



23 January 2024

Ilika plc  
(‘Ilika,’ the ‘Company,’ or the ‘Group’)

## Half-year Report

### *Further milestones achieved for Stereax & Goliath, on the pathway towards commercialisation*

Ilika (AIM: IKA), a pioneer in solid-state battery technology, announces its unaudited half-year report for the six months ended 31 October 2023.

#### **Operating Highlights:**

During the period, significant progress has been made with both Ilika’s thin-film Stereax<sup>®</sup> miniature solid-state batteries (SSBs) for powering medical devices and industrial wireless sensors in specialist environments, and its large-format Goliath cells for electric vehicles (EV) and cordless appliances.

#### *Stereax*

- Completed first customer shipments of stacked M300 batteries from UK pilot manufacturing facility.
- Entered into technology transfer and ten-year licensing agreement with US-headquartered Cirtec.
- Dispatched key equipment required to manufacture Stereax cells at Cirtec to its US facility; cathode manufacturing will initially remain at Ilika in the UK as a sub-contract service to Cirtec.
- Continued collaboration with Cirtec to support the development plans and launch schedules of the portfolio of 20 Stereax customers.

#### *Goliath*

- Significant development milestones achieved on technology roadmap.
- Production scale-up progressing.
- Continued execution of the Faraday Battery Challenge 24-month, £8.2m grant-funded HISTORY project, steered with input from BMW and Fortescue WAE.
- Production-intent equipment trialled at vendor sites and at its pilot facility.
- Secured the Automotive Transformation Fund 16-month, £2.7m grant-supported SISTEM project, in which Ilika is collaborating with Mpac plc and UK Battery Industrialisation Centre (UKBIC).
- Continued interaction with a portfolio of automotive and consumer appliance original equipment manufacturers (OEMs) globally, resulting in a pipeline of evaluation agreements with 17 companies.

#### **Financial Summary:**

- Total revenue for the period of £1.3m (H1 2023: £0.2m)
  - Grant funding of £1.3m (H1 2023: £0.2m)
- EBITDA loss, excluding share-based payments, of £1.9m (H1 2023: £4.1m loss)
- Cash & Cash equivalents at period end of £13.2m (H1 2023: £18.6m)

#### **Post Period End:**

- Completed key design-freeze D4 development milestone, the precursor to P1, the first prototype for customer release of the Goliath battery.
- Achieved lithium-ion energy density parity in its Goliath programme.

#### **Outlook:**

- Signed contract with Cirtec represents most immediate commercialisation opportunity, allowing fulfilment of order book and creating further opportunities for commercial engagement.
- Well-developed plans to move Ilika's Goliath roadmap to the next stage, MVP, aiming to reach the D8 development milestone by the end of the HISTORY programme grant in Q1 2025, underpinning licencing opportunities.

- First half of this calendar year Ilika will manufacture and test batches of pouch cells based on the D4 development point prior to delivering fully characterised P1 cells to customers.
- Plans to increase the capacity of the Company's existing pre-pilot production facility using automation and larger scale items of equipment.
- Targets to reach an installed capacity of 1.5 MWh/a to allow Ilika to scale production volumes and mature its technology to the level required to respond to automotive requests for quotation ('RFQ') by the end of 2025.
- Commercial interest and government grant support expected to intensify as the Goliath product continues to mature.

**Commenting on the results Graeme Purdy, CEO of Ilika, said:** *"The first half of this year was important for Ilika on both sides of the business. We were delighted to successfully convert our memorandum of understanding with Cirtec into a ten-year licensing arrangement. Both companies are now working hard to implement Stereax manufacturing at Cirtec's facility in the US. This has the potential to open up many more business opportunities in miniature medical devices, given Cirtec's position as an industry leader as a strategic outsourcing partner of complex medical devices.*

*Regarding Goliath, we have successfully delivered against our technology roadmap, with two key milestones achieved at the end of 2023. Having reached lithium-ion energy density parity, and continuing to work towards further energy and power density milestones, we have proved that our batteries stand to deliver the clear benefits of solid-state architecture, and from here we will continue to pursue further energy and power density milestones. Against a backdrop of continually growing recognition of the importance of the EV sector, from both business and government, we look forward to building on this momentum and developing closer commercial relationships in 2024."*

## **Joint Chairman's and CEO's Statement**

### **Review of Period**

#### ***Principal Activities***

Ilika continues to pursue its mission to rapidly develop leading-edge intellectual property (IP), manufacture at pilot scale and license SSBs for high performance markets. We will achieve this using ceramic-based lithium-ion technology, which differentiates our products from existing batteries by offering competitive energy density and charge times, while being inherently safe in manufacture and usage and easier to recycle.

