17 January 2019

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 2018.

Operational Highlights

- Advanced Stereax® solid-state battery deployments with a cumulative 90 potential OEM partners, including 14 where batteries have been shipped for evaluation
- Continued to execute three Stereax® development and deployment partnerships:
  - Miniaturisation of Stereax® technology for integration into medical implants
  - Integration of Stereax® cells with a photovoltaic energy harvester from Lightricity (ex-Sharp Labs of Europe)
  - Deployment of Stereax® M250 cells with piezoelectric vibration harvesters and strain gauges for condition monitoring of wind turbine blades manufactured by Titan Wind Energy, China's largest wind turbine manufacturer
- Secured £4.1m non-dilutive grant funding from Innovate UK's Faraday Battery Challenge competition to develop large format "Goliath" cells in collaboration with automotive partners including Ricardo, Honda and McLaren for electric vehicle applications
- Shipped pre-launch samples of Ilika's millimetre-scale "Golden Hind" Stereax® batteries to OEM commercial partners in the USA and Asia
- Appointed Jeremy Millard as NED, replacing Professor Sir William Wakeham who retired

Post-period end Highlights

- Successfully improved the power density and technical performance of Stereax® M250 cells
- Partnered with Semefab Ltd for the manufacture of Stereax® cells
- Secured the annual recertification of Ilika's Quality Management System to ISO9001
- Appointed Keith Jackson as Non-Executive Chairman
- Formed the Technology Advisory Board
- Appointed Dr. Monika Biddulph as a Non-Executive Director

Financial Summary

- Total revenue for the period £1.0m (H1 2017: £1.0m)
- Loss per share reduced to 1p (H1 2017: 2p per share)
- Equity placing raised £4.1m
- Cash balance at period end £5.8m (H1 2017: £3.9m)

Commenting on the results Graeme Purdy, CEO of Ilika, said: *"In the year to date Ilika has delivered significant technical progress in the Stereax® deployment programmes it is running with global OEM's in the sectors of miniature medical devices, photovoltaic integration and industrial condition monitoring. Since adding our "Goliath" large format solid-state batteries to the Stereax® roadmap, we have secured £4.1m of non-dilutive grant funding from Innovate UK through our development partnerships with high profile businesses from the automotive industry. We are confident in the value being generated by our technology teams and look forward to further growth in 2019."*

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Joint CEO and Chairman Statement

Review of Period

Ilika has continued to pursue its strategy of developing and commercialising its cutting-edge solid-state batteries, underpinned by its technology platform for the high throughput development of materials.

Materials Development Portfolio
Ilika continues to support an active portfolio of materials development projects, which are carried out in collaboration with OEM partners. These programmes are usually done on a shared-IP basis, thereby growing our asset base. The project fees make a significant contribution towards covering Ilika's overheads.

Stereax® solid-state battery technology
Ilika has been active in the development of solid-state battery technology since 2008, when it commenced a collaboration with Toyota, principally to develop materials suitable for use in batteries for hybrid vehicles. During that collaboration, Ilika and Toyota filed joint patent applications protecting relevant materials and processes for the development and manufacture of solid-state batteries. The key advantages of solid-state batteries relative to standard lithium-ion batteries are:

- Non-flammable
- 6 x faster charging
- 4x longer charge retention
- 2x increased energy density, making them half the volume for a given electrical charge
- 1/10th the leakage current.

Two years prior to the current reporting period, in October 2016, Ilika raised £5.8m to progress the commercialisation and development of its Stereax® solid-state battery technology. Today, Ilika has developed a roadmap of battery products, ranging from miniature solid-state devices designed for powering wireless sensor applications to large format cells for automotive power.

Wireless sensor applications are particularly interesting at the moment as the majority of the 15 billion sensors deployed around the world are either hard-wired to the grid or to electronic devices with a power pack. Sensors can also be powered by disposable, single-use coin cells. The number of sensors being deployed is growing rapidly and many of the important use-cases involve sensors in environments where it is expensive or inconvenient to connect them with cables. In the trillion-sensor scenario and beyond, where sensors become ubiquitous, the use of disposable coin cells is likely to become environmentally unsustainable.

Ilika's solution is to combine its rechargeable Stereax® technology with miniature energy harvesters such as small photovoltaic panels (that convert light to electricity), thermoelectric devices (that convert heat to electricity) and piezoelectric devices (that convert movement to electricity) and is therefore well positioned to take advantage of these large markets.

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 deposition 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

Within the sensor market, there are many segments which are addressable with Ilika's technology. 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, 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 batteries that can reliably operate at elevated temperatures above those for which standard lithium-ion batteries are rated (typically 60 DegC).

In discussion with its potential partners, Ilika has defined a development roadmap for its Stereax® batteries. The Stereax® M250 and P180 products are fully qualified and launched. The next product launch will be a mm-scale device, code-named "Golden Hind", primarily designed for miniature medical implants. Ilika has entered into in excess of 90 application discussions with potential OEM partners around the world. Three of these discussions have now progressed to development and deployment partnerships, which are discussed in the commercial section below.

