	"	-	US\$ 2,767	N/A	US\$ 2,767	
	Novartis Capital Corporation	-	"	-	US\$ 2,734	N/A	US\$ 2,734	
	Baxalta Incorporated	-	"	-	US\$ 2,728	N/A	US\$ 2,728	
	PPL Electric Utilities Corporation	-	"	-	US\$ 2,718	N/A	US\$ 2,718	
	Amazon.com, Inc	-	"	-	US\$ 2,691	N/A	US\$ 2,691	
	Ameriprise Financial, Inc.	-	"	-	US\$ 2,677	N/A	US\$ 2,677	
	B.A.T Capital Corporation	-	"	-	US\$ 2,671	N/A	US\$ 2,671	
	Hewlett Packard Enterprise Company	-	"	-	US\$ 2,635	N/A	US\$ 2,635	
	Venas Realty, Limited Partnership	-	"	-	US\$ 2,600	N/A	US\$ 2,600	
	Eastern Energy Gas Holdings, LLC	-	"	-	US\$ 2,598	N/A	US\$ 2,598	
	Chevron Phillips Chemical Company LLC	-	"	-	US\$ 2,579	N/A	US\$ 2,579	
	Mondelez International Holdings Netherlands B.V.	-	"	-	US\$ 2,577	N/A	US\$ 2,577	
	Masco Corporation	-	"	-	US\$ 2,519	N/A	US\$ 2,519	
	GA Global Funding Trust	-	"	-	US\$ 2,484	N/A	US\$ 2,484	
	Baxter International Inc.	-	"	-	US\$ 2,469	N/A	US\$ 2,469	
	NBN Co Limited	-	"	-	US\$ 2,461	N/A	US\$ 2,461	
	M&T Bank Corporation	-	"	-	US\$ 2,459	N/A	US\$ 2,459	
	Air Products and Chemicals, Inc.	-	"	-	US\$ 2,447	N/A	US\$ 2,447	
	International Business Machines Corporation	-	"	-	US\$ 2,445	N/A	US\$ 2,445	
	Nuveen Finance, LLC	-	"	-	US\$ 2,437	N/A	US\$ 2,437	
	Cigna Corporation	-	"	-	US\$ 2,426	N/A	US\$ 2,426	
	The PNC Financial Services Group, Inc.	-	"	-	US\$ 2,424	N/A	US\$ 2,424	
	Santander UK plc	-	"	-	US\$ 2,417	N/A	US\$ 2,417	
	Pinnacle West Capital Corporation	-	"	-	US\$ 2,397	N/A	US\$ 2,397	
	Bayer US Finance II LLC	-	"	-	US\$ 2,374	N/A	US\$ 2,374	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	AutoZone, Inc.	-	Financial assets at fair value through other comprehensive income	-	US\$ 2,373	N/A	US\$ 2,373	
	CRH America, Inc.	-	"	-	US\$ 2,371	N/A	US\$ 2,371	
	Phillips 66	-	"	-	US\$ 2,352	N/A	US\$ 2,352	
	American Electric Power Company, Inc.	-	"	-	US\$ 2,343	N/A	US\$ 2,343	
	Workday, Inc.	-	"	-	US\$ 2,333	N/A	US\$ 2,333	
	CMS Energy Corporation	-	"	-	US\$ 2,324	N/A	US\$ 2,324	
	Magellan Midstream Partners, L.P.	-	"	-	US\$ 2,299	N/A	US\$ 2,299	
	Georgia Power Company	-	"	-	US\$ 2,281	N/A	US\$ 2,281	
	Texas Instruments Incorporated	-	"	-	US\$ 2,279	N/A	US\$ 2,279	
	Chevron U.S.A. Inc.	-	"	-	US\$ 2,262	N/A	US\$ 2,262	
	USAA Capital Corp.	-	"	-	US\$ 2,242	N/A	US\$ 2,242	
	Reynolds American Inc.	-	"	-	US\$ 2,228	N/A	US\$ 2,228	
	BOC Aviation Limited	-	"	-	US\$ 2,223	N/A	US\$ 2,223	
	O'Reilly Automotive, Inc.	-	"	-	US\$ 2,223	N/A	US\$ 2,223	
	RGH Global Funding	-	"	-	US\$ 2,216	N/A	US\$ 2,216	
	Yara International ASA	-	"	-	US\$ 2,215	N/A	US\$ 2,215	
	National Australia Bank - New York Branch	-	"	-	US\$ 2,200	N/A	US\$ 2,200	
	NiSource Inc.	-	"	-	US\$ 2,178	N/A	US\$ 2,178	
	Berkshire Hathaway Inc.	-	"	-	US\$ 2,161	N/A	US\$ 2,161	
	Empower Finance 2020, LP	-	"	-	US\$ 2,129	N/A	US\$ 2,129	
	Union Pacific Corporation	-	"	-	US\$ 2,082	N/A	US\$ 2,082	
	Health Care Service Corporation, a Mutual Legal Reserve Company	-	"	-	US\$ 2,065	N/A	US\$ 2,065	
	Georgia-Pacific LLC	-	"	-	US\$ 2,028	N/A	US\$ 2,028	
	General Electric Company	-	"	-	US\$ 1,991	N/A	US\$ 1,991	
	The Sherwin-Williams Company	-	"	-	US\$ 1,967	N/A	US\$ 1,967	
	Mead Johnson Nutrition Company	-	"	-	US\$ 1,961	N/A	US\$ 1,961	
	Magna International Inc.	-	"	-	US\$ 1,956	N/A	US\$ 1,956	
	Reliance Standard Life Global Funding II	-	"	-	US\$ 1,948	N/A	US\$ 1,948	
	Public Service Electric and Gas Company	-	"	-	US\$ 1,948	N/A	US\$ 1,948	
	Tucson Electric Power Company	-	"	-	US\$ 1,918	N/A	US\$ 1,918	
	Gulf Power Company	-	"	-	US\$ 1,884	N/A	US\$ 1,884	
	National Rural Utilities Cooperative Finance Corporation	-	"	-	US\$ 1,881	N/A	US\$ 1,881	
	Duke Energy Corporation	-	"	-	US\$ 1,871	N/A	US\$ 1,871	
	Olympus Corporation	-	"	-	US\$ 1,860	N/A	US\$ 1,860	
	Otis Worldwide Corporation	-	"	-	US\$ 1,859	N/A	US\$ 1,859	
	Kinder Morgan, Inc.	-	"	-	US\$ 1,787	N/A	US\$ 1,787	
	Shinhan Financial Group Co., Ltd.	-	"	-	US\$ 1,785	N/A	US\$ 1,785	
	NBK SPC Limited	-	"	-	US\$ 1,754	N/A	US\$ 1,754	
	Mitsubishi Corporation	-	"	-	US\$ 1,752	N/A	US\$ 1,752	
	Sydney Airport Finance Company Pty Ltd.	-	"	-	US\$ 1,733	N/A	US\$ 1,733	
	Caterpillar Financial Services Corporation	-	"	-	US\$ 1,726	N/A	US\$ 1,726	
	Kentucky Utilities Company	-	"	-	US\$ 1,717	N/A	US\$ 1,717	
	Wipro IT Services LLC	-	"	-	US\$ 1,674	N/A	US\$ 1,674	
	Enbridge Inc.	-	"	-	US\$ 1,672	N/A	US\$ 1,672	
	Infor, Inc.	-	"	-	US\$ 1,670	N/A	US\$ 1,670	
	Evergy Kansas Central, Inc.	-	"	-	US\$ 1,658	N/A	US\$ 1,658	
	DTE Energy Company	-	"	-	US\$ 1,647	N/A	US\$ 1,647	
	Tyson Foods, Inc.	-	"	-	US\$ 1,624	N/A	US\$ 1,624	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Quest Diagnostics Incorporated	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,601	N/A	US\$ 1,601	
	Gulfstream Natural Gas System, L.L.C.	-	"	-	US\$ 1,595	N/A	US\$ 1,595	
	NatWest Group plc	-	"	-	US\$ 1,594	N/A	US\$ 1,594	
	Burlington Northern Santa Fe, LLC	-	"	-	US\$ 1,591	N/A	US\$ 1,591	
	Berkshire Hathaway Energy Company	-	"	-	US\$ 1,587	N/A	US\$ 1,587	
	Walmart Inc.	-	"	-	US\$ 1,583	N/A	US\$ 1,583	
	University of California	-	"	-	US\$ 1,578	N/A	US\$ 1,578	
	CSL Finance plc	-	"	-	US\$ 1,577	N/A	US\$ 1,577	
	Raytheon Technologies Corporation	-	"	-	US\$ 1,576	N/A	US\$ 1,576	
	AIA Group Limited	-	"	-	US\$ 1,554	N/A	US\$ 1,554	
	Midwest Connector Capital Company LLC	-	"	-	US\$ 1,551	N/A	US\$ 1,551	
	eBay Inc.	-	"	-	US\$ 1,532	N/A	US\$ 1,532	
	UBS AG (LONDON BRANCH)	-	"	-	US\$ 1,522	N/A	US\$ 1,522	
	Emerson Electric Co.	-	"	-	US\$ 1,508	N/A	US\$ 1,508	
	MetLife, Inc.	-	"	-	US\$ 1,507	N/A	US\$ 1,507	
	Westpac Banking Corporation	-	"	-	US\$ 1,503	N/A	US\$ 1,503	
	Glencore Funding LLC	-	"	-	US\$ 1,493	N/A	US\$ 1,493	
	APA Infrastructure Limited	-	"	-	US\$ 1,483	N/A	US\$ 1,483	
	Brookfield Finance LLC	-	"	-	US\$ 1,473	N/A	US\$ 1,473	
	CK Hutchison International (19) Limited	-	"	-	US\$ 1,465	N/A	US\$ 1,465	
	Ancor Flexibles North America Inc.	-	"	-	US\$ 1,461	N/A	US\$ 1,461	
	Microchip Technology Incorporated	-	"	-	US\$ 1,458	N/A	US\$ 1,458	
	Commonwealth Bank of Australia	-	"	-	US\$ 1,452	N/A	US\$ 1,452	
	UBS Group Funding (Jersey) Ltd.	-	"	-	US\$ 1,443	N/A	US\$ 1,443	
	Marsh & McLennan Companies, Inc.	-	"	-	US\$ 1,427	N/A	US\$ 1,427	
	The Southern Company	-	"	-	US\$ 1,423	N/A	US\$ 1,423	
	NSTAR Electric Company	-	"	-	US\$ 1,420	N/A	US\$ 1,420	
	Duke Energy Florida, LLC	-	"	-	US\$ 1,419	N/A	US\$ 1,419	
	Marathon Petroleum Corporation	-	"	-	US\$ 1,411	N/A	US\$ 1,411	
	Essex Portfolio, L.P.	-	"	-	US\$ 1,409	N/A	US\$ 1,409	
	Alimentation Couche-Tard Inc.	-	"	-	US\$ 1,389	N/A	US\$ 1,389	
	ITC Holdings Corp.	-	"	-	US\$ 1,353	N/A	US\$ 1,353	
	Alliant Energy Finance, LLC	-	"	-	US\$ 1,321	N/A	US\$ 1,321	
	Eastern Gas Transmission and Storage, Inc.	-	"	-	US\$ 1,299	N/A	US\$ 1,299	
	NetApp, Inc.	-	"	-	US\$ 1,265	N/A	US\$ 1,265	
	Amphenol Corporation	-	"	-	US\$ 1,256	N/A	US\$ 1,256	
	PACCAR Financial Corp.	-	"	-	US\$ 1,227	N/A	US\$ 1,227	
	State Of Tennessee	-	"	-	US\$ 1,225	N/A	US\$ 1,225	
	Met Tower Global Funding	-	"	-	US\$ 1,223	N/A	US\$ 1,223	
	Elevance Health Inc.	-	"	-	US\$ 1,215	N/A	US\$ 1,215	
	Andrew W. Mellon Foundation, The	-	"	-	US\$ 1,208	N/A	US\$ 1,208	
	American Honda Finance Corporation	-	"	-	US\$ 1,174	N/A	US\$ 1,174	
	Corebridge Financial, Inc.	-	"	-	US\$ 1,167	N/A	US\$ 1,167	
	Banco Bilbao Vizcaya Argentaria, S.A.	-	"	-	US\$ 1,162	N/A	US\$ 1,162	
	The Curators of the University of Missouri	-	"	-	US\$ 1,080	N/A	US\$ 1,080	
	Ferguson Finance PLC	-	"	-	US\$ 1,077	N/A	US\$ 1,077	
	Nucor Corporation	-	"	-	US\$ 1,067	N/A	US\$ 1,067	
	Baker Hughes Holdings LLC	-	"	-	US\$ 1,038	N/A	US\$ 1,038	
	State Street Corporation	-	"	-	US\$ 1,035	N/A	US\$ 1,035	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Enterprise Products Operating LLC	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,028	N/A	US\$ 1,028	
	IBERDROLA INTL BV	-	"	-	US\$ 1,015	N/A	US\$ 1,015	
	The Cleveland Electric Illuminating Company	-	"	-	US\$ 1,005	N/A	US\$ 1,005	
	Baltimore Gas and Electric Company	-	"	-	US\$ 993	N/A	US\$ 993	
	Sinopec Group Overseas Development (2014) Ltd.	-	"	-	US\$ 993	N/A	US\$ 993	
	Entergy Mississippi, LLC	-	"	-	US\$ 989	N/A	US\$ 989	
	Foxconn (Far East) Limited	-	"	-	US\$ 987	N/A	US\$ 987	
	MassMutual Global Funding II	-	"	-	US\$ 987	N/A	US\$ 987	
