23 January 2020

Ilika plc

('Ilika,' the 'Company,' or the 'Group')

Half-year Report

Ilika (AIM: IKA), a pioneer in solid-state battery technology, announces its unaudited half yearly report for the six months ended 31 October 2019.

Operating Highlights:

Ilika has continued to develop and commercialise its thin-film miniature solid-state batteries for powering wireless sensors, as well as progressing its development of large format Goliath cells for electric vehicles (EV).

- Launched the latest of the Company's miniature batteries, the Stereax® M50 in April 2019, designed for medical implants
- Continued the commercialisation of its Stereax® batteries for industrial wireless sensors, which is the Company's second significant addressable market opportunity and part of the industrial Internet of Things ecosystem
- Executed other demonstration deployments including wind turbines, rail networks and environmental pollution monitors and process control
- Third Goliath alliance, project "Granite", launched in September 2019 and led by Jaguar Land Rover. This project is supported by grant funding from the UK Government's Faraday Battery Challenge.
- Total grant support offered to Ilika for its Goliath programme to date is £5m
- In September 2019 the Company opened its new large format battery facility, the Goliath pilot line, to support its portfolio of industrial collaborations.

Financial Summary:

- Total revenue for the period £1.5m (H1 2018: £1.0m)
- Loss per share 1p (H1 2018: 1p per share)
- EBITDA loss £1.0m (H1 2018: £1.3m)
- Cash balance at period end £1.9m (H1 2018: £5.8m) with £0.7m banked post period end

Post period end:

- Awarded the Green Economy Classification by the London Stock Exchange, recognising its contribution to a more sustainable economy.

Commenting on the results Graeme Purdy, CEO of Ilika, said: *"The first half of this financial year has seen us increase the utilisation of the production capacity of our* Stereax® *pilot line in response to commercial demand, positioning us for the scale-up of miniature battery production. In parallel, we have demonstrated our ability to act in an agile manner by rapidly completing our new pilot line for Goliath cells. We look forward to sustained momentum through the rest of this year and beyond."*

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Joint Chairman's and CEO's Statement
Review of Period

Principal Activities
Ilika has continued to pursue its strategy of developing and commercialising its cutting-edge solid-state batteries for a wide range of applications. Our mission is to own the critical design and manufacturing intellectual property (IP), manufacture and sell solid-state batteries in low to medium volumes and license our IP for high volume manufacture. Our batteries use ceramic-based lithium-ion technology that is inherently safe and stable in manufacture and usage and offers high performance which differentiates our products from existing batteries.

Introduction to Stereax® solid-state battery technology
Ilika has been working with solid-state battery technology since 2008 and has developed a type of lithium-ion battery, which, instead of using liquid or polymer electrolyte, uses a ceramic ion conductor. Ilika's solid-state batteries have a number of benefits over traditional lithium-ion batteries, including the following:
- Non-flammable, which eliminates the need for containment packaging
- 6x faster charging
- 2x increased energy density, making them half the volume and weight for a given electrical charge
- 10x longer storage without loss of charge.

Ilika has developed a roadmap and family of battery products, ranging from miniature solid-state devices designed for powering wireless sensor applications to large format cells for automotive power.

Miniature Stereax® batteries
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 solid-state routes. This results in the following benefits relative to previous solid-state battery designs:
- Lower cost of manufacture through avoiding use of expensive sputtering targets
- Long cycle life through use of a silicon anode
- Less encapsulation 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 medical devices in a way that is currently not possible with conventional lithium-ion batteries. Their compact, biocompatibility, 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 Industry 4.0 as it is sometimes referred to, 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 degC).

Ilika has continued to work on a portfolio of five collaborative deployment projects during the period:

1. **Integrated energy harvester and battery for asset tagging**

This is a collaborative project with Lightricity (formerly part of Sharp Laboratories Europe) to create an autonomous energy harvesting power source which involves combining Ilika's battery with Lightricity's photovoltaic (PV) technology to create a compact, self-recharging power pack. Beta prototype samples have been shared with commercialisation partners for evaluation.

