

ASX ANNOUNCEMENT

**FOR IMMEDIATE RELEASE TO THE MARKET
Li-S Energy Limited – ASX Code: LIS**

Tuesday 14 November 2023

Chairman’s Statement and CEO Presentation

Li-S Energy Limited (ASX: LIS) (“LIS” or “the Company”) is pleased to provide the following which will be presented at the Company’s Annual General Meeting today:

- Chairman’s Statement
- CEO Presentation

This announcement has been authorised by the Board.

For further information contact:

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Li-S Energy AGM 2023 Chairman's Statement AGM 14 Nov 2023

Introduction

Ladies and gentlemen, on behalf of the Board and the entire Li-S Energy team, I would like to welcome you to the 2023 Annual General Meeting of Li-S Energy shareholders.

My name is Ben Spincer, Li-S Energy's Chair, and I am delighted to be hosting the Annual General Meeting for Li-S Energy.

First, I would like to acknowledge the Traditional Owners of the lands on which we meet the Turrbal People, and I pay my respects to their Elders past, present and emerging.

I would like to start by introducing the Li-S Energy team who are with me in Brisbane today. I am joined by my fellow Directors, Ms Hedy Cray, Mr Robin Levison and Mr Tony McDonald. We are also joined by the CEO, Dr Lee Finniear who you will hear from shortly, the CFO Ms Sarah Price, and the General Counsel and Company Secretary, Mr Will Shiel.

2023 Progress

2023 was another exciting year for Li-S Energy. The company consolidated its position as one of Australia's most innovative battery companies and we saw ground-breaking developments in our core technology in parallel with the construction of our Phase 3 production facility and a growing network of cornerstone partners. Our research team has produced lithium sulfur cells with world-class gravimetric and volumetric energy density and the ever growing and diversifying market for electrification has allowed us to increasingly focus our business development efforts on the high value (and we believe high margin) drone and eAviation markets.

To achieve this, I must recognise the support of my fellow Board members Robin Levison, Tony McDonald and Hedy Cray, plus the efforts of the management team led by CEO Dr Lee Finniear, CFO Ms Sarah Price and CTO, Dr Steve Rowlands. In July, we also announced the establishment of an Advisory Panel to support the global recognition for LIS and resulting opportunities. We are excited to welcome the globally recognized battery industry leaders, Ms Isobel Sheldon OBE and Mr Bob Galyan who join our strategic advisor, Mr Glenn Molloy as the first members of this panel.

Last, but not least, my fellow Board member, Tony McDonald retires from the LIS Board at the conclusion of today's meeting. Tony has been instrumental in driving the business since its establishment and whilst his retirement is well-deserved, we will all miss his presence and insights. Thank you, Tony.

R&D Update

We continue to work closely with Deakin University to commercialise over a decade of research in the development of lithium-sulfur and lithium-metal batteries that utilise boron nitride nanotubes or BNNT to improve performance and cycle life. Over the last 12 months we have also engaged other respected

leaders in battery research to support elements of our commercialisation program, such as the University of Queensland and the Fraunhofer Institute in Germany.

We are also an active member of the Federal Government-supported Renewable and Clean Energy Trailblazer program at Deakin, which will provide additional funding from the federal government over its four-year life to support both our fundamental research and our investment in our Phase 3 pilot plant.

That critical Phase 3 facility is nearing completion in Geelong. This will be one of Australia's largest dry rooms to support a production capacity of 2MWh of our cells per year, scaling us from tens to thousands of cells capable of being produced each week. This facility will allow us to start production of commercial test cells for our key partners during 2024.

In April we announced our new 20-layer Gen3 lithium sulfur battery which uses our semi solid state technology to improve volumetric energy density to a level comparable to current lithium ion batteries, whilst maintaining gravimetric energy density in excess of 400 Wh/kg. We believe that our Gen3 system will be the cornerstone of a safe and reliable lithium sulfur battery for production in our Phase 3 facility.

Commercial update

In 2023 we also continued to develop our relationships with core partners. The company has made a conscious decision to focus on understanding the needs of current partners as a proxy for target sectors as we develop our battery specifications sheets and the capacity to manufacture test cells, plus opportunities in the domestic market. This has proved successful, with deepening relationships with partners such as Seattle-based magniX, and new partnerships with domestic drone companies such as VTOL Aerospace. As we move through 2024 and on the back of our Phase 3 capabilities, we plan on expanding these existing and new partnerships.