	BBVA México, S.A., Institución de Banca Múltiple, Grupo Financiero BBVA México	-	"	-	US\$ 985	N/A	US\$ 985	
	Denver City & County Housing Authority	-	"	-	US\$ 973	N/A	US\$ 973	
	Pricoa Global Funding I	-	"	-	US\$ 963	N/A	US\$ 963	
	Kansas City Southern	-	"	-	US\$ 940	N/A	US\$ 940	
	Sunbury Holdings Limited	-	"	-	US\$ 939	N/A	US\$ 939	
	Shire Acquisitions Investments Ireland Designated Activity Company	-	"	-	US\$ 919	N/A	US\$ 919	
	Unilever Capital Corporation	-	"	-	US\$ 873	N/A	US\$ 873	
	KeyBank National Association	-	"	-	US\$ 864	N/A	US\$ 864	
	QNB Finance Ltd.	-	"	-	US\$ 859	N/A	US\$ 859	
	AmerisourceBergen Corporation	-	"	-	US\$ 834	N/A	US\$ 834	
	Hormel Foods Corporation	-	"	-	US\$ 820	N/A	US\$ 820	
	BMW US Capital, LLC	-	"	-	US\$ 797	N/A	US\$ 797	
	Palm Beach County, Florida	-	"	-	US\$ 795	N/A	US\$ 795	
	Sinopec Capital (2013) Ltd.	-	"	-	US\$ 795	N/A	US\$ 795	
	BHP Billiton Finance (USA) Limited	-	"	-	US\$ 795	N/A	US\$ 795	
	TransCanada Pipelines Limited	-	"	-	US\$ 787	N/A	US\$ 787	
	Oregon Health & Science University	-	"	-	US\$ 772	N/A	US\$ 772	
	Tencent Holdings Limited	-	"	-	US\$ 749	N/A	US\$ 749	
	Niagara Mohawk Power Corporation	-	"	-	US\$ 745	N/A	US\$ 745	
	CubeSmart, L.P.	-	"	-	US\$ 735	N/A	US\$ 735	
	The Walt Disney Company	-	"	-	US\$ 732	N/A	US\$ 732	
	Southern Power Company	-	"	-	US\$ 718	N/A	US\$ 718	
	Visa Inc.	-	"	-	US\$ 717	N/A	US\$ 717	
	Canadian Natural Resources Limited	-	"	-	US\$ 700	N/A	US\$ 700	
	Sky Limited	-	"	-	US\$ 684	N/A	US\$ 684	
	Hyundai Capital Services, Inc.	-	"	-	US\$ 652	N/A	US\$ 652	
	State Of Washington	-	"	-	US\$ 645	N/A	US\$ 645	
	Abbott Laboratories	-	"	-	US\$ 643	N/A	US\$ 643	
	Sodexo, Inc.	-	"	-	US\$ 640	N/A	US\$ 640	
	Norsk Hydro ASA	-	"	-	US\$ 639	N/A	US\$ 639	
	Stryker Corporation	-	"	-	US\$ 635	N/A	US\$ 635	
	Automatic Data Processing, Inc.	-	"	-	US\$ 626	N/A	US\$ 626	
	Bell Canada, Inc.	-	"	-	US\$ 617	N/A	US\$ 617	
	Keurig Dr Pepper Inc.	-	"	-	US\$ 594	N/A	US\$ 594	
	QUALCOMM Incorporated	-	"	-	US\$ 592	N/A	US\$ 592	
	Republic Services, Inc.	-	"	-	US\$ 578	N/A	US\$ 578	
	Florida Hurricane Catastrophe Fund Finance Corporation	-	"	-	US\$ 572	N/A	US\$ 572	
	Lincoln National Corporation	-	"	-	US\$ 571	N/A	US\$ 571	
	Port of Morrow	-	"	-	US\$ 565	N/A	US\$ 565	
	American Water Capital Corp.	-	"	-	US\$ 558	N/A	US\$ 558	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Fifth Third Bank, National Association	-	Financial assets at fair value through other comprehensive income	-	US\$ 549	N/A	US\$ 549	
	Duke Energy Progress, LLC	-	"	-	US\$ 544	N/A	US\$ 544	
	Shell International Finance B.V.	-	"	-	US\$ 524	N/A	US\$ 524	
	American International Group, Inc.	-	"	-	US\$ 518	N/A	US\$ 518	
	Inresa Smpaolo S.p.A.	-	"	-	US\$ 510	N/A	US\$ 510	
	Arizona Public Service Company	-	"	-	US\$ 501	N/A	US\$ 501	
	ConocoPhillips Company	-	"	-	US\$ 499	N/A	US\$ 499	
	State of Hawaii	-	"	-	US\$ 498	N/A	US\$ 498	
	United Parcel Service, Inc.	-	"	-	US\$ 493	N/A	US\$ 493	
	Skandinaviska Enskilda Banken AB (publ)	-	"	-	US\$ 491	N/A	US\$ 491	
	Gsk Consumer Healthcare Capital Uk Plc	-	"	-	US\$ 476	N/A	US\$ 476	
	Trane Technologies Luxembourg Finance S.A.	-	"	-	US\$ 472	N/A	US\$ 472	
	Genuine Parts Company	-	"	-	US\$ 467	N/A	US\$ 467	
	Altria Group, Inc.	-	"	-	US\$ 466	N/A	US\$ 466	
	McCormick & Company, Incorporated	-	"	-	US\$ 466	N/A	US\$ 466	
	Ecolab Inc.	-	"	-	US\$ 465	N/A	US\$ 465	
	DENSO Corporation	-	"	-	US\$ 435	N/A	US\$ 435	
	Brazos Higher Education Authority Inc	-	"	-	US\$ 429	N/A	US\$ 429	
	PayPal Holdings, Inc.	-	"	-	US\$ 407	N/A	US\$ 407	
	The Home Depot, Inc.	-	"	-	US\$ 406	N/A	US\$ 406	
	Target Corporation	-	"	-	US\$ 404	N/A	US\$ 404	
	National Australia Bank Limited	-	"	-	US\$ 397	N/A	US\$ 397	
	Aetna Inc.	-	"	-	US\$ 396	N/A	US\$ 396	
	Boston Properties Limited Partnership	-	"	-	US\$ 394	N/A	US\$ 394	
	University of Massachusetts Building Authority	-	"	-	US\$ 387	N/A	US\$ 387	
	Comerica Bank	-	"	-	US\$ 384	N/A	US\$ 384	
	Energy Corporation	-	"	-	US\$ 379	N/A	US\$ 379	
	Allac Incorporated	-	"	-	US\$ 377	N/A	US\$ 377	
	Banco del Estado de Chile	-	"	-	US\$ 377	N/A	US\$ 377	
	McKesson Corporation	-	"	-	US\$ 374	N/A	US\$ 374	
	Sierra Pacific Power Company	-	"	-	US\$ 372	N/A	US\$ 372	
	Honeywell International Inc.	-	"	-	US\$ 370	N/A	US\$ 370	
	NIKE, Inc.	-	"	-	US\$ 359	N/A	US\$ 359	
	PepsiCo, Inc.	-	"	-	US\$ 357	N/A	US\$ 357	
	First Republic Bank	-	"	-	US\$ 349	N/A	US\$ 349	
	The Norinchukin Bank	-	"	-	US\$ 349	N/A	US\$ 349	
	Principal Financial Group, Inc.	-	"	-	US\$ 348	N/A	US\$ 348	
	Rabobank Nederland - New York Branch	-	"	-	US\$ 334	N/A	US\$ 334	
	Amgen Inc.	-	"	-	US\$ 310	N/A	US\$ 310	
	Philip Morris International Inc.	-	"	-	US\$ 297	N/A	US\$ 297	
	Mid-America Apartments, L.P.	-	"	-	US\$ 295	N/A	US\$ 295	
	The Allstate Corporation	-	"	-	US\$ 293	N/A	US\$ 293	
	Alabama State Federal Aid Highway Finance Authority	-	"	-	US\$ 292	N/A	US\$ 292	
	TotalEnergies Capital International	-	"	-	US\$ 287	N/A	US\$ 287	
	BOC Aviation (USA) Corporation	-	"	-	US\$ 285	N/A	US\$ 285	
	Aptiv PLC	-	"	-	US\$ 282	N/A	US\$ 282	
	Salesforce, Inc.	-	"	-	US\$ 282	N/A	US\$ 282	
	Barclays Bank PLC	-	"	-	US\$ 270	N/A	US\$ 270	
	Johnson Controls International plc	-	"	-	US\$ 269	N/A	US\$ 269	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	QatarEnergy	-	Financial assets at fair value through other comprehensive income	-	US\$ 266	N/A	US\$ 266	
	Sales Tax Securitization Corporation Of Chicago	-	"	-	US\$ 250	N/A	US\$ 250	
	Equitable Holdings, Inc.	-	"	-	US\$ 243	N/A	US\$ 243	
	Starbucks Corporation	-	"	-	US\$ 237	N/A	US\$ 237	
	E. I. du Pont de Nemours and Company	-	"	-	US\$ 227	N/A	US\$ 227	
	Waste Management, Inc.	-	"	-	US\$ 224	N/A	US\$ 224	
	Energy Louisiana, LLC	-	"	-	US\$ 218	N/A	US\$ 218	
	Children's Hospital Of Orange County	-	"	-	US\$ 214	N/A	US\$ 214	
	The Pennsylvania State University	-	"	-	US\$ 206	N/A	US\$ 206	
	Martin Marietta Materials, Inc.	-	"	-	US\$ 205	N/A	US\$ 205	
	Riverside County Infrastructure Financing Authority	-	"	-	US\$ 198	N/A	US\$ 198	
	Deere & Company	-	"	-	US\$ 192	N/A	US\$ 192	
	Saudi Arabian Oil Company	-	"	-	US\$ 191	N/A	US\$ 191	
	Los Angeles Department of Water and Power, California	-	"	-	US\$ 187	N/A	US\$ 187	
	NongHyup Bank	-	"	-	US\$ 175	N/A	US\$ 175	
	Hoover Alabama Board Of Education	-	"	-	US\$ 154	N/A	US\$ 154	
	Dormitory Authority of the State of New York	-	"	-	US\$ 152	N/A	US\$ 152	
	Oregon Education Districts	-	"	-	US\$ 96	N/A	US\$ 96	
	Electricité de France S.A.	-	"	-	US\$ 85	N/A	US\$ 85	
	Beth Israel Deaconess Medical Center, Inc.	-	"	-	US\$ 76	N/A	US\$ 76	
	Pima County, Arizona	-	"	-	US\$ 61	N/A	US\$ 61	
	Aon Corporation	-	"	-	US\$ 51	N/A	US\$ 51	
	Huntington Beach California	-	"	-	US\$ 49	N/A	US\$ 49	
	Nueces County	-	"	-	US\$ 24	N/A	US\$ 24	
	The Goldman Sachs Group, Inc.	-	Financial assets at amortized cost	-	US\$ 440,655	N/A	US\$ 436,003	
	Citigroup Global Markets Inc.	-	"	-	US\$ 349,886	N/A	US\$ 347,251	
	Bank of America Corporation	-	"	-	US\$ 324,757	N/A	US\$ 323,371	
	JPMorgan Chase & Co.	-	"	-	US\$ 280,213	N/A	US\$ 278,222	
	Wells Fargo & Company	-	"	-	US\$ 274,713	N/A	US\$ 273,120	
	Citigroup Inc.	-	"	-	US\$ 174,540	N/A	US\$ 174,301	
	Citigroup Global Markets Holdings Inc.	-	"	-	US\$ 149,951	N/A	US\$ 146,964	
	Goldman Sachs Finance Corp International Ltd.	-	"	-	US\$ 149,870	N/A	US\$ 146,872	
	Morgan Stanley	-	"	-	US\$ 60,207	N/A	US\$ 60,267	
	Jpmorgan LLC	-	"	-	US\$ 49,984	N/A	US\$ 49,077	
	Banco Bilbao Vizcaya Argentaria, S.A.	-	"	-	US\$ 10,534	N/A	US\$ 10,440	
	Hyundai Capital Services, Inc.	-	"	-	US\$ 9,278	N/A	US\$ 9,068	
	Great-West Lifeco U.S. Finance 2020, Lp	-	"	-	US\$ 9,233	N/A	US\$ 8,994	
	Nomura Holdings, Inc.	-	"	-	US\$ 9,197	N/A	US\$ 9,009	
	Fédération des caisses Desjardins du Québec	-	"	-	US\$ 9,165	N/A	US\$ 8,997	
	UBS Group AG	-	"	-	US\$ 9,104	N/A	US\$ 9,061	
	Sumitomo Mitsui Trust Bank, Limited	-	"	-	US\$ 9,057	N/A	US\$ 8,910	
	Deutsche Bank AG - New York Branch	-	"	-	US\$ 9,023	N/A	US\$ 8,923	
	Lloyds Banking Group plc	-	"	-	US\$ 8,972	N/A	US\$ 8,891	
	Nat West Markets Plc	-	"	-	US\$ 8,956	N/A	US\$ 8,834	
	Athene Global Funding	-	"	-	US\$ 8,915	N/A	US\$ 8,733	
	NongHyup Bank	-	"	-	US\$ 8,545	N/A	US\$ 8,431	
	BPCE SA	-	"	-	US\$ 8,431	N/A	US\$ 8,243	
