

# Greener Battery Materials



# Disclaimer

## Summary information:

This document has been prepared by Neometals Ltd (“Neometals” or “the Company”) to provide summary information about the Company and its associated entities and their activities current as at the date of this document. The information contained in this document is of general background and does not purport to be complete. It should be read in conjunction with Neometals’ other periodic and continuous disclosure announcements lodged with the Australian Securities Exchange, which are available at [www.asx.com.au](http://www.asx.com.au).

## Forward-looking information:

This document contains, opinions, projections, forecasts and other statements which are inherently subject to significant uncertainties and contingencies. Many known and unknown factors could cause actual events or results to differ materially from the estimated or anticipated events or results included in this document. Recipients of this document are cautioned that forward-looking statements are not guarantees of future performance.

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## Financial data:

All figures in this document are in Australian dollars (AUD) unless stated otherwise.

## Not financial product advice:

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An investment in securities in Neometals is subject to investment and other known and unknown risks, some of which are beyond the control of Neometals. The Company does not guarantee any particular rate of return or the performance of Neometals. Investors should have regard to the risk factors outlined in this document.

## Compliance Statement:

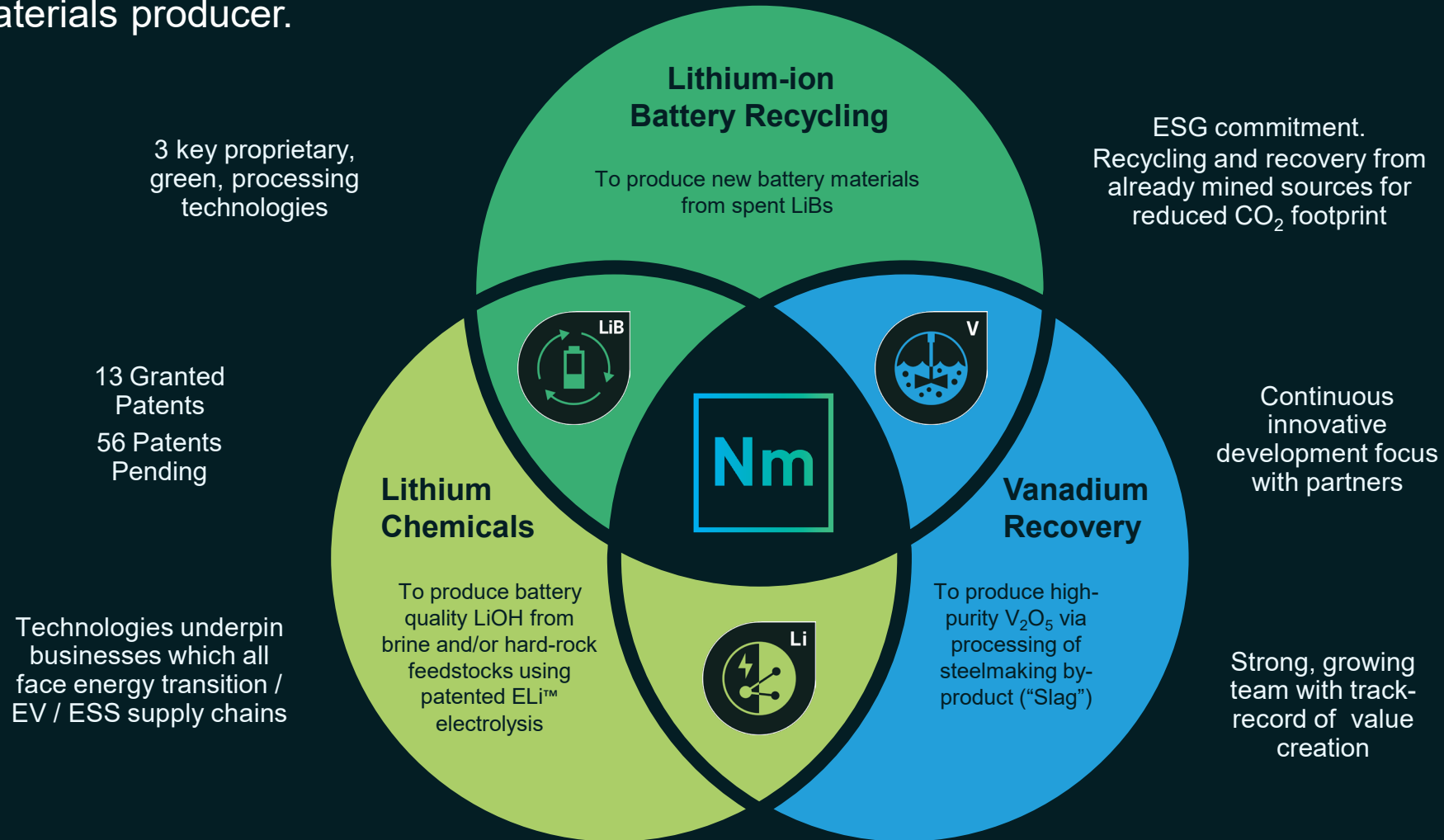
The information in this document that relates to Exploration Results, the Mineral Resource Estimate and the Ore Reserve Estimate for the Barrambie VTM Project has been extracted from ASX Releases set out below, which are available at [www.neometals.com.au](http://www.neometals.com.au)