Shareholder support

LIS continues to value the continued support of its major shareholders, PPK Group Limited, Deakin University and BNNT Technology. However, the Company could not have achieved its goals this year without the ongoing support of all its shareholders and the funds raised through the IPO and pre-IPO raises.

This capital has ensured that not only can the company fund its ongoing development work, but has also retained a healthy balance sheet in difficult economic conditions, with \$33.0m of cash and cash equivalents at the end of the 2023 financial year. This gives us the strategic flexibility to continue to invest in our team and facilities and develop opportunities as they arise for a number of years.

Outlook

As we approach completion of our Phase 3 facility we are also turning our attention to the longer term. We have developed plans for a 200MWh or Phase 4 facility in the coming years, that will be able to produce commercial quantities of batteries for the first time and generate significant revenue. This is a significant standalone project that is not tied to the location of our Phase 3 facilities in Geelong and we anticipate leveraging support from Governments and partners as we progress our plans further. Into the long-term we continue to anticipate lithium sulfur gigafactories on the horizon. However, it is increasingly evident that that scaling to a Gigafactory is best served by partnering with existing battery manufacturers, licensing our technology and supplying the nanomaterials critical to production of our batteries.

I will now hand over to the CEO, Dr Lee Finniear to give you a company update and discuss some of the recent exciting developments at LiS Energy. Thank you.

Company update: AGM 2023

DR LEE FINNIEAR | CEO



2023 – From science to battery production



Phase 3 – commissioning of 2MWh production facility on track to complete in November 2023



New eAviation & drone partners in place with projects underway to trial our cells



New semi-solid-state Li-S battery delivered 45% increase in volumetric energy density



Developed additional unique IP relating to BNNT & Li-nanomesh



Strong fiscal management with \$33.5M in available cash at 30 June 23



Enhanced our team with extensive engineering and battery scale up experience

Our market opportunity

Li-S Energy cells are highly differentiated for drones and electric aviation – markets where the most energy dense cells are projected to command 5-10 times the price of normal EV cells¹



DRONES

- Drones market size by 2027 - \$61B²
- 67% fixed wing with more than 5kg payload²
- Annual battery market by 2027 - \$12B²



eAVIATION

- Commercial passenger eAircraft sold per year by 2035 - 15,000⁴
- Annual battery market by 2035 - \$20B⁵



SECURITY

- Substantial opportunities being developed
- Key targets: drone and light weight military batteries
- \$1.27B annual military battery market by 2030⁶

1. Source IDTechEX Report: Solid-State and Polymer Batteries 2021-2031
2. Source Precedence Research – Unmanned Aerial Vehicle (UAV) Drones Market 2022 – 2027
3. eAviation EAP advanced subsonic aircraft image courtesy of NASA
4. Source IDTechEX Report : Manned Electric Aircraft: Smart City and Regional 2021-2041
5. Based on an estimated average pack size of 1500KWh @ US\$900 per KWh
6. VMR Report: Military Battery Market: Global market size, status and forecast to 2030

All amounts in USD



Industry Partners

Our current partners each represent a key target market.

Our focus is to build test battery cells to meet our current partner requirements (which are a proxy for the overall market sector needs).

During FY24, with Phase 3 production facility in place, we will expand and deepen our portfolio of key industry partners.

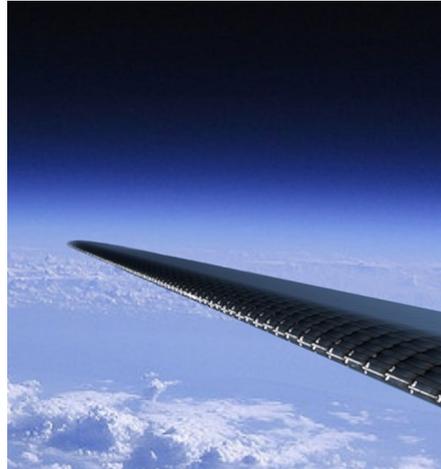
Our industry partners



e-Aviation



MagniX is working with NASA on a US\$74M electric aircraft program. We are working with magniX to build & test our ultra-lightweight batteries for their projects