	Banco Santander, S.A.	-	"	-	US\$ 8,307	N/A	US\$ 8,223	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	MRCO 2019-PkC Mortgage Trust	-	Financial assets at fair value through other comprehensive income	-	US\$ 4,306	N/A	US\$ 4,306	
	Bank 2017-BNK9	-	"	-	US\$ 4,245	N/A	US\$ 4,245	
	CitiGroup Commercial Mortgage Trust 2014-GC21	-	"	-	US\$ 4,127	N/A	US\$ 4,127	
	Bank 2017 - BNK7	-	"	-	US\$ 3,967	N/A	US\$ 3,967	
	Bank 2019-Bnk17	-	"	-	US\$ 3,904	N/A	US\$ 3,904	
	JPMCC 2017-JP7	-	"	-	US\$ 3,849	N/A	US\$ 3,849	
	BANK 2017-BNK5	-	"	-	US\$ 3,458	N/A	US\$ 3,458	
	Msbam 2016-C29	-	"	-	US\$ 3,433	N/A	US\$ 3,433	
	Bank 2019-Bnk22	-	"	-	US\$ 3,270	N/A	US\$ 3,270	
	CitiGroup Commercial Mortgage Trust 2019-Ge43	-	"	-	US\$ 3,162	N/A	US\$ 3,162	
	Commerce 2015-CCRE24 Mortgage Trust	-	"	-	US\$ 3,030	N/A	US\$ 3,030	
	Msbam 2016-C31	-	"	-	US\$ 2,983	N/A	US\$ 2,983	
	WFRBS Commercial Mortgage Trust 2014-C25	-	"	-	US\$ 2,882	N/A	US\$ 2,882	
	Ford Credit Auto Owner Trust 2022-B	-	"	-	US\$ 2,850	N/A	US\$ 2,850	
	Benchmark 2019-B15 Mortgage Trust	-	"	-	US\$ 2,790	N/A	US\$ 2,790	
	Sreit Commercial Mortgage Trust 2021-Mfp	-	"	-	US\$ 2,789	N/A	US\$ 2,789	
	GS Mortgage Securities Corporation Trust 2018-R1VR	-	"	-	US\$ 2,787	N/A	US\$ 2,787	
	JPMDB 2017-C7	-	"	-	US\$ 2,622	N/A	US\$ 2,622	
	GS Mortgage Securities Trust 2015-GC32	-	"	-	US\$ 2,600	N/A	US\$ 2,600	
	Benchmark 2018-B3 Commercial Mortgage Trust	-	"	-	US\$ 2,473	N/A	US\$ 2,473	
	Ford Credit Auto Owner Trust 2020-Rev1	-	"	-	US\$ 2,343	N/A	US\$ 2,343	
	GS Mortgage Securities Trust 2013-GCJ12	-	"	-	US\$ 2,313	N/A	US\$ 2,313	
	Mhc Commercial Mortgage Trust 2021-Mhc	-	"	-	US\$ 2,221	N/A	US\$ 2,221	
	CitiGroup Commercial Mortgage Trust 2015-P1	-	"	-	US\$ 2,144	N/A	US\$ 2,144	
	GM Financial Consumer Automobile Receivables Trust 2021-4	-	"	-	US\$ 2,069	N/A	US\$ 2,069	
	CitiGroup Commercial Mortgage Trust 2015-GC27	-	"	-	US\$ 2,055	N/A	US\$ 2,055	
	Wells Fargo Commercial Mortgage Trust 2020-CS5	-	"	-	US\$ 2,046	N/A	US\$ 2,046	
	UBS Commercial Mortgage Trust 2018-C11	-	"	-	US\$ 1,983	N/A	US\$ 1,983	
	Morgan Stanley Capital I Trust 2018-H3	-	"	-	US\$ 1,970	N/A	US\$ 1,970	
	Commerce 2013-CCRE12 Mortgage Trust	-	"	-	US\$ 1,962	N/A	US\$ 1,962	
	Benchmark 2018-B4 Mortgage Trust	-	"	-	US\$ 1,946	N/A	US\$ 1,946	
	Morgan Stanley Capital I Trust	-	"	-	US\$ 1,830	N/A	US\$ 1,830	
	Dolp Trust 2021-NYC	-	"	-	US\$ 1,759	N/A	US\$ 1,759	
	CGCMT 2017-P8 Mortgage Trust	-	"	-	US\$ 1,690	N/A	US\$ 1,690	
	JPMBB Commercial Mortgage Securities Trust 2015-C28	-	"	-	US\$ 1,585	N/A	US\$ 1,585	
	Wells Fargo Commercial Mortgage Trust 2015-C30	-	"	-	US\$ 1,547	N/A	US\$ 1,547	
	JPMBB Commercial Mortgage Securities Trust 2015-C27	-	"	-	US\$ 1,498	N/A	US\$ 1,498	
	Wells Fargo Commercial Mortgage Trust 2018-C44	-	"	-	US\$ 1,455	N/A	US\$ 1,455	
	JPMBB Commercial Mortgage Securities Trust 2013-C12	-	"	-	US\$ 1,450	N/A	US\$ 1,450	
	COMM 2020-CBM Mortgage Trust	-	"	-	US\$ 1,421	N/A	US\$ 1,421	
	Morgan Stanley Capital I Trust 2021-L5	-	"	-	US\$ 1,331	N/A	US\$ 1,331	
	Dbs 2018-Biod Mortgage Trust	-	"	-	US\$ 1,257	N/A	US\$ 1,257	
	Wells Fargo Commercial Mortgage Trust 2015-C29	-	"	-	US\$ 1,225	N/A	US\$ 1,225	
	WFRBS Commercial Mortgage Trust 2013-UBS1	-	"	-	US\$ 1,217	N/A	US\$ 1,217	
	Honda Auto Receivables 2021-2 Owner Trust	-	"	-	US\$ 1,209	N/A	US\$ 1,209	
	WFRBS Commercial Mortgage Trust 2013-C13	-	"	-	US\$ 1,164	N/A	US\$ 1,164	
	Toyota Auto Receivables 2021-D Owner Trust	-	"	-	US\$ 1,131	N/A	US\$ 1,131	
	Wells Fargo Commercial Mortgage Trust 2017-C40	-	"	-	US\$ 1,054	N/A	US\$ 1,054	
	Morgan Stanley Capital I Trust 2015 - UBSS8	-	"	-	US\$ 946	N/A	US\$ 946	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Morgan Stanley Bank Of America Merrill Lynch Trust 2013-C13 JPMCC Commercial Mortgage Securities Trust 2016 - JP3 UBS Barclays Commercial Mortgage Trust 2013-C6 BX Trust 2021-BXMF 280 Park Avenue Trust 2017 - 280P Elp Commercial Mortgage Trust 2021-Elp COMM Mortgage Trust Series 2015-LC19 UBS Commercial Mortgage Trust 2018-C10 Equis 2021-Eqaz Mortgage Trust Benchmark 2019-B14 Mortgage Trust Bx 2021-21M Mortgage Trust Gs Mortgage Securities Corporation Trust 2020-Ujpn Wells Fargo Commercial Mortgage Trust 2015-C28 Bx Commercial Mortgage Trust 2021-C1P Commerce 2014-Crecl7 Mortgage Trust Morgan Stanley Capital I Trust 2019-H6 GS Mortgage Securities Trust 2014-GC22 Citigroup Commercial Mortgage Trust 2018-C5 Wells Fargo Commercial Mortgage Trust 2015-LC20 GS Mortgage Securities Trust 2014-GC24 Bank 2019-BNK23 Wells Fargo Commercial Mortgage Trust 2015-NXS3 WFRBS Commercial Mortgage Trust 2013-C17 Morgan Stanley Capital I Trust 2019-H7 CF 2019-CF1 Mortgage Trust Benchmark 2019-B9 Mortgage Trust JPMBB Commercial Mortgage Securities Trust 2014-C19 Citigroup Commercial Mortgage Trust 2014-GC23 COMM 2015-CCRE22 Mortgage Trust JPMCC 2015 - JP1 JPMDB Commercial Mortgage Securities Trust 2019-COR6 Citigroup Commercial Mortgage Trust 2015-GC35 GS Mortgage Securities Trust 2014-GC26 Citigroup Commercial Mortgage Trust 2014-GC19 Morgan Stanley Bank Of America Merrill Lynch Trust 2013-C12 BBCMS Mortgage Trust 2020-C7 Bank 2020-BNK28 Wells Fargo Commercial Mortgage Trust 2015-NXS1 Non-publicly traded equity investments Primavera Capital Fund II L.P.	-	Financial assets at fair value through other comprehensive income "	-	US\$ 874	N/A	US\$ 874	
		-	"	-	US\$ 838	N/A	US\$ 838	
		-	"	-	US\$ 836	N/A	US\$ 836	
		-	"	-	US\$ 815	N/A	US\$ 815	
		-	"	-	US\$ 810	N/A	US\$ 810	
		-	"	-	US\$ 768	N/A	US\$ 768	
		-	"	-	US\$ 763	N/A	US\$ 763	
		-	"	-	US\$ 750	N/A	US\$ 750	
		-	"	-	US\$ 577	N/A	US\$ 577	
		-	"	-	US\$ 576	N/A	US\$ 576	
		-	"	-	US\$ 573	N/A	US\$ 573	
		-	"	-	US\$ 539	N/A	US\$ 539	
		-	"	-	US\$ 532	N/A	US\$ 532	
		-	"	-	US\$ 531	N/A	US\$ 531	
		-	"	-	US\$ 518	N/A	US\$ 518	
		-	"	-	US\$ 516	N/A	US\$ 516	
		-	"	-	US\$ 505	N/A	US\$ 505	
		-	"	-	US\$ 482	N/A	US\$ 482	
		-	"	-	US\$ 478	N/A	US\$ 478	
		-	"	-	US\$ 470	N/A	US\$ 470	
		-	"	-	US\$ 392	N/A	US\$ 392	
		-	"	-	US\$ 373	N/A	US\$ 373	
		-	"	-	US\$ 365	N/A	US\$ 365	
		-	"	-	US\$ 349	N/A	US\$ 349	
		-	"	-	US\$ 336	N/A	US\$ 336	
		-	"	-	US\$ 328	N/A	US\$ 328	
		-	"	-	US\$ 315	N/A	US\$ 315	
		-	"	-	US\$ 308	N/A	US\$ 308	
		-	"	-	US\$ 301	N/A	US\$ 301	
		-	"	-	US\$ 269	N/A	US\$ 269	
		-	"	-	US\$ 237	N/A	US\$ 237	
		-	"	-	US\$ 203	N/A	US\$ 203	
		-	"	-	US\$ 170	N/A	US\$ 170	
		-	"	-	US\$ 137	N/A	US\$ 137	
		-	"	-	US\$ 117	N/A	US\$ 117	
		-	"	-	US\$ 69	N/A	US\$ 69	
		-	"	-	US\$ 25	N/A	US\$ 25	
		-	"	-	US\$ 3	N/A	US\$ 3	
		-	Financial assets at fair value through other comprehensive income	-	US\$ 81,039	4	US\$ 81,039	
VTAF II	Non-publicly traded equity investments Aether Systems, Inc. 5V Technologies, Inc. Publicly traded stocks Sentelic Corporation	-	Financial assets at fair value through other comprehensive income "	1,085	-	20	-	
		-	"	1	-	-	-	
		-	Financial assets at fair value through other comprehensive income	971	US\$ 1,422	3	US\$ 1,422	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
VTAF III	<u>Non-publicly traded equity investments</u> LiquidLeds Lighting Corp.	-	Financial assets at fair value through other comprehensive income	1,952	US\$ 800	14	US\$ 800	
	Neonix, Inc.	-	"	4,147	US\$ 174	-	US\$ 174	
Growth Fund	<u>Non-publicly traded equity investments</u> Astera Labs, Inc.	-	Financial assets at fair value through other comprehensive income	637	US\$ 4,146	-	US\$ 4,146	
	CNEX Labs, Inc.	-	"	33	US\$ 166	-	US\$ 166	
Emerging Fund	<u>Publicly traded stocks</u> Marvel Technology Group Ltd.	-	Financial assets at fair value through other comprehensive income	30	US\$ 1,097	-	US\$ 1,097	
	<u>Convertible bonds</u> EdgeQ Inc.	-	Financial assets at fair value through profit or loss	-	US\$ 4,000	N/A	US\$ 4,000	
	<u>Non-publicly traded equity investments</u> Astera Labs, Inc.	-	Financial assets at fair value through other comprehensive income	1,487	US\$ 9,680	-	US\$ 9,680	
	Empower Semiconductor, Inc. Kinara, Inc. NeuReality Ltd. RIVOS, Inc.	- - - -	" " " "	868 2,015 122 750	US\$ 5,000 US\$ 3,000 US\$ 3,000 US\$ 2,000	3 2 3 -	US\$ 5,000 US\$ 3,000 US\$ 3,000 US\$ 2,000	
	<u>Publicly traded stocks</u> Credo Technology Group Holding Ltd.	-	Financial assets at fair value through other comprehensive income	491	US\$ 6,529	-	US\$ 6,529	