17/04/2018	Updated Barrambie Mineral Resource Update
11/07/2018	Barrambie Test Work Produces +90% Purity Titanium Slag at High Recoveries
22/12/2020	Barrambie Flowsheet Breakthrough
3/11/2022	Barrambie - Successful Commercial Smelting Trials For Barrambie
17/11/2022	Robust Outcomes From Barrambie Titanium Project PFS

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that in the case of estimates of Mineral Resources or Ore Reserves all material assumptions and technical parameters underpinning the estimates in the market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements.

# Executive Summary

Neometals is an emerging, sustainable battery materials producer.



# Business Purpose



**“ Our Purpose is to generate value through the sustainable production of battery materials... ”**

Chris Reed  
CEO

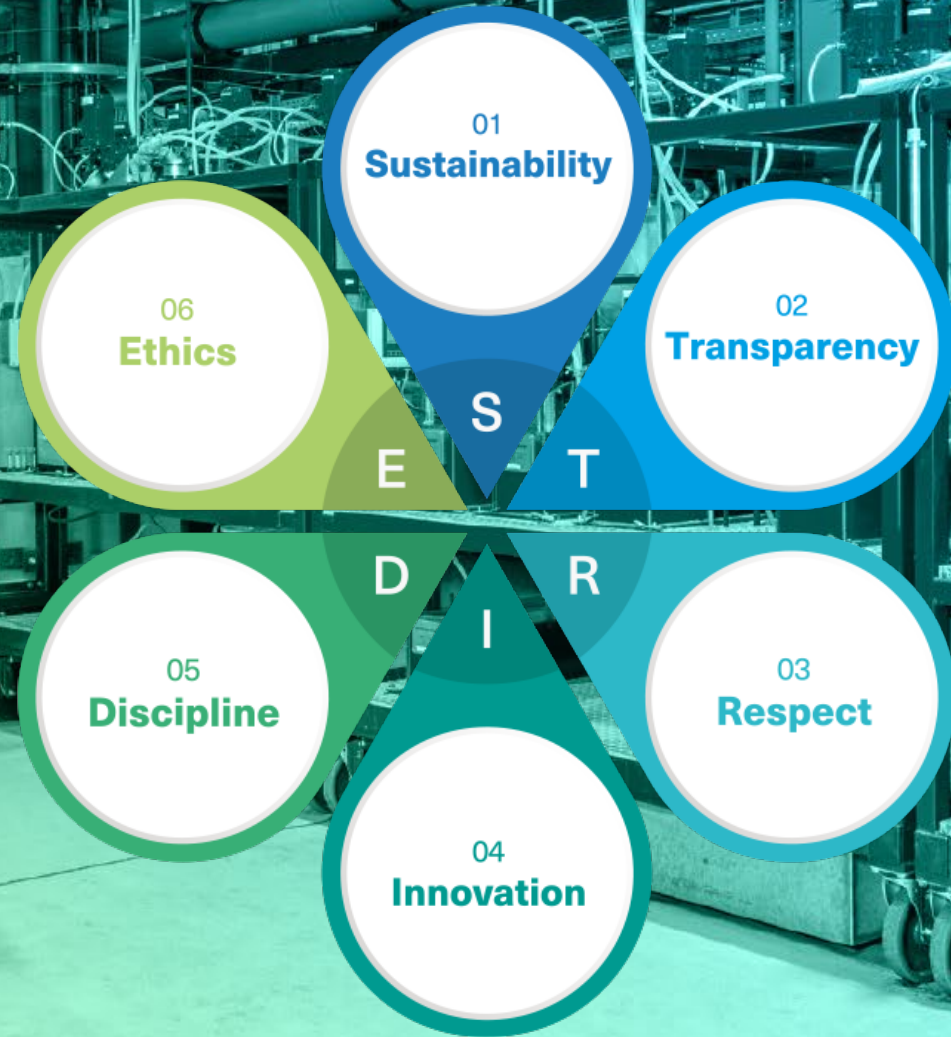
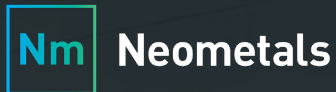