Ilika has two product lines: miniature Stereax® SSBs for powering medical devices and industrial wireless sensors in specialist environments, and large format Goliath SSBs for EVs and cordless appliances.

#### ***Stereax SSBs***

Ilika's miniature Stereax cells are differentiated from other solid-state technology through its choice of materials and its use of an efficient, low temperature evaporation process that is capable of higher manufacturing rates than other existing miniature solid-state routes. This results in the following benefits relative to previous solid-state battery designs:

- Lower cost of manufacture, avoiding the use of expensive sputtering targets.
- Can be charged and discharged more times through use of a silicon anode.
- Less packaging required.
- High temperature resilience.

The unique benefits of Stereax batteries make them particularly useful for medical implants and industrial applications. Miniature Stereax batteries can enable solutions in a form factor not currently achievable with conventional lithium-ion batteries. Their compact, high energy-density, high power characteristics make them useful for a range of medical implant applications covering blood pressure monitoring to neuro-stimulation. Industrial automation, or Industrial Internet of Things (IIoT), requires low maintenance batteries

with a long lifetime, sometimes in situations that require them to operate at elevated temperatures above those for which standard lithium-ion batteries are rated (typically 60 degrees Celsius).

### ***Stereax Manufacturing and Commercialisation***

Ilika successfully made initial batches of Stereax M300 batteries and shipped them to customers from its UK pilot manufacturing facility in May 2023. By August 2023, Ilika had progressed the MOU signed in January 2023 with Cirtec, to a full commercial agreement. Cirtec is an industry-leading strategic outsourcing partner of complex medical devices including minimally invasive and active implantable devices. Ilika and Cirtec have signed a ten-year manufacturing licence for the production of the Stereax range of mm-scale batteries at Cirtec's facility in Lowell, Massachusetts, US.

Contract headlines include:

- Exclusivity for Cirtec in the field of medical devices designed to drive full utilisation of Cirtec's installed capacity.
- Profit sharing during the initial period followed by royalty-bearing manufacturing aligned with industry norms, calculated on individual battery volumes.
- Retention of the cathode deposition process and back-end battery formation at Ilika's UK pilot facility as a sub-contract service to Cirtec.
- Transfer of machine sets to the US for Cirtec to operate on loan, to enable a quicker technology transfer and qualification process.

Ilika has now dispatched the Stereax machine sets and Cirtec is in the process of installing them in its Lowell facility. The Company continues to work with Cirtec to support a portfolio of 20 current Stereax customers. Demand from applications such as smart orthopaedics, orthodontics, neurostimulation and smart contact lenses has created opportunities in the medical device sector, which is the sector generating the strongest demand and accordingly we are increasing our commercial collaboration alongside Cirtec in the year ahead. Commercial ramp up in this space usually takes three to five years, depending on the regulatory classification of the device.

### ***Large Format Goliath SSBs***

Ilika's Goliath cells are differentiated from other solid-state prototype cells through the Company's choice of materials, cell architecture and manufacturing process. The key materials choices to be made by SSB developers relate to the selection of cathode, electrolyte and anodes. Different developers have selected distinct combinations of these materials to achieve an outcome suitable for their target markets. Ilika has chosen materials that have the potential to enable longer range vehicles with battery packs that last longer and can be recycled more easily.

Ilika's initial target market for Goliath in automotive is the luxury performance market, which is less cost-sensitive than higher volume segments and is willing to pay a premium for the enhanced vehicle range. To address this market, Ilika is driving forward its Goliath development programme. In November 2023, Ilika reached a point of maturity it refers to as its D4 development point, which is a design-freeze milestone in the Goliath roadmap upon which Ilika's first prototype for customer release, P1, is based. The P1 prototype is an intermediate milestone on Ilika's roadmap to its minimum viable product (MVP) in 2025. The P1 Goliath prototype is a solid-state pouch cell made from readily available materials including a lithium-nickel-manganese-cobalt oxide (NMC) cathode and a silicon anode.

Reaching the D4 development point is an important milestone for the Company, effectively marking the start of Goliath's productisation journey; it means that a number of key data sets, including energy density and power density, have been met while showing that the Company is on track to achieve further improvements. Given the data sets that are now achievable, the Company will be able to create P1 samples, which comprise multilayer stacks, for sale to OEMs for testing.

Over the first six months of calendar year 2024, Ilika will manufacture and test batches of pouch cells based on the D4 development point prior to delivering fully characterised P1 cells to customers in H2 2024.

