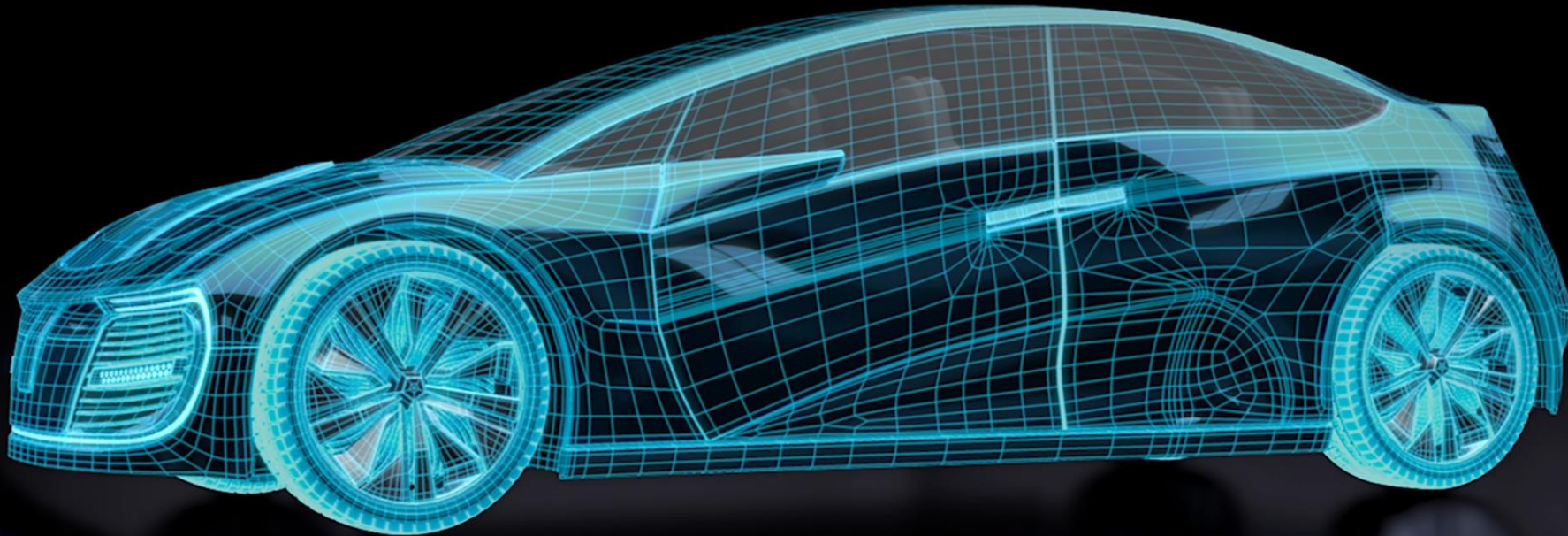


# Lithium<sup>+</sup> Australia



**Energising a better world**  
Investor Presentation | March 2024

ASX: LIT

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# Lithium Australia at a glance

To lead and enable the global transition to sustainable electrification, delivering a better world



**Market leading Australian battery recycler** achieving FY23 revenue of \$5.5m<sup>1</sup> (+118% from FY22)



**Strong partnerships in place with industry leaders** to secure battery supply and Mixed Metal Dust offtake



Lithium chemicals and battery materials **patented technologies positioned for joint development opportunities**



**Capitalising on growing lithium-ion batteries demand**, which is expected to grow 571% between 2022-2030<sup>2</sup>

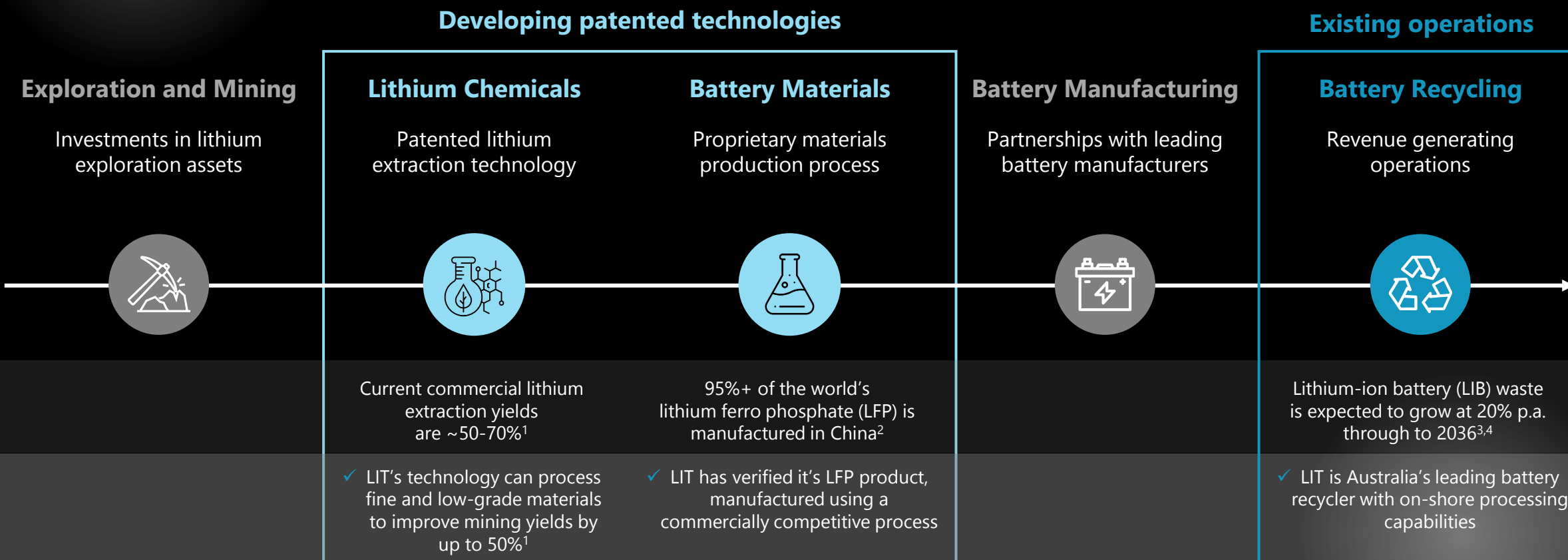


**Well positioned to execute on strategic objectives**, with \$7m<sup>3</sup> in cash and liquid investments

Notes: 1. FY23 Annual Report. 2. McKinsey & Company, Battery 2030: Resilient, sustainable, and circular (2023). 3. Cash and liquid investments as at 31 December 2023.

# Where we play

Lithium Australia (LIT) is scaling up in the growing battery recycling industry and focused on high value opportunities across the lithium value chain



Notes: 1. Assumes existing mine concentrator is 60%: 60% to 90% Li recovery increase assumes lithium extraction technology recovers 75% of lithium units going to tails. 2. IEA, Global EV Outlook (2023). 3. Randell Environmental Consulting, Waste lithium-ion battery projections (2016) 4. CSIRO, Lithium-ion battery recycling (2023).