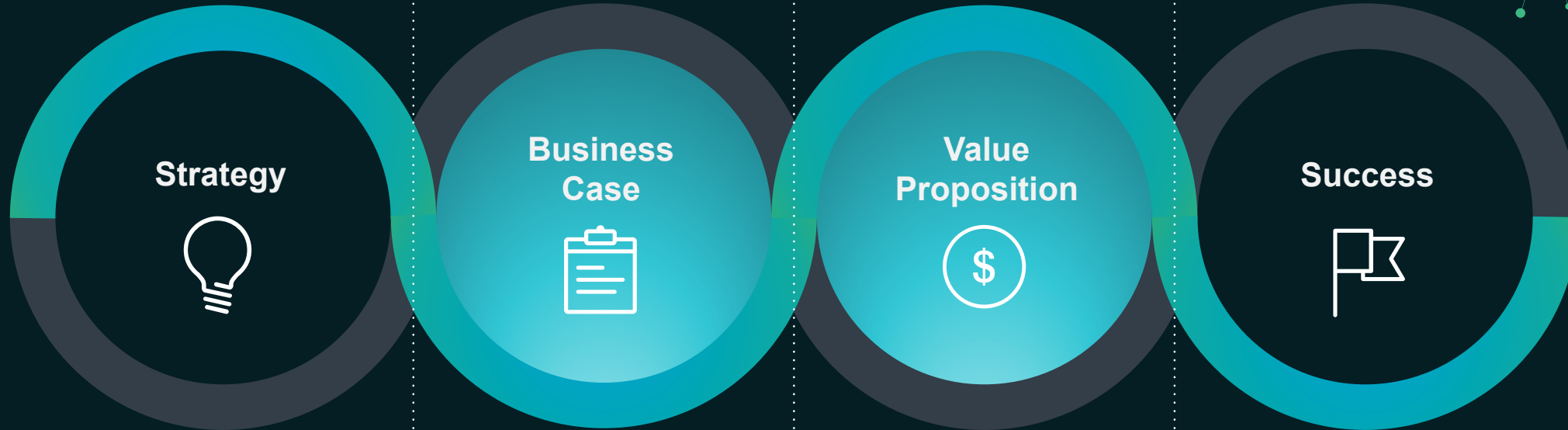
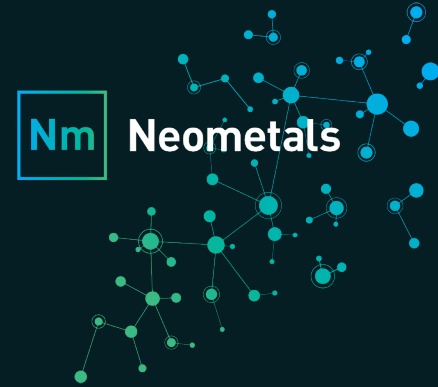
# Vision & Values

“Our vision is to be a global leader in the sustainable supply of battery materials.”

Our six core values underpin all the Company’s activities and are reflected in the acronym STRIDE.



