

Building a Global Manganese Business

Supplying sustainable manganese ore
and EV battery grade HPMSM to global markets

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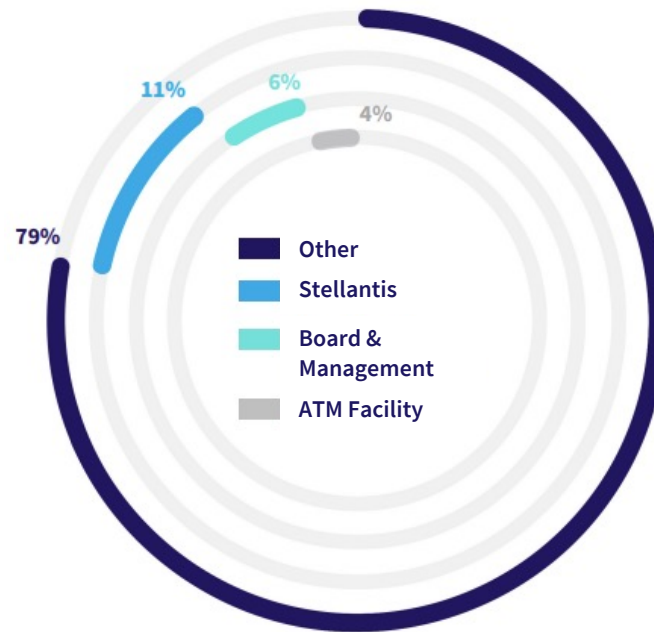
Element 25 Introduction

Expanding the 100% owned Butcherbird Manganese Mine in Western Australia to produce high-quality manganese oxide concentrate.

Developing a USA-based refinery to supply ethical battery-grade High Purity Manganese Sulphate Monohydrate (HPMSM) products.

Offtake and funding agreements in place with our partners General Motors and Stellantis to supply HPMSM for Electric Vehicle batteries¹.

Share Register:

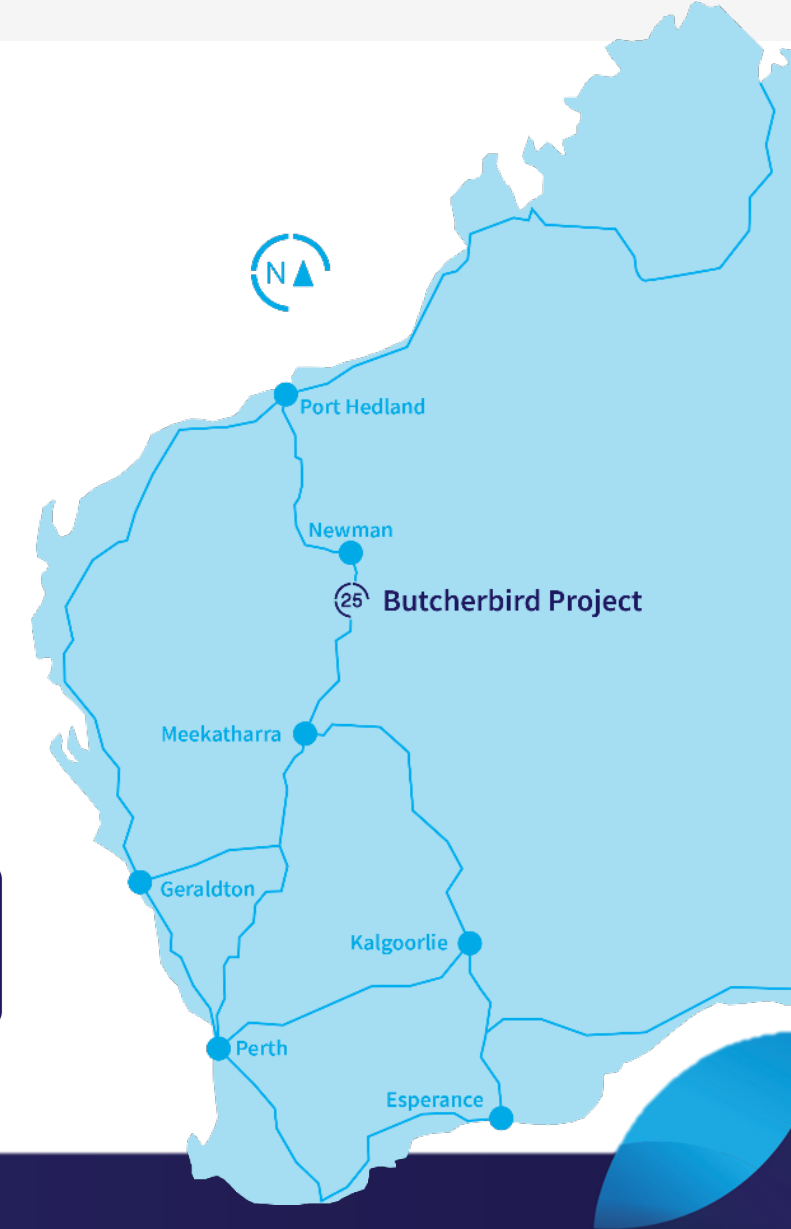



ASX Ticker:
E25


OTCQX Ticker:
ELMTF


Shares on Issue:
229M


Debt:
NIL



¹Reference: Company ASX Releases Dated 9 January 2023 and 26 June 2023

Board of Directors



John Ribbons
Chairman
CPA



Justin Brown
Managing Director
Geologist



Fanie van Jaarsveld
Non-Executive Director
Analytical Chemist



Sam Lancuba
Non-Executive Director
Chemical Engineer

Experienced,
Multi-disciplinary Board &
Management

Project Development & Operations



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VP Battery Materials
Chemical Engineer