2. **Miniature medical implant**

This project involved the development of a battery for miniature medical implants to provide treatments for serious health conditions, through the body's own nervous system. The programme has been completed and is now awaiting further progress with the other non-battery related technology.

3. Wind turbine condition monitoring

Ilika has been working in a partnership to deploy Stereax® powered devices for the condition monitoring of wind turbines with Titan Wind Energy, the largest manufacturer of wind turbines in China and the 4th largest globally. Beta prototype devices are currently undergoing evaluation in a trial deployment.

4. Environmental sensing

This is a demonstration project to deploy Stereax® batteries to power an autonomous wireless sensor for environmental sensing and asset tracking.

5. Rail track condition monitoring

In Q1 2019, Ilika commenced a trial deployment of wireless sensors for monitoring rail infrastructure with Network Rail. In the initial deployment, sensors will measure track strain due to high temperatures. The ability of Ilika's batteries to withstand temperatures of up to 150 degC and "fit and forget" life makes them particularly suitable for deployment in the hostile trackside environment.

Stereax® Manufacturing Scale-up

Ilika is currently manufacturing Stereax® batteries on a pilot line. These batteries are being deployed in the five collaborative programmes described above and are also being sold for customer evaluation. The capacity of the pilot line will be fully allocated to product sales this year and the transfer of larger scale production to a 3rd party facility is planned. Once the transfer has been achieved, Ilika's business model will continue to be to sell batteries on an outsourced basis. Ilika will control the supply chain, covering wafer production, thinning, dicing, encapsulation and testing. A further step-up in production capacity with a larger manufacturing partner is expected to be required further into the future, when a licensing model may be more appropriate.

Large Format Goliath batteries

Having been approached by a number of significant commercial partners interested in collaborating with Ilika to develop larger capacity batteries suitable for use in electric powered vehicles, Ilika expanded its product development roadmap in 2018.

In September 2019, Ilika announced the opening of its new large format battery facility, the Goliath pilot line, to support its portfolio of industrial collaborations. On this pilot line, Ilika is developing low cost printing processes suitable for forming batteries several orders of magnitude larger than the miniature Stereax® batteries. Also, in September 2019, Ilika announced its third Goliath alliance, project "Granite", which is being led by Jaguar Land Rover. This project is supported by grant funding from the UK Government's Faraday Battery Challenge, bringing the total grant support offered to Ilika for its Goliath programme to £5m. The objective of Granite is to develop cost-effective routes for the mass production of Goliath cells. Previously secured grant funding for the two other Goliath projects is supporting work on rapid charging with Honda and Ricardo, as well as battery packs for high performance vehicles with McLaren.

In addition to the programs supported by grant funding, Ilika is also able to carry out commercially funded programs for applications in both the automotive sector and others including aerospace and consumer electronics.

Goliath Manufacturing Scale-up

Using a similar model to the scale-up of Stereax®, Ilika expects to maximize the production of Goliath batteries on its pilot line. The capacity of the Goliath pilot line has been designed for the demands of Ilika's three collaboration programmes until 2021. The next stage of scale-up will require collaboration with a 3rd party facility, such as the open-access Battery Industrialisation Centre currently being built in Coventry.

Cash position

The cash balance at period end was £1.9m (H1 2018: £5.8m) with £0.7m banked post period end. In the second half of the year Ilika expects a materially lower cash outflow. Capex will be lower; a tax credit has been received and working capital should improve. Grants of £1.1m are due in the period and revenue from

Stereax product sales will continue to grow. Thereafter the continued expansion of Ilika will require additional financing which the directors anticipate may be a combination of grants, product sales, licences and external capital.

Green Economy Classification & Mark

Post period end, in October 2019 the Company was awarded the Green Economy Classification and Mark. This is a new initiative launched by the London Stock Exchange Group (LSEG) identifying London-listed companies and funds that generate over 50% of total annual revenues that contribute to the global green economy.