(Concluded)

TABLE 4

Taiwan Semiconductor Manufacturing Company Limited and Investees

MARKETABLE SECURITIES ACQUIRED AND DISPOSED OF AT COSTS OR PRICES OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE YEAR ENDED DECEMBER 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counterparty	Nature of Relationship	Beginning Balance		Acquisition		Disposal		Ending Balance (Note)		
					Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Gain/Loss on Disposal (Foreign Currencies in Thousands)
TSMC	Commercial paper Taiwan Power Company	Financial assets at amortized cost	-	-	-	\$	5,610	\$ 55,830,298	2,660	\$ 26,600,000	-	2,950	\$ 29,335,729
	CPC Corporation, Taiwan	"	-	-	3,009	29,969,655	4,480,179	2,987,971	2,259	22,590,000	-	750	7,458,936
	Nan Ya Plastics Corporation	"	-	-	450	4,480,179	-	-	-	-	-	450	4,476,301
	Fomosa Petrochemical Corporation	"	-	-	300	2,987,971	-	-	-	-	-	300	2,985,385
	Fomosa Chemicals & Fibre Corporation	"	-	-	250	2,487,819	-	-	-	-	-	250	2,485,666
	Fomosa Plastics Corporation	"	-	-	200	1,992,183	-	-	-	-	-	200	1,990,459
TSMC Global	Non-publicly traded equity investments TSMC Arizona	Investments accounted for using equity method	-	-	770	16,667,696	500	15,372,500	-	-	-	1,270	25,639,079
	JASM	"	-	-	58	1,383,554	962	23,150,164	-	-	-	1,020	23,330,125
	TSMC 3DIC	"	-	-	11	270,513	38	865,370	-	-	-	49	1,172,706
	Capital Emerging Fund	Investments accounted for using equity method	-	-	-	286,205	-	1,033,339	-	-	62,532	-	1,760,885
	Corporate bond Morgan Stanley	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 65,115	-	US\$ 27,545	-	US\$ 4,750	US\$ 4,678	-	US\$ 83,242
	Bank of America Corporation Citigroup Inc.	"	-	-	-	US\$ 75,265	-	US\$ 20,231	-	US\$ 13,680	US\$ 13,631	-	US\$ 76,626
Wells Fargo & Company	"	-	-	-	US\$ 49,298	-	US\$ 21,416	-	US\$ 5,787	US\$ 5,779	-	US\$ 61,493	
The Goldman Sachs Group, Inc.	"	-	-	-	US\$ 38,439	-	US\$ 24,456	-	US\$ -	US\$ -	-	US\$ 59,735	
JPMorgan Chase & Co.	"	-	-	-	US\$ 53,756	-	US\$ 15,998	-	US\$ 14,852	US\$ 14,906	-	US\$ 51,439	
Banco Santander, S.A.	"	-	-	-	US\$ 45,332	-	US\$ 12,125	-	US\$ 3,842	US\$ 3,869	-	US\$ 50,629	
Metropolitan Life Global Funding I	"	-	-	-	US\$ 18,461	-	US\$ 10,094	-	US\$ 410	US\$ 420	-	US\$ 26,257	
The Toronto-Dominion Bank Bank of Montreal The Bank of New York Mellon Corporation	"	-	-	-	US\$ 17,341	-	US\$ 10,758	-	US\$ 3,000	US\$ 3,000	-	US\$ 24,408	
Lloyds Banking Group plc S&P Global Inc.	"	-	-	-	US\$ 14,786	-	US\$ 15,598	-	US\$ 9,344	US\$ 9,685	-	US\$ 19,510	
The Goldman Sachs Group, Inc.	Financial assets at amortized cost	-	-	-	US\$ 6,295	-	US\$ 14,842	-	US\$ 5,076	US\$ 4,999	-	US\$ 15,224	
		-	-	-	US\$ 6,072	-	US\$ 11,290	-	US\$ 6,177	US\$ 6,165	-	US\$ 11,282	
		-	-	-	US\$ 21,675	-	US\$ 2,210	-	US\$ 12,370	US\$ 12,339	-	US\$ 10,533	
		-	-	-	US\$ -	-	US\$ 14,096	-	US\$ 2,893	US\$ 2,934	-	US\$ 10,246	
		-	-	-	US\$ 51,347	-	US\$ 561,607	-	US\$ 171,000	US\$ 171,000	-	US\$ 440,655	

(Continued)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counterparty	Nature of Relationship	Beginning Balance		Acquisition		Disposal			Ending Balance (Note)		
					Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)	Carrying Value (Foreign Currencies in Thousands)	Gain/Loss on Disposal (Foreign Currencies in Thousands)	Shares/Units (In Thousands)	Amount (Foreign Currencies in Thousands)
TSMC Global	Citigroup Global Markets Inc.	Financial assets at amortized cost	-	-	-	US\$ 99,968	-	US\$ 350,000	-	US\$ 100,000	US\$ -	US\$ 100,000	-	US\$ 349,886
	Bank of America Corporation	"	-	-	-	US\$ 448,254	-	US\$ 123,818	US\$ 182	US\$ 124,000	US\$ -	US\$ 123,818	US\$ -	US\$ 324,757
	JPMorgan Chase & Co.	"	-	-	-	US\$ 10,054	-	US\$ 268,126	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 280,213
	Wells Fargo & Company	"	-	-	-	US\$ 30,399	-	US\$ 243,897	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 274,713
	Citigroup Inc.	"	-	-	-	US\$ 188,138	-	US\$ 14,000	US\$ -	US\$ 14,000	US\$ -	US\$ -	US\$ -	US\$ 174,540
	Citigroup Global Markets Holdings Inc.	"	-	-	-	US\$ 150,000	-	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 149,951
	Goldman Sachs Finance Corp International Ltd.	"	-	-	-	US\$ 150,000	-	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 149,870
	Morgan Stanley	"	-	-	-	US\$ 60,255	-	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 60,207
	Jpmorgan LLC	"	-	-	-	US\$ 50,000	-	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 49,984
	Banco Bilbao Vizcaya Argentaria, S.A.	"	-	-	-	US\$ 10,418	-	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ -	US\$ 10,534
	Government bond United States Department of The Treasury	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 768,483	-	US\$ 95,078	-	US\$ 193,697	US\$ (1,712)	US\$ 195,409	US\$ -	US\$ 613,603
	Agency bonds/Agency mortgage-backed securities FEDERAL NATIONAL MORTGAGE ASSOCIATION	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 460,205	-	US\$ 251,791	-	US\$ 170,673	US\$ (3,332)	US\$ 174,005	US\$ -	US\$ 464,686
	Federal Home Loan Mortgage Corporation	"	-	-	-	US\$ 253,075	-	US\$ 146,242	-	US\$ 74,099	US\$ (1,524)	US\$ 75,623	US\$ -	US\$ 284,933
	Government National Mortgage Association	"	-	-	-	US\$ 285,581	-	US\$ 75,508	-	US\$ 158,836	US\$ (3,348)	US\$ 162,184	US\$ -	US\$ 175,067
	Emerging Fund	Non-publicly traded equity investments Solanium Labs, Ltd.	Financial assets at fair value through other comprehensive income	-	-	-	US\$ -	1,429	US\$ 5,000	US\$ 11,370	US\$ 5,000	US\$ 6,370	US\$ -	US\$ -

Note: The ending balance includes the realized gain/loss on equity investment, the amortization of premium/discount on bonds investments and other related adjustment.

(Concluded)

TABLE 5

Taiwan Semiconductor Manufacturing Company Limited and Investees

ACQUISITION OF INDIVIDUAL REAL ESTATE PROPERTIES AT COSTS OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate	February 15, 2022 (Note)	\$ 213,300,000 (Note)	Based on the terms in the purchase order	122 counterparties (Note), including: ABB Ltd. Accudvice Co., Ltd. Addiron Technology (Japan), Inc. Aegis Technology Co. Air Liquid Japan G.K. Air Liquide Far Eastern Ltd. Air Water Plant Engineering Co., Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd. Atlas Technology Corp. Capital Machinery Limited Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. Chien Kuo Construction Co., Ltd. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd.	-	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None	

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				<p>Chung-Lin General Contractors, Ltd. Chunghwa Telecom Japan Co., Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cim Construction Co., Ltd. Desiccant Technology Corporation Eaton Electric Japan Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Fuji Electric Co., Ltd. Fuji Furukawa E&C Co., Ltd. Green Partners Industry Co., Ltd. Hantech Engineering Co., Ltd. Hitachi Energy Ltd. Hsieh Kun Co., Ltd. Hueing Luei Process Industry Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates Japan Material Co., Ltd. JG Environmental Technology Co., Ltd. Jienshian Information Engineering Co., Ltd. JJmr-Clean-Air Solution Tech.Services Co., Ltd.</p>									

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				Johnson Controls York Taiwan Co, Ltd. Jusun Instruments Co., Ltd. Kajima Corporation Kanto Chemical Engineering Co., Ltd. Kao Hsin Engineering Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation Koel International Corp. Kuken Kogyo Co., Ltd. Kurita Water Industries Ltd., Taiwan Kyudenko Corporation L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Lee Ming Construction Co., Ltd. Lumax International Corp., Ltd. Mandartech Interiors Inc. Markech International Corp. Mega Union Technology Incorporated Mitsubishi Heavy Industries Air-Conditioning & Refrigeration Corporation Mitsubishi Heavy Industries, Ltd. NAGASE & CO. LTD. NEC Facilities, Ltd. Organo Corporation Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd.									