Sias Jordaan
VP Marketing & Logistics
Accountant



Chad Moloney
Technical Services
Mining Engineer



Leon Lima
Technology Manager
Chemical Engineer



Liam O'Connor
Business Systems
IT Professional

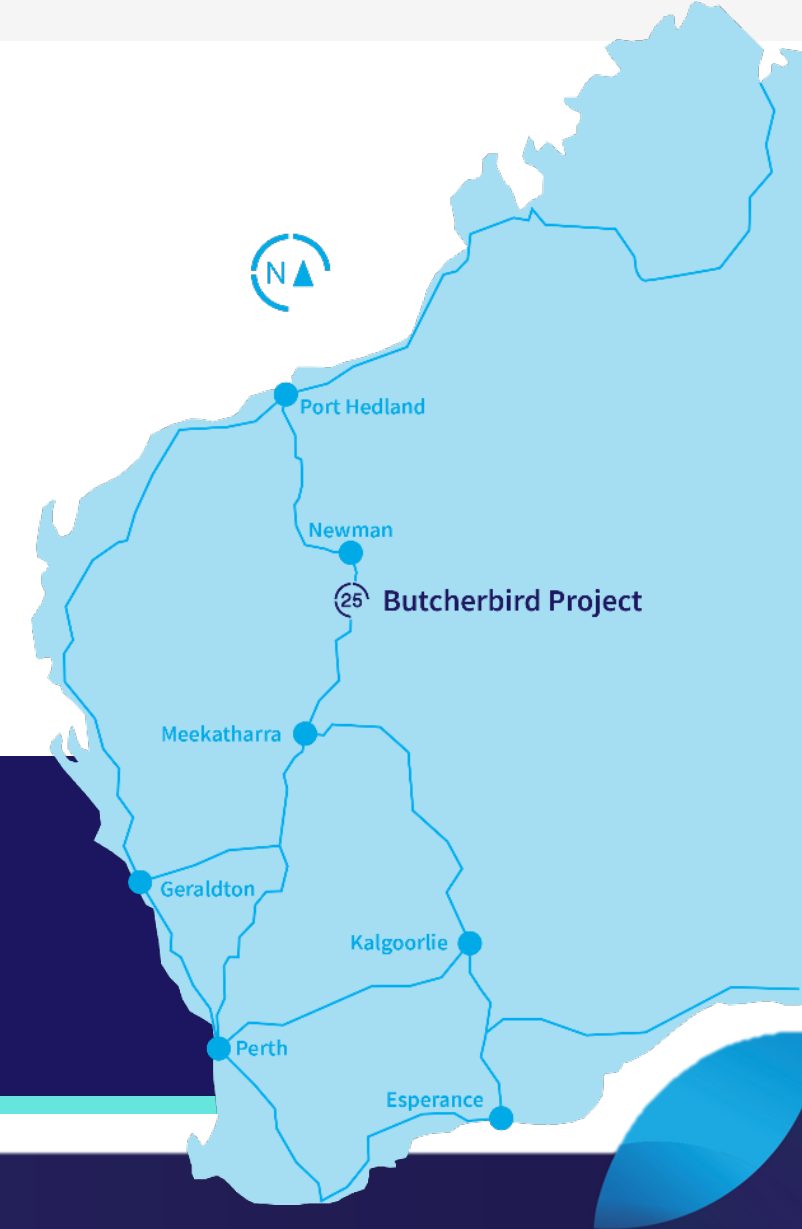
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The Butcherbird Manganese Project

Element  25

Butcherbird Manganese Project

- World-class manganese resource.
- Located in a Tier-1 jurisdiction with strong ESG regulation.
- Over 270 million tonnes in resources with potential to expand (2024 resource update¹).
- > 18-year Reserve at 1.1Mt per annum production supported by an updated Feasibility Study².
- Long mine-life with further upside by converting Inferred Resources.
- Very clean metallurgically – no toxic contaminants.
- Produces a low carbon, high-quality manganese concentrate ideal for manganese alloys and high-purity manganese sulphate monohydrate (HPMSM)³.



Providing high quality manganese for traditional and new energy markets.



¹ Reference: Company ASX Release Dated 29 October 2024

² Reference: Company ASX Release Dated 22 January 2025

³ Reference: Company ASX Release Dated 21 February 2023

Ore Reserve¹

Deposit	Classification	Tonnes (Mt)	Grade (Mn%)	Contained Mn (Mt)
Yanneri Ridge	Proved	11.3	11.8	1.33
	Probable	70.4	10.2	7.15
Coodamudgi	Proved	-	-	-
	Probable	19.1	10.3	1.97
Stockpiles	Proved	0.6	9.2	0.06
Total		101.4	10.4	10.5