The creation of this Green Economy Mark allows greater visibility for investors that are interested in Green Economy activities and recognises those companies that are contributing to a greener more sustainable economy.

Outlook

Ilika intends to intensify the commercial scale up of its miniature Stereax® technology, through investments with a 3rd party manufacturing facility. Further technical progress is also expected with Goliath, including the evaluation of cell data by Ilika's collaboration partners. In the second half of the current financial year, Ilika expects to continue to deliver revenue growth relative to the previous year as its funded Goliath development programmes proceed and commercial revenues from Stereax® sales have a positive impact.

Graeme Purdy, CEO
Keith Jackson, Chairman
Ilika plc

Consolidated statement of comprehensive income for the six months ended 31 October 2019

	Notes	Unaudited Six months ended 31 Oct 2019 £	Unaudited Six months ended 31 Oct 2018 £	Audited Year ended 30 Apr 2019 £
Turnover		1,460,639	1,010,896	2,589,736
Revenue		212,823	283,382	345,307
UK grants		1,247,816	727,514	2,244,429
Cost of sales		(782,115)	(559,554)	(1,388,598)
Gross profit		678,524	451,342	1,201,138
Administrative expenses				
Administrative expenses		(2,132,354)	(1,800,128)	(3,630,369)
Share-based payment charge		(119,348)	(180,164)	(264,250)
		2,251,702	1,980,292	3,894,619
Operating loss		(1,573,178)	(1,528,950)	(2,693,481)
Financial income		8,386	8,880	25,800
Financial expense		(6,432)	-	-
Loss before tax		(1,571,224)	(1,520,070)	(2,667,681)
Taxation		139,734	171,922	346,922
Loss for period/total comprehensive income attributable to owners of parent		(1,431,490)	(1,348,148)	(2,320,759)
Loss per share				
Basic and diluted	2	(0.01)	(0.01)	(0.02)

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

Consolidated balance sheet as at 31 October 2019

	Notes	Unaudited Six months ended 31 Oct 2019	Unaudited Six months ended 31 Oct 2018	Audited Year ended 30 Apr 2019
		£	£	£
ASSETS				
Non-current assets				
Intangible assets		21,466	2,453	23,815
Property, plant and equipment		2,186,502	509,390	1,728,122
Total non-current assets		2,207,968	511,843	1,751,937
Current assets				
Trade and other receivables		1,520,349	1,081,150	1,542,996
Current tax receivable		499,734	185,000	360,000
Other financial assets – bank deposits		353,831	350,001	351,963
Cash and cash equivalents		1,507,631	5,440,859	3,599,216
Total current assets		3,881,545	7,057,010	5,854,175
Total assets		6,089,513	7,568,853	7,606,112
Issued capital and reserves attributable to owners of parent				
Issued share capital		1,013,670	1,013,070	1,013,070
Share premium		27,103,356	27,103,356	27,103,356
Capital restructuring reserve		6,486,077	6,486,077	6,486,077
Retained earnings		(30,043,689)	(27,837,331)	(28,725,856)
Total equity		4,559,414	6,765,173	5,876,647
LIABILITIES				
Non-current liabilities		192,004	-	-
Current liabilities				
Trade and other payables		1,048,005	653,680	1,439,465
Provisions		290,000	150,000	290,000
Total current liabilities		1,338,005	803,680	1,729,465
Total liabilities		1,530,099	803,680	1,729,465
Total equity and liabilities		6,089,513	7,568,853	7,606,112