HALE drones



We are partnering to build high altitude long endurance surveillance drones that can stay aloft for weeks at a time – our cells being critical to the UAV performance



security

Under NDA

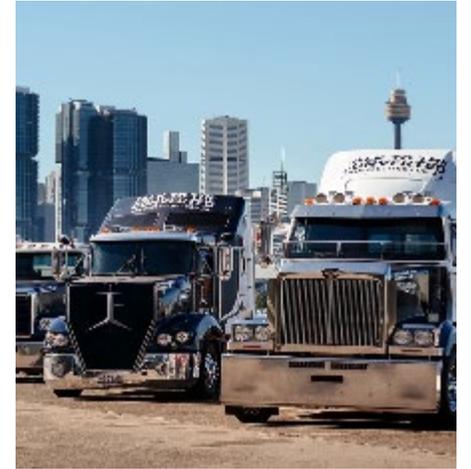
We are working with partners to examine potential lightweight military solutions for security & defence applications



drones



We continue to work with Boeing companies to deliver cell test data, data sheets, test and trial cells for Boeing UAV programs

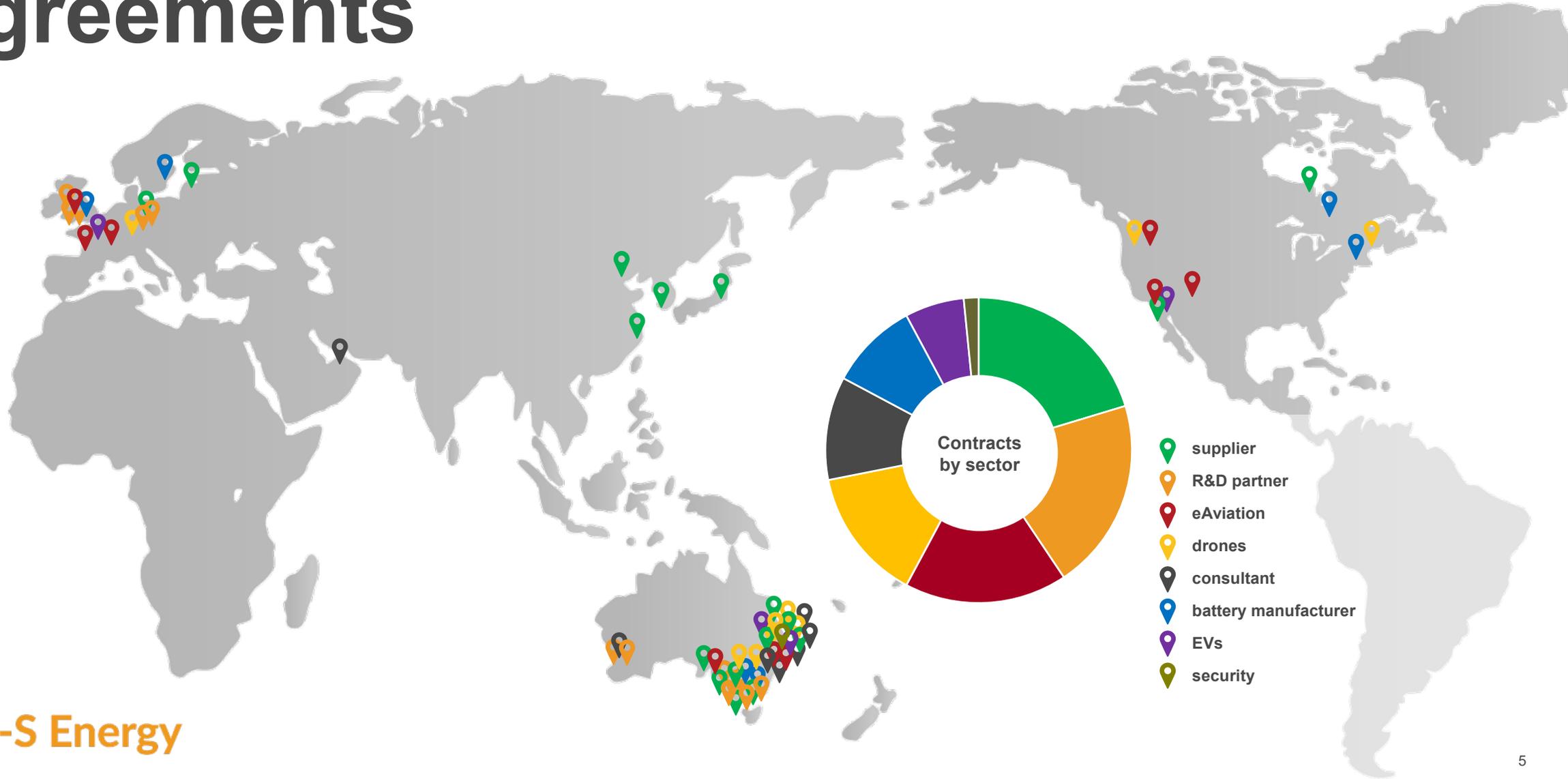


heavy EVs



Janus Electric converts heavy vehicles from diesel to electric. We are targeting cells to substantially extend HEV range