Mineral Resource²

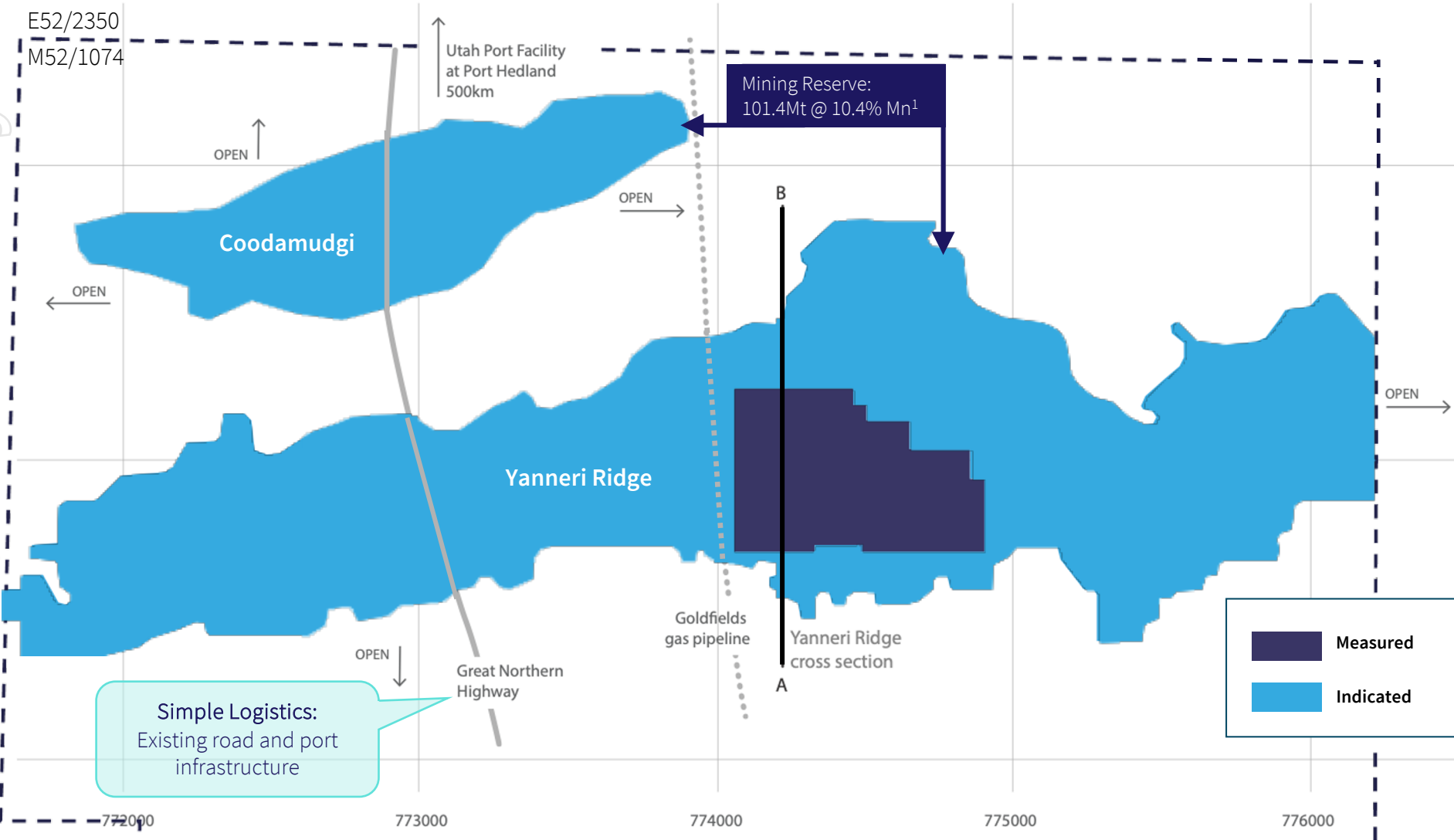
Resource Category	Tonnes (Mt)	Mn (%)
Measured	14	11.3
Indicated	116	10.1
Inferred	144	9.8
Total	274	10.0

- Current Reserve:
 - Only utilises approximately ~40% of global Mineral Resource;
 - Provides for a mine life of >18 years¹.
- High conversion of measured and indicated resources to reserve.
- Excellent potential for future expansion with known mineralization outside resource areas.
- Simple geology, low technical risk.
- Global resources not closed off.

¹ Reference: Company ASX Release Dated 22 January 2025 (Ore Reserve Update)

² Reference: Company ASX Release Dated 29 October 2024 (Mineral Resource Estimate Update)

Large, long-life manganese ore mine in Western Australia



- Granted Mining Lease
- Fully Permitted
- >18 Year Reserve (1.1 Mtpa)¹
- Early Procurement Started
- ~12 Month Construction

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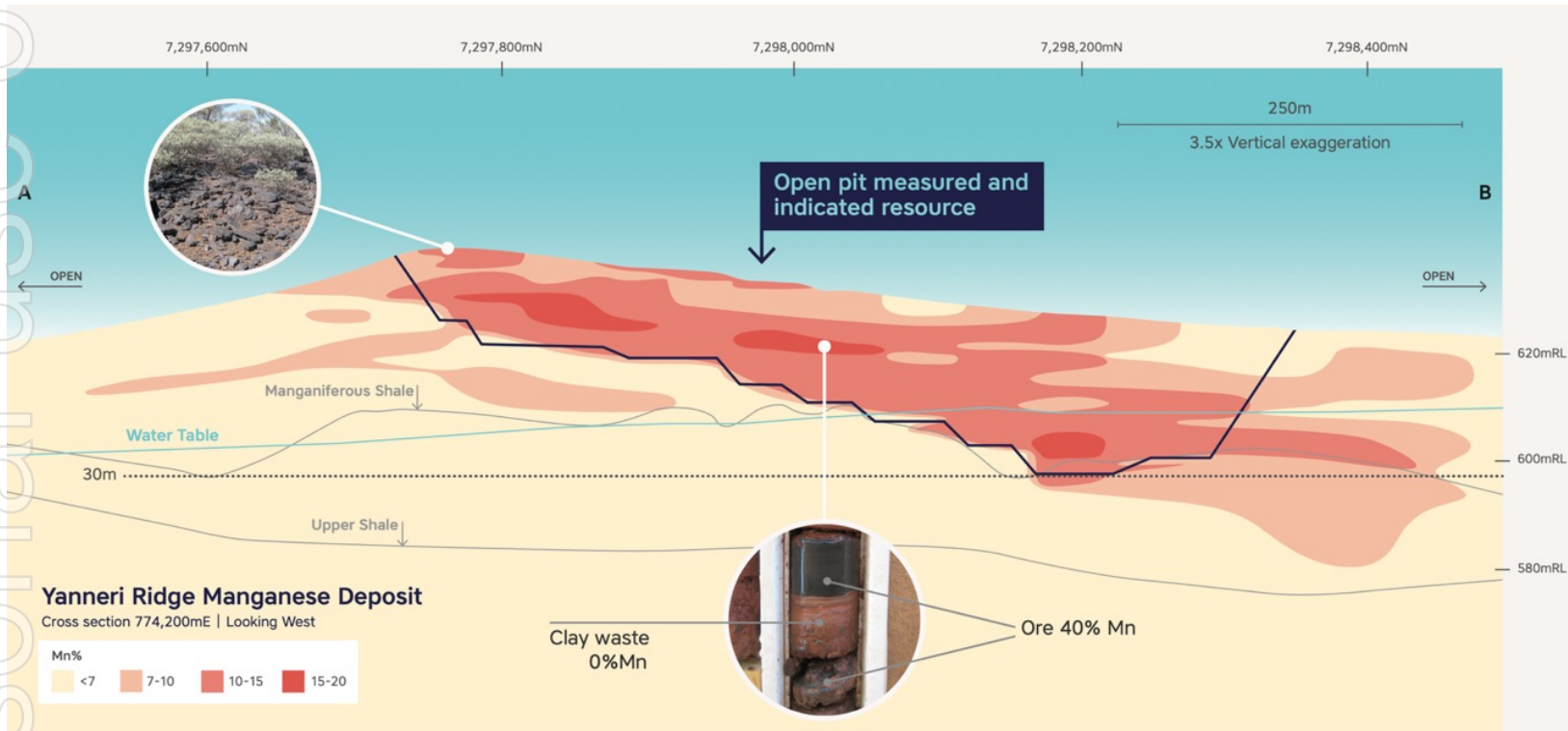
Simple Logistics:
Existing road and port infrastructure