The Stereax® products that Ilika is marketing to its OEM partners are defined by a licensing package including the following:

- IP portfolio
- Battery architecture design
- Detailed definition of the materials composition and properties
- Sample battery devices
- Pre-qualified manufacturing partners capable of fulfilling OEM orders

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 Q1 2018, Ilika started working together with a number of high profile companies from the automotive industry to apply for funding from Innovate UK to develop processes to manufacture its large format product line, codenamed "Goliath." Ilika secured £4.1m funding for two projects, one including Ricardo and Honda, which it is leading, and a second which is led by McLaren. Ilika leveraged this grant funding with a £4.1m equity round in July 2018. Ilika is developing printing processes suitable for forming batteries several orders of magnitude larger than the miniature Stereax® batteries made using vacuum deposition methods.

Commercial Progress

Ilika expects to license its technology to OEM partners using the model that has become standard in the semiconductor industry, based on license fees and royalties. Using its pilot line, Ilika has produced samples of its M250, P180 and Golden Hind batteries, which it has used to provide initial quantities of product to seed the market for OEM's. Licensing may also involve the use of 3rd party foundries working under contract to OEM's.

Ilika has continued to pursue a three-phase strategy for the commercialisation of its battery technology:

- Optimisation of the battery architecture for specific applications
- Validation and integration of the batteries into application systems
- Technology transfer and licensing for manufacture

The development of the Stereax® roadmap in 2016 kicked off the implementation of the first phase of this strategy. The second phase commenced in 2017, as demonstrated by the three development and deployment programmes announced in the course of the year:

1. The optimisation of Stereax® technology for miniature medical implants announced in March 2017 which is a £700k development programme.
2. Integration of Stereax® with photovoltaic harvesters for transport applications in a two-year programme with Lightricity (ex-Sharp), which started in July 2017.
3. Deployment of Stereax® in sensors to measure strain for condition monitoring in wind turbine blades. This programme started in March 2018 and is a collaboration with Titan Wind Energy, China's largest wind turbine manufacturer.

These three programmes can be seen as lead indicators of the areas into which Stereax® technology will be licensed as part of the third phase of commercialisation, which commenced at the start of 2018. This phase was initiated with securing ISO 9001 certification of Ilika's Quality Management System, which was recently

reconfirmed in an annual recertification audit. Continued progress in this phase is illustrated by the manufacturing partnership announced with Semefab in November 2018. This is important as many licensees have no manufacturing capability of their own and prefer to access pre-qualified supply chain partners.

Board changes and formation of the Technology advisory Board

Ilika has renewed the Board with the appointment of Keith Jackson as Chairman as Mike Inglis stepped down. Keith has been a NED of Ilika since 2014 and brings to the role a wealth of commercial, international technology and manufacturing experience. Mike remains involved with the Company through becoming the founding member of Ilika's Technology Advisory Board.

Professor Sir William Wakeham retired from the board as NED in September 2018, having been with the Company eight years. His role on the Board, the nomination, audit and remuneration committees was filled by Jeremy Millard, who was previously a partner at Smith Square Partners LLC and has nearly 20 years investment banking experience.

Dr Monika Biddulph has been appointed as NED in January 2019. Previously Monika was a member of the Senior Leadership Team IP Product Groups at ARM Holdings plc. In over twenty years at ARM, Monika held various General Manager and licensing roles in the business.

Outlook

In the second half of the current financial year Ilika expects to deliver strong revenue growth relative to the previous year as the Goliath development programmes and the recently announced autonomous sensor deployment project kick in. Ilika remains focussed on the scale up of its miniature Stereax® technology, as demonstrated by the recent announcement of a manufacturing partnership with Semefab.

In addition, Ilika's pipeline of potential OEM partners, who are actively evaluating Stereax® batteries, demonstrates that the Company is drawing ever closer to licensing this technology. Ilika is well-positioned to exploit the global trend towards solid-state battery technology and is one of the few global players with an established technology position in this field. Underpinning this is Ilika's foundation of high throughput materials innovation, which continues to attract OEM collaboration partners and support revenue growth.

Graeme Purdy, CEO
Keith Jackson, Chairman
Ilika plc

Consolidated statement of comprehensive income for the six months ended 31 October 2018

	Notes	Unaudited Six months ended 31 Oct 2018 £	Unaudited Six months ended 31 Oct 2017 £	Audited Year ended 30 Apr 2018 £
Turnover		1,010,896	1,004,112	2,051,177
Revenue		283,382	413,572	798,430
UK grants		727,514	590,540	1,252,747
Cost of sales		(559,554)	(531,024)	(1,090,898)
Gross profit		451,342	473,088	960,279
Administrative expenses				
Administrative expenses		(1,800,128)	(1,897,903)	(3,793,686)
Share-based payment charge		(180,164)	(269,627)	(434,382)
		1,980,292	2,167,530	4,228,068
Operating loss		(1,528,950)	(1,694,442)	(3,267,789)
Financial income		8,880	8,654	17,156
Loss before tax		(1,520,070)	(1,685,788)	(3,250,633)
Taxation		171,922	198,308	353,309
Loss for period/total comprehensive income attributable to owners of parent		(1,348,148)	(1,487,480)	(2,897,324)
Loss per share				
Basic and diluted	2	(0.01)	(0.02)	(0.04)

