



Ilika – Half Year Results
January 2024

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Pioneer in Solid State Batteries (SSBs)

- ✓ Product lines:
 - ✓ **Stereax** miniature cells used primarily to power miniature medical devices and industrial IoT
 - ✓ **Goliath** large format cells targeting the automotive industry and cordless consumer appliances
- ✓ Developing SSBs for EV use with an oxide electrolyte and silicon anode which reduces raw material costs and increases cell life

Key Statistics

2004
Company Founded
in Southampton, U.K.

67
Patents

\$280B
TAM for Automotive
Batteries by 2030

£13.2M
Cash Balance
31st Oct 2023





Seasoned Management Team

Management Team and Board Offer a Wealth of Diversified Experience Across Multiple Industries






Graeme Purdy
Chief Executive Officer & Co-Founder

- Founding CEO appointed in 2004
- Led two VC funding rounds and IPO
- Previously COO of Avantium BV and early career with Shell. Latterly NED with Bacanora Lithium plc.
- Chartered engineer with an MEng in Chemical Engineering from Cambridge and an MBA from INSEAD





Jason Stewart
Chief Financial Officer

- CFO since Jan 2023
- Previously Interim CFO and other senior roles at Sunseeker International Ltd since 2010; prior to which was at B&Q and Kerry Foods
- CIMA qualified accountant, with a BSc in Business from Manchester Metropolitan University






Jeremy Millard
Non-Executive Director

- Founded Iridium Corporate Finance
- Non-Executive Director at Omega Diagnostics Group, Blackbullion Ltd, and CFPro Ltd
- Leverages over 20 years of investment banking experience, providing corporate finance advice to science and deep technology sector clients






Monika Biddulph
Non-Executive Director

- Non-Executive Director on the board of D4t4 Solutions Plc and AFC Energy Plc
- Wide range of experience in both the commercial and technical aspects of an international technology business
- Holds a PhD in Physics from the ETH Zurich

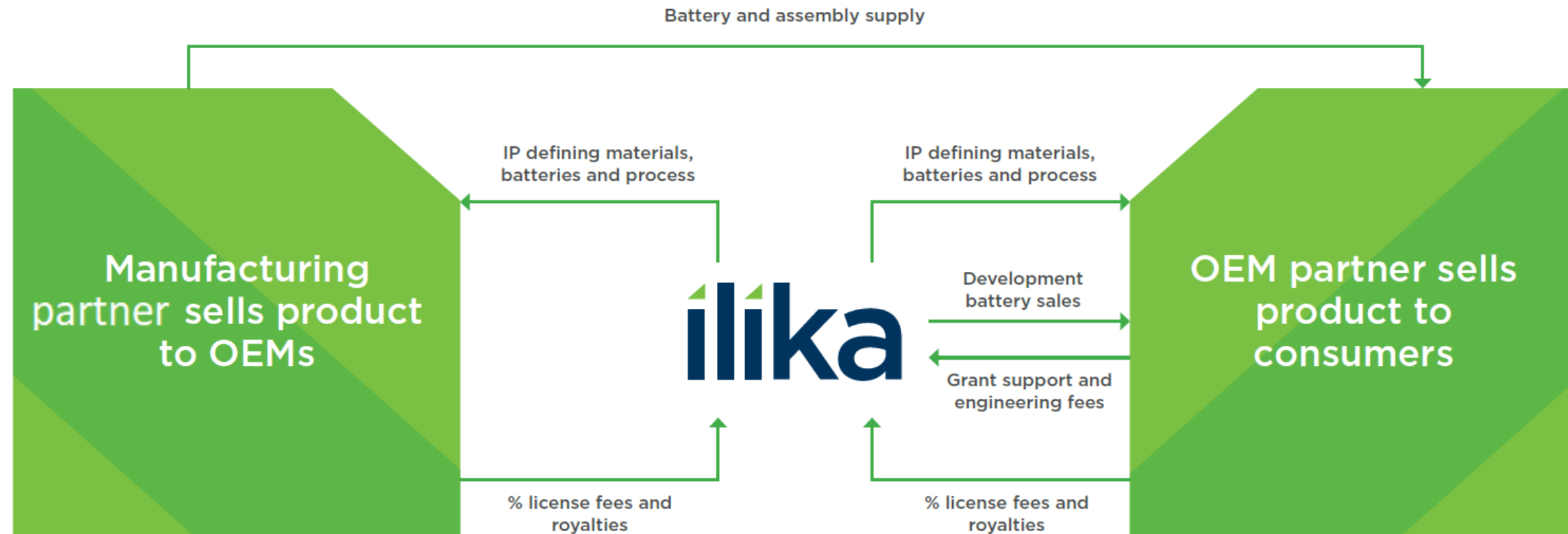


Keith Jackson
Chairman

- Former Chief Technology Officer at Rolls Royce Engines PLC and Meggit PLC
- Professor at Sheffield University's Automated Control and Systems Engineering department
- Non-Executive Chairman of Libertine FPE