# Business Case & Value Proposition



- Commercialise proprietary processing technologies to develop long-life, sustainable battery materials projects
- De-risk our downstream processing projects with industry partners

- All technologies produce battery materials in lowest quartile of cost curve
- Circular economic principles in feedstock/flowsheet design
- Operate as principal/JV/license
- Clear strategy respect ESG

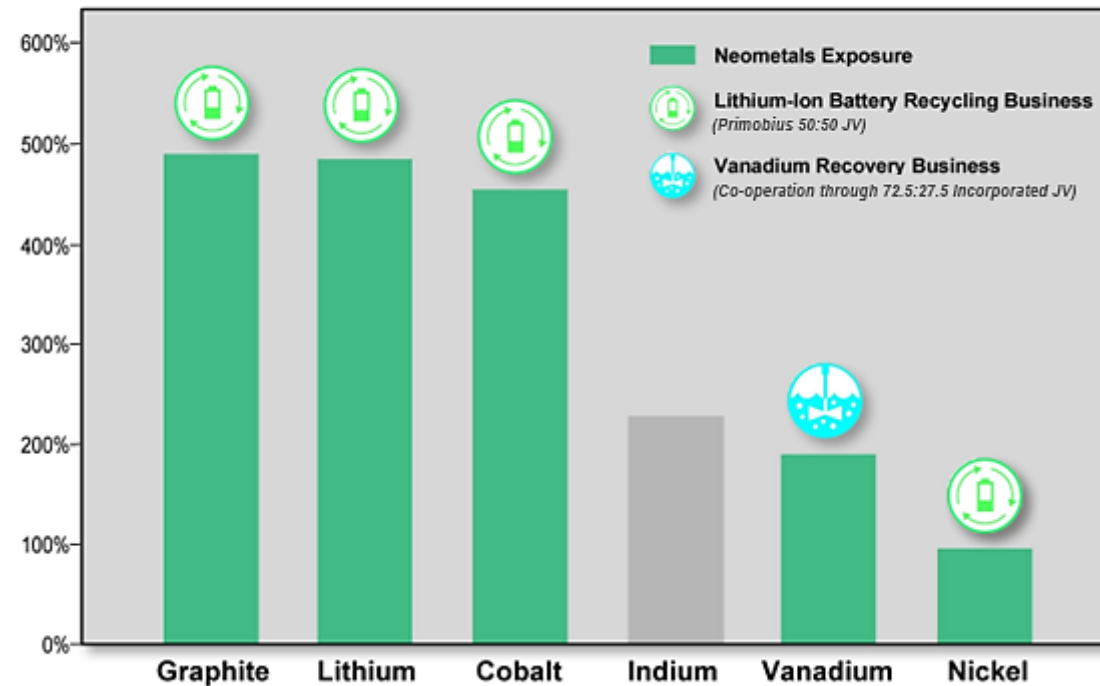
- Delivering our partners and customers high-purity battery materials with strong margins and low carbon footprint
- Strong organic growth pipeline from our flexible business models
- Scale and scope potential – large addressable markets

- Strong balance sheet to fund all projects through to FID
- A\$82M in dividends / buyback / return of capital in last 5 years
- Alignment with founders, board and management holding ~8% equity

# Unparalleled exposure to energy transition commodities

- Focus on Europe and North America where battery raw material resilience is critical
- Raw material supply deficits predicted, and supply needs to be green and circular

2050 Annual Demand from Energy Technologies as Percentage of 2018 Production



Source: World Bank Group

















# Green Battery Materials Portfolio

- Focus on Europe and North America
- Emerging as World's 2nd and 3rd biggest battery producing regions





# Core Battery Materials Business Unit Snapshot

<b>Business Unit</b>	<p><b>Lithium-ion Battery Recycling</b> </p>	<p><b>Vanadium Recovery</b> </p>	<p><b>Lithium Chemicals</b> </p>
<b>Business Unit Partners</b>	<p>50:50 Incorporated JV <b>Primobius</b></p>	<p>72.5:27.5 Incorporated JV</p>	<p>Reed Advanced Materials ("RAM") 70:30 Incorporated JV</p>
<b>Project Development Partners</b>	<p><b>SMS group</b></p> <p> Mercedes-Benz</p> <p> </p>	<p> <b>Critical Metals</b></p> <p><b>SSAB</b></p> <p><b>H<sub>2</sub>green steel</b></p>	<p> <b>MINERAL RESOURCES</b></p> <p>Co-operation Agreement for 50:50 Incorporated JV with RAM</p> <p> <b>BONDALTI</b> EVOLVING CHEMISTRY</p>
<b>Key Regions of Focus</b>	<p>  </p>	<p> </p>	<p> </p>
<p>Underpinned by proprietary, sustainable processing technologies that recover battery materials</p>			