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty			Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date			
TSMC	Real estate				Pan Asia (Engineers & Constructors) Corporation Quicken System Integration Co., Ltd. Ruentex Engineering & Construction Co., Ltd. SACHEM Inc. San Fu Chemical Co., Ltd. Schneider Electric Taiwan Co., Ltd. Seibu Giken Co., Ltd. Shihlin Electric & Engineering Corporation Shimizu Corporation Siemens Limited SN Tech Corporation Solomon Technology Corporation Sumitomo Corporation Swift Engineering Co., Ltd. Taikisha Ltd. Taisei Corporation Taiwan Gleno Enterprise Co., Ltd. Taiwan Obayashi Corporation Taiwan Puritic Corp. Taiyo Nippon Sanso Corporation TASA Construction Corporation Techgo Industrial Co., Ltd. Toshiba Mitsubishi-Electric Industrial Systems Corporation Toyoko Kagaku Co., Ltd. Trane Taiwan Distribution Limited							

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate				Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Vertiv Weltall Technology Corporation Wholetech System Hitech Limited Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp. 19 counterparties (Note), including:	-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None
	Real estate	May 10, 2022 (Note)	US\$2,147,000 (Note)	Based on the terms in the purchase order	Southern Taiwan Science Park Bureau, Ministry of Science and Technology 115 counterparties (Note), including: ABB Ltd. Accudvice Co., Ltd. Air Liquide Far Eastern Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd.	-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms	
							Owner	Relationships	Transfer Date	Amount				
TSMC	Real estate				Atlas Technology Corp. Capital Machinery Limited Central Taiwan Science Park Bureau, Ministry of Science and Technology Century Iron and Steel Industrial Co., Ltd. Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. Chien Kuo Construction Co., Ltd. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd. Chung-Lin General Contractors, Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cin Construction Co., Ltd. Desiccant Technology Corporation Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Hantech Engineering Co., Ltd. Hsieh Kun Co., Ltd. Hsinchu Science Park Bureau, Ministry of Science and Technology Hueing Lutei Process Industry Co., Ltd.									

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Real estate				Immense Team Construction & Building Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates Jaie Haour Industry Corporation JG Environmental Technology Co., Ltd. JJmr-Clean-Air Solution Tech.Services Co., Ltd. Ju Yao Construction Co., Ltd. Jusun Instruments Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Lee Ming Construction Co., Ltd. Li Jin Engineering Co., Ltd. Mandartech Interiors Inc. Marketech International Corp. Mega Union Technology Incorporated Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd. Pan Asia (Engineers & Constructors) Corporation Ruentex Engineering & Construction Co., Ltd. San Fu Chemical Co., Ltd. Schneider Electric Taiwan Co., Ltd. Shihlin Electric & Engineering Corporation								

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counterparty	Nature of Relationships	Prior Transaction of Related Counterparty			Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date			
TSMC	Real estate				Siemens Limited Solomon Technology Corporation Southern Taiwan Science Park Bureau, Ministry of Science and Technology Swift Engineering Co., Ltd. Taiwan Gleno Enterprise Co., Ltd. Taiwan Obayashi Corporation Taiwan Puritic Corp. TASA Construction Corporation Techgo Industrial Co., Ltd. Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Weltall Technology Corporation Wholetech System Hitech Limited Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp.							

Note: The disclosures are expected information based on the capital appropriation approved by the Board of Directors (Right-of-use assets are included). The actual information shall be subject to the final purchase order of TSMC. (Concluded)

TABLE 6

Taiwan Semiconductor Manufacturing Company Limited and Investees

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES OF AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Nature of Relationships	Transaction Details			Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount (Foreign Currencies in Thousands)	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance (Foreign Currencies in Thousands)	
TSMC	TSMC North America	Subsidiary	Sales	\$ 1,538,849,403	68	Net 30 days from invoice date (Note)	-	(Note)	\$ 171,738,863	80
	TSMC Nanjing	Subsidiary	Sales	155,024	-	Net 30 days from the end of the month of when invoice is issued	-	-	-	-
	GUC	Associate	Sales	11,346,289	1	Net 30 days from the end of the month of when invoice is issued	-	-	1,300,302	1
	TSMC Nanjing	Subsidiary	Purchases	43,186,122	26	Net 30 days from the end of the month of when invoice is issued	-	-	(4,105,919)	7
	TSMC China	Subsidiary	Purchases	28,400,454	17	Net 30 days from the end of the month of when invoice is issued	-	-	(2,296,083)	4
	WaterTech	Indirect subsidiary	Purchases	10,336,735	6	Net 30 days from the end of the month of when invoice is issued	-	-	(855,952)	1
	SSMC	Associate	Purchases	4,572,894	3	Net 30 days from the end of the month of when invoice is issued	-	-	(385,979)	1
	VIS	Associate	Purchases	1,849,937	1	Net 30 days from the end of the month of when invoice is issued	-	-	(190,587)	-
	TSMC North America	GUC	Associate of TSMC	Sales	3,204,489 (US\$ 106,695)	-	Net 30 days from invoice date	-	-	171,049 (US\$ 5,569)
VisEra Tech	Xintec	Associate of TSMC	Sales	787,702	9	Net 60 days from the end of the month of when invoice is issued	-	-	112,607	15

Note: The tenor is determined by the payment terms granted to its clients by TSMC North America.

Taiwan Semiconductor Manufacturing Company Limited and Investees

RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL
December 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Nature of Relationships	Ending Balance (Foreign Currencies in Thousands)	Turnover Days (Note 1)	Overdue		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Action Taken		
TSMC	TSMC North America GUC	Subsidiary Associate	\$ 177,923,661 1,300,302	37 27	- -	- -	\$ - -	- -
TSMC North America	GUC	Associate of TSMC	171,078 (US\$ 5,570)	22	-	-	-	-
TSMC JDC	TSMC	Parent company	108,835 (JPY 466,905)	Note 2	-	-	-	-
TSMC China	TSMC	Parent company	2,296,083 (RMB 519,682)	26	-	-	-	-
	TSMC Nanjing	The same parent company	45,353,940 (RMB10,265,253)	Note 2	-	-	-	-
TSMC Nanjing	TSMC	Parent company	4,105,919 (RMB 929,191)	29	-	-	-	-
VisEra Tech	Xintec	Associate of TSMC	112,607	53	-	-	-	-
TSMC Technology	TSMC	The ultimate parent of the Company	744,620 (US\$ 24,244)	Note 2	-	-	-	-
WaferTech	TSMC	The ultimate parent of the Company	855,952 (US\$ 27,869)	29	-	-	-	-
	TSMC Development	Parent company	192,719 (US\$ 6,275)	Note 2	-	-	-	-

Note 1: The calculation of turnover days excludes other receivables from related parties.

Note 2: The ending balance is primarily consisted of other receivables, which is not applicable for the calculation of turnover days.

TABLE 8

Taiwan Semiconductor Manufacturing Company Limited and Investees

NAMES, LOCATIONS, AND RELATED INFORMATION OF INVESTEEES OVER WHICH THE COMPANY EXERCISES SIGNIFICANT INFLUENCE (EXCLUDING INFORMATION ON INVESTMENT IN MAINLAND CHINA) FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022		Percentage of Ownership	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				December 31, 2022 (Foreign Currencies in Thousands)	December 31, 2021 (Foreign Currencies in Thousands)	Shares (In Thousands)	Carrying Value (Foreign Currencies in Thousands)					
TSMC	TSMC Global TSMC Partners	Torola, British Virgin Islands	Investment activities Investing in companies involved in the semiconductor design and manufacturing, and other investment activities	\$ 355,162,309	\$ 355,162,309	11	\$ 411,992,426	100	\$ 7,308,722	\$ 7,308,722	Subsidiary	
		Torola, British Virgin Islands		31,456,130	31,456,130	988,268	63,697,217	100	3,135,764	3,135,764	Subsidiary	
	TSMC Arizona	Phoenix, Arizona, U.S.A.	Manufacturing, sales and testing of integrated circuits and other semiconductor devices	37,015,800	21,643,300	1,270	25,639,079	100	(9,430,070)	(9,430,070)	Subsidiary	
		Kumamoto, Japan		24,567,085	1,416,921	1,020	23,330,125	71	(593,429)	(452,020)	Subsidiary	
	VIS	Hsin-Chu, Taiwan	Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices	10,180,677	10,180,677	464,223	13,492,653	28	15,280,388	15,280,388	Associate	
		Hsin-Chu, Taiwan		4,224,082	4,224,082	213,619	11,467,860	68	1,765,796	1,253,986	Subsidiary	
	VisEra Tech	Hsin-Chu, Taiwan	Manufacturing and sales of integrated circuits and other semiconductor devices	5,120,028	5,120,028	314	8,934,731	39	3,540,176	3,540,176	Associate	
		Singapore		333,718	333,718	11,000	5,449,755	100	62,213	62,213	Subsidiary	
	TSMC North America	Xintec	San Jose, California, U.S.A	Manufacturing and sales of integrated circuits and other semiconductor devices	1,988,317	1,988,317	111,282	3,528,417	41	1,983,736	1,983,736	Associate
			Taoyuan, Taiwan		1,269,425	298,618	-	1,760,885	99.9	(6,917)	(6,910)	Subsidiary
	Emerging Fund	GUC	Cayman Islands	Water level chip size packaging and wafer level post passivation interconnection service	386,568	386,568	46,688	1,666,651	35	3,710,442	1,292,705	Associate
			Hsin-Chu, Taiwan		1,144,356	278,986	49	1,172,706	100	27,950	27,950	Subsidiary
	TSMC Europe	TSMC JDC	Amsterdam, the Netherlands	Customer service and supporting activities	15,749	15,749	-	527,693	100	(4,926)	(4,926)	Subsidiary
			Yokohama, Japan		410,680	410,680	15	376,176	100	20,303	20,303	Subsidiary
Cayman Islands			1,239,621		1,321,594	-	246,702	98	(6,700)	(6,566)	Subsidiary	
Yokohama, Japan			83,760		83,760	6	134,560	100	6,559	6,559	Subsidiary	
Cayman Islands			260,300		260,300	-	71,429	98	319	313	Subsidiary	
Seoul, Korea			13,656		13,656	80	44,082	100	1,408	1,408	Subsidiary	
TSMC Development	TSMC Technology	Delaware, U.S.A	Investing in companies involved in semiconductor manufacturing	18,026,652	18,026,652	-	36,609,536	100	2,620,596	2,620,596	Note 2	
		Delaware, U.S.A		438,644	438,644	-	993,700	100	66,998	66,998	Note 2	
		Ontario, Canada		70,640	70,640	2,300	321,059	100	31,997	31,997	Note 2	
VTAF III	Growth Fund	Cayman Islands	Investing in technology start-up companies	67,429	79,970	-	166,549	100	(609)	(609)	Subsidiary	
		New Taipei, Taiwan		2,195	2,604	-	5,423	28	(21)	(21)	Subsidiary	
Mutual-Pak	Mutual-Pak	New Taipei, Taiwan	Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID	48,937	48,937	4,693	19,053	28	(13,738)	(13,738)	Note 2	
				48,937	48,937	4,693	620	28	(464)	(464)	Associate	

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				December 31, 2022 (Foreign Currencies in Thousands)	December 31, 2021 (Foreign Currencies in Thousands)	Shares (In Thousands)	Percentage of Ownership	Carrying Value (Foreign Currencies in Thousands)			
TSMC Development	WaferTech	Washington, U.S.A	Manufacturing, sales and testing of integrated circuits and other semiconductor devices	\$ -	\$ -	293,637	100	\$ 6,251,109 (US\$ 203,533)	\$ 2,299,054 (US\$ 77,303)	Note 2 Subsidiary	

Note 1: The share of profits/losses of investee includes the effect of unrealized gross profit on intercompany transactions.

Note 2: The share of profits/losses of the investee company is not reflected herein as such amount is already included in the share of profits/losses of the investor company.