Asset-light licensing model demonstrated on production-intent equipment



Stereax Technology is Capable of Revolutionising the Medical Implant Industry

Reduced Surgical Intervention: compact architecture offers higher energy density enabling smaller device designs

Improved Safety: no toxic fluid leakage possible

Higher Power Density: delivers power pulses for therapy and communication chips









Stereax: Designed for a Burgeoning Market

Powering the Electroceutical Revolution



Demand for Medical Batteries to Being Driven by Innovation in Electroceuticals and Sensors

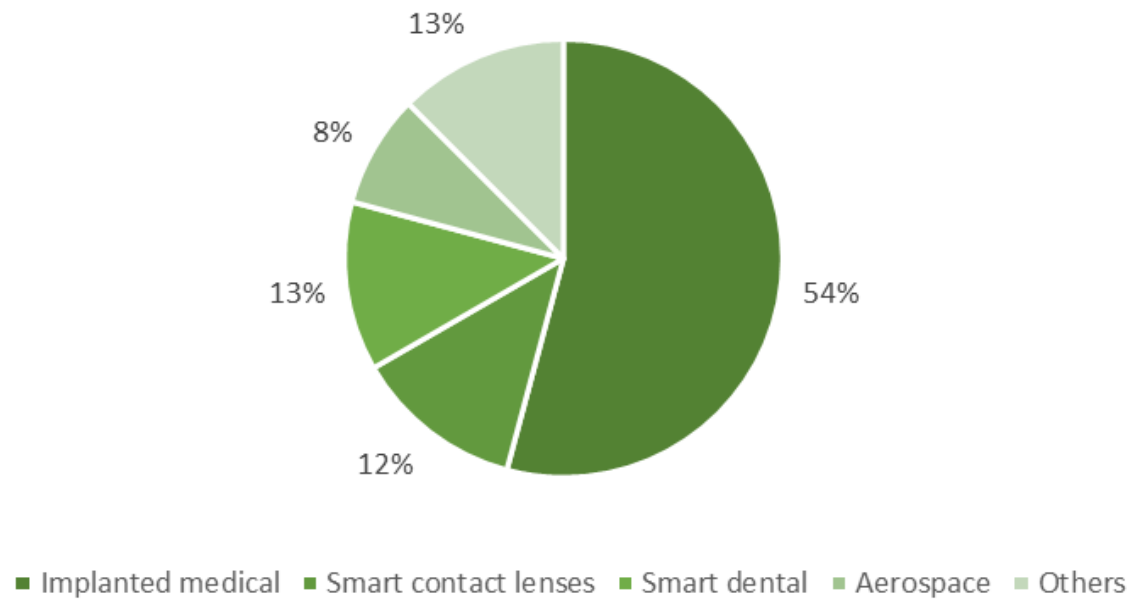
Neuromodulation	Implanted sensors	Smart orthopedics	Smart surgical instruments	Smart contact lenses	Smart orthodontic
					
\$8.6 Bn (2023) CAGR: 11.4%	\$6.0 Bn (2023) CAGR: 11.1%	\$26 Bn (2023) CAGR: 4.2%	Projected: \$700 M (2030)*	Projected: \$1.3 Bn (2030)* CAGR: 29.3%	\$5.8 Bn CAGR: 24%