■ Measured
■ Indicated

¹Reference: Company ASX Release dated 22 January 2025

Simple Geology: low-cost, low-impact operations

Classification	Tonnes (Mt)	Mn (%)	Contained Mn (Mt)
Resource ¹	274	10.0	27.4
Reserve ²	101.4	10.4	10.5



RESOURCE GROWTH POTENTIAL

- Large resource, long mine life with over 18 years in current Reserve.
- Mineralisation outside existing resource provides upside.
- Ore suitable for ferroalloys, battery grade HPMSM and EMM.

ENVIRONMENTALLY BENIGN OPERATION

- Ore from surface.
- Low strip-ratio.
- Minimal explosives required.
- One reagent – water.
- Very low levels of contaminants.

¹ Reference: Company ASX Release Dated 29 October 2024 (Mineral Resource Estimate Update)

² Reference: Company ASX Release Dated 22 January 2025

Butcherbird Expansion

1.1Mt/a Manganese Ore¹

Build and commission a full large-scale processing facility at the 100% owned Butcherbird Manganese Mine in WA.



Louisiana HPMSM

USA EV Critical Raw Materials²

Construct the first US HPMSM processing facility (Louisiana), producing 65,000 tonnes per annum of battery-grade HPMSM with GM and Stellantis



Expand Globally

HPMSM Expansion - EU & Asia

Multiple HPMSM modules globally to deliver sustainable HPMSM supply to global EV markets targeting Europe and Asia.

1-Year Plan

3-Year Plan

10-Year Plan

Best in class, low carbon³, ethically produced, scalable HPMSM for electric vehicle batteries:

Sustainably Supplying Global EV Markets

¹Reference: Company ASX Release Date 22 January 2025

²Reference: Company ASX Release Dated 12 April 2023

³Reference: Company ASX Release Dated 21 February 2023

Butcherbird Manganese Mine Expansion

- New processing facility to optimise and scale the process.
- Scale and improved efficiencies target lower costs and increased profits¹.
- CO₂ emission intensity and ESG outcomes will be improved by:
 - Integration of renewable energy (targeting year 3 of operations).
 - Equipment selection criteria for energy efficiency.
 - Investigating potential for autonomous mining fleet².
 - Transition to EV mining fleet (targeting Year 3 of operations).



¹Reference: Company ASX Release Dated 22 January 2025

²Reference: Company ASX Release Dated 7 October 2024

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Capital Cost

AU\$64.8

(incl. contingency)



NPV₈

AU\$561M

(Pre-tax, real)



IRR

96%



Cashflow

AU\$70.5M

(annual)



Payback

1.3

(years)

NAIF TO PROVIDE \$50 MILLION FINANCE PACKAGE FOR BUTCHERBIRD EXPANSION PROJECT²



The expansion will establish Butcherbird as a low-cost manganese operator (US\$ 2.86/dmtu C1 cost) able to produce high-quality manganese concentrate at a globally competitive operating cost.



The Feasibility Study utilises all the available measured and indicated resources within the 18.3-year mine plan supporting this Study.



Low capital requirement of AU\$64.8M capital in total construction costs including process and non-process infrastructure. Average base case annual operating cashflow of AU\$ 70.5M at full production.



Forecast cashflows generate a simple payback period of 16 months from commencement of operations.

- Northern Australia Infrastructure Facility (NAIF) to provide up to AU\$50 million senior debt facility for Element 25's Butcherbird Manganese Expansion Project².
- Butcherbird development based on a 1.1Mtpa manganese ore operation and delivers outstanding metrics¹.
- Manganese concentrate to be sold to steel industry partners and provide feedstock for E25's planned HPMSM facility in Louisiana, USA.
- Butcherbird Expansion plan is fully approved under WA Regulatory Framework³.
- NAIF to act as the sole senior secured lender to the project - the balance of funds to be sourced from financiers including offtake prepayment, subordinated debt and royalty financing as potential mechanisms.

¹Reference: Company ASX Release Dated 22 January 2025

²Reference: Company ASX Release Dated 17 June 2025

³Reference: Company ASX Release Dated 12 March 2025

Butcherbird Expansion – Scale Strengthens the Business

Economies of scale from the expanded operation intend to move the Butcherbird production costs lower on the global cost curve and strengthen the business through all price cycles.



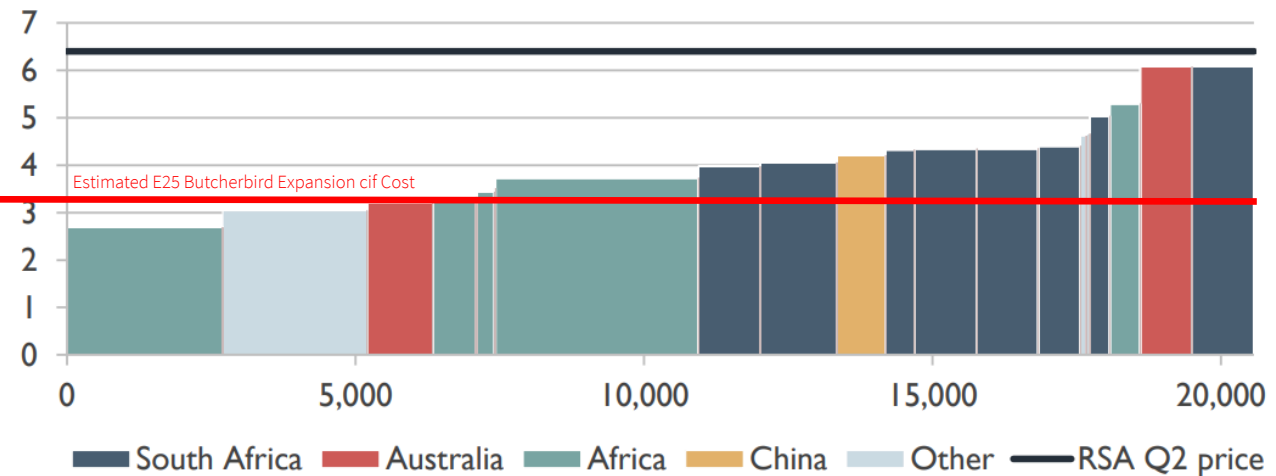
Fastmarkets

Ore index comparison: 44% Mn, cif Tianjin; 37% Mn, cif Tianjin; and 44% Mn, fob Port Elizabeth