# Experienced & Growing Team



**Steven Cole**  
Chair



**Chris Reed**  
Managing Director /  
CEO



**Dr Natalia Streltsova**



**Doug Ritchie**



**Dr Jennifer Purdie**



**Les Guthrie**



**Jason Carone**  
Company Secretary /  
CFO



**Paul Wallwork**  
GM – Marketing and  
Product Development



**Merrill Gray**  
Head of Recycling



**Michael Tamlin**  
Head of Lithium



**Darren Townsend**  
Head of Vanadium



**Casper Adson**  
GM – Titanium



**Giuliano Giordani**  
Financial Controller



**Jeremy Mcmanus**  
GM – Investor Relations  
and Intellectual Property



**Scott Robertson**  
GM – Corporate  
Development



**Kylee Millen**  
Project Manager –  
Recycling



**Michael Prassas**  
Commercial  
Manager



**Kausar Shah**  
Project Manager –  
Lithium



**David Robinson**  
GM – Metallurgy  
and R&D



**Irena Ivanova**  
GM – Evaluation  
Studies



**Eric Taarland**  
GM – Vanadium  
Marketing



**Seppo Karvonen**  
Country Manager



**Greg Hudson**  
GM – Geology



**Pablo Carabajal**  
Manager – Finance



**Felicia Bradley**  
Manager – Marketing &  
Communications



**Ané Joubert**  
Manager – ESG



**Adam Farghaly**  
Technical Manager



**Matthew Carter**  
Manager – Data



**Gavin Beer**  
Consultant – Lithium  
Processing



**Dirk Kotzee**  
Manager – Project  
Services



**Rihanna Vanin**  
Project Engineer



**Thomas Heinze**  
Project Engineer



**Campbell Kenny**  
Business Analyst



**Owen Casey**  
Senior Project  
Geologist

# Corporate Dashboard

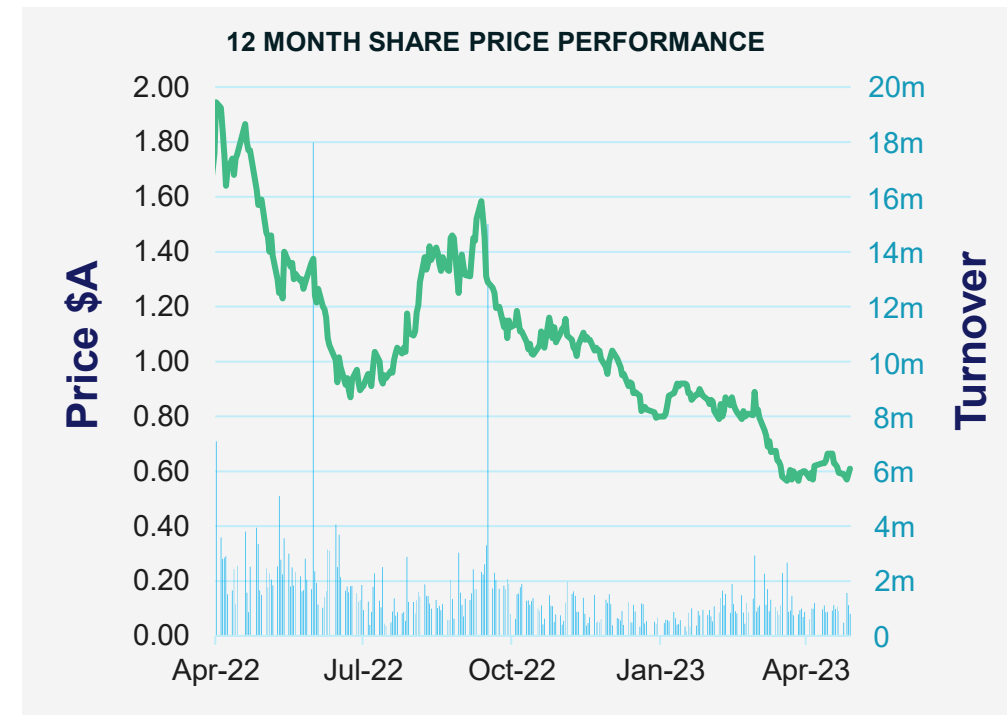
ASX: NMT OTC: RDRUY		
Shares on Issue <sup>(1)</sup>	m	552.7
Share Price	A\$	0.62
Market capitalisation	A\$m	<b>342</b>
Cash (31-Mar-23)	A\$m	32.4
Debt	A\$m	-
Investments (31-Mar-23) <sup>(2)</sup>	A\$m	30.1