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

Consolidated balance sheet as at 31 October 2018

	Notes	Unaudited Six months ended 31 Oct 2018 £	Unaudited Six months ended 31 Oct 2017 £	Audited Year ended 30 Apr 2018 £
ASSETS				
Non-current assets				
Intangible assets		2,453	2,980	2,453
Property, plant and equipment		509,390	543,653	578,103
Total non-current assets		511,843	546,633	580,556
Current assets				
Trade and other receivables		1,081,150	1,015,866	1,024,359
Current tax receivable		185,000	528,309	330,000
Other financial assets – bank deposits		350,001	3,268,648	-
Cash and cash equivalents		5,440,859	601,499	2,811,155
Total current assets		7,057,010	5,414,322	4,165,514
Total assets		7,568,853	5,960,955	4,746,070
Issued capital and reserves attributable to owners of parent				
Issued share capital		1,013,070	789,911	789,911
Share premium		27,103,357	23,179,756	23,179,756
Capital restructuring reserve		6,486,077	6,486,077	6,486,077
Retained earnings		(27,837,331)	(25,424,258)	(26,669,347)
Total equity		6,765,173	5,031,486	3,786,397
LIABILITIES				
Current liabilities				
Trade and other payables		653,680	779,469	809,673
Provisions		150,000	150,000	150,000
Total liabilities		803,680	929,469	959,673
Total equity and liabilities		7,568,853	5,960,955	4,746,070

Consolidated cash flow statement for the six months ended 31 October 2018

	Unaudited Six months ended 31 Oct 2018	Unaudited Six months ended 31 Oct 2017	Audited Year ended 30 Apr 2018
	£	£	£
Cash flows from operating activities			
Loss before taxation	(1,520,070)	(1,685,788)	(3,250,633)
Adjustments for:			
Amortisation	526	2,755	3,282
Depreciation	91,907	99,798	196,415
Equity settled share-based payments	180,164	269,627	434,382
Net financial income	(8,880)	(8,654)	(17,156)
Operating cash flow before changes in working capital, interest and taxes	(1,256,353)	(1,322,262)	(2,633,710)
Decrease/(increase) in trade and other receivables	(56,791)	100,501	92,008
Increase /(decrease) in trade and other payables	(155,994)	(132,584)	(102,380)
Cash utilised by operations	(1,469,138)	(1,354,345)	(2,644,082)
Tax received	316,922	-	353,309
Net cash flow from operating activities	(1,152,216)	(1,354,345)	(2,290,773)
Cash flows from investing activities			
Interest received	8,880	8,653	17,156
Purchase of intangible assets	-	(3,154)	(3,154)
Purchase of property, plant and equipment	(23,719)	(191,891)	(322,958)
Increase in other financial assets	(350,001)	(368,648)	2,900,000
Net cash used in investing activities	(364,840)	(555,040)	2,591,044
Cash flows from financing activities			
Proceeds from issuance of ordinary share capital	4,463,178	-	-
Cost of share issue	(316,418)	-	-
Net cash from financing activities	4,146,760	-	-
Net (decrease)/ increase in cash and cash equivalents	2,629,704	(1,909,385)	300,271
Cash and cash equivalents at the start of the period	2,811,155	2,510,884	2,510,884
Cash and cash equivalents at the end of the period	5,440,859	601,499	2,811,155

Consolidated statement of changes in equity (unaudited)

	Share capital £	Share premium account £	Capital restructuring reserve £	Retained earnings £	Total £
As at 30 April 2017	**789,911**	**23,179,756**	**6,486,077**	**(24,206,405)**	**6,249,339**
Share-based payment	-	-	-	269,627	269,627
Loss and total comprehensive income	-	-	-	(1,487,480)	(1,487,480)
As at 31 October 2017	**789,911**	**23,179,756**	**6,486,077**	**(25,424,258)**	**5,031,486**
Share-based payment	-	-	-	164,755	164,755
Loss and total comprehensive income	-	-	-	(1,409,844)	(1,409,844)
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	-	(316,418)	-		(316,418)
Share-based payment	**-**	**-**	-	180,164	180,164
Loss and total comprehensive income	**-**	**-**	**-**	(1,348,148)	(1,355,082)
As at 31 October 2018	**1,013,070**	**27,103,357**	**6,486,077**	**(27,837,331)**	**6,758,239**

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 2018 does not constitute the full statutory accounts for that period. The Annual Report and Accounts for 30 April 2018 have been filed with the Registrar of Companies. The Independent Auditors' Report on the Annual Report and Accounts for 2018 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 2018, amounted to £5.8m. 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:

	Unaudited Six months ended 31 Oct 2018	**Unaudited Six months ended 31 Oct 2017**	**Audited Year ended 30 Apr 2018**
	Number	**Number**	**Number**
Weighted average number of equity shares	90,331,972	78,991,110	78,991,110
	£	**£**	**£**
Loss, being loss after tax	(1,348,148)	(1,487,480)	(2,897,324)

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 –