- Mid MB-MNO-0003 - Manganese ore semi carbonate index, 36.5% Mn, cif Tianjin, \$/dmu
- Mid MB-MNO-0001 - Manganese ore high grade index, cif Tianjin, \$ per dmu

PROJECT BLUE

Mn ore cost curve (CIF China, US\$/t)
July 2024



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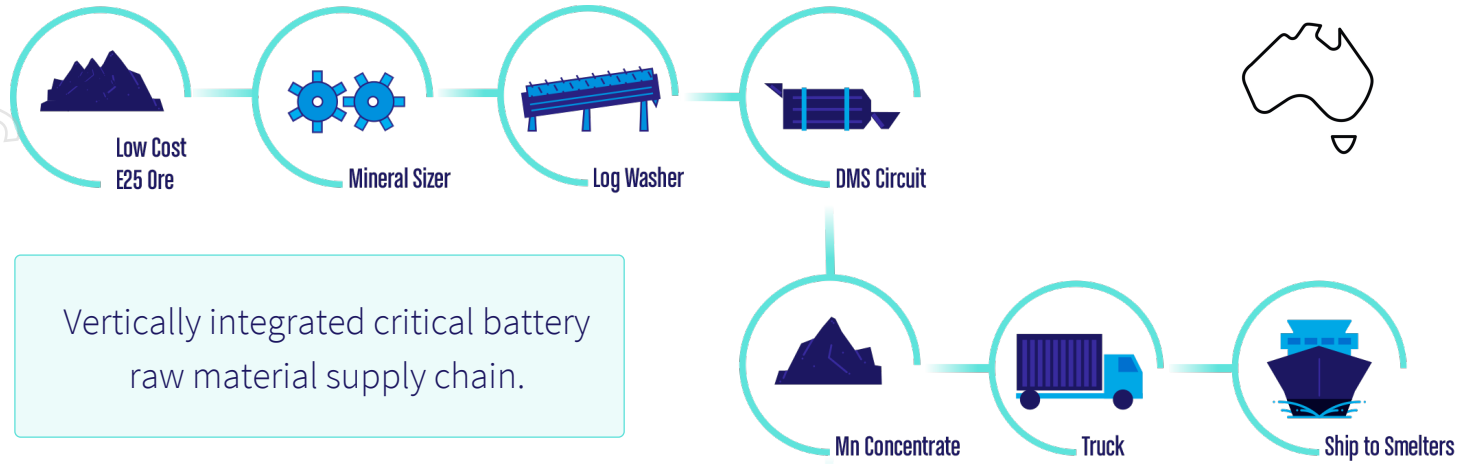
F25 HPMSM Strategy

Element 



Vertically-integrated global HPMSM supply

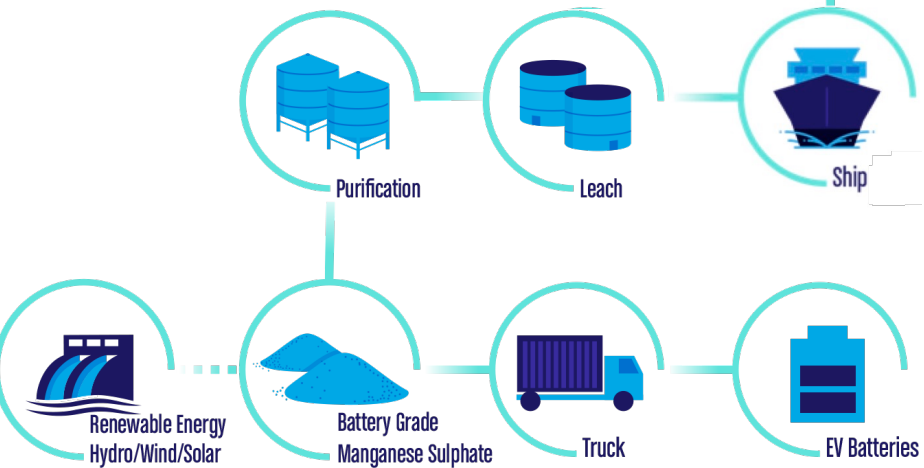
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Vertically integrated critical battery raw material supply chain.

WA Manganese Ore Supply:

Australian manganese ore concentrates as feedstock for HPMSM production to supply US EV markets. Surplus ore will supply existing ferroalloy customers.