# Battery Recycling



# Leading Australian battery recycler

Revenue-generating battery recycling business executing on a plan to achieve profitability



## Australia's leading battery recycler

Only Australian battery recycler which processes lithium-ion batteries domestically



## High barriers to entry

Established operations with high barriers to entry (i.e. rigorous compliance standards require investment in safety)



## Strong financial performance

In FY23, LIT's battery recycling division increased revenue by 118% to \$5.5m (FY22: \$2.5m)



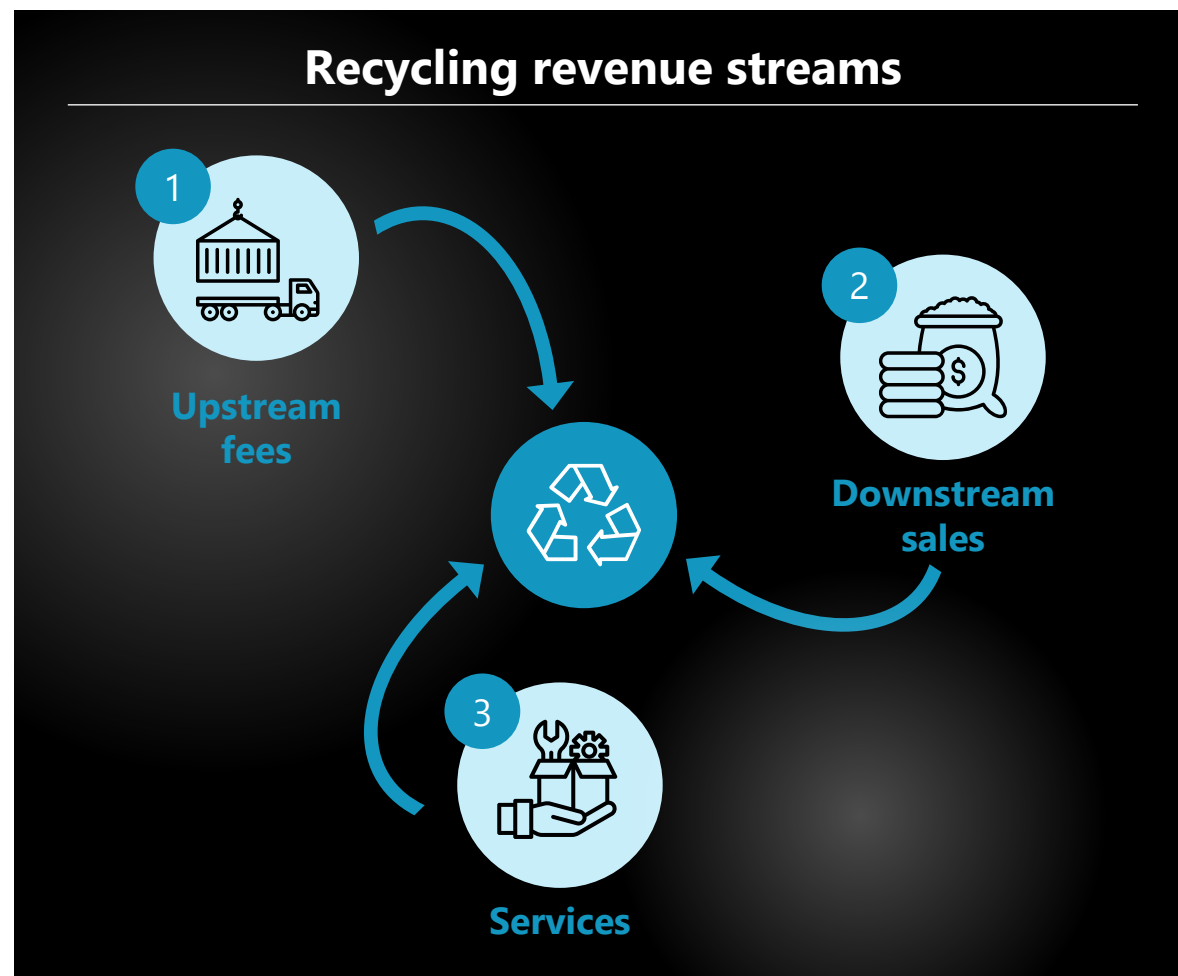
## Executing on key strategic initiatives

Aim to become the industry partner of choice and achieve cashflow breakeven in the short-term



# Attractive recycling revenue model

Revenue generated from upstream fees, sale of recycled materials and complimentary services



Notes: 1. Company analysis.

1

## **Upstream fees (~50% of revenue)<sup>1</sup>**

Fees are charged to customers for the collection and processing of recyclable batteries

2

## **Downstream sales (~40% of revenue)<sup>1</sup>**

Batteries are processed into Mixed Metal Dust (MMD), metals, and other by-products for offtake and sales