* Assumed market penetration for emerging sectors

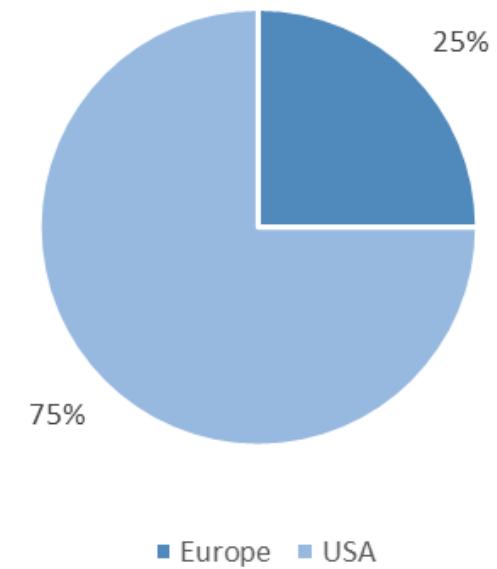
Stereax: Commercial Order Analysis

Initial commercial orders from a US-centric customer base

Ilika Stereax Orders by Application



Ilika Stereax Orders by Geography

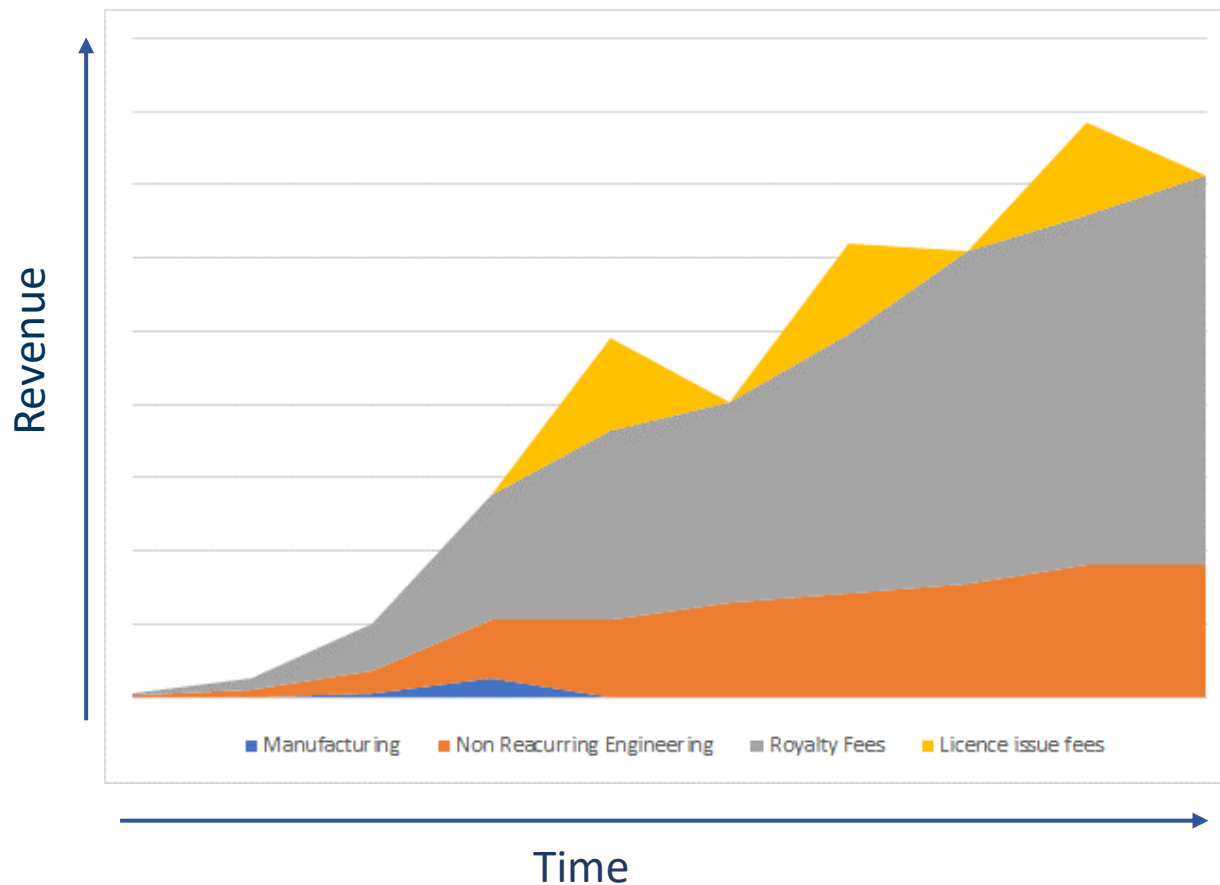


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Companies

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Orders

Stereax: Commercial Growth

Income growth from Stereax product will be derived from several revenue streams which build as market penetration increases



Customer interest remains strong with continued engagement from existing customers

Company Name	Type of Company	Country	Intended Application Area	Sector Size & CAGR	Customer Device SAM* (devices)	Customer Device SOM *
A	Start Up	France	Cardiac/Heart Rhythm	\$7bn/7%	100K's	10K's
B	Multinational (Listed)	USA/ Israel	Smart Orthodontics	\$2.5bn/19%	Millions	100K's
C	Multinational (PE Backed)	USA	Implanted Medical Devices	\$2bn/7%	100K's	10K's
D	SME	Israel	Neuromodulation / DBS	\$15bn/12%	100k's	30K
E	Start Up	USA	Implanted Medical Sensor	\$1bn/8%	Millions	100K
F	SME Contracted to Listed Multinational	USA	Smart Orthopaedics	\$8bn/6%	500K	25K
G	Start Up (FAANG owned)	USA	Smart Contact Lens	\$100M/39%	Millions	100K's
H	Start Up	USA	Smart Contact Lens	\$100M/39%	Millions	100K's
I	SME Contracted to Listed Multinational	USA	Trauma Screw Mounted Sensor	\$8bn/6%	Millions	100K's
J	Start Up	USA	Smart Dental	\$2.5bn/19%	Millions	80K
K	Government Research Centre	UK	Secure Communications	TBA	TBA	TBA
L	Start Up	USA	Implanted Cancer Sensor	\$1bn/8%	100K's	10K's
M	FAANG	USA	TBA	TBA	TBA	TBA

Cirtec Medical: an industry-leading vertically-integrated outsource partner for medical devices and components



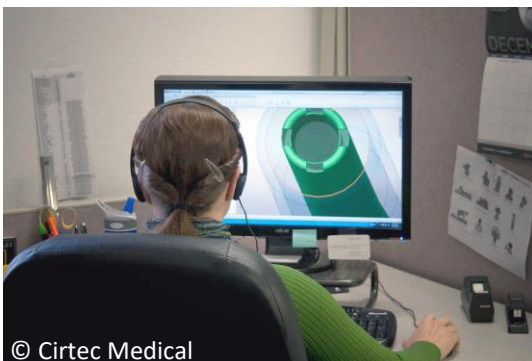
Status: key equipment sets transferred to Cirtec, commissioning proceeding.