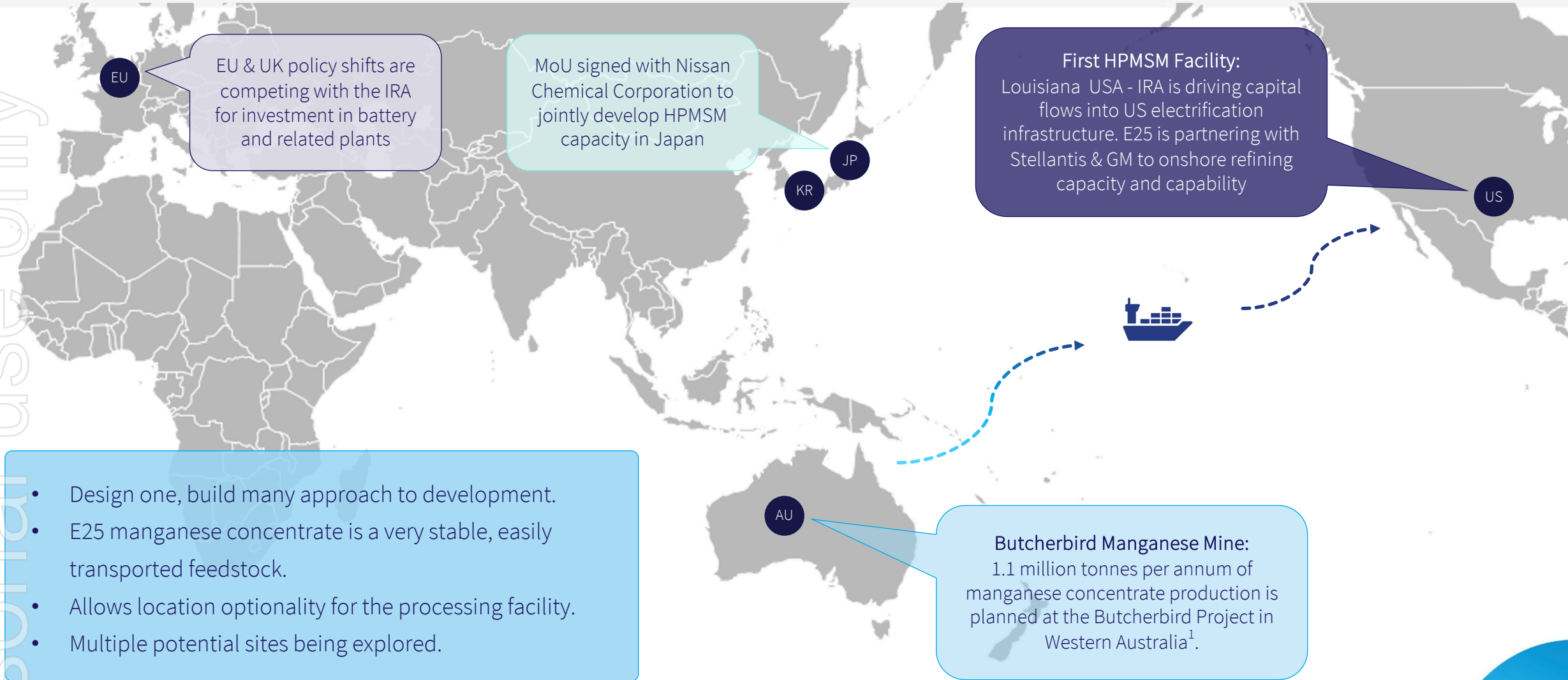
Louisiana HPMSM Refinery:

Louisiana manganese refinery will utilise the Australian ore as feedstock to produce high purity low carbon IRA compliant battery grade manganese sulphate.



Global Refining Capacity in the Longer Term

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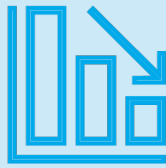
- Design one, build many approach to development.
- E25 manganese concentrate is a very stable, easily transported feedstock.
- Allows location optionality for the processing facility.
- Multiple potential sites being explored.

¹ Reference: Company ASX Release Dated 22 January 2025

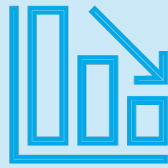
The Element 25 Process makes significant changes & improvements:



Reagents/Cost



Carbon Emissions



Waste Residue

Current Outdated Technologies mean:

- Large volumes of waste residues.
- Toxic Reagents like fluorine.
- Inefficient.
- Higher Cost.
- Outdated processing technology.

Element 25 Process

- More efficient (fast kinetics, reduced energy)
- Minimises reagent requirements
- Reduced carbon intensity
- Lower volumes of waste residues
- Non-toxic residues may be able to be repurposed.

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The Importance of Manganese

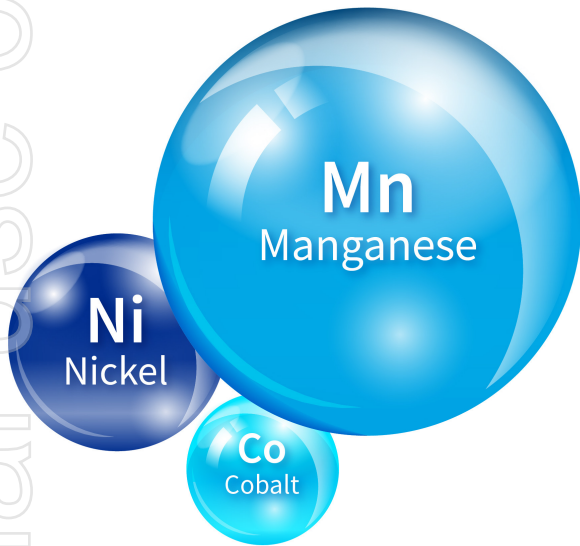
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Transition to Higher Manganese Battery Cathodes

LMFP, LMR, LMNO and NM_x cathode chemistries offer improved safety, higher energy density, reduced cost per kWh and greater supply chain flexibility.

High **manganese** means reduced reliance on **nickel** and **cobalt**:



Reduced nickel and very low to no cobalt content.

Reference: Umicore 2023

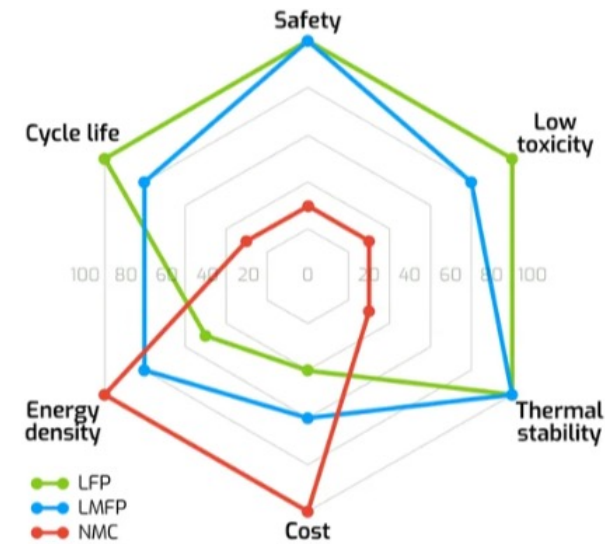
”Japan’s manganese-boosted EV battery hits game-changing 820 Wh/Kg...”