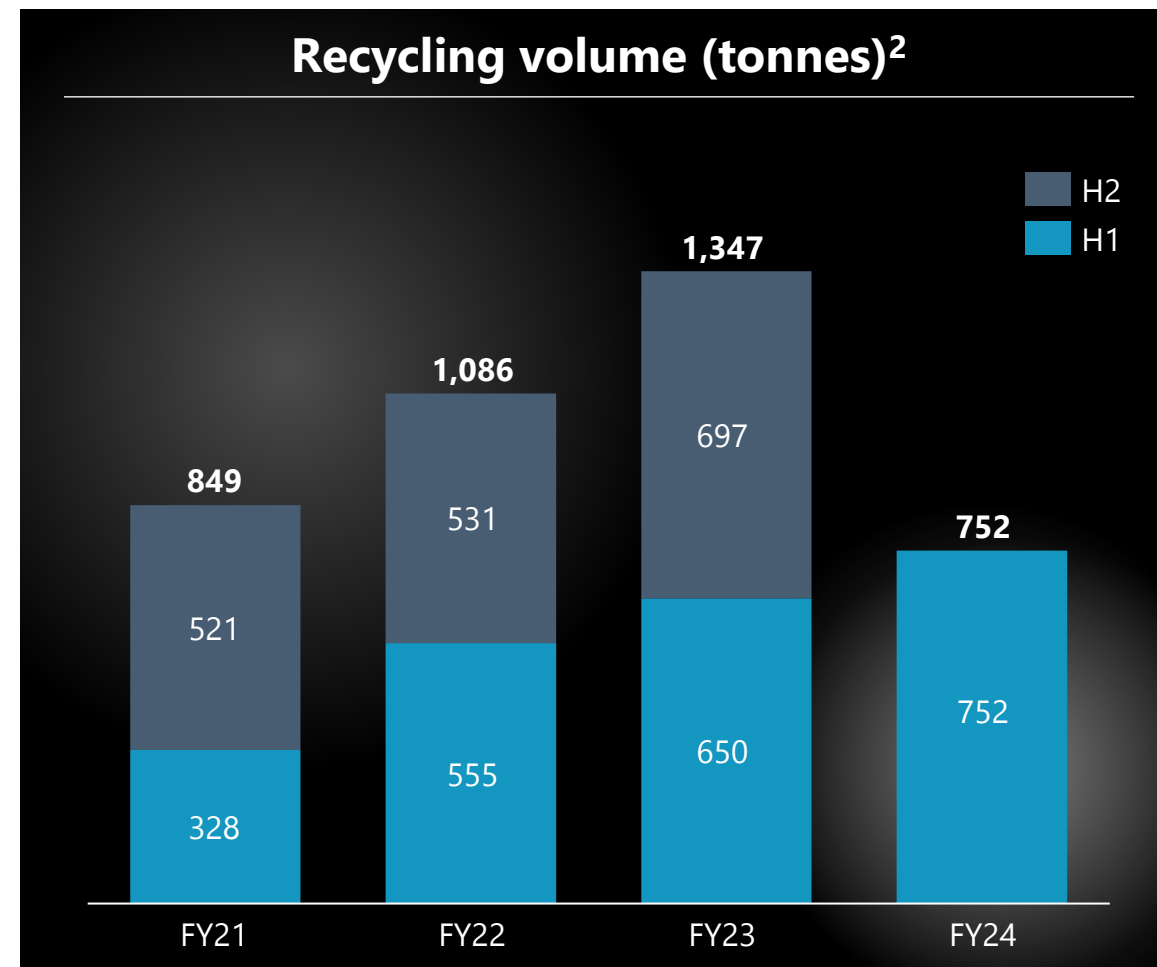
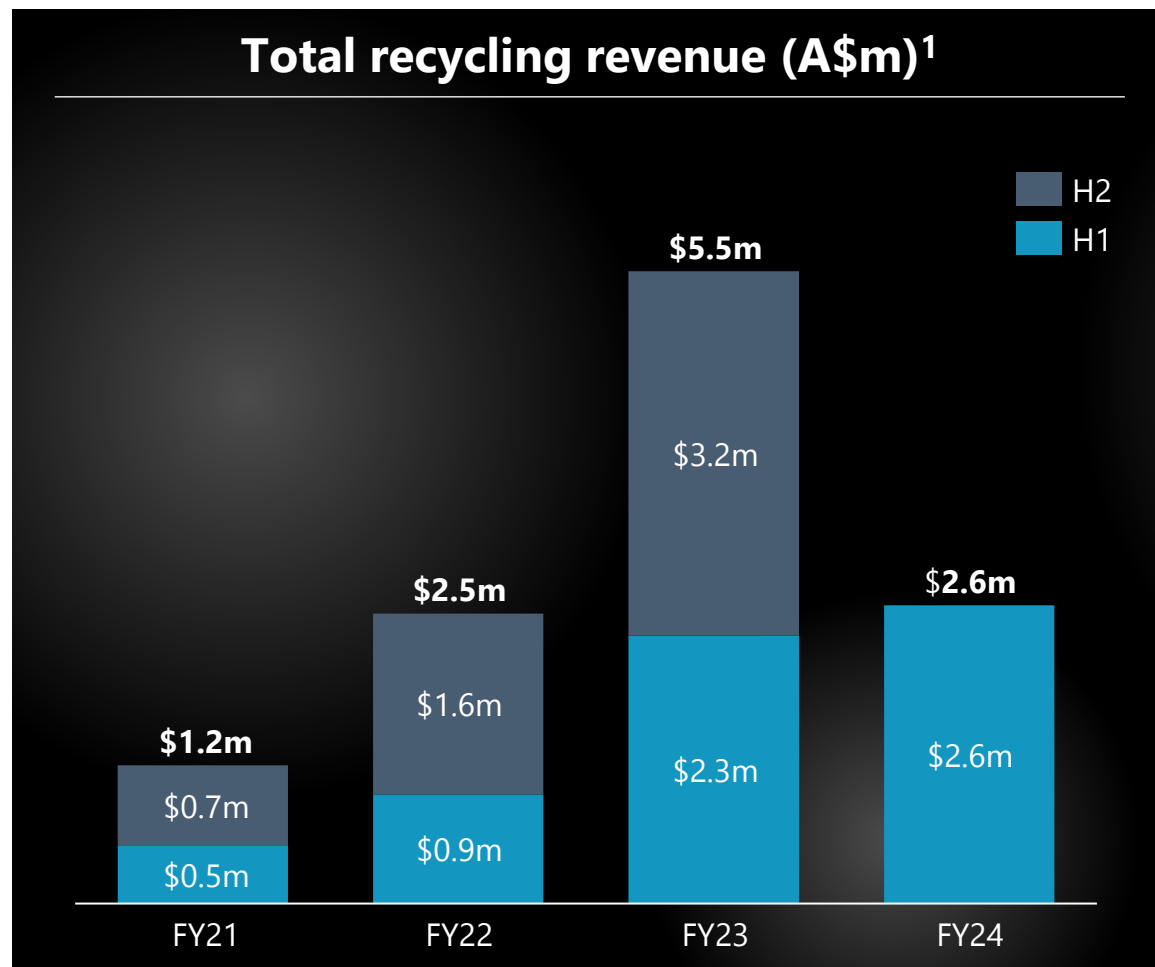
3

## **Services (~10% of revenue)<sup>1</sup>**

Provision of complimentary recycling services, including the sales / leasing of collection point boxes and storage services

# Strong financial profile

Rapid revenue growth driven by increased recycling volumes, BSC rebates and higher MMD sales



Notes: 1. Company financials. 2. Company analysis.



# Unrivalled recycling eco-system

Strategic partnerships in place to secure battery supply, with focus on LIBs given higher efficiencies

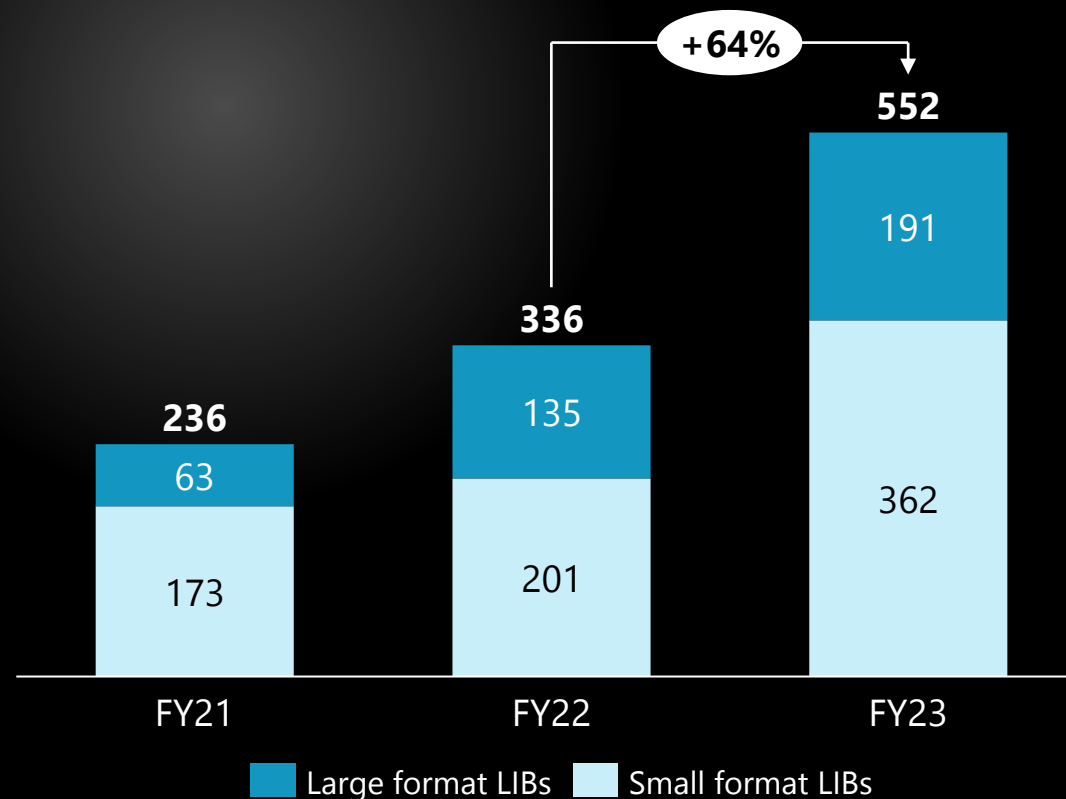
## ✓ Battery supply chain strategy in action<sup>1</sup>

End of life lithium-ion batteries will continue to be received from multiple sources including:

- ✓ Passenger EV OEM's
- ✓ ESS OEM's
- ✓ Installers of industrial ESS applications, such as micro-grids
- ✓ The mining industry, including e-mobility and ESS
- ✓ Waste management industry (e-waste aggregation)
- ✓ Hand held tool and device OEMs

Partnerships signed with global EV and ESS manufacturers are expected to secure the highest volumes of future lithium-ion batteries for the next five years.