Partnership Benefits to Ilika:

Validation: of Stereax product and process

Manufacturing: partnership with economy of scale and ability to ramp production

Business Development: resources bringing additional commercial momentum



Goliath's Technology is Capable of Revolutionizing the EV Industry with High Performance Batteries

Further Range: Oxide electrolyte and silicon anode architecture offer higher energy density v LiB and so better range/weight

Improved Safety: Solid-state electrolyte is safer than flammable liquid electrolyte found in incumbent li-ion technologies

Higher Energy Density: Higher theoretical energy density threshold of ~500Wh/kg

Reduced Cell Degradation: Solid state technology not subject to dendrite degradation

Better Recyclability: Goliath can be safely recycled

Lithium Efficiency: Lower lithium content v Sulfide based SSB technologies

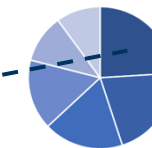


Goliath: Target Market and Other Key Market Drivers

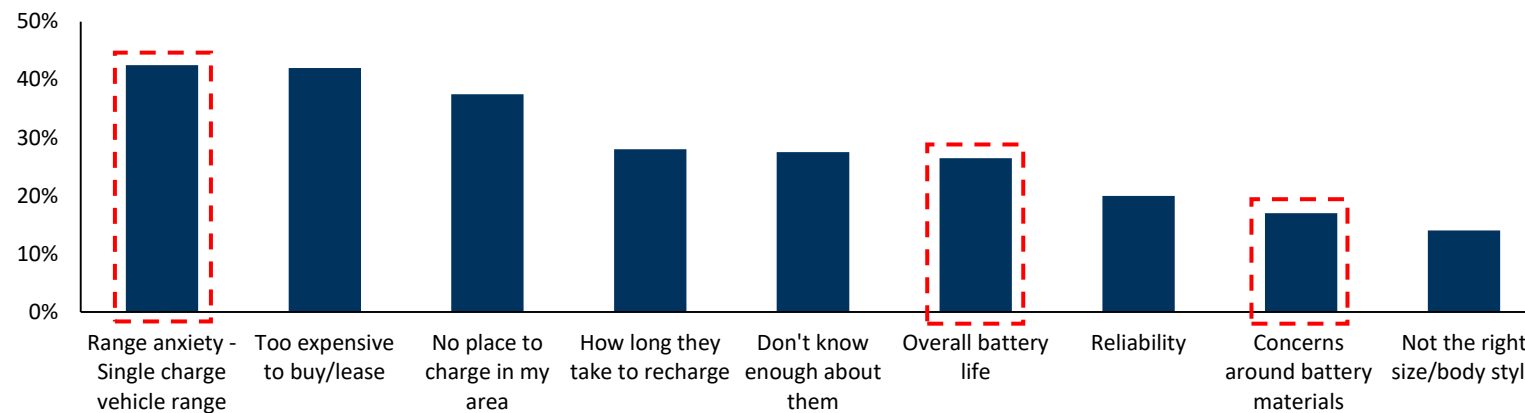
Ilika's Unique Position to Service a Fast Growing Market

Electrification of Transportation and Net-Zero Initiatives

- 19 national governments have committed to attaining net-zero emission by 2050
- Transportation remains one of the highest emitting sectors is one of the easiest to abate – high performance EVs play an important role in this transition
- The EU has banned the sale of new ICE cars and SUVs by 2035 – other governments such as the U.S have made similar commitments
- Transportation accounts for 24% of UK emissions, emitting >100Mt CO₂e annually