(Concluded)

TABLE 9

Taiwan Semiconductor Manufacturing Company Limited and Investees

INFORMATION ON INVESTMENT IN MAINLAND CHINA
FOR YEAR ENDED DECEMBER 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investee Company	Main Businesses and Products	Total Amount of Paid-in Capital (RMB in Thousands)	Method of Investment	Accumulated Outflow of Investment from Taiwan as of January 1, 2022 (US\$ in Thousands)	Investment Flows		Accumulated Outflow of Investment from Taiwan as of December 31, 2022 (US\$ in Thousands)	Net Income (Losses) of the Investee Company	Percentage of Ownership	Share of Profits/Losses	Carrying Amount as of Balance as of December 31, 2022	Accumulated Inward Remittances of Earnings as of December 31, 2022
					Outflow (US\$ in Thousands)	Inflow						
TSMC China	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	\$ 18,939,667 (RMB 4,502,080)	Note 1	\$ 18,939,667 (US\$ 596,000)	\$ -	\$ -	\$ 18,939,667 (US\$ 596,000)	\$ 12,411,290	100%	\$ 12,223,165 (Note 2)	\$ 87,028,722	\$ -
TSMC Nanjing	Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices	30,521,412 (RMB 6,650,119)	Note 1	30,521,412 (US\$ 1,000,000)	-	-	30,521,412 (US\$ 1,000,000)	20,486,591	100%	20,473,263 (Note 2)	67,385,300	-
Accumulated Investment in Mainland China as of S December 31, 2022 (US\$ in Thousands)				Investment Amounts Authorized by Investment Commission, MOEA (US\$ in Thousands)		Upper Limit on Investment						
\$ 49,461,079 (US\$ 1,596,000)				\$ 119,412,667 (US\$ 3,596,000)		\$ 1,776,293,320 (Note 3)						

Note 1: TSMC directly invested US\$596,000 thousand in TSMC China and US\$ 1,000,000 thousand in TSMC Nanjing.

Note 2: Amount was recognized based on the audited financial statements.

Note 3: The upper limit on investment in mainland China is determined by sixty percent (60%) of the Company's consolidated net worth.

TABLE 10

Taiwan Semiconductor Manufacturing Company Limited

**INFORMATION ON MAJOR SHAREHOLDERS
DECEMBER 31, 2022**

Shareholders (Note)	Shares	
	Total Shares Owned	Ownership Percentage
ADR-Taiwan Semiconductor Manufacturing Company, Ltd.	5,319,233,558	20.51%
National Development Fund, Executive Yuan	1,653,709,980	6.38%

Note: Major shareholders shows the list of all shareholders with ownership of 5 percent or greater.

THE CONTENTS OF STATEMENTS OF MAJOR ACCOUNTING ITEMS

ITEM	STATEMENT INDEX
MAJOR ACCOUNTING ITEMS IN ASSETS, LIABILITIES AND EQUITY	
STATEMENT OF CASH AND CASH EQUIVALENTS	1
STATEMENT OF NOTES AND ACCOUNTS RECEIVABLE, NET	2
STATEMENT OF RECEIVABLES FROM RELATED PARTIES	3
STATEMENT OF INVENTORIES	4
STATEMENT OF CHANGES IN INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD	5
STATEMENT OF CHANGES IN PROPERTY, PLANT AND EQUIPMENT	Note 13
STATEMENT OF CHANGES IN ACCUMULATED DEPRECIATION AND ACCUMULATED IMPAIRMENT OF PROPERTY, PLANT AND EQUIPMENT	Note 13
STATEMENT OF CHANGES IN RIGHT-OF-USE ASSETS	6
STATEMENT OF CHANGES IN INTANGIBLE ASSETS	Note 15
STATEMENT OF DEFERRED INCOME TAX ASSETS / LIABILITIES	Note 24
STATEMENT OF ACCOUNTS PAYABLES	7
STATEMENT OF PAYABLES TO RELATED PARTIES	8
STATEMENT OF PAYABLES TO CONTRACTORS AND EQUIPMENT SUPPLIERS	9
STATEMENT OF ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES	10
STATEMENT OF BONDS PAYABLE	11
STATEMENT OF LEASE LIABILITIES	12
MAJOR ACCOUNTING ITEMS IN PROFIT OR LOSS	
STATEMENT OF NET REVENUE	13
STATEMENT OF COST OF REVENUE	14
STATEMENT OF OPERATING EXPENSES	15
STATEMENT OF FINANCE COSTS	Note 22
STATEMENT OF LABOR, DEPRECIATION AND AMORTIZATION BY FUNCTION	16

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF CASH AND CASH EQUIVALENTS****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars, Unless Specified Otherwise)**

Item	Description	Amount
Cash		
Petty cash		\$ 280
Cash in banks		
Checking accounts and demand deposits		8,043,873
Foreign currency deposits	Including US\$2,463,043 thousand @30.713, JPY123,900,844 thousand @0.2331 and EUR6,524 thousand @32.838	104,742,973
Time deposits	From 2022.01.12 to 2023.03.30, interest rates at 0.76%-4.65%, including NT\$385,064,635 thousand and US\$3,926,603 thousand @30.713	505,662,377
Cash equivalents		
Commercial paper	Expired by 2023.01.16, interest rates at 1.455%-1.540%	9,566,430
Repurchase agreements	Expired by 2023.01.12, interest rates at 4.70%	<u>859,964</u>
Total		<u>\$ 628,875,897</u>

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF NOTES AND ACCOUNTS RECEIVABLE, NET
DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Client Name	Amount
Client A	\$ 7,847,666
Client B	4,112,546
Client C	2,570,139
Client D	2,264,267
Client E	2,237,477
Client F	2,186,979
Client G	2,108,254
Others (Note)	<u>18,315,194</u>
	41,642,522
Less: Allowance for doubtful accounts	<u>(330,686)</u>
Total	<u>\$ 41,311,836</u>

Note: The amount of individual client included in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF RECEIVABLES FROM RELATED PARTIES****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Client Name	Amount
TSMC North America	\$ 171,738,863
Others (Note)	<u>1,305,949</u>
Total	<u>\$ 173,044,812</u>

Note: The amount of individual client included in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF INVENTORIES****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Item	Amount	
	Cost	Net Realizable Value
Finished goods	\$ 52,318,299	\$ 187,696,734
Work in process	120,893,772	499,205,556
Raw materials	19,750,618	19,750,618
Supplies and spare parts	<u>15,320,206</u>	<u>15,320,206</u>
Total	<u>\$ 208,282,895</u>	<u>\$ 721,973,114</u>

Taiwan Semiconductor Manufacturing Company Limited

STATEMENT OF CHANGES IN INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD
FOR THE YEAR ENDED DECEMBER 31, 2022
(In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

	Balance, January 1, 2022		Additions in Investment		Decrease in Investment		Increase (Decrease) in Using the Equity Method Amount (Note 2)	Balance, December 31, 2022		Market Value or Net Assets Value		
	Shares (In Thousands)	Amount	Shares (In Thousands)	Amount	Shares (In Thousands)	Amount		Shares (In Thousands)	%	Amount	Unit Price (NT\$)	Total Amount
Stocks												
TSMC Global	11	\$ 374,639,406	-	\$ -	-	\$ -	\$ 37,353,020	11	100	\$ 411,992,426	-	\$ 411,992,426
TSMC Partners	988,268	54,968,185	-	-	-	-	8,729,032	988,268	100	63,697,217	-	63,772,657
TSMC Arizona	770	16,667,696	500	15,372,500	-	-	(6,401,117)	1,270	100	25,639,079	-	25,639,110
JASM	58	1,383,554	962	23,150,164	-	-	(1,203,593)	1,020	71	23,330,125	-	23,330,125
VIS	464,223	10,613,127	-	-	-	-	2,879,526	464,223	28	13,492,653	78 (Note 1)	35,977,321
VisEra Tech	213,619	6,521,231	-	-	-	-	4,946,629	213,619	68	11,467,860	194 (Note 1)	41,335,277
SSMC	314	6,795,699	-	-	-	-	2,139,032	314	39	8,934,731	-	8,722,941
TSMC North America	11,000	4,871,149	-	-	-	-	578,606	11,000	100	5,449,755	-	5,449,755
Ximtec	111,282	3,046,961	-	-	-	-	481,456	111,282	41	3,528,417	96 (Note 1)	10,716,449
GUC	46,688	1,484,683	-	-	-	-	181,968	46,688	35	1,666,651	641 (Note 1)	29,926,918
TSMC 3DIC	11	270,513	38	865,370	-	-	36,823	49	100	1,172,706	-	1,172,706
TSMC Europe	-	509,880	-	-	-	-	17,813	-	100	527,693	-	527,693
TSMC IDC	15	368,144	-	-	-	-	8,032	15	100	376,176	-	376,176
TSMC Japan	6	132,411	-	-	-	-	2,149	6	100	134,560	-	134,560
TSMC Korea	80	40,857	-	-	-	-	3,225	80	100	44,082	-	44,082
Subtotal		482,313,496		39,388,034		-	49,752,601			571,454,131		659,118,196
Capital												
TSMC China	-	73,470,628	-	-	-	-	13,558,094	-	100	87,028,722	-	87,432,993
TSMC Nanjing	-	46,159,494	-	-	-	-	21,225,806	-	100	67,385,300	-	67,501,436
Emerging Fund	-	286,205	-	1,033,339	-	(62,532)	503,873	-	99.9	1,760,885	-	1,760,885
VTAF III	-	300,401	-	-	-	(81,973)	28,274	-	98	246,702	-	223,399
VTAF II	-	112,320	-	-	-	-	(40,891)	-	98	71,429	-	65,183
Subtotal		120,329,048		1,033,339		(144,505)	35,275,156			156,493,038		156,983,896
Total		\$ 602,642,544		\$ 40,421,373		\$ (144,505)	\$ 85,027,757			\$ 727,947,169		\$ 816,102,092

Note 1: The unit price is calculated by closing price of the Taipei Exchange or the TWSE as of December 30, 2022.

Note 2: Mainly including share of profit or loss of subsidiaries and associates, share of other comprehensive income of subsidiaries and associates, cash dividends received from subsidiaries and associates, etc.

Taiwan Semiconductor Manufacturing Company Limited

STATEMENT OF CHANGE IN RIGHT-OF-USE ASSETS FOR THE YEAR ENDED DECEMBER 31, 2022

(In Thousands of New Taiwan Dollars)

Item	Land	Buildings	Office Equipment	Total
Cost				
Balance at January 1, 2022	\$ 33,561,636	\$ 1,014,324	\$ 46,394	\$ 34,622,354
Additions	10,854,473	941,481	12,637	11,808,591
Deductions	<u>(218,148)</u>	<u>(239,215)</u>	<u>(7,180)</u>	<u>(464,543)</u>
Balance at December 31, 2022	<u>\$ 44,197,961</u>	<u>\$ 1,716,590</u>	<u>\$ 51,851</u>	<u>\$ 45,966,402</u>
Accumulated depreciation				
Balance at January 1, 2022	\$ 4,035,848	\$ 440,315	\$ 23,139	\$ 4,499,302
Additions	2,102,934	365,167	15,728	2,483,829
Deductions	<u>(62,656)</u>	<u>-</u>	<u>(5,500)</u>	<u>(68,156)</u>
Balance at December 31, 2022	<u>\$ 6,076,126</u>	<u>\$ 805,482</u>	<u>\$ 33,367</u>	<u>\$ 6,914,975</u>
Carrying amounts at December 31, 2022	<u>\$ 38,121,835</u>	<u>\$ 911,108</u>	<u>\$ 18,484</u>	<u>\$ 39,051,427</u>

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF ACCOUNTS PAYABLES****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Vendor Name	Amount
Vendor A	\$ 4,194,602
Vendor B	2,914,140
Others (Note)	<u>41,623,800</u>
Total	<u>\$ 48,732,542</u>

Note: The amount of individual vendor included in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF PAYABLES TO RELATED PARTIES****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Vendor Name	Amount
TSMC Nanjing	\$ 4,105,919
TSMC China	2,296,083
Xintec	1,047,374
WaferTech	855,952
TSMC Technology	744,620
Others (Note)	<u>1,001,096</u>
Total	<u>\$ 10,051,044</u>