## LIB recycling volume (tonnes)<sup>2</sup>



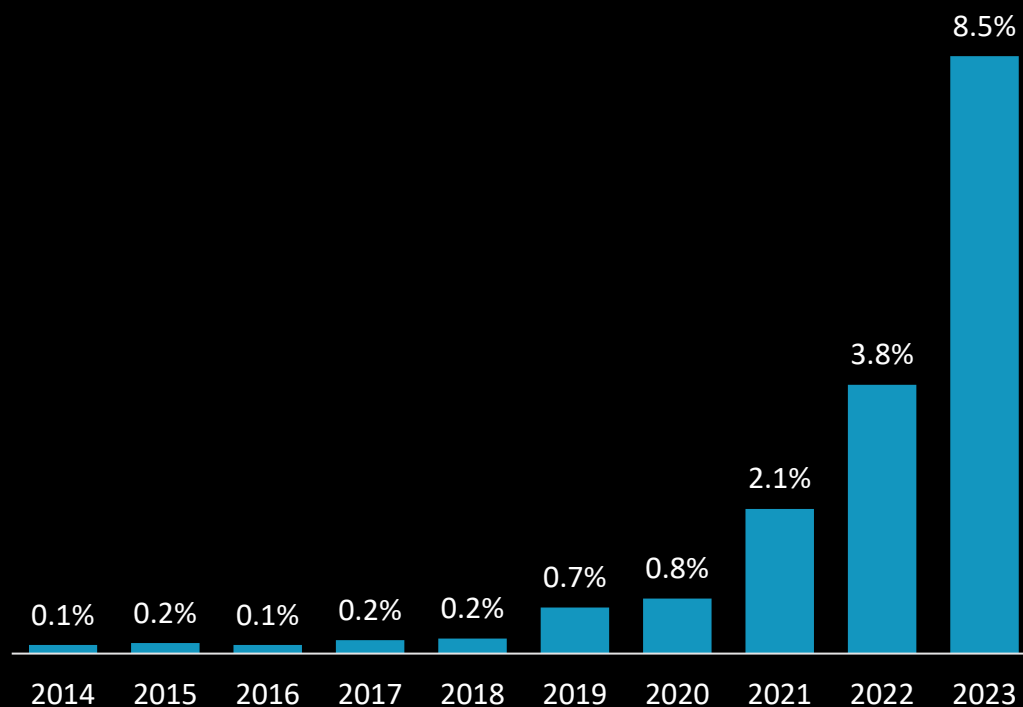
Notes: 1. EV = Electric Vehicle, ESS = Energy Storage Systems, OEM = Original Equipment Manufacturer.

2. Company analysis

# Growing Australian demand

Rapidly increasing demand for batteries expected drive need for recycling services

## Australia EV market share (%)<sup>1</sup>



Notes: 1. Electric Vehicle Council, State of Electric Vehicles (2023).

## Recycling strategy



### Secure supply with Tier 1 manufacturers

Secure future supply of LIBs for recycling by signing recycling agreements with Tier 1 EV/ESS manufacturers



### Build national collection and storage capacity

Scale up domestic battery collection and storage capacity to service increase in LIB collection volumes



### Increase processing capacity

Improve processing systems and technology to uplift battery processing capacity and efficiency

# Becoming a self-sustaining recycling business

Strategic roadmap to materially increase battery recycling volumes

## Completed

- ✓ Recorded \$5.5m revenue in FY23
- ✓ Offtake agreement for MMD progressing<sup>1</sup>
- ✓ Recycling agreements signed with leading manufacturers<sup>2</sup>
- ✓ Improved MMD yield per tonne by up to 25%<sup>3</sup> via process optimisation works

## Short-term (1 year)

- Achieve cash flow breakeven
- Optimise existing customer contracts
- Secure further supply agreements with tier 1 EV and ESS<sup>4</sup> manufacturers

## Medium-term (2-3 years)

- Build national collection and storage capacity
- Develop offshore strategy
- Accelerate collection of large format LIBs

## Long-term (3+ years)

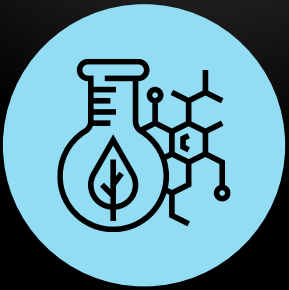
- Increase battery processing capacity to match collection volumes
- Sign battery collection agreements with offshore partners
- Develop offshore collection and storage capabilities

Notes: 1. See ASX announcement, 'Lithium Australia signs MOU with SungEel HiTech for MMD off-take and joint development agreement', 7 March 2024.

3. See ASX announcement, 'Quarterly Activities Report December 2023', 31 January 2024.

2. See ASX announcement, 'Envirostream signs new exclusive battery recycling agreement with LG Energy Solutions', 18 March 2024.

4. Energy storage systems.



## Patented Technologies

# Patented technologies

Two unique technologies with partnership strategies in place to de-risk commercialisation



## Lithium Chemicals

*Lithium extraction technology which improves yield for miners*

- ✓ Joint Development Agreement (JDA) signed with MinRes<sup>1</sup>
- ✓ MinRes JDA free carries LIT position to commercialisation<sup>2</sup>



## Battery Materials

*High quality lithium ferro phosphate (LFP) product*

- ✓ Product quality validated by industry leader NOVONIX<sup>3</sup>
- ✓ Focus on partnering to support production scale up



## Patented and validated technologies

Both technologies are protected by patents and have been validated by independent industry participants



## High barriers to entry

Significant barriers to entry due to many years of development and novel nature of technology



## Attractive financial returns

Both technologies expect to generate significant revenues, which would underpin a step change in Lithium Australia's financial profile



## Partnerships to drive commercialisation



Partnership model identified as the optimal pathway to fund and commercialise patented technologies

Notes: 1. See ASX announcement, 'Landmark joint development agreement with Mineral Resources', 7 August 2023. 2. Subject to successful completion of the pilot plant and engineering study. 3. See ASX announcement, 'Final testing for Lithium Australia's LFP cathode material', 22 September 2023.