In parallel, Ilika has continued to progress its roadmap, and in December 2023 it was able to announce it had reached its 2023 stated intermediate technology development target of lithium-ion energy density.

Ilika is currently in discussions with its customer base for Goliath batteries, which is primarily automotive OEMs, but also includes Tier 1 automotive suppliers and consumer appliance companies.

Work is continuing on Ilika's roadmap through to MVP, for which the corresponding D8 development point will be achieved by the end of the HISTORY project in Q1 2025. The MVP, or P2 prototypes, will be cells meeting customer-agreed specifications for EVs, underpinning licensing opportunities.

Ilika is currently implementing a plan to increase the capacity of its existing pre-pilot production facility using automation and larger scale items of equipment, such as a roll-to-roll coater, to provide larger volumes of evaluation cells to customers. Ilika is targeting an installed capacity of 1.5 MWh/a to allow it to scale production volumes and mature its technology to the level required to respond to automotive requests for quotation (RFQ) by the end of 2025. Ilika's experience working with automotive partners has shown that the industry expects suppliers to have reached what it defines as A-Sample readiness to respond to RFQs. Beyond 1.5 MWh/a, at B- and C-Sample readiness and volumes, Ilika intends to work with manufacturing partners such as UKBIC to scale to higher levels of production capacity on production-intent equipment i.e., equipment that could be used for mass production.

#### ***Goliath Funding***

Ilika has financed its Goliath technology development programme with equity funding supplemented by grant funding from the Faraday Battery Challenge (FBC) and the Advanced Propulsion Centre (APC). In the first half of the current financial year, Ilika's development efforts have been supported specifically by the FBC 24-month, £8.2m grant-funded HISTORY project, steered with input from BMW and Fortescue WAE, to integrate high silicon content electrodes into Goliath. In parallel, Ilika has been trialling production-intent equipment at vendor sites and its pilot facility in the UK. Since October 2023, this scale-up work has been supported by the Automotive Transformation Fund 16-month, £2.7m grant-supported SiSTEM project, in which Ilika is collaborating with Mpac plc and UKBIC.

Furthermore, Ilika continues to interact with a portfolio of 17 automotive and consumer appliance OEMs globally, with a view to intensifying interactions through both grant-supported and commercially funded collaborations as the Goliath technology matures.

**Graeme Purdy, CEO**  
**Keith Jackson, Chairman**  
**Ilika plc**

**Consolidated statement of comprehensive income for the six months ended 31 October 2023 (unaudited)**

	Notes	Unaudited Six months ended 31 Oct 2023 £ 000's	Unaudited Six months ended 31 Oct 2022 £ 000's	Audited Year ended 30 Apr 2023 £ 000's
<b>Turnover</b>		1,335.0	203.7	702.0
Revenue		6.5	-	33.8
UK grants		1,328.6	203.7	668.2
Cost of sales		(924.8)	(120.5)	(404.0)
<b>Gross profit</b>		410.3	83.3	298.0
Other Operating Income		77.4	44.2	79.0
Administrative expenses				
Administrative expenses		(3,280.2)	(4,940.3)	(8,932.6)
Share-based payment charge		(292.0)	(212.7)	(441.8)
		(3,572.2)	(5,153.0)	(9,374.4)
<b>Operating loss</b>		(3,084.4)	(5,069.7)	(8,997.5)
Financial income		180.6	6.3	105.7
Financial expense		(20.4)	(18.3)	(36.6)
<b>Loss before tax</b>		(2,924.3)	(5,037.5)	(8,928.4)
Taxation		337.6	958.2	1,632.5
<b>Loss for period/total comprehensive income attributable to owners of parent</b>		(2,586.7)	(4,079.3)	(7,296.0)
		£	£	£
<b>Loss per share</b>				
Basic and diluted	2	(0.02)	(0.03)	(0.05)

The results from the periods shown above are derived entirely from continuing operations.

Consolidated balance sheet as at 31 October 2022 (unaudited)