Note: The amount of individual vendor in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF PAYABLES TO CONTRACTORS AND EQUIPMENT SUPPLIERS****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Vendor Name	Amount
Vendor A	\$ 68,126,719
Vendor B	23,307,326
Vendor C	12,817,271
Vendor D	12,757,447
Vendor E	10,621,411
Others (Note)	<u>72,415,844</u>
Total	<u>\$ 200,046,018</u>

Note: The amount of individual vendor included in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Item	Amount
Temporary receipts from customers	\$ 107,723,580
Contract liabilities	62,380,554
Refund liability	50,980,669
Others (Note)	<u>45,818,270</u>
Total	<u>\$ 266,903,073</u>

Note: The amount of each item in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited

STATEMENT OF BONDS PAYABLE
DECEMBER 31, 2022
(In Thousands of New Taiwan Dollars)

Bonds Name	Trustee	Issuance Date	Interest Payment Date	Coupon Rate (%)	Total Amount	Repayment Paid	Amount Balances End of Year	Premiums (Discounts)	Carrying Value	Unamortized Repayment	Collateral
Domestic unsecured bonds-101-3	Taipei Fubon Commercial Bank Co., Ltd.	2012.10.09	On 10.09 annually	1.53	\$ 4,400,000	\$ 4,400,000	\$ -	\$ -	\$ -	Bullet repayment	Nil
Domestic unsecured bonds-101-4	Taipei Fubon Commercial Bank Co., Ltd.	2015.01.04	On 01.04 annually	1.49	3,000,000	-	3,000,000	-	3,000,000	Bullet repayment	Nil
Domestic unsecured bonds-102-1	Taipei Fubon Commercial Bank Co., Ltd.	2015.02.06	On 02.06 annually	1.50	3,600,000	-	3,600,000	-	3,600,000	Bullet repayment	Nil
Domestic unsecured bonds-102-2	Taipei Fubon Commercial Bank Co., Ltd.	2013.07.16	On 07.16 annually	1.70	3,500,000	-	3,500,000	-	3,500,000	Bullet repayment	Nil
Domestic unsecured bonds-102-4	Taipei Fubon Commercial Bank Co., Ltd.	2013.09.25	On 09.25 annually	2.05	5,400,000	-	5,400,000	-	5,400,000	Bullet repayment	Nil
-E	Taipei Fubon Commercial Bank Co., Ltd.	2013.09.25	On 09.25 annually	2.10	2,600,000	-	2,600,000	-	2,600,000	Bullet repayment	Nil
Domestic unsecured bonds-109-1	Taipei Fubon Commercial Bank Co., Ltd.	2020.03.23	On 03.23 annually	0.58	3,000,000	-	3,000,000	(1,394)	2,998,606	Bullet repayment	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.03.23	On 03.23 annually	0.62	10,500,000	-	10,500,000	(6,634)	10,493,366	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.03.23	On 03.23 annually	0.64	10,500,000	-	10,500,000	(7,929)	10,492,071	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.03.23	On 03.23 annually	0.64	10,500,000	-	10,500,000	(7,929)	10,492,071	Bullet repayment	Nil
Domestic unsecured bonds-109-2	Taipei Fubon Commercial Bank Co., Ltd.	2020.04.15	On 04.15 annually	0.52	5,900,000	-	5,900,000	(2,785)	5,897,215	Bullet repayment	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.04.15	On 04.15 annually	0.58	10,400,000	-	10,400,000	(6,562)	10,393,438	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.04.15	On 04.15 annually	0.60	5,300,000	-	5,300,000	(3,986)	5,296,014	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.04.15	On 04.15 annually	0.60	5,300,000	-	5,300,000	(3,986)	5,296,014	Bullet repayment	Nil
Domestic unsecured bonds-109-3	Taipei Fubon Commercial Bank Co., Ltd.	2020.05.29	On 05.29 annually	0.55	4,500,000	-	4,500,000	(2,277)	4,497,723	Bullet repayment	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.05.29	On 05.29 annually	0.60	7,500,000	-	7,500,000	(4,953)	7,495,047	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.05.29	On 05.29 annually	0.64	2,400,000	-	2,400,000	(1,872)	2,398,128	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.05.29	On 05.29 annually	0.64	2,400,000	-	2,400,000	(1,872)	2,398,128	Bullet repayment	Nil
Domestic unsecured bonds-109-4	Taipei Fubon Commercial Bank Co., Ltd.	2020.07.14	On 07.14 annually	0.58	5,700,000	-	5,700,000	(2,706)	5,697,294	Two equal installments in last two years	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.07.14	On 07.14 annually	0.65	6,300,000	-	6,300,000	(4,108)	6,295,892	Two equal installments in last two years	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.07.14	On 07.14 annually	0.67	1,900,000	-	1,900,000	(1,484)	1,898,516	Two equal installments in last two years	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.07.14	On 07.14 annually	0.67	1,900,000	-	1,900,000	(1,484)	1,898,516	Two equal installments in last two years	Nil
Domestic unsecured bonds-109-5	Taipei Fubon Commercial Bank Co., Ltd.	2020.09.03	On 09.03 annually	0.50	4,800,000	-	4,800,000	(2,426)	4,797,574	Two equal installments in last two years	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.09.03	On 09.03 annually	0.58	8,000,000	-	8,000,000	(5,361)	7,994,639	Two equal installments in last two years	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.09.03	On 09.03 annually	0.60	2,800,000	-	2,800,000	(2,215)	2,797,785	Two equal installments in last two years	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.09.03	On 09.03 annually	0.60	2,800,000	-	2,800,000	(2,215)	2,797,785	Two equal installments in last two years	Nil
Domestic unsecured bonds-109-6	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.02	On 12.02 annually	0.40	1,600,000	-	1,600,000	(978)	1,599,022	Two equal installments in last two years	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.02	On 12.02 annually	0.44	5,600,000	-	5,600,000	(4,316)	5,595,684	Two equal installments in last two years	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.02	On 12.02 annually	0.48	4,800,000	-	4,800,000	(4,254)	4,795,746	Two equal installments in last two years	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.02	On 12.02 annually	0.48	4,800,000	-	4,800,000	(4,254)	4,795,746	Two equal installments in last two years	Nil
Domestic unsecured bonds-109-7	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.29	On 12.29 annually	0.36	1,900,000	-	1,900,000	(1,091)	1,898,909	Two equal installments in last two years	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.29	On 12.29 annually	0.41	10,200,000	-	10,200,000	(7,302)	10,192,698	Two equal installments in last two years	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.29	On 12.29 annually	0.45	6,400,000	-	6,400,000	(5,245)	6,394,755	Two equal installments in last two years	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2020.12.29	On 12.29 annually	0.45	6,400,000	-	6,400,000	(5,245)	6,394,755	Two equal installments in last two years	Nil
Domestic US\$ unsecured bonds-109-1	Mega International Commercial Bank Co., Ltd.	2020.09.22	On 09.22 annually	2.70	30,713,000	-	30,713,000	(30,824)	30,682,176	Bullet repayment (callable on the 5th anniversary of the issue date and every anniversary thereafter)	Nil
Domestic unsecured bonds-110-1	Taipei Fubon Commercial Bank Co., Ltd.	2021.03.30	On 03.30 annually	0.50	4,800,000	-	4,800,000	(3,218)	4,796,782	Bullet repayment	Nil
-A	Taipei Fubon Commercial Bank Co., Ltd.	2021.03.30	On 03.30 annually	0.55	11,400,000	-	11,400,000	(8,828)	11,391,172	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2021.03.30	On 03.30 annually	0.60	4,900,000	-	4,900,000	(4,181)	4,895,819	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2021.03.30	On 03.30 annually	0.60	4,900,000	-	4,900,000	(4,181)	4,895,819	Bullet repayment	Nil

(Continued)

Bonds Name	Trustee	Issuance Date	Interest Payment Date	Coupon Rate (%)	Total Amount	Repayment Paid	Amount Balance, End of Year	Premiums (Discounts)	Carrying Value	Unamortized Repayment	Collateral
Domestic unsecured bonds-110-2											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2021.05.03	On 05.03 annually	0.50	\$ 5,200,000	\$ -	\$ 5,200,000	\$ (3,592)	\$ 5,196,408	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2021.05.03	On 05.03 annually	0.58	8,400,000	-	8,400,000	(6,633)	8,393,367	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2021.05.03	On 05.03 annually	0.65	5,600,000	-	5,600,000	(4,841)	5,595,159	Bullet repayment	Nil
Domestic unsecured bonds-110-3											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2021.06.25	On 06.25 annually	0.52	6,900,000	-	6,900,000	(4,963)	6,895,037	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2021.06.25	On 06.25 annually	0.58	7,900,000	-	7,900,000	(6,396)	7,893,604	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2021.06.25	On 06.25 annually	0.65	4,900,000	-	4,900,000	(4,294)	4,895,706	Bullet repayment	Nil
Domestic unsecured bonds-110-4											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2021.08.19	On 08.19 annually	0.485	4,000,000	-	4,000,000	(2,687)	3,997,313	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2021.08.19	On 08.19 annually	0.50	8,000,000	-	8,000,000	(5,928)	7,994,072	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2021.08.19	On 08.19 annually	0.55	5,400,000	-	5,400,000	(4,435)	5,395,565	Bullet repayment	Nil
-D	Taipei Fubon Commercial Bank Co., Ltd.	2021.08.19	On 08.19 annually	0.62	4,200,000	-	4,200,000	(3,708)	4,196,292	Bullet repayment	Nil
Domestic US\$ unsecured bonds-110-5	Mega International Commercial Bank Co., Ltd.	2021.09.23	On 09.23 annually	3.10	30,713,000	-	30,713,000	(30,811)	30,682,189	Bullet repayment	Nil
										(callable on the 5th anniversary of the issue date and every anniversary thereafter)	
Domestic unsecured bonds-110-6											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2021.10.05	On 10.05 annually	0.535	3,200,000	-	3,200,000	(2,386)	3,197,614	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2021.10.05	On 10.05 annually	0.54	6,900,000	-	6,900,000	(5,344)	6,894,656	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2021.10.05	On 10.05 annually	0.60	4,600,000	-	4,600,000	(3,904)	4,596,096	Bullet repayment	Nil
-D	Taipei Fubon Commercial Bank Co., Ltd.	2021.10.05	On 10.05 annually	0.62	1,600,000	-	1,600,000	(1,447)	1,598,553	Bullet repayment	Nil
Domestic unsecured bonds-110-7											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2021.12.09	On 12.09 annually	0.65	7,700,000	-	7,700,000	(6,251)	7,693,749	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2021.12.09	On 12.09 annually	0.675	3,500,000	-	3,500,000	(2,908)	3,497,092	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2021.12.09	On 12.09 annually	0.72	5,500,000	-	5,500,000	(4,820)	5,495,180	Bullet repayment	Nil
Domestic unsecured bonds-111-1											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2022.01.12	On 01.12 annually	0.63	2,100,000	-	2,100,000	(2,083)	2,097,917	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2022.01.12	On 01.12 annually	0.72	3,300,000	-	3,300,000	(3,498)	3,296,502	Bullet repayment	Nil
Domestic unsecured bonds-111-2											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2022.03.29	On 03.29 annually	0.84	3,000,000	-	3,000,000	(2,579)	2,997,421	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2022.03.29	On 03.29 annually	0.85	9,600,000	-	9,600,000	(8,417)	9,591,583	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2022.03.29	On 03.29 annually	0.90	1,600,000	-	1,600,000	(1,482)	1,598,518	Bullet repayment	Nil
Domestic unsecured bonds-111-3											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2022.05.20	On 05.20 annually	1.50	6,100,000	-	6,100,000	(5,961)	6,094,039	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2022.07.27	On 07.27 annually	1.60	1,200,000	-	1,200,000	(1,122)	1,198,878	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2022.07.27	On 07.27 annually	1.70	10,100,000	-	10,100,000	(9,636)	10,090,364	Bullet repayment	Nil
-D	Taipei Fubon Commercial Bank Co., Ltd.	2022.07.27	On 07.27 annually	1.75	1,200,000	-	1,200,000	(1,180)	1,198,820	Bullet repayment	Nil
Domestic unsecured bonds-111-5											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2022.07.27	On 07.27 annually	1.95	1,400,000	-	1,400,000	(1,405)	1,398,597	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2022.08.25	On 08.25 annually	1.65	2,000,000	-	2,000,000	(1,907)	1,998,093	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2022.08.25	On 08.25 annually	1.65	8,900,000	-	8,900,000	(8,503)	8,891,497	Bullet repayment	Nil
-D	Taipei Fubon Commercial Bank Co., Ltd.	2022.08.25	On 08.25 annually	1.65	2,200,000	-	2,200,000	(2,153)	2,197,847	Bullet repayment	Nil
Domestic unsecured bonds-111-6											
-A	Taipei Fubon Commercial Bank Co., Ltd.	2022.08.25	On 08.25 annually	1.82	2,500,000	-	2,500,000	(2,487)	2,497,513	Bullet repayment	Nil
-B	Taipei Fubon Commercial Bank Co., Ltd.	2022.10.20	On 10.20 annually	1.75	5,700,000	-	5,700,000	(6,000)	5,694,000	Bullet repayment	Nil
-C	Taipei Fubon Commercial Bank Co., Ltd.	2022.10.20	On 10.20 annually	1.80	1,000,000	-	1,000,000	(1,070)	998,930	Bullet repayment	Nil
TOTAL					\$ 383,926,000	\$ 4,400,000	\$ 379,526,000	\$ (295,526)	\$ 379,230,474		
Less: Current portion									(18,100,000)		
									\$ 361,130,474		