# Patented technologies strategic roadmap

Clear strategy in place to commercialise patented technologies via partnerships with industry leaders

	Completed	Short-term (1 year)	Medium-term (2-3 years)	Long-term (3+ years)
 <p><b>Lithium Chemicals</b></p>	<ul style="list-style-type: none"> <li>✓ JDA signed with MinRes</li> <li>✓ \$1.7m drawn from MinRes convertible note</li> <li>✓ Piloting and engineering study activities underway</li> </ul>	<ul style="list-style-type: none"> <li>• LIT to manage key activities of piloting and engineering study</li> <li>• MinRes to fund key activities and provide raw materials</li> </ul>	<ul style="list-style-type: none"> <li>• Complete key activities and form 50:50 JV with MinRes<sup>2</sup></li> <li>• JV to issue first licence to MinRes demonstration plant</li> </ul>	<ul style="list-style-type: none"> <li>• Prove technology at commercial scale through MinRes demonstration plant</li> <li>• JV to issue multiple licences to brownfield and greenfield mines</li> </ul>
 <p><b>Battery Materials</b></p>	<ul style="list-style-type: none"> <li>✓ LFP product independently validated by NOVONIX</li> <li>✓ Progressed partnership discussions, as demonstrated by First Phosphate MOU<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Secure offtake / development partner for scaled facility</li> <li>• Finalise FID<sup>3</sup> and commence development of scaled facility</li> </ul>	<ul style="list-style-type: none"> <li>• Operation of the scaled facility</li> <li>• Secure LFP offtake agreements</li> <li>• Complete engineering studies and approvals for a commercial facility</li> </ul>	<ul style="list-style-type: none"> <li>• Develop first commercial LFP / LMFP<sup>4</sup> facility</li> <li>• Expand production globally through further facilities</li> </ul>

Notes: 1. See ASX Announcement, 'Lithium Australia signs MOU with First Phosphate', 7 December 2023. 2. Subject to successful completion of the pilot plant and engineering study. 3. Final Investment Decision. 4. Lithium Manganese Ferro Phosphate.

# Investment highlights

**Growing global demand:** Well-positioned to capitalise on the increasing global demand for lithium-ion batteries

**Market leading recycling business:** Australian-based battery recycler, providing sustainable solutions for the disposal of batteries

**Strategic supply partnerships:** Future supply of batteries for recycling secured through global and domestic partnerships

**High potential patented technologies:** LieNA® validated through strategic partnership with MinRes and high-quality LFP product confirmed by NOVONIX

**Multiple growth pathways:** Well-defined path to optimise the recycling business, with further upside from partnering patented technologies to commercialisation

**Strong balance sheet:** \$7m<sup>1</sup> in cash and liquid investments

Notes: 1. Cash and liquid investments as at 31 December 2023.

# Appendices

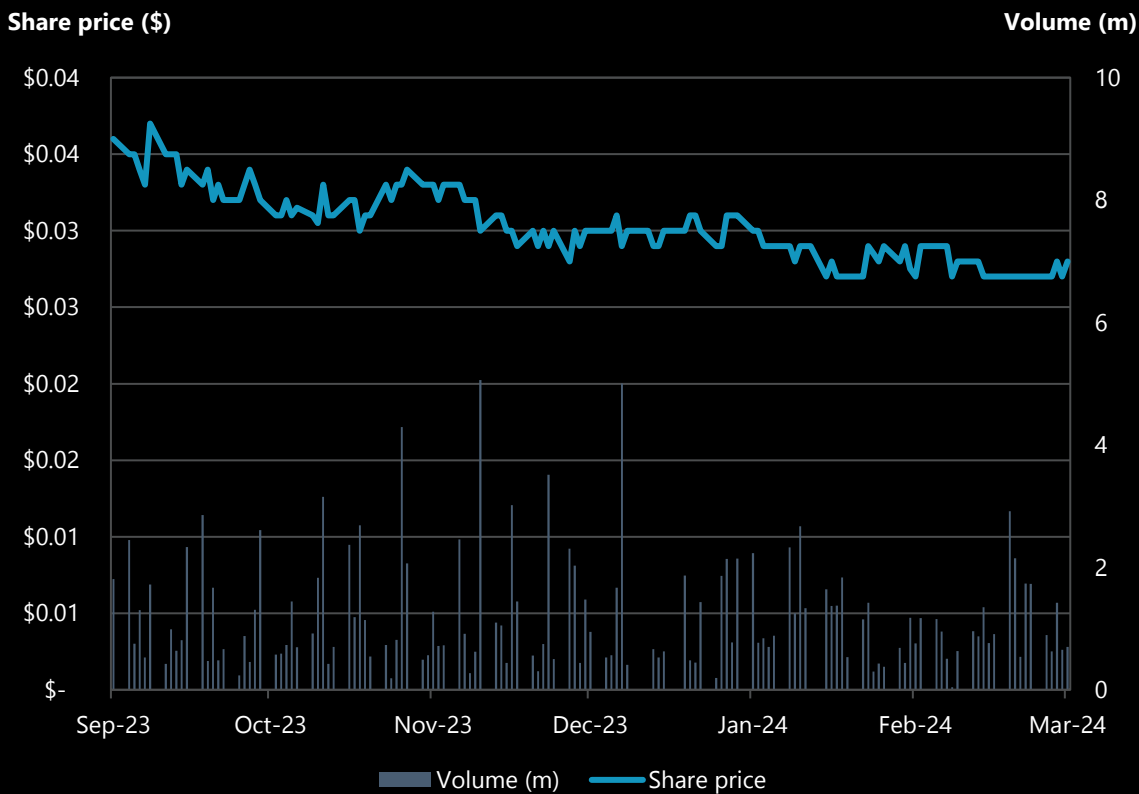


# Corporate Overview

# Corporate overview

Strong balance sheet with cash and listed investments of A\$7 million

## Share price performance (last 6 months)



## Financial information

Share price (15-Mar-24)	\$0.03
52-week trading range (low / high)	\$0.03 / \$0.07
Shares on issue	1,222m
<b>Market capitalisation (15-Mar-24)</b>	<b>\$34.2m</b>
Cash (31-Dec-23)	\$4.9m
Listed investments <sup>1</sup> (31-Dec-23)	\$2.1m
Debt (Convertible Note) (31-Dec-23)	(\$0.9m)
<b>Cash and listed investments (31-Dec-23)</b>	<b>\$7.0m</b>

Notes: 1. Includes Charger Metals NL (ASX: CHR) and Evion Group NL (ASX: EVG). Joint venture holdings of 30% for certain tenements held by CHR also exist.



# Board and management

High profile and experienced leadership team

## LIT Directors



**Simon Linge**  
Managing Director and  
CEO



25+ years of senior management  
experience within global manufacturing,  
recycling and engineering services



**George Bauk**  
Non-Executive Chairman



15+ years as a listed company director  
involved in mining exploration and production  
both domestically and internationally



**Kristie Young**  
Non-Executive Director



25+ years' experience focusing on the  
resources sector, with 15+ years' experience  
on boards and committees



**Phil Thick**  
Non-Executive Director



30+ years' experience as a senior executive  
across oil & gas, mining and chemical  
processing sectors

## LIT Management



**Stuart Tarrant**  
Chief Financial  
Officer



20+ years' experience with mineral  
extraction, mineral exploration,  
finance and agribusiness



**Steven Marshall**  
GM - Recycling



10+ years' experience in the  
recycling industry with proven  
commercialisation experience



**Andrew Skalski**  
GM – Safety, Risk,  
and Integration



30+ years' experience in mining  
operations, mineral project  
development and battery materials



**Andrew Napier**  
GM - Technology  
Development



25+ years' experience in the  
design, construction and  
commissioning of Greenfields and  
Brownfields facilities



**Julie Coleman**  
Chief People  
Officer



30+ years' experience in HR across  
mining, telecommunications, and  
higher education sectors