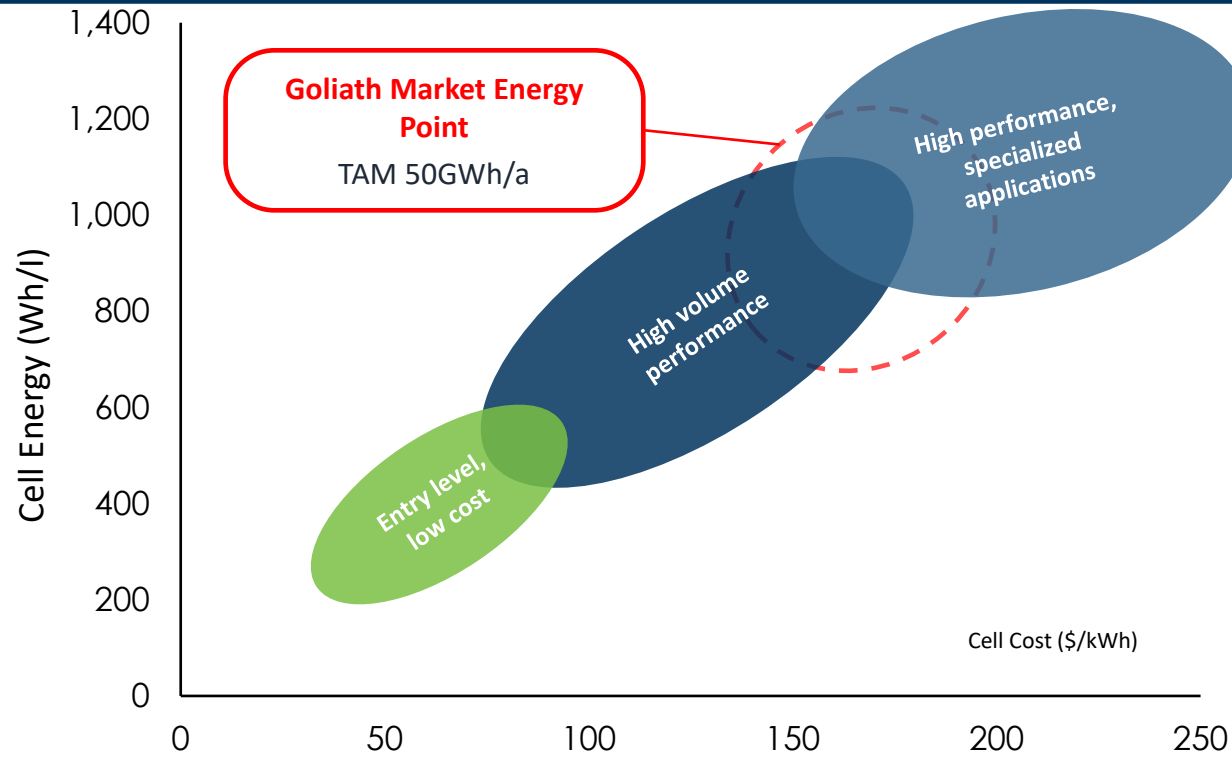


Main Reasons Consumers are Hesitant on Buying an Electric Vehicle

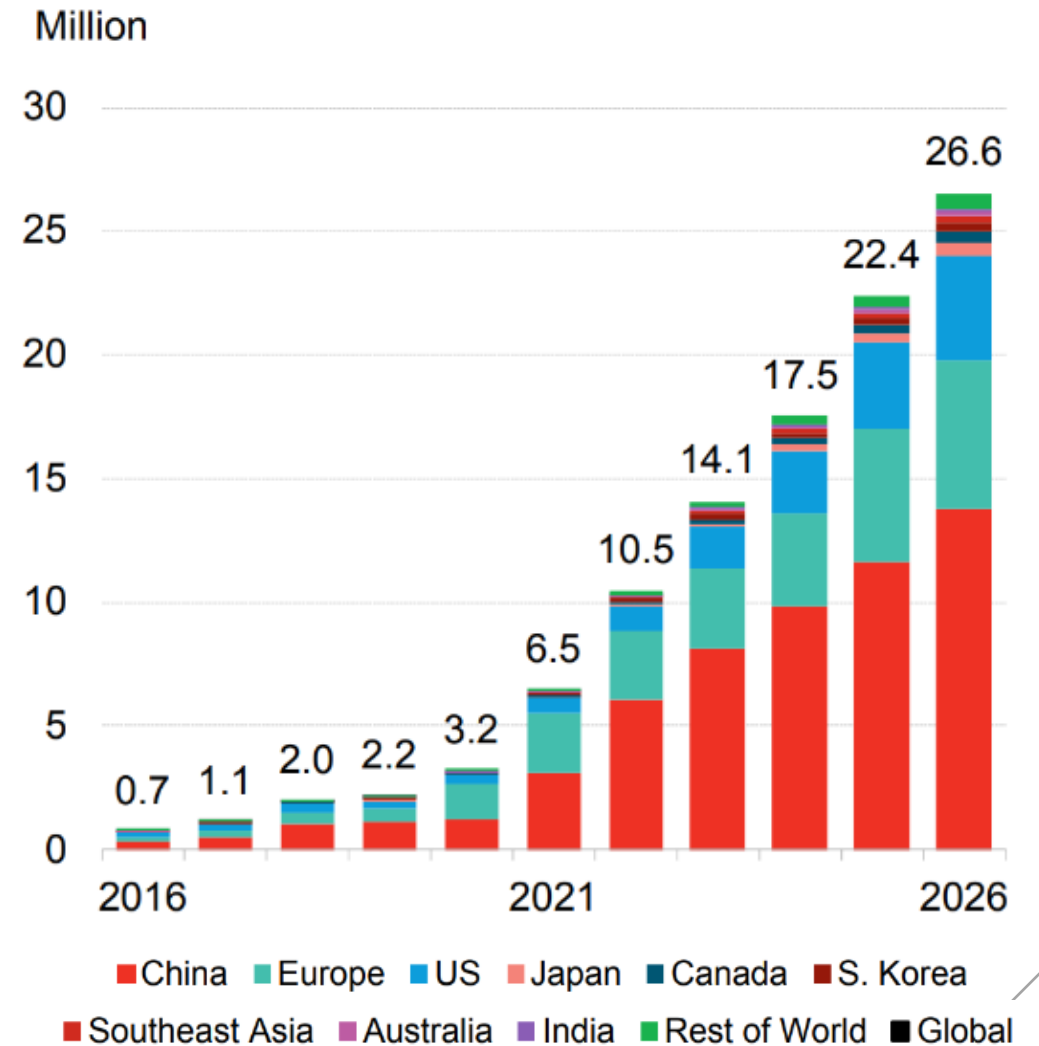


- Integration of Ilika's SSBs can tackle:
 - Range anxiety
 - Battery life
 - Safety concerns

ilika Targets Luxury Performance Market