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF LEASE LIABILITIES****DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Item	Description	Lease Term	Discount Rate (%)	Balance, End of Year
Land	Mainly for the use of plants and offices	1 to 22 years	0.39-2.30	\$ 28,728,579
Buildings	Mainly for the use of offices	2 to 12 years	0.39-1.76	875,258
Office equipment	For operation use	3 to 5 years	0.28-1.73	<u>19,425</u>
				29,623,262
Less: Current portion				<u>(2,029,362)</u>
Noncurrent portion				<u>\$ 27,593,900</u>

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF NET REVENUE
FOR THE YEAR ENDED DECEMBER 31, 2022
(In Thousands of New Taiwan Dollars, Unless Specified Otherwise)**

Item	Shipments (Piece) (Note)	Amount
Wafer	15,252,882	\$ 1,989,174,117
Other		<u>263,146,444</u>
Net revenue		<u>\$ 2,252,320,561</u>

Note: 12-inch equivalent wafers.

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF COST OF REVENUE
FOR THE YEAR ENDED DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Item	Amount
Raw materials used	
Balance, beginning of year	\$ 10,368,446
Raw material purchased	76,596,173
Raw materials, end of year	(19,750,618)
Transferred to manufacturing or operating expenses	(11,776,664)
Others	(281,987)
Subtotal	<u>55,155,350</u>
Direct labor	23,183,318
Manufacturing expenses	<u>845,383,788</u>
Manufacturing cost	923,722,456
Work in process, beginning of year	134,097,879
Work in process, end of year	(120,893,772)
Transferred to manufacturing or operating expenses	<u>(54,417,005)</u>
Cost of finished goods	882,509,558
Finished goods, beginning of year	32,290,346
Finished goods purchased	90,043,394
Finished goods, end of year	(52,318,299)
Transferred to manufacturing or operating expenses	(23,135,990)
Scrapped	<u>(294,302)</u>
Subtotal	<u>929,094,707</u>
Others	<u>22,832,966</u>
 Total	 <u>\$ 951,927,673</u>

Taiwan Semiconductor Manufacturing Company Limited**STATEMENT OF OPERATING EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2022****(In Thousands of New Taiwan Dollars)**

Item	Research and Development Expenses	General and Administrative Expenses	Selling Expenses
Payroll and related expense	\$ 61,119,834	\$ 19,188,325	\$ 4,560,001
Consumables	49,628,294	657,200	12
Depreciation expense	25,971,756	1,940,529	27,393
Repair and maintenance expense	6,645,607	3,770,902	3,695
Management fees of the Science Park Administration	-	4,162,547	-
Patents	-	2,937,121	-
Commission	-	-	1,160,080
Others (Note)	<u>17,448,142</u>	<u>10,108,018</u>	<u>308,468</u>
Total	<u>\$ 160,813,633</u>	<u>\$ 42,764,642</u>	<u>\$ 6,059,649</u>

Note: The amount of each item in others does not exceed 5% of the account balance.

Taiwan Semiconductor Manufacturing Company Limited

STATEMENT OF LABOR, DEPRECIATION AND AMORTIZATION BY FUNCTION
FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021
(In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

	Year Ended December 31, 2022			Year Ended December 31, 2021		
	Classified as Cost of Revenue	Classified as Operating Expenses	Classified as Other Operating Income and Expenses	Classified as Cost of Revenue	Classified as Operating Expenses	Classified as Other Operating Income and Expenses
Labor cost						
Salary and bonus	\$ 118,078,587	\$ 78,041,998	\$ -	\$ 196,120,585	\$ 51,640,741	\$ -
Labor and health insurance	5,422,819	3,306,536	-	8,729,355	2,511,734	-
Pension	2,507,996	1,364,188	-	3,872,184	1,135,950	-
Board compensation	-	743,990	-	743,990	507,304	-
Others	2,705,149	1,411,448	-	4,116,597	1,093,824	-
	<u>\$ 128,714,551</u>	<u>\$ 84,868,160</u>	<u>\$ -</u>	<u>\$ 213,582,711</u>	<u>\$ 56,889,553</u>	<u>\$ 147,115,609</u>
Depreciation	<u>\$ 385,647,215</u>	<u>\$ 27,939,678</u>	<u>\$ 8,189</u>	<u>\$ 413,595,082</u>	<u>\$ 27,176,646</u>	<u>\$ 146,549</u>
Amortization	<u>\$ 6,069,729</u>	<u>\$ 2,637,232</u>	<u>\$ -</u>	<u>\$ 8,706,961</u>	<u>\$ 2,590,267</u>	<u>\$ -</u>

Note 1: As of December 31, 2022 and 2021, the Company had 61,777 and 54,193 employees, respectively. There were both 9 non-employee directors.

Note 2: Average labor cost for the years ended December 31, 2022 and 2021 were NT\$3,446 thousand and 2,706 thousand, respectively.

Note 3: Average salary and bonus for the years ended December 31, 2022 and 2021 were NT\$3,175 thousand and 2,463 thousand, respectively. The average salary and bonus increased by 28.91% year over year.

Note 4: The Company did not have supervisors for the years ended December 31, 2022 and 2021. Therefore, there was no compensation to the supervisor.

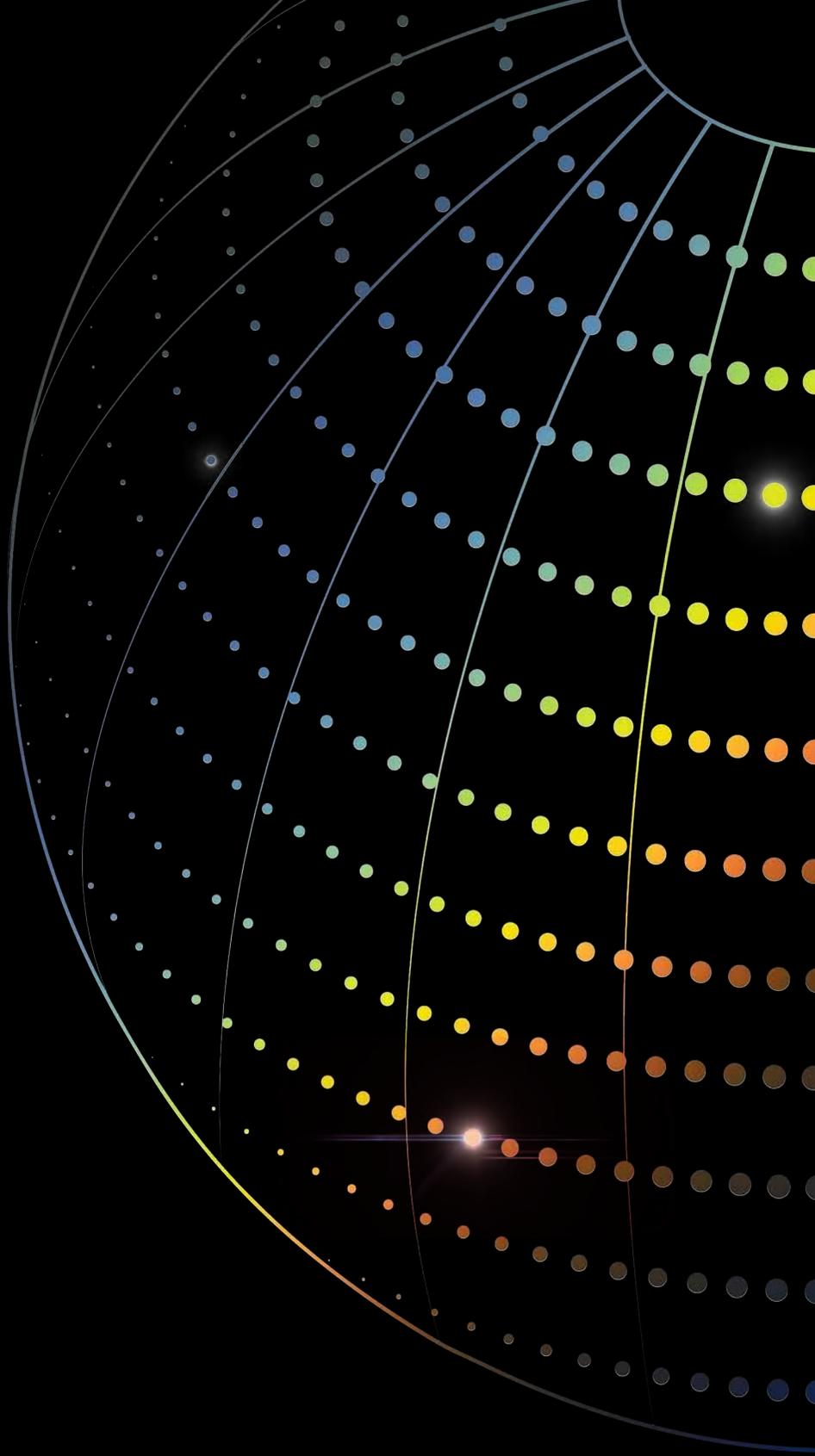
Note 5: The Company's compensation policies: The Company's employees are entitled to a comprehensive compensation and benefits program above the industry average. The compensation program includes a monthly salary, business performance bonuses based on quarterly business results, a profit sharing bonus based on annual profits, and a subsidy based on Employee Stock Purchase Plan. The Company determines the amount of the business performance bonus and profit sharing based on operating results and industry practice in the R.O.C.. The amount and distribution of the bonus and profit sharing are recommended by the Compensation Committee (Note 8) to the Board of Directors for approval. Individual rewards are based on each employee's job responsibility, contribution and performance.

Note 6: The total compensation paid to the executive officers is decided based on their job responsibility, contribution, company performance and projected future risks the Company will face. It is reviewed by the Compensation Committee (Note 8) then submitted to the Board of Directors for approval.

Note 7: According to the Company's Articles of Incorporation, the Board of Directors is authorized to determine the salary for the Chairman, Vice Chairman and Directors, taking into account the extent and value of the services provided for the management of the Company and the standards of the industry within the R.O.C. and overseas. The Articles of Incorporation also provide that the compensation to directors shall be no more than 0.3% of annual profits and directors who also serve as executive officers of the Company are not entitled to receive compensation to directors. The distribution of compensation to directors shall be made in accordance with the Company's "Rules for Distribution of Compensation to Directors" based on the following principles: (1) directors who also serve as executive officers of the Company are not entitled to receive compensation; (2) the compensation for independent directors may be higher than the other directors, as all independent directors also serve as members of the Audit Committee (Note 9) and the Compensation Committee (Note 8) and thus participate in the discussions as well as resolutions of related committee meetings in accordance with the charter of each committee; and (3) the compensation for overseas independent directors may be higher than domestic independent directors.

Note 8: Compensation Committee renamed to Compensation and People Development Committee from February 14, 2023.

Note 9: Audit Committee renamed to Audit and Risk Committee from February 14, 2023.



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Taiwan Semiconductor Manufacturing Company, Ltd.



Mark Liu, Chairman