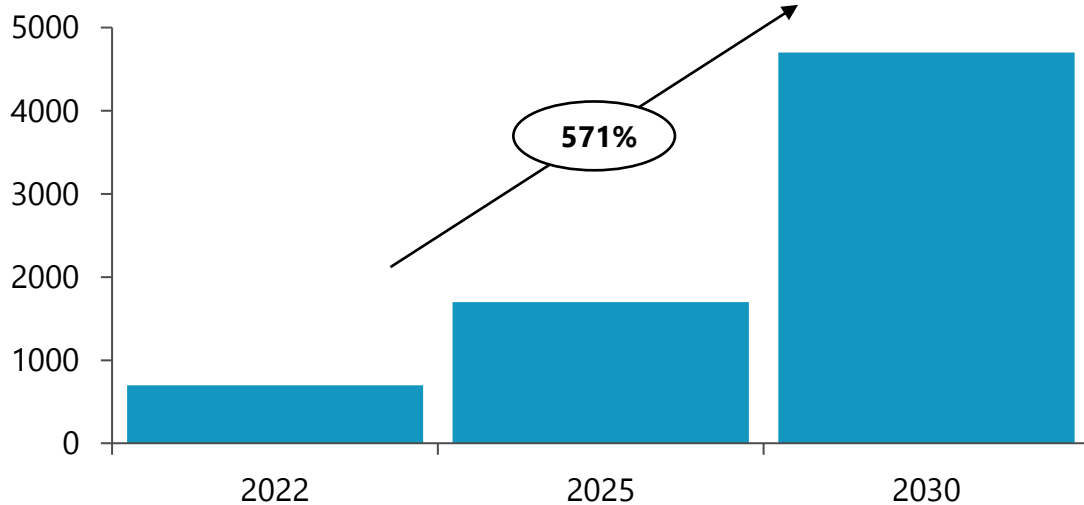
# Market Overview

# Growing global demand

Rapidly increasing demand for batteries expected to drive strong growth in lithium production

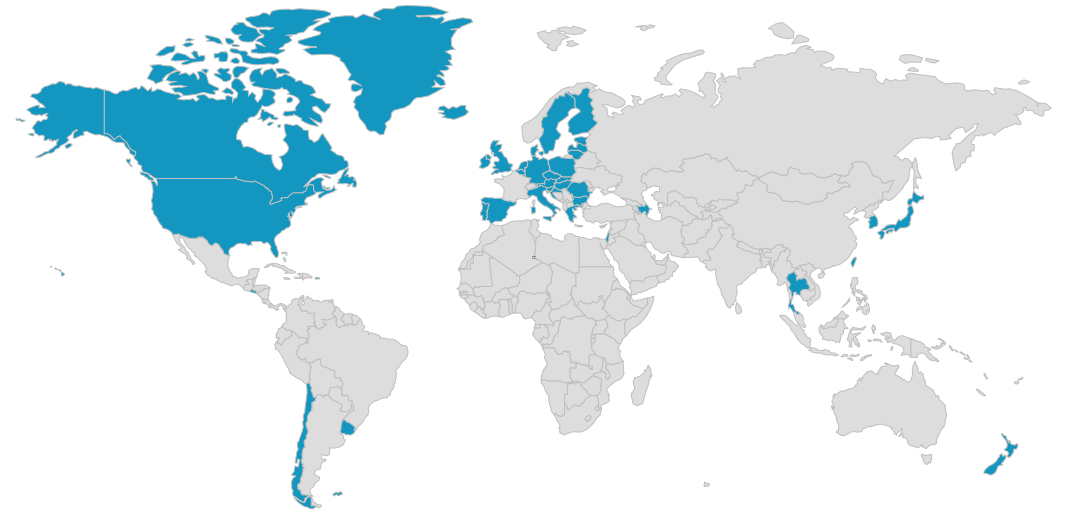
## LIBs demand growth<sup>1</sup>

Global Li-ion battery cell demand, GWh



**Strong demand growth for battery cells supports need for LIT's proprietary chemicals, materials, and recycling technologies**

## Global shift towards EVs



**44 countries have committed to phasing out petrol car sales between 2035 – 2040<sup>2</sup>**

Notes: 1. McKinsey & Company, Battery 2030: Resilient, sustainable, and circular (2023). 2. Coltura, Gasoline Vehicle Phaseout Advances Around The World (2023).

# Reducing supply chain risks

World governments are actively trying to reduce dependency on China, who produces >95% of all LFP



## China dominates the market

Countries are looking to diversify their supply chain reliance



*We're not looking to decouple from China. We're looking to de-risk and diversify our relationship with China.... so we're not dependent on any one country for necessary product. It means protecting a narrow set of advanced technologies critical for our national security.<sup>1</sup>*



**Joe Biden (46<sup>th</sup> US President)**



## Government policies

Various government policies in place to secure future access to critical materials



**Australian Critical Minerals Strategy Battery Strategy**

- ✓ National framework to grow critical minerals sector
- ✓ Leverage Australia's strengths in mining and mineral processing



**Inflation Reduction Act (US)**

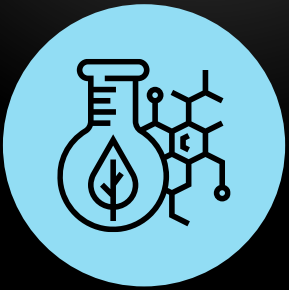
- ✓ Invest into domestic energy production with Australia set to become a domestic source for critical sectors



**EU regulatory framework for batteries**

- ✓ Framework to promote a circular economy and reduce the environmental impact throughout all stages of the battery life cycle

Notes: 1. Critical materials supply chain CNBC article 'We are not decoupling': G-7 leaders agree on approach to 'de-risk' from China'. (2023).



## Patented Technologies: Supplemental Information



# Lithium Chemicals: Overview

Patented extraction technology offers ~50% higher lithium extraction efficiency

- ✓ **Driving greater profitability for miners**

Unique method of processing un-used fine and low-grade spodumene, yielding higher levels of lithium output