	Unaudited Six months ended 31 Oct 2023	Unaudited Six months ended 31 Oct 2022	Audited Year ended 30 Apr 2023
Notes	£ 000's	£ 000's	£ 000's
<b>ASSETS</b>			
<b>Non-current assets</b>			
Intangible assets	3,358.0	2,426.9	2,943.5
Property, plant and equipment	3,932.3	4,831.6	4,263.6
Right-of-use assets	367.1	761.1	631.0
<b>Total non-current assets</b>	<b>7,657.5</b>	<b>8,019.6</b>	<b>7,838.0</b>
<b>Current assets</b>			
Trade and other receivables	1,847.2	1,661.4	1,938.6
Current tax receivable	1,676.1	2,019.3	1,261.1
Other financial assets – bank deposits	5,000.0	772.7	772.7
Cash and cash equivalents	8,236.0	17,838.0	15,101.0
<b>Total current assets</b>	<b>16,759.3</b>	<b>22,291.3</b>	<b>19,073.3</b>
<b>Total assets</b>	<b>24,416.8</b>	<b>30,310.9</b>	<b>26,911.3</b>
<b>Issued capital and reserves attributable to owners of parent</b>			
Issued share capital	1,590.6	1,584.7	1,590.6
Share premium	64,935.1	64,806.9	64,936.6
Capital restructuring reserve	6,486.1	6,486.1	6,486.1
Retained earnings	(50,535.8)	(45,253.5)	(48,241.1)
<b>Total equity</b>	<b>22,476.0</b>	<b>27,624.2</b>	<b>24,772.2</b>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Trade and other payables	1,168.1	1,705.3	1,271.1
Lease liabilities	205.7	281.5	260.8
<b>Total current liabilities</b>	<b>1,373.7</b>	<b>1,986.8</b>	<b>1,531.9</b>
<b>Non-current liabilities</b>			
Lease liabilities	317.5	459.6	357.6
Provisions	249.5	240.4	249.5
<b>Total non-current liabilities</b>	<b>567.0</b>	<b>699.9</b>	<b>607.2</b>
<b>Total liabilities</b>	<b>1,940.8</b>	<b>2,686.7</b>	<b>2,139.1</b>
<b>Total equity and liabilities</b>	<b>24,416.8</b>	<b>30,310.9</b>	<b>26,911.3</b>

**Consolidated cash flow statement for the six months ended 31 October 2022 (unaudited)**

	<b>Unaudited Six months ended 31 Oct 2023 £ 000's</b>	<b>Unaudited Six months ended 31 Oct 2022 £ 000's</b>	<b>Audited Year ended 30 Apr 2023 £ 000's</b>
<b>Cash flows from operating activities</b>			
Loss before taxation	(2,924.3)	(5,037.5)	(8,928.4)
<i>Adjustments for:</i>			
Amortisation	20.8	21.7	42.2
Depreciation	919.5	767.6	1,552.8
Equity settled share-based payments	292.0	212.7	441.8
Loss on disposal of plant, property and equipment	-	(0.8)	(0.8)
Net financial expense/ (income)	(160.2)	(32.2)	(69.1)
<b>Operating cash flow before changes in working capital, interest and taxes</b>	<b>(1,852.2)</b>	<b>(4,068.5)</b>	<b>(6,961.5)</b>
Decrease/(increase) in trade and other receivables	91.3	(67.1)	(454.0)
Increase /(decrease) in trade and other payables	(103.0)	297.9	(136.3)
Decrease in provisions	-	-	9.2
<b>Cash utilised by operations</b>	<b>(1,863.8)</b>	<b>(3,837.7)</b>	<b>(7,542.7)</b>
Tax received	(77.4)	-	1,388.2
<b>Net cash flow from operating activities</b>	<b>(1,941.2)</b>	<b>(3,837.7)</b>	<b>(6,154.5)</b>
<b>Cash flows from investing activities</b>			
Interest received	180.6	6.3	106.0
Purchase of intangible assets	(435.4)	(490.5)	(1,027.5)
Purchase of property, plant and equipment	(324.4)	(396.7)	(374.0)
Sale of Property, Plant and equipment	-	0.8	0.8
Increase in other financial assets	(4,227.3)	-	-
<b>Net cash used in investing activities</b>	<b>(4,806.5)</b>	<b>(880.2)</b>	<b>(1,295.0)</b>
<b>Cash flows from financing activities</b>			
Proceeds from issuance of ordinary share capital	(1.5)	54.4	189.9
Cost of share issue	-	-	-
Capital element of finance leases repaid	(95.3)	(106.5)	(229.1)
Lease Payments interest	(20.4)	(18.3)	(36.6)
<b>Net cash from financing activities</b>	<b>(117.2)</b>	<b>(70.4)</b>	<b>(75.8)</b>
<b>Net (decrease)/ increase in cash and cash equivalents</b>	<b>(6,864.9)</b>	<b>(4,788.3)</b>	<b>(7,525.3)</b>
<b>Cash and cash equivalents at the start of the period</b>	<b>15,101.0</b>	<b>22,626.3</b>	<b>22,626.3</b>
<b>Cash and cash equivalents at the end of the period</b>	<b>8,236.0</b>	<b>17,838.0</b>	<b>15,101.0</b>