Our foundation agreements



Global reach

Over the last 12 months our opportunities have grown across the world as we progress to commissioning our Phase 3, 2MWh production facility in Geelong.



Australia

Meetings with Federal Government and Queensland & Victorian state departments to position Li-S Energy as a world-leading Australian advanced battery business

Li-S is a key player to advance the sovereign battery supply chain in Australia



UK & Europe

Discussions with gigafactories, OEMs, battery development facilities and investors

Paris Airshow provided dozens of prospective eAviation and drone partners, many of which are now under NDA



UAE

UAE Ambassador to Australia Visited Li-S Energy

UAE Invitation to Dubai and Abu Dhabi to the Dubai Business Forum, and to discuss Li-S opportunities in the Region

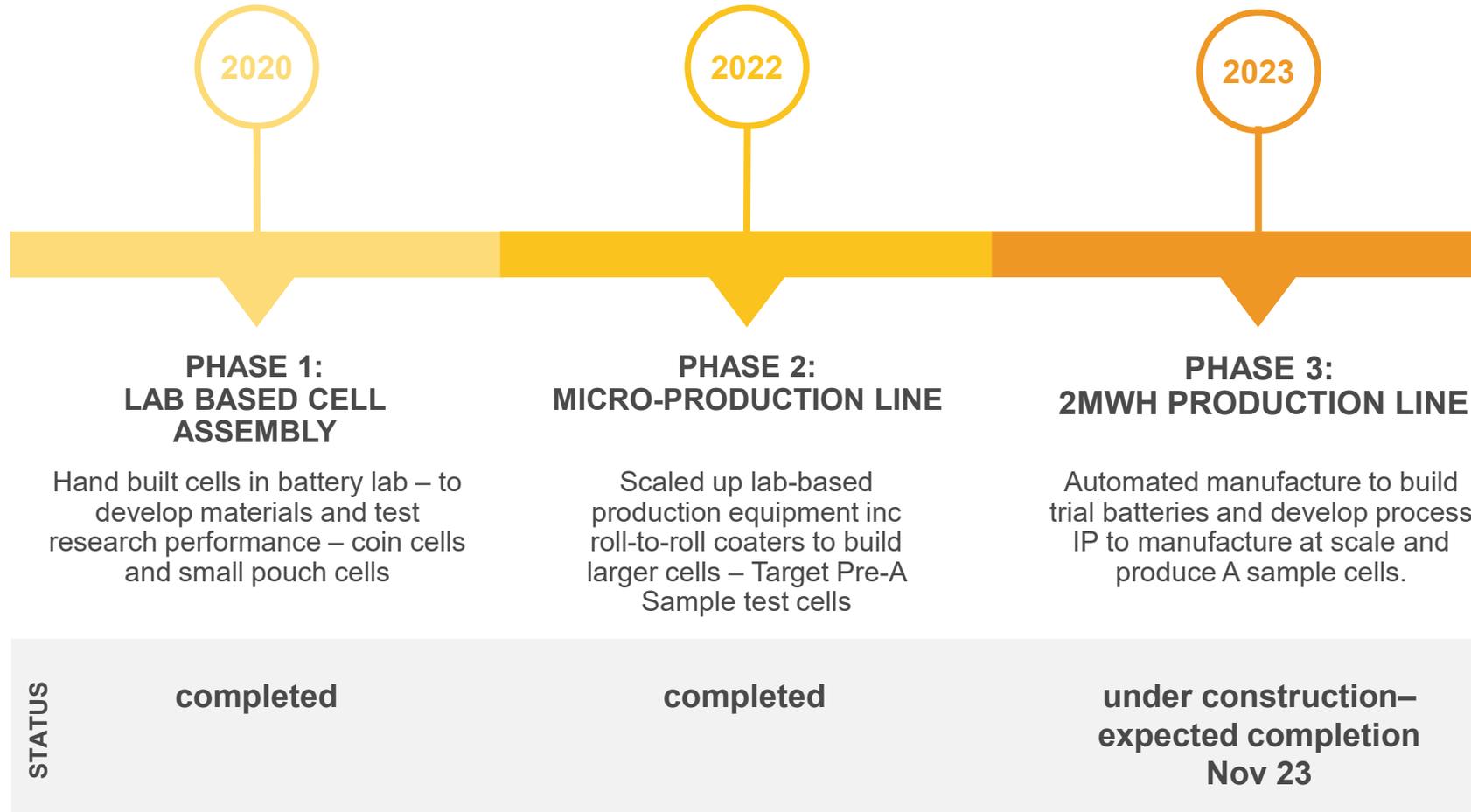


USA

Established relationships with a number of US companies as a key player in lightweight batteries for the eAviation and drone markets

Key next step to provide cell data sheets and test cells from our Phase 3 facility

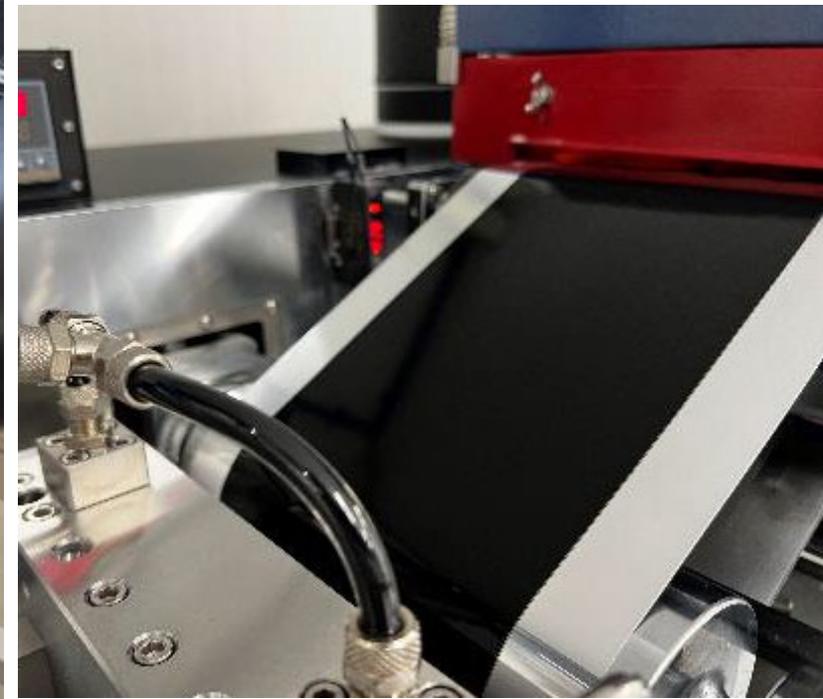
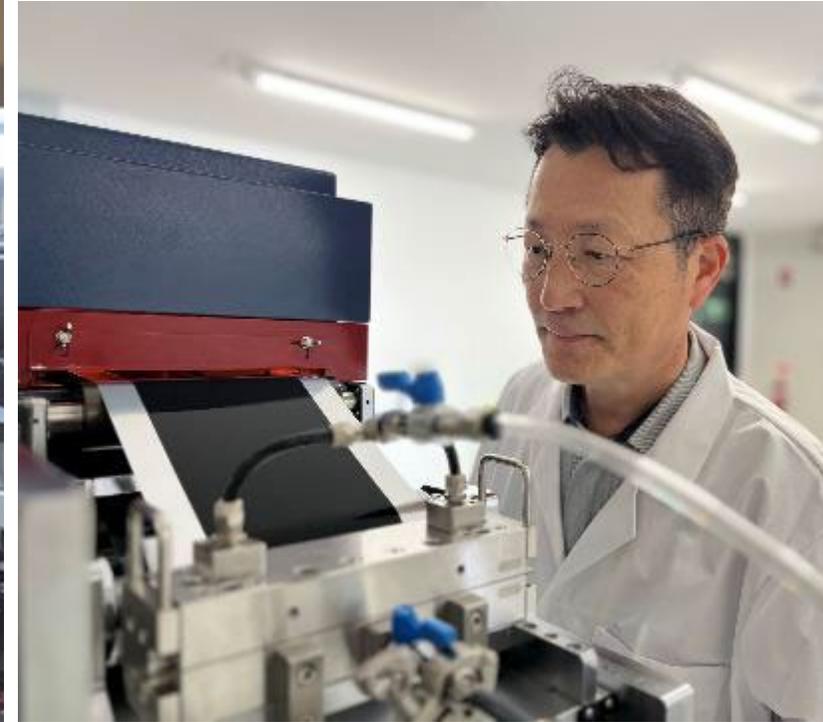
Production scale-up to date