- ✓ **Improves sustainability**

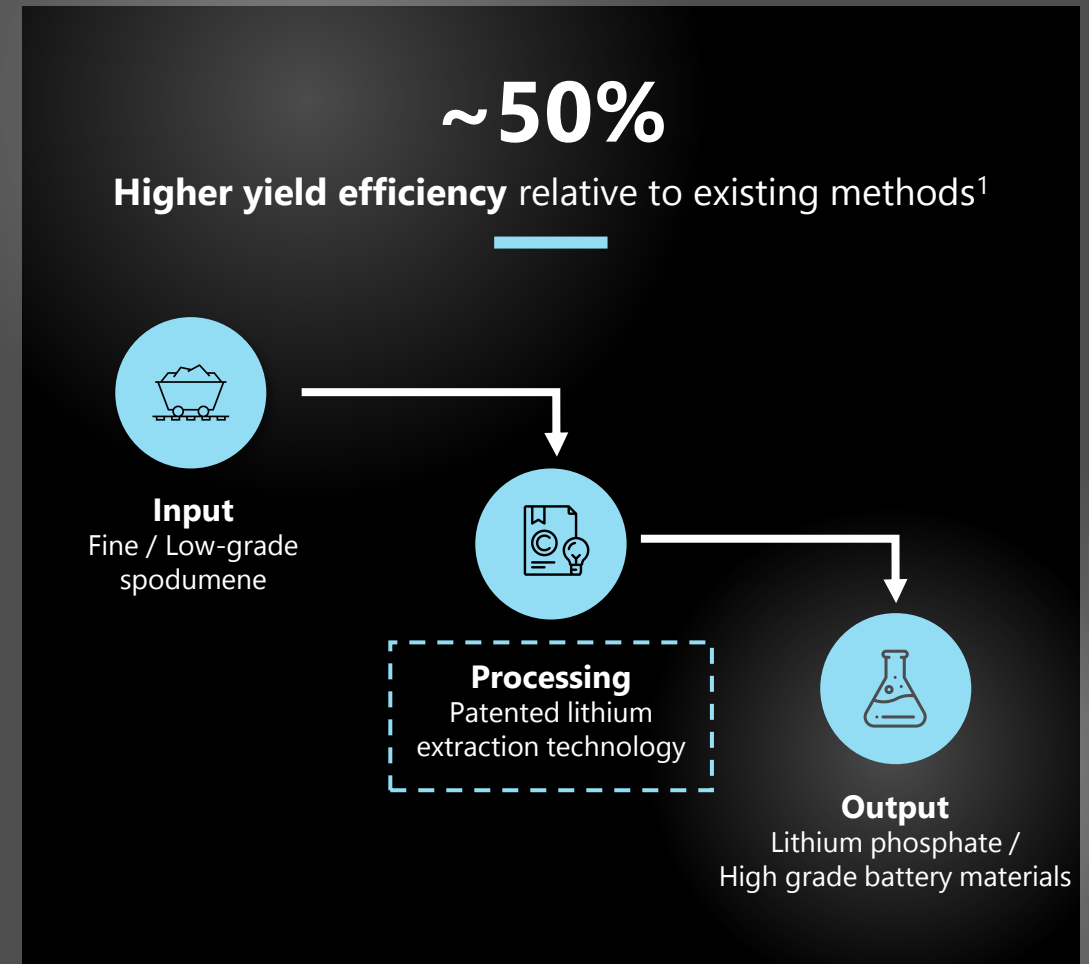
Materially less wastage as fine and low-grade spodumene typically ends up as waste streams

- ✓ **Increases mine asset value**

Miners can extract significantly more lithium from the same spodumene resources, increasing mine value

- ✓ **Moves down value chain**

Allows miners to capture more of the value chain by processing spodumene on site into a lithium chemical



Notes: 1. Assumes existing mine concentrator is 60%. 60% to 90% Li recovery increase assumes lithium extraction technology recovers 75% of lithium units going to tails.

# Lithium Chemicals: Partnering with Mineral Resources Ltd. (MinRes)

Joint development agreement with \$13bn<sup>1</sup> Australian miner validates lithium extraction technology

## STRATEGIC PARTNERSHIP<sup>2</sup>

- MinRes will fund the pilot plant operations and engineering study (up to A\$4.5m)
- LIT to provide its extraction technology, LieNA<sup>®</sup>, and will manage piloting and the engineering study
- Upon successful completion of piloting and engineering study, a new 50:50 JV will be formed between LIT and MinRes
- New JV aims to licence the technology at a headline gross product royalty rate of 8%<sup>3</sup>
- First licence will be for the demonstration plant, which is expected to be funded and operated by MinRes



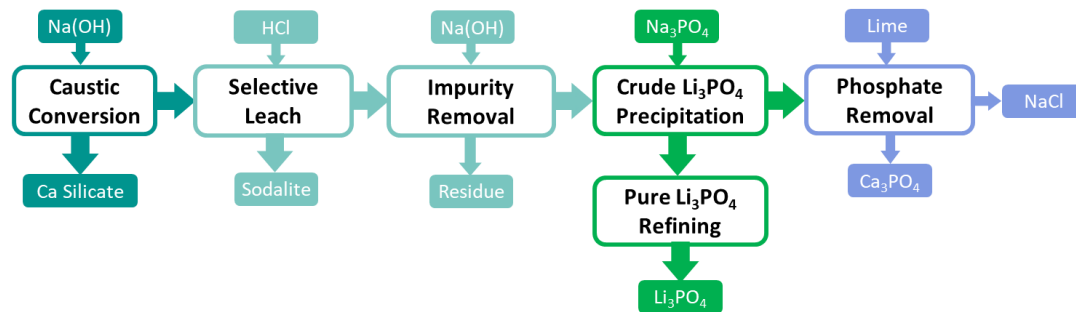
## HIGHLIGHTS

- ✓ **Ideal partnership**  
Leveraging MinRes' extensive mining operations and robust client base as an ASX50 company
- ✓ **Free-carry**  
Effectively free-carries LIT to commercialisation of the technology
- ✓ **Large addressable global market**  
Opportunity to target both brownfield and greenfield lithium mines globally
- ✓ **Significant progress to date**  
Over 1/3 of MinRes funding has been received to date, with key activities progressing<sup>4</sup>

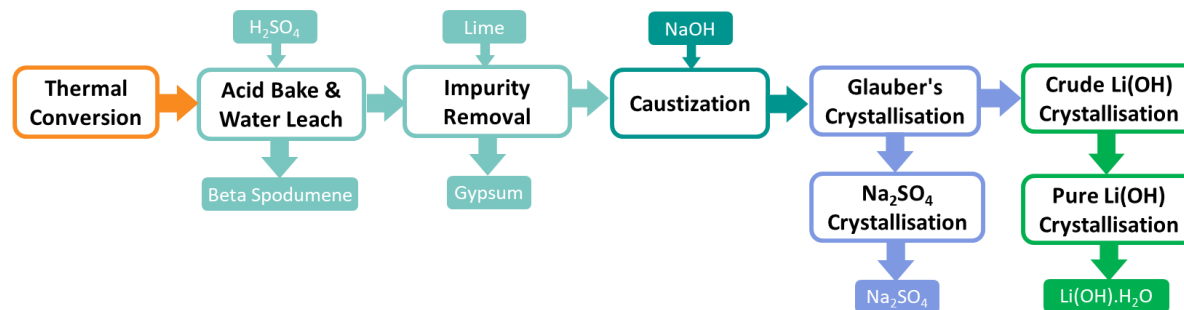
Notes: 1. Market capitalisation as at 15 March 2024. 2. See ASX announcement, 'Landmark joint development agreement with Mineral Resources', 7 August 2023. 3. The Company cautions that although it considers this to be a reasonable expectation, there is no guarantee that this rate will be achieved. 4 See ASX Announcement, 'Second drawdown from MinRes and appointment of lead engineer', 15 January 2024.

Potential to broaden the quality of feed for extraction of lithium at scale

## Comparison to Conventional Thermal Conversion



## Thermal Converter



### ✓ Process

LieNA<sup>®</sup> is a disruptive process that replaces alpha to beta thermal conversion with a phase change using caustic.

### ✓ Feed grade

LieNA<sup>®</sup> process has been tested technically at a range of grades, including lower than current thermal (alpha to beta) converters can effectively process.

### ✓ Reagent regeneration

LieNA<sup>®</sup> has the potential to regenerate its key reagents.

### ✓ Equipment scale up

LieNA<sup>®</sup> operates at conditions akin to Alumina plants, providing an industrial analogue to reference for scale up and engineering design.