Consolidated cash flow statement for the six months ended 31 October 2019

	Unaudited Six months ended 31 Oct 2019	Unaudited Six months ended 31 Oct 2018	Audited Year ended 30 Apr 2019
	£	£	£
Cash flows from operating activities			
Loss before taxation	(1,571,224)	(1,520,070)	(2,667,681)
Adjustments for:			
Amortisation	5,566	526	3,621
Depreciation	464,349	91,907	233,744
Equity settled share-based payments	119,348	180,164	264,250
Net financial income	(1,954)	(8,880)	(25,800)
Operating cash flow before changes in working capital, interest and taxes	(983,915)	(1,256,353)	(2,191,866)
Decrease/(increase) in trade and other receivables	3,514	(56,791)	(518,637)
Increase /(decrease) in trade and other payables	(458,907)	(155,994)	357,472)
Cash utilised by operations	(1,439,308)	(1,469,138)	(2,353,031)
Tax received	-	316,922	316,922
Net cash flow from operating activities	(1,439,308)	(1,152,216)	(2,036,109)
Cash flows from investing activities			
Interest received	8,386	8,880	25,800
Purchase of intangible assets	(3,217)	-	(24,983)
Purchase of property, plant and equipment	(617,917)	(23,719)	(971,443)
Increase in other financial assets	(1,867)	(350,001)	(351,963)
Net cash used in investing activities	(614,615)	(364,840)	(1,322,589)
Cash flows from financing activities			
Proceeds from issuance of ordinary share capital	600	4,463,178	4,463,178
Cost of share issue	-	(316,418)	(316,419)
Capital element of finance leases repaid	(31,830)	-	-
Interest paid	(6,432)	-	-
Net cash from financing activities	(37,662)	4,146,760	4,146,759
Net (decrease)/ increase in cash and cash equivalents	(2,091,585)	2,629,704	788,061
Cash and cash equivalents at the start of the period	3,599,216	2,811,155	2,811,155
Cash and cash equivalents at the end of the period	1,507,631	5,440,859	3,599,216

Consolidated statement of changes in equity (unaudited)

	Share capital £	Share premium account £	Capital restructuring reserve £	Retained earnings £	Total £
As at 30th April 2018	**789,911**	**23,179,756**	**6,486,077**	**(26,669,347)**	**3,786,397**
Issue of shares	223,159	4,240,019	-	-	4,463,178
Expenses of share issue	-	(316,419)	-		(316,419)
Share-based payment	-	-	-	180,164	180,164
Loss and total comprehensive income	-	-	-	(1,348,148)	(1,348,148)
As at 31 October 2018	**1,013,070**	**27,103,356**	**6,486,077**	**(27,837,331)**	**6,765,173**
Share-based payment	-	-	-	84,086	84,086
Loss and total comprehensive income	-	-	-	(972,611)	(972,611)
As at 30th April 2019	**1,013,070**	**27,103,356**	**6,486,077**	**(28,725,856)**	**5,876,647**
Adjustment in respect of adoption of IFRS 16	-	-	-	(5,691)	(5,691)
As at 30th April 2019 (restated)	**1,013,070**	**27,103,356**	**6,486,077**	**(28,731,547)**	**5,870,956**
Issue of shares	600	-	-	-	600
Share-based payment	-	-	-	119,348	119,348
Loss and total comprehensive income	-	-	-	(1,431,490)	(1,431,490)
As at 31 October 2019	**1,013,670**	**27,103,356**	**6,486,077**	**(30,043,689)**	**4,559,414**

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 2019 does not constitute the full statutory accounts for that period. The Annual Report and Accounts for 30 April 2019 have been filed with the Registrar of Companies. The Independent Auditors' Report on the Annual Report and Accounts for 2019 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 2019, amounted to £1.9m supplemented by the £0.7m received post period end. The directors have prepared projected cash flow information for the period ending twelve months from the date of their approval of these financial statements. The Board is confident that in the event that they choose to raise further finance this would be achievable based on the future prospects of the business and previous experience in raising equity finance, but acknowledge that this would be dependent on market conditions. 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:

	Unaudited Six months ended 31 Oct 2019	**Unaudited Six months ended 31 Oct 2018**	**Audited Year ended 30 Apr 2019**
	Number	**Number**	**Number**
Weighted average number of equity shares	101,321,426	90,331,972	95,789,335
	£	**£**	**£**
Loss, being loss after tax	(1,431,490)	(1,348,148)	(2,320,759)

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 –