2023 BNEF EV outlook projects EV sales to be 44% of global vehicle sales by 2030 and 75% by 2040



Goliath: Technology Roadmap and Production Scale-Up

Solid-State Battery Energy Density

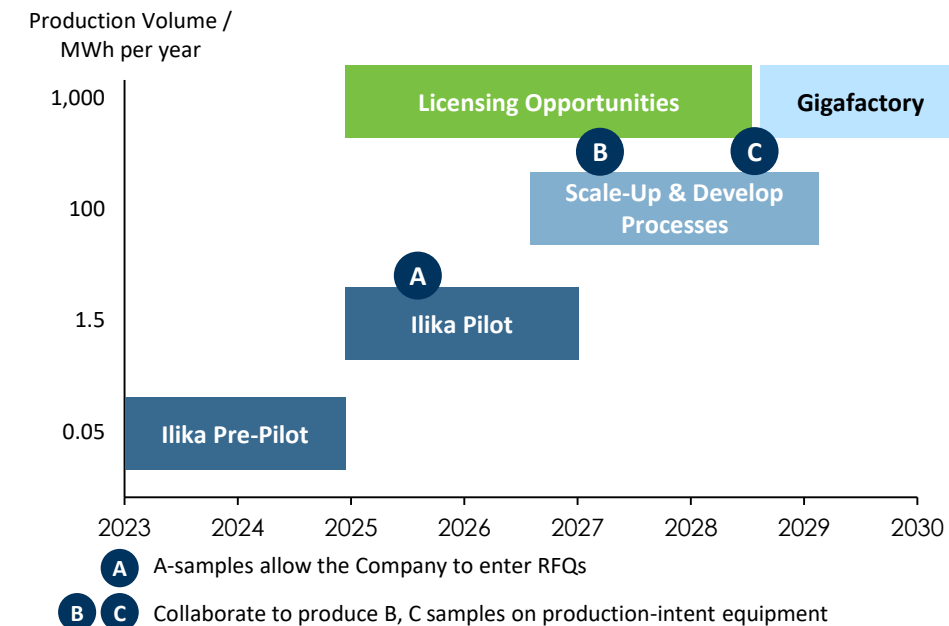
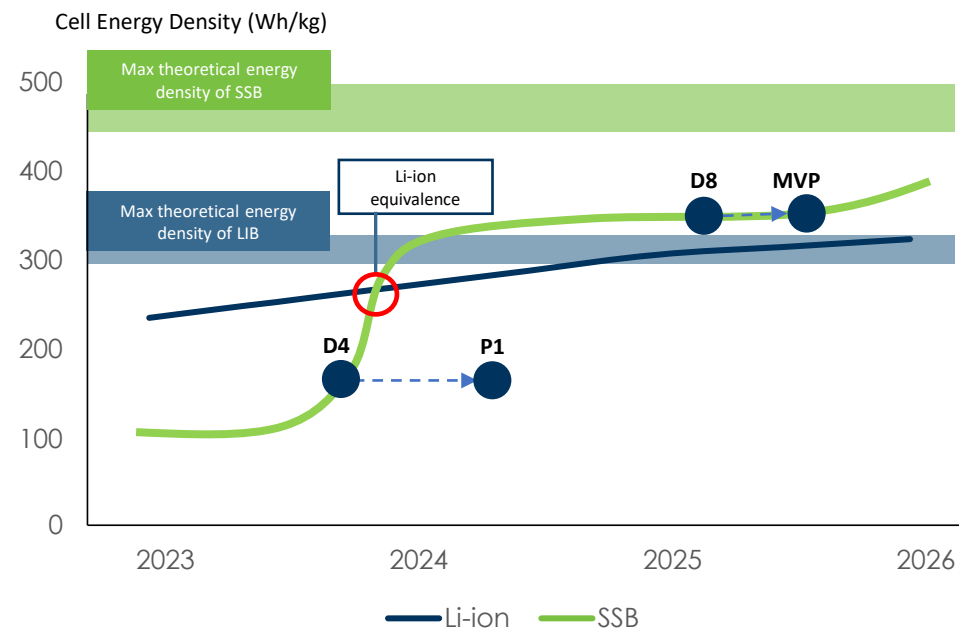
2023/5 Highlights