Yokohama University Japan

“...our manganese-rich HLM technology moves closer to commercial production for future customers and provides an optimum alternative for the production of low-cost EV batteries...”

Umicore Finland

LMFP vs LFP vs NMC



LMFP offers **improved energy density** over LFP, **lower cost/kwh** and **improved safety** over NMC

Delivering up to 20 per cent more range than LFP cathode

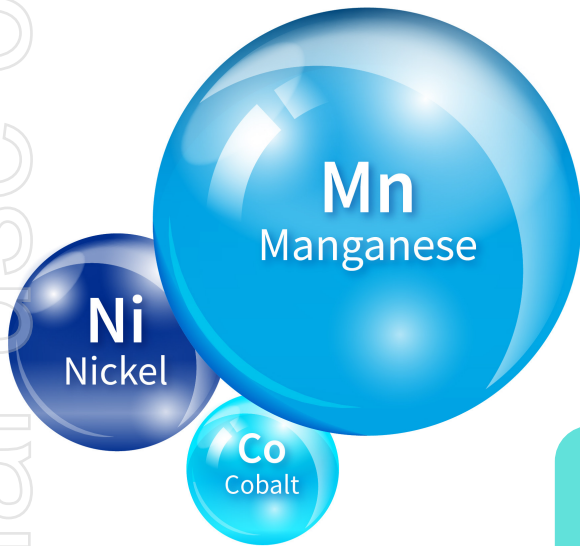


Reference: Integrals Power

Transition to Higher Manganese Battery Cathodes

LMFP, LMR, LMNO and NM_x cathode chemistries offer improved safety, higher energy density, reduced cost per kWh and greater supply chain flexibility.

High **manganese** means reduced reliance on **nickel** and **cobalt**:



Lithium Manganese Rich means:
5-10x Mn*

Reduced nickel and very low to no cobalt content.

Reference: Umicore 2023



LMR Cell Production at Ford Ion Park

Ford Makes Breakthrough with LMR Battery Chemistry: Targeting More Affordable, Long-Range Electric Vehicles by End of Decade



Charles Poon
Director, Electrified Propulsion Engineering

April 23, 2025



NEWS

May 13, 2025 | TECHNOLOGY

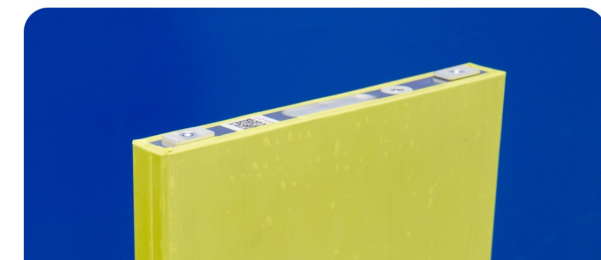
Lithium Manganese Rich

Mn

Why LMR batteries will change the outlook for the EV market

Share article: [f](#) [x](#) [in](#) [@](#)

By Kushal Narayanaswamy, director, advanced battery cell engineering, GM



*Compared to high nickel battery formulations. Multiple is dependent on base chemistry assumptions of elemental ratios:
[Why LMR batteries will change the outlook for the EV market](#)

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Louisiana Battery Grade HPMSM

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DoE Grant Selection¹

- E25's planned HPMSM facility in Louisiana awarded a **US\$166 million grant** from the U.S. DoE.
- Louisiana HPMSM Project selected under DoE's MESC Battery Materials Processing Grant Program.
- Binding agreements signed, grant awarded for the project.
- The DoE's funding commitment is **in addition to U\$115M financing commitments** from GM and Stellantis.