MAJOR SHAREHOLDERS	
David Reed	6.1%
The Vanguard Group, Inc.	3.8%
Top 20	39.3%
No of Shareholders	~14,322

Notes: Market data as at 28 April 2023 (unless otherwise noted)

<sup>(1)</sup> Excludes ~11.4M performance rights

<sup>(2)</sup> Receivables and investments





# Sustainability

Neometals is committed to optimising finite resources with circular practices to benefit society and the environment for a sustainable future.

- Focus on production of sustainable battery materials - reducing reliance on new mined materials.
- Commercialising internationally recognised award-winning sustainable processing technologies.
- Annual transparent sustainability reporting (since FY20) against four key pillars

## Sustainability Pillars:



**Environmental care** - Minimise negative impact on people and the planet.



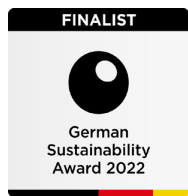
**Community benefits** - Shared economics and social outcomes.



**People** - Foster an environment where employees are valued and supported to fulfill their potential.



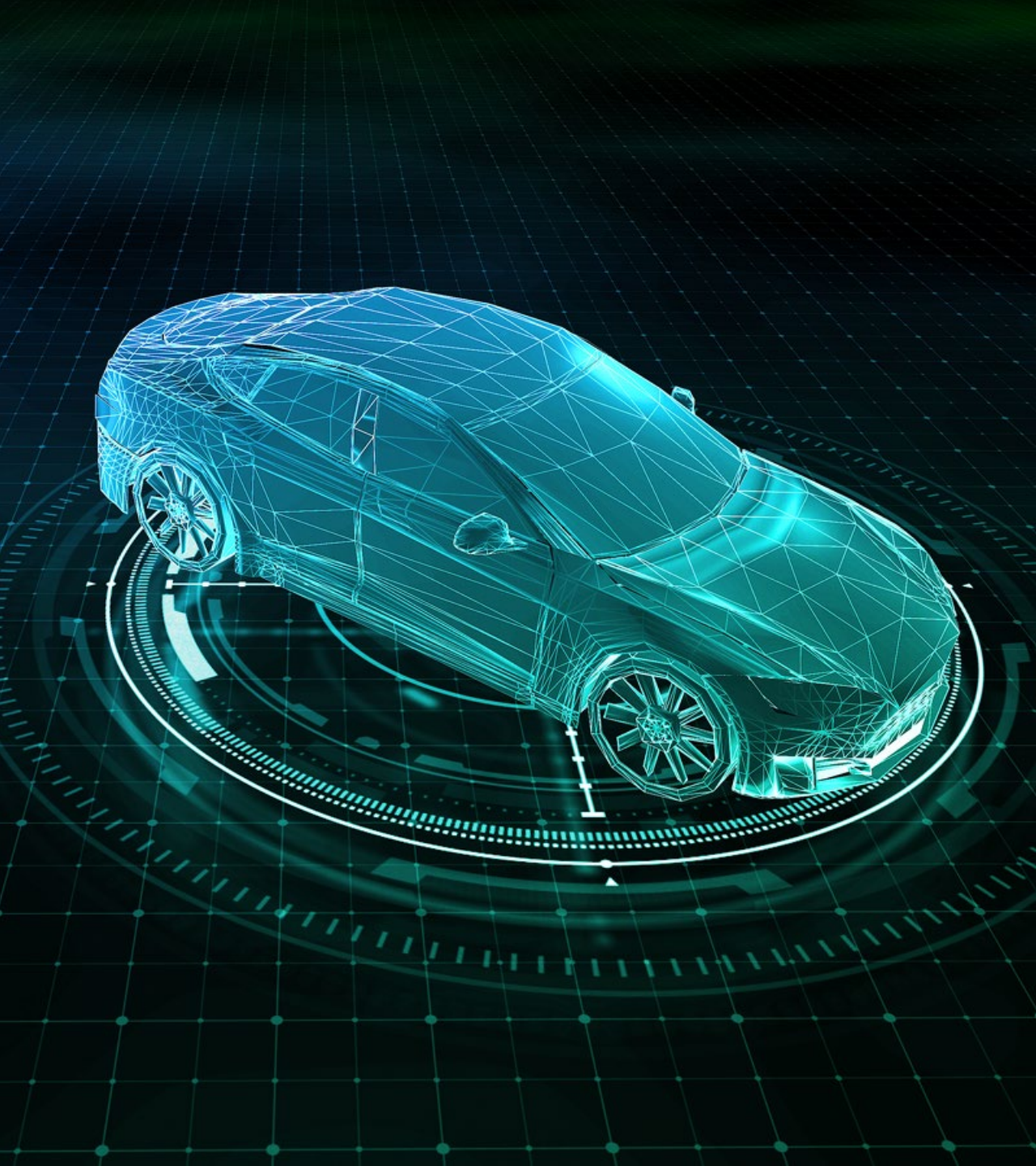
**Ethics and accountability** - Continually operate in an ethical and transparent manner.