- 2023: D4 design freeze of multi-layer pouch cells followed by lithium-ion parity.
- 2024: P1 prototypes for restricted sale to OEMs for testing with further development to D8 in parallel
- 2025: Programs on repeatability, testing and characterisation to reach P2 (MVP)

ilika Scale-up Plan and Business Model

2025/6 Highlights

- Testing electrode printing at near Giga scale
- Developing automated cell assembly line to give repeatability for A Samples
- Entering OEM RFQ's with A Samples
- Gaining an OEM platform win and collaborating with Tier-1 partner to scale-up



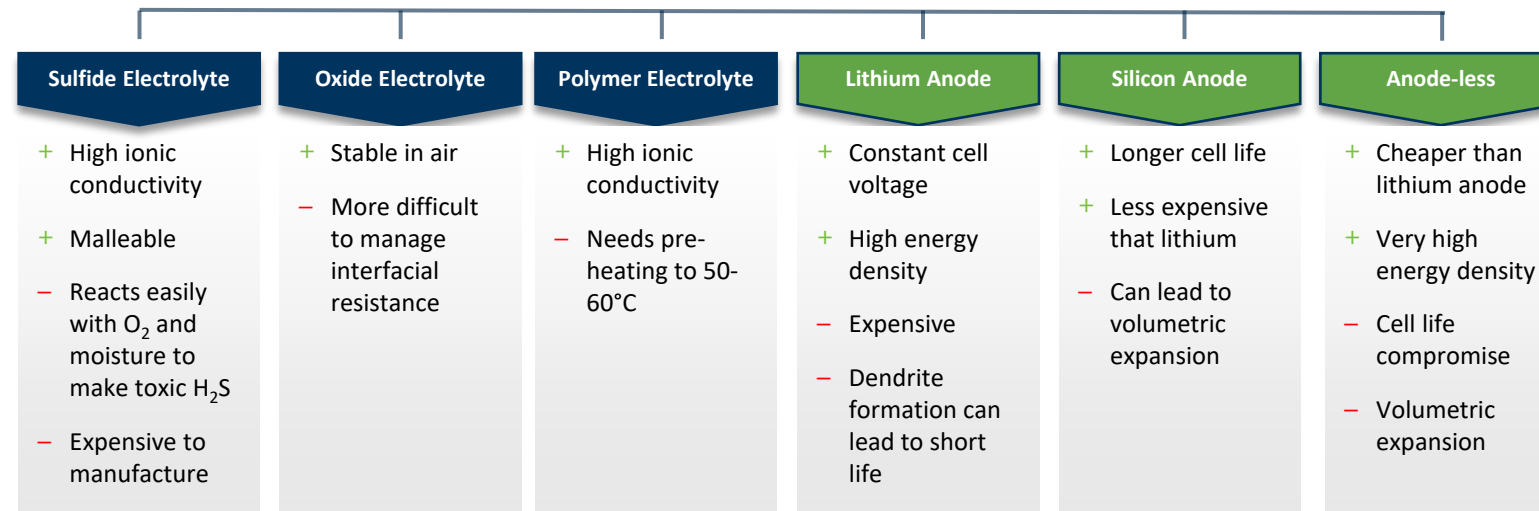
- A A-samples allow the Company to enter RFQs
- B C Collaborate to produce B, C samples on production-intent equipment

Goliath: Solid-State Battery Technology Landscape

Different chemistries are optimal for different applications

	Oxide Electrolyte	Sulfide Electrolyte	Polymer Electrolyte
Si anode	<p>5</p>	<p>2</p>	<p>2</p>
Li anode	<p>3</p>	<p>11</p>	<p>3</p>
Anode-less	<p>1</p>		

Chemistry



Goliath: Partnerships for Technology Deployment

Ilika has Entered Critical Partnerships to Fast Track Commercialization of Goliath

Faraday Battery Challenge Round 5: HISTORY

- A 24-month FBC Collaborative R&D programme
- Duration: 1 Feb 23 until 31 Jan 25
- Total programme value: £8M/Ilika grant £2.8M
- Nine Collaborative and steering partners
- Objective: delivery of a multi-layer, solid state pouch cell with specifications aligned with automotive requirements



Goliath: Partnering for Manufacturing Scale-up

Ilika is receiving support from the Automotive Transformation Fund



UK BATTERY
INDUSTRIALISATION
CENTRE



- ▲ ATF SuRV2: SiSTEM
- ▲ 17-months from Oct 2023
- ▲ Programme value £2.7m/£400k Ilika grant funding