MESC IS SCALING U.S. MANUFACTURING AND CATALYZING U.S. ENERGY PRODUCTION

Batteries

Buildings & Energy Efficiency

Critical Materials & Recycling

Energy Generation & Fuels

Grid Equipment

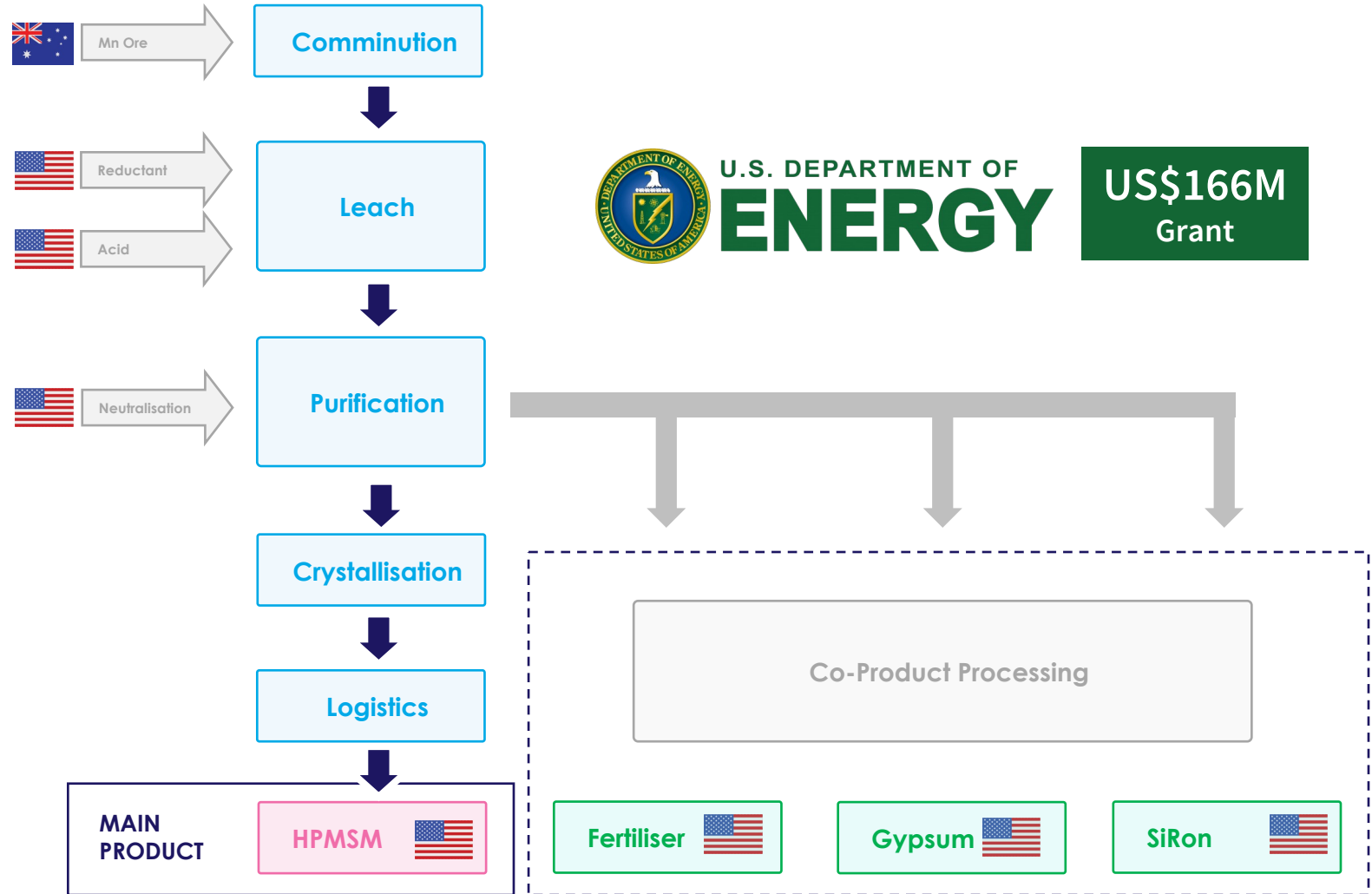
Materials

Transport

Office of Manufacturing & Energy Supply Chains

Local Supply Chain

- Process and supply chain developed to maximise U.S. industry involvement.
- Working with partners GM and Stellantis to supply low carbon HPMSM for EV batteries.
- All reagents sourced locally from established suppliers.
- Site located close adjacent to acid recycling facility.
- Solid residues as co-products will be placed into local industries targeting zero waste.
- Low carbon, circular economy approach.



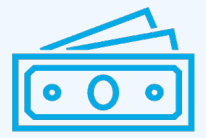
DoE Grant Award Underpins Project Capital Stack

- DoE US\$166M grant award provides cornerstone funding to support project success¹.
- Louisiana HPMSM Project grant awarded under DoE's MESC Battery Materials Processing Grant Program.
- Binding grant agreements signed, award committed.
- Grant support is **in addition to U\$115M financing commitments** from GM and Stellantis².
- Discussions in train with prospective financiers to close out remaining capital funding requirement.



Final funding piece ~15% of capital requirement. Process underway.

Grant award secures 50% of capital requirement up to US\$166M



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¹Reference : Company ASX Release Dated 20 January 2025
²Reference: Company ASX Releases Dated 9 January 2023 and 26 June 2023

	<h2>Long Mine Life</h2>	<ul style="list-style-type: none"> • 18.3 Year Reserve within granted Mining Lease • 274Mt Resource global resource with exploration upside 	1
	<h2>Construction Ready</h2>	<ul style="list-style-type: none"> • Feasibility Study and project permitting complete • Northern Australia Infrastructure Facility (NAIF) finance of up to \$50M approved 	2
	<h2>ESG Leading HPMSM Flowsheet</h2>	<ul style="list-style-type: none"> • Life cycle assessment (LCA) completed confirming industry leading carbon intensity • Further reductions available via renewable energy and reagents 	3
	<h2>Strong Feasibility Study/Financials</h2>	<ul style="list-style-type: none"> • \$64.8M Construction Capital (\$70.5M approved NAIF project budget) • 96% Internal Rate of Return (IRR) and \$561M Net Present Value (NPV) (Pre-Tax, Real) 	4
	<h2>Innovative HPMSM Flowsheet</h2>	<ul style="list-style-type: none"> • Competitive cost structure through innovation • Waste minimisation and reduced emissions provides competitive advantages 	5
	<h2>Tier 1 Jurisdiction</h2>	<ul style="list-style-type: none"> • Australian owned and operated mine providing long term secure ethical Mn supply • USA, Japan and EU Partnerships to enhance battery raw material supply chains 	6
	<h2>Tier 1 Project Customers & Partners</h2>	<ul style="list-style-type: none"> • Stellantis N.V and General Motors LLC – Louisiana HPMSM Project • Nissan Chemical Corporation – Tokyo Bay Japan HPMSM Project 	7

¹Reference: Company ASX Release Dated 29 October 2024
²Reference: Company ASX Release Dated 17 June 2025

³Reference: Company ASX Release Dated 21 February 2023
⁴Reference: Company ASX Release Dated 22 January 2025

⁵Reference: Company ASX Release Dated 12 April 2023
⁶Reference: Company ASX Release Dated 26 June 2023

⁷Reference: Company ASX Release Dated 2 April 2025

The Planned Element 25 HPMSM facility in Louisiana, USA



Questions?

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The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr. Justin Brown who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Exploration Results and Exploration Targets were compiled, Mr. Brown was an employee of Element 25 Limited. Mr. Brown is a geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Brown consents to the inclusion of this information in the form and context in which it appears in this report.

The Company confirms that in the case of Production Targets, all material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the market announcement dated 22 January 2025 continue to apply and have not material changed.

The Company confirms that in the case of estimates of Mineral Resource or Ore Reserves, all material assumptions and technical parameters underpinning the estimates in the market announcements dated 29 October 2024 and 22 January 2025 continue to apply and have not materially changed. All estimates or Mineral Resources or Ore Reserves underpinning the production target have been prepared by a competent person/s in accordance with the requirements of the JORC Code, Appendix 5A. The Company confirms that it is not aware of any new information or data that materially affects information included in previous announcements, and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Please note regarding exploration targets, the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

For further information on Element 25 Limited and its Projects please visit its website at www.element25.com.au which contains copies of all continuous disclosure documents to ASX, Competent Persons' Statements and Corporate Governance Statement and Policies.

This release has been approved by the Element 25 Limited Board of Directors.