United Nations  
Global Compact







# Lithium-ion Battery (LiB) Recycling

**Intellectual Property Holding Company**  
50% Neometals / 50% SMS group

**Primobius GmbH – Commercialisation**  
Incorporated 50:50 JV with SMS group

**Primobius**

# Need

Participants in the battery value chain are seeking solutions to secure raw materials, reduce CO<sub>2</sub> and satisfy regulatory/moral obligations.



Fire Risk



Pollution (GHG)



Landfill

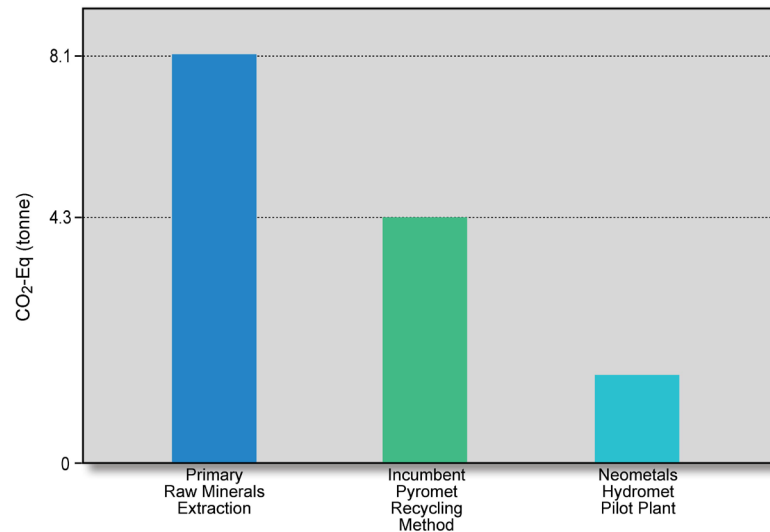


Material Shortages / \$



Circular Economy

Raw Material CO<sub>2</sub> Savings - Traditional Mining vs Battery Recycling



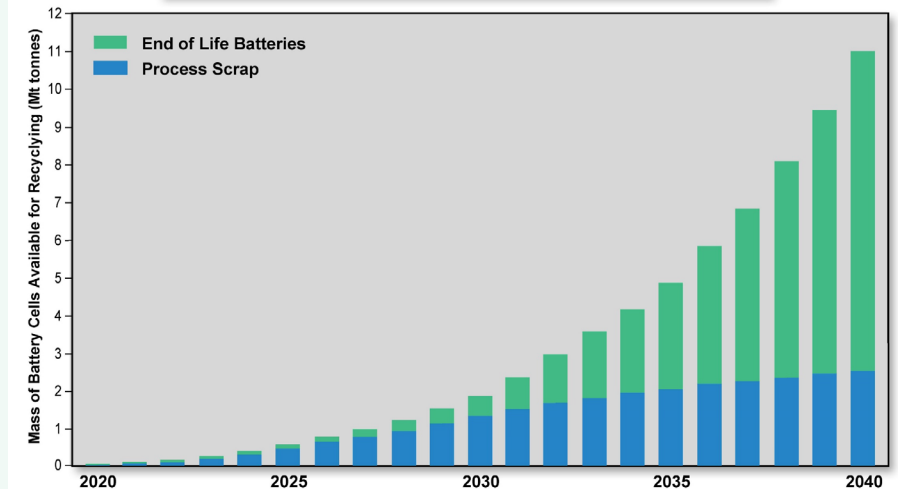
Source: Dusenfeld (Primary Raw Materials and Pyromet Recycling) Neometals (Pilot Plant LCA 2020)