Phase 2: micro production line

- Our Phase 2 micro-production line consists of 5 new laboratories totalling over 200sqm
- The line includes roll-to-roll cathode coaters, materials preparation, automated stacking and pouch production equipment
- Phase 2 enables us to produce high quality, consistent matched cells so we can do extensive performance testing, optimising cell chemistry and construction.
- Phase 2 is also used to test and optimise electrolyte & additive design, BNNT and Li-nanomesh coating processes, and cell construction techniques.
- Phase 2 operates in parallel to our Phase 3 facility to continue to improve cell performance





Phase 3: 2MWh plant commissioning

- The 2MWh production facility has been built, equipment is arriving and is being commissioned
- The 220 sqm dry room, one of the largest in Australia, has been completed and is fully operational
- The automated cell production equipment passed its Factory Acceptance Tests and has now arrived in Geelong
- Six specialists from the supplier will spend up to 2 months on-site installing and commissioning the facility
- This facility is one of the most sophisticated in Australia, and will enable us to lock in automated manufacturing processes and deliver batteries for customer trials



Phase 3 anode cutter during factory acceptance testing



Test facility installation

Battery cells need to pass a wide variety of performance and abuse tests to meet customer requirements.

Our Phase 3 battery testing facility is one of the most advanced in Australia and includes :

- Nail penetration & crush tester
- Drop tester
- Short circuit & overcharge tester
- Temperature & high altitude chamber
- Vibration tester
- Advanced cell cyclers able to simulate cell loadings in mission profiles as they would experience them in partner vehicles
- Advanced automated systems for real-time test data harvesting and production data integration, enabling AI based performance analysis.





Developing advanced manufacturing equipment

Li-S and Li-metal cells require advanced handling for lithium foil anodes – together with our partners we have built specialised anode cutters & cell stackers to deliver automated cell assembly.



Cell development summary

- Developed new semi-solid-state lithium sulfur cell chemistry – our GEN3 cell
- GEN3 delivered a 45% increase in volumetric energy density compared to our traditional liquid cell chemistry
- High safety electrolytes being developed and tested
- Continuing lithium metal cell development
- Substantive cycle life increase on lithium metal full cells with enhanced safety compared to the lithium metal baseline cells without nanomaterial additives



The benefits of Semi-Solid-State

Benefit Type	Traditional lithium sulfur	Li-S Semi-solid-state technology
Increased gravimetric energy density	400Wh/kg	Currently achieving over 400Wh/kg – anticipating significantly higher with optimisation
Increased volumetric energy density	Requires highly porous cathode, making the cell a higher volume – typically achieving 350-400Wh per litre	Currently achieving over 540Wh per litre , anticipating significantly higher with optimisation
Improved safety	While the traditional system is safer than lithium-ion as it is less prone to thermal runaway, it still uses a flammable ether-based electrolyte, which can catch fire if exposed to an ignition source.	Intrinsically safer due to the use of a low flammability electrolyte , meaning its electrolyte is less likely to catch fire even if exposed to an ignition source.
Reduced cost	Higher cost due to higher costs of materials and potentially more difficult cathode manufacturing processes.	Elimination of high-cost graphene in the cathode reduces overall cost of materials. Reduced porosity cathode results in less electrolyte being needed (which is an expensive part of the battery bill of materials) The low porosity cathode also has potential to reduce manufacturing costs.
Easier to mass manufacture	Cathode coating needs to be highly porous – making it difficult to achieve consistent quality control	Cathodes are far lower porosity, making them easier to produce at the required quality on roll-to-roll cathode coating and calendaring equipment designed for lithium-ion production
More reliable integration into operational battery packs and systems	Very difficult to balance cells within the battery pack due to inconsistencies in performance between cells, leading to lower overall energy stored	Cells behave more predictably and are easier to match, leading to higher overall energy stored consistently in the battery pack.
Ability to store the cells fully charged	Liquid system Li-S cells cannot be stored fully charged for long periods without electrolyte breakdown and cell destruction.	Can be stored at 100% state of charge for most practical purposes.