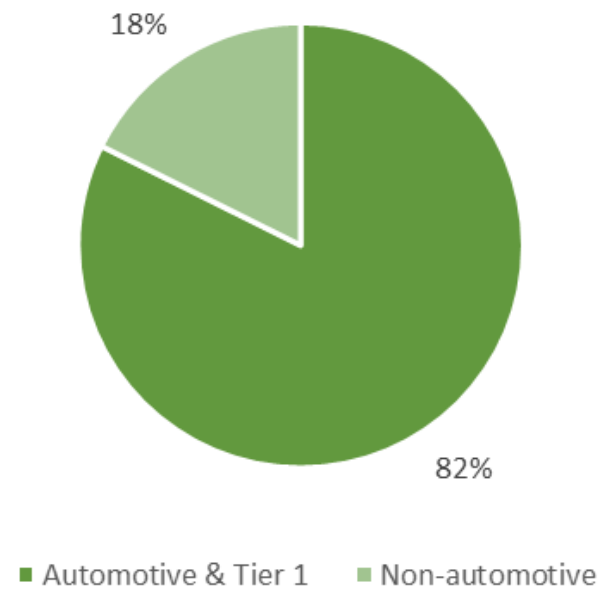
Objectives:

- Undertake physical trials of Ilika's electrode production at UKBIC
- Design, build and commission a 1.5MWh assembly line capable of delivering A sample batteries

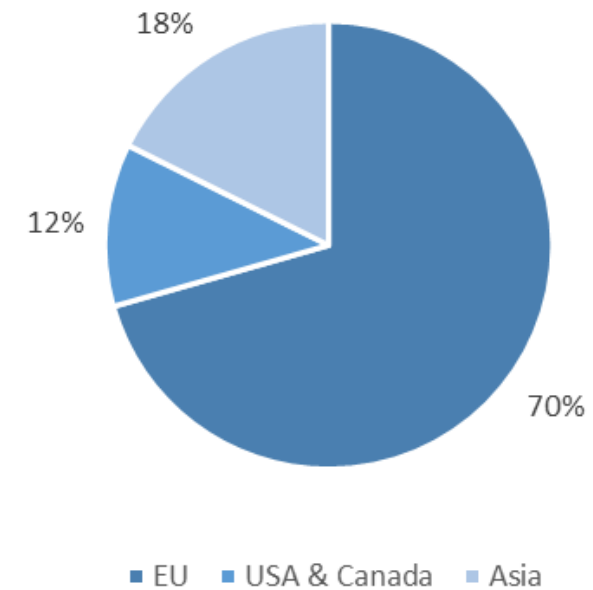


Strongest demand from European automotive OEMs

Goliath MTA / NDA by Application

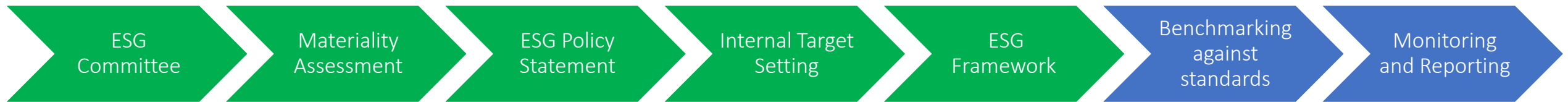


Goliath MTA / NDA by Geography



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Companies

ESG is of utmost importance to Ilika and is monitored at board level
 We continue to remain ahead of reporting requirements through our commitment to ESG



- Integration of most material items to business risk and opportunities registers
- ISO 14001, ISO 9001, Carbon Reduced Organisation
- Long Range Strategic Plan and ESG Framework initiated:
 - Risk and Governance
 - Ethical Supply Chain Planning
 - Environmental Commitment
 - Development and Opportunities



Ilika Plc, un-audited financial results for the half-year ending 31 October 2023

▲ Total Income £1.3m (H1 2023: £0.2m)

- Substantial increase due to HISTORY grant, supporting Goliath.
- Income from grants of £1.3m (H1 2023: £0.2m)
- Lower income expected in second half due to phasing.
- HISTORY will continue through to the beginning of 2025, with the total project income expected to be £2.8m.

▲ EBITDA loss, excluding share-based payment £1.9m (H1 2023: £4.1m loss)

- Improved due to higher grant income and a reduction in operating costs.
- Operating cost reduction through Cirtec technology transfer process and normalisation of the UK inflationary environment.

▲ Cash balance £13.2m (H1 2023: £18.6m)

Cash balance remains in line with expectations

Scale Stereax through joint manufacturing and marketing with Cirtec

Mature Goliath technology with partners through defined technical milestones

Continue pursuing grant support and commercial revenue through partnering

Commercial opportunity continues to build for Ilika's technology across the large addressable markets providing a strong platform for future growth