# Opportunity

Large opportunity for advanced hydrometallurgical recycling providers.

- Solution to OEMs needing to meet regulations
- Strategic supply chain resilience
- Support to circular economy
- Compelling total addressable market (“TAM”) – phenomenal industry tailwinds

Global Battery Volume Available for Recycling



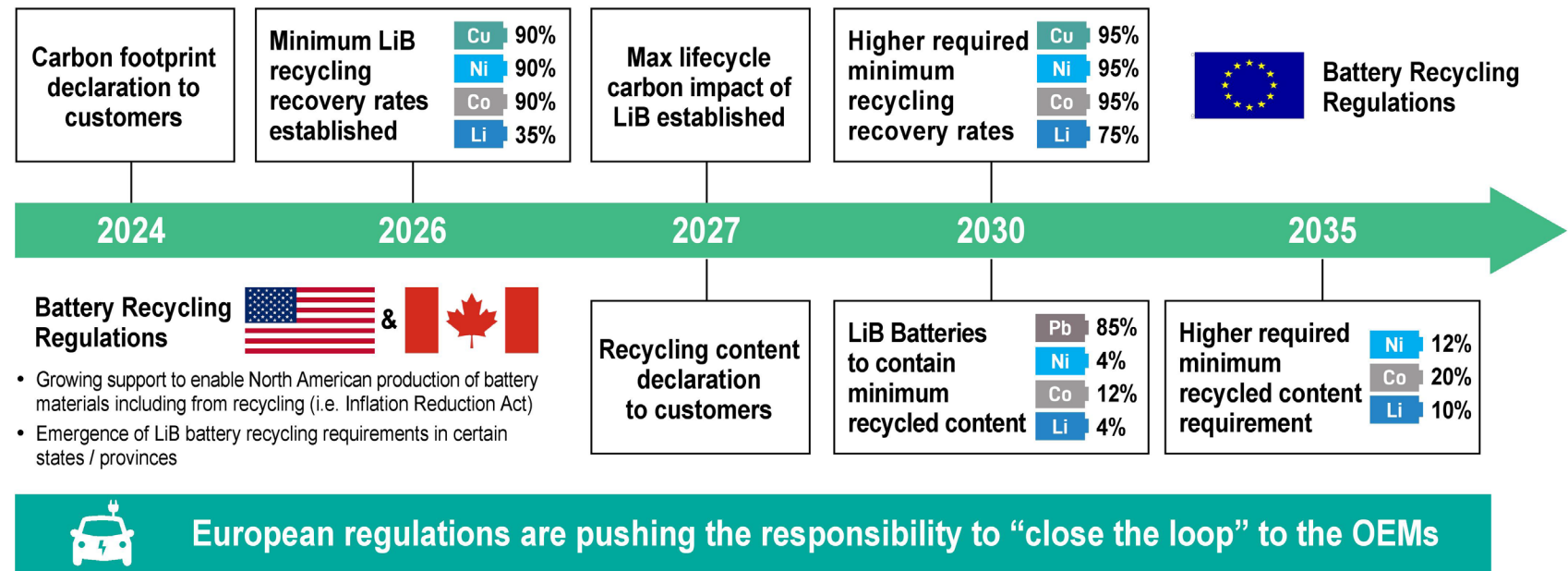
Source: Benchmark Minerals Intelligence (Dec. 2022), Battery Density - NMT Management (41/MWh)



# European Regulation Driving Automakers to “Close the Loop”

Aim to be the first to be fully compliant with all EU battery regulations for LiB recycling, on track for 2026

Total Recovery	Current 2023
Copper	87.4%
Nickel	84.4%
Cobalt	82.3%
Lithium	83.5%



Source: European Commission, FCAB