# Battery Materials: Overview

Validated and sustainable lithium ferro phosphate (LFP) production

## ✓ **Proven LFP product**

Independently assessed and validated against commercially available products by leading battery researcher NOVONIX

## ✓ **Proprietary cost-competitive process**

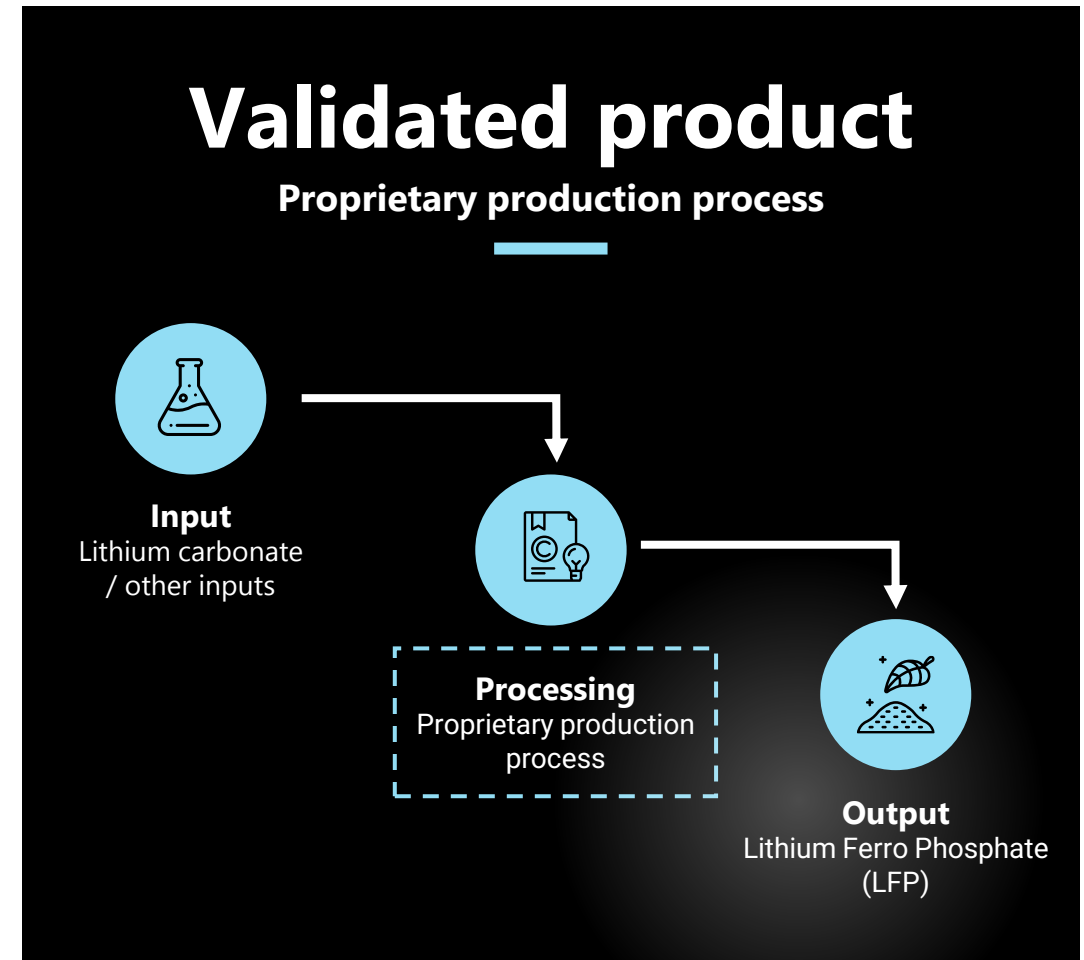
Proprietary production process, developed over 20+ years, ready for LFP manufacturing at scale on a competitive basis

## ✓ **Partner ready**

Securing of offtake and / or development partners remains the focus before scale up of manufacturing

## ✓ **Reducing supply chain risks**

Governments globally are actively seeking to lower dependency on China, who produces >95% of all LFP





# Lithium<sup>+</sup> Australia

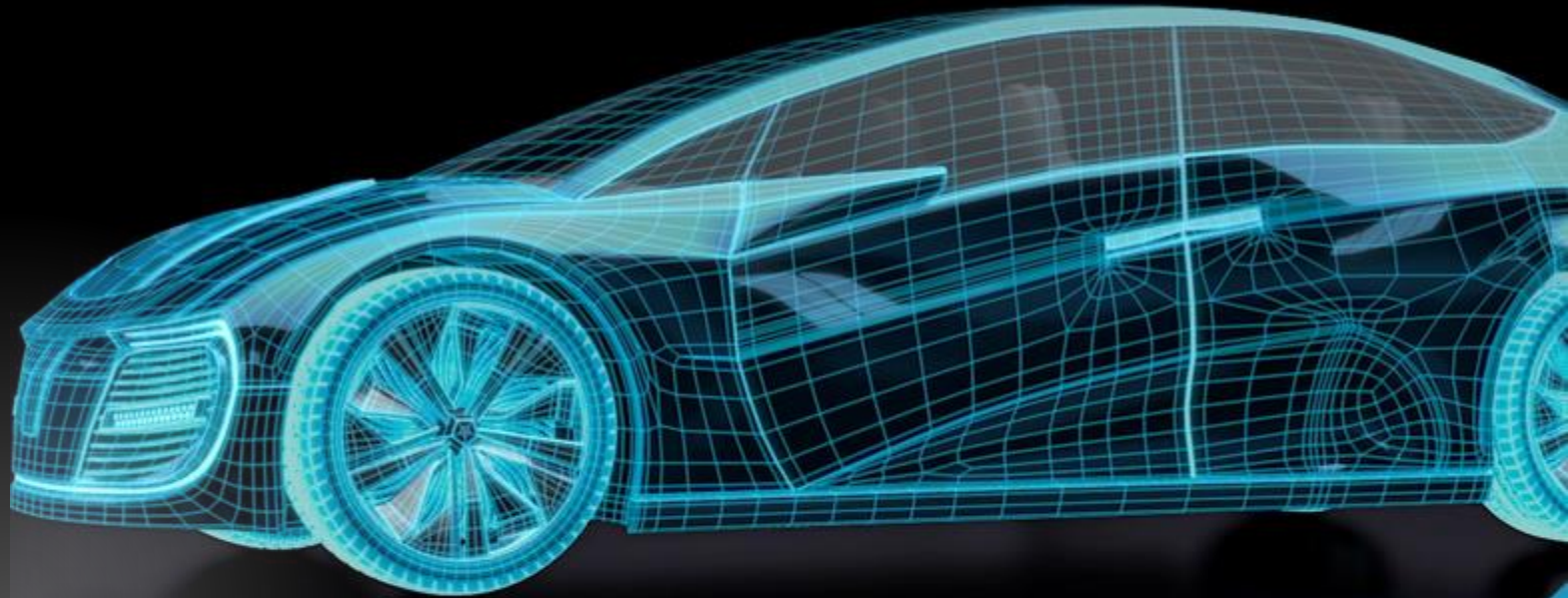
## Contact Information

### COMPANY

Suite 16 & 17, 79-83 High Street  
Kew VIC 3101

### Simon Linge

E: [simon.linge@lithium-au.com](mailto:simon.linge@lithium-au.com)  
T: +61 (0) 3 7017 2656



[www.lithium-au.com](http://www.lithium-au.com)