Our advisory panel

We've recently established a global advisory panel which will play a key role in guiding the company's international development, partnership acquisition and initiating production partnerships for Gigafactory scale.



BOB GALYEN

- 50 years' battery industry experience
- Formerly CTO of CATL – the largest lithium-ion cell manufacturer in the world
- Previous Chairman of International Battery Standards Steering Committee
 - Based in USA



ISOBEL SHELDON OBE

- 20-year veteran of the battery industry
- Trustee of UK's Faraday Institution
 - Senior executive roles in battery development and manufacturing
 - Worked with many of the world's leading automotive manufacturers
 - Based in Europe



GLENN MOLLOY

- Founder of PPK Group Limited and currently director of several PPK Group Limited's related companies
- Extensive experience on public company boards and as advisor for public and private entities
 - Based in Australia

Delivering on IPO objectives

Program: IPO	ACHIEVEMENT SINCE IPO	
YEAR 2		YEAR 2
Complete its Li-S Energy Battery pilot production plant to produce Li-S Energy Batteries in sufficient quantities to test larger drones, EVs and other devices	✓	Phase 2 production line completed and operational by Nov 22. Phase 3 2MWh production facility constructed, equipment being installed and commissioned in Nov 23
Engage additional product OEMs with the aim of increasing the number of collaboration agreements and expanding the range of product categories covered	✓	Additional collaboration agreements with V-TOL Aerospace & Halocell - engaged with a number of global eAviation, Drone and heavy EV OEM's many of which are now under NDA and in active, confidential discussions
The Company intends to seek discussions with one or more battery manufacturers in relation to manufacturing Li-S Energy batteries	✓	Held initial discussions and site visits with major European battery manufacturers. Added former CTO of CATL, Bob Galyen to Advisory Board to assist potential collaborations
Continue progressing its Li-Nanomesh research and development with the aim of demonstrating dendrite reduction on a range of metal anodes		Continued Li-nanomesh development focusing on lithium anodes to establish coating application techniques for automated cell manufacturing
Continue with Development Program projects on 3D printed batteries, solid-state Batteries and flexible form Li-S Energy Batteries provided suitable results are obtained	✓	Developed Semi-Solid-State Li-S batteries, improving volumetric energy density by 45%. Continuing R&D on full-solid-state electrolytes & cells under ARC Research Project

Production scale-up strategy

CALENDAR YEAR

NOW

FUTURE

PHASE 3

PHASE 4A

PHASE 4B

PHASE 5

2MWH PRODUCTION LINE

200MWH MANUFACTURING PLANT

10GWH+ GIGAFACTORY

ACTIONS

DESIGN

BUILD

LICENSE

Automated manufacture to build trial batteries and develop process IP to manufacture at scale and produce A sample cells

Complete 2MWh facility installation

Commence manufacturing line design

Advance Govt & private sector discussions to secure location & support for manufacturing plant

Identify manufacturing partners

Secure suitable manufacturing partners & suppliers

Acquire project finance

Build facility

Deliver cells to commercial customers

Battery manufacturer completes 10GWH+ battery production line for Li-S Energy batteries

Li-S Energy as JV partner and/or supplying nanomaterials and with a revenue share

COMMERCIAL

Established representative collaboration partners in each target industry

Accumulate additional significant collaboration partnerships with product OEMs in target industries

Sell test battery cells produced in the Phase 3 facility for partner testing

Sell volumes of Phase 3 battery for extended OEM trials

Secure conditional offtake agreements

Deliver B, C & D sample cells to offtake partners

Phase 4 commencement of commercial cell delivery with positive cash flow

Establish commercial relationship with existing battery manufacturer

Li-S revenue expected from nanomaterial sales, plus % of total battery sales revenue

2024 key outcomes expected



Industry critical cell data sheets produced and test cells issued to key partners



Additional eAviation & drone partners signed up with projects to trial our cells



Leverage advisory panel to introduce new partners, OEMs and manufacturers



Phase 3 facility fully operational and producing cells for partners



Accelerate use of balance sheet to drive growth and develop new commercial opportunities



Advance planning and complete initial design of Phase 4 200MWh production facility



Hear from our panel

Our newest advisory panel members share their thoughts on our technology, scale-up and the future opportunities for our batteries.



ISOBEL SHELDON
OBE



BOB GALYEN



Thank you

AGM 2023