## Consolidated statement of changes in equity (unaudited)

	Share capital £ 000's	Share premium account £ 000's	Capital restructuring reserve £ 000's	Retained earnings £ 000's	Total £ 000's
<b>As at 30th April 2022</b>	<b>1,582.3</b>	<b>64,754.9</b>	<b>6,486.1</b>	<b>(41,386.9)</b>	<b>31,436.4</b>
Share-based payment	-	-	-	212.7	212.7
Issue of Shares	2.4	56.1	-	-	58.5
Loss and total comprehensive income	-	-	-	(4,079.3)	(4,079.3)
<b>As at 31 October 2022</b>	<b>1,584.7</b>	<b>64,811.0</b>	<b>6,486.1</b>	<b>(45,253.5)</b>	<b>27,628.3</b>
Share-based payment	-	-	-	229.1	229.1
Issue of shares	5.9	125.6	-	-	131.5
Loss and total comprehensive income	-	-	-	(3,216.7)	(3,216.7)
<b>As at 30th April 2023</b>	<b>1,590.6</b>	<b>64,936.6</b>	<b>6,486.1</b>	<b>(48,241.1)</b>	<b>24,772.2</b>
Share-based payment	-	-	-	292.0	292.0
Issue of shares	-	(1.5)	-	-	(1.5)
Loss and total comprehensive income	-	-	-	(2,586.7)	(2,586.7)
	<b>1,590.6</b>	<b>64,935.1</b>	<b>6,486.1</b>	<b>(50,535.8)</b>	<b>22,476.0</b>

### Share capital

The share capital represents the nominal value of the equity shares in issue.

### Share premium account

When shares are issued, any premium paid above the nominal value is credited to the share premium reserve.

### Retained earnings

The retained earnings reserve records the accumulated profits and losses of the Group since inception of the business.

### Capital restructuring reserve

The capital restructuring reserve arises on the accounting for the share for share exchange. It represents the difference between the value of the issued equity instruments of Ilika Technologies Limited immediately before the share for share exchange and the equity instruments of Ilika plc along with the shares issued to effect the share for share exchange.



## Notes to the consolidated financial statements

### 1. Accounting policies

#### Basis of preparation

The interim financial statements, which are unaudited, have been prepared on the basis of accounting policies consistent with International Financial Reporting Standards (“IFRSs”) adopted by the European Union. The accounting policies are the same as applied in the Group’s latest financial statements.

The interim financial statements do not include all of the information required for full annual financial statements and do not comply with all the disclosures in IAS 34 ‘Interim Financial Reporting’. Accordingly, whilst the interim financial statements have been prepared in accordance with IFRS they cannot be construed as being in full compliance with IFRS.

The financial information for the year ended 30 April 2023 does not constitute the full statutory accounts for that period. The Annual Report and Accounts for 30 April 2023 have been filed with the Registrar of Companies. The Independent Auditors’ Report on the Annual Report and Accounts for 2023 was unqualified and did not include references to any matters which the auditors drew attention by way of emphasis without qualifying their report and did not contain statements under Section 498(2) or 498(3) of the Companies Act 2006.

#### Going concern

The financial statements are prepared on a going concern basis which the directors believe continues to be appropriate. The Group meets its day to day working capital requirements through existing cash resources which, at 31 October 2023, amounted to £13.2m, including cash in hand at the bank (£8.2m) and cash held on long term deposit shown as a financial instrument (£5m). The directors have prepared projected cash flow information for the period ending twelve months from the date of their approval of these financial statements. On the basis of this cash flow information the directors believe that the Group will be able to continue to trade for the foreseeable future.

### 2. Loss per share

Loss per ordinary share have been calculated using the weighted average number of shares in issue during the relevant financial periods. The weighted average number of equity shares in issue and the earnings, being loss after tax, are as follows:

	<b>Unaudited Six months ended 31 Oct 2023</b>	<b>Unaudited Six months ended 31 Oct 2022</b>	<b>Audited Year ended 30 Apr 2023</b>
	<b>Number</b>	<b>Number</b>	<b>Number</b>
Weighted average number of equity shares	158,580,748	158,309,838	158,395,116
	<b>£ 000’s</b>	<b>£ 000’s</b>	<b>£ 000’s</b>
Loss, being loss after tax	<u>(2,586.6)</u>	<u>(4,079.3)</u>	<u>(7,296.0)</u>

The loss attributable to ordinary shareholders and weighted average number of ordinary shares for the purpose of calculating the diluted earnings per ordinary share are identical to those used for basic earnings per share. This is because the exercise of share options and warrants would have the effect of reducing the loss per ordinary share and is therefore not dilutive under the terms of IAS 33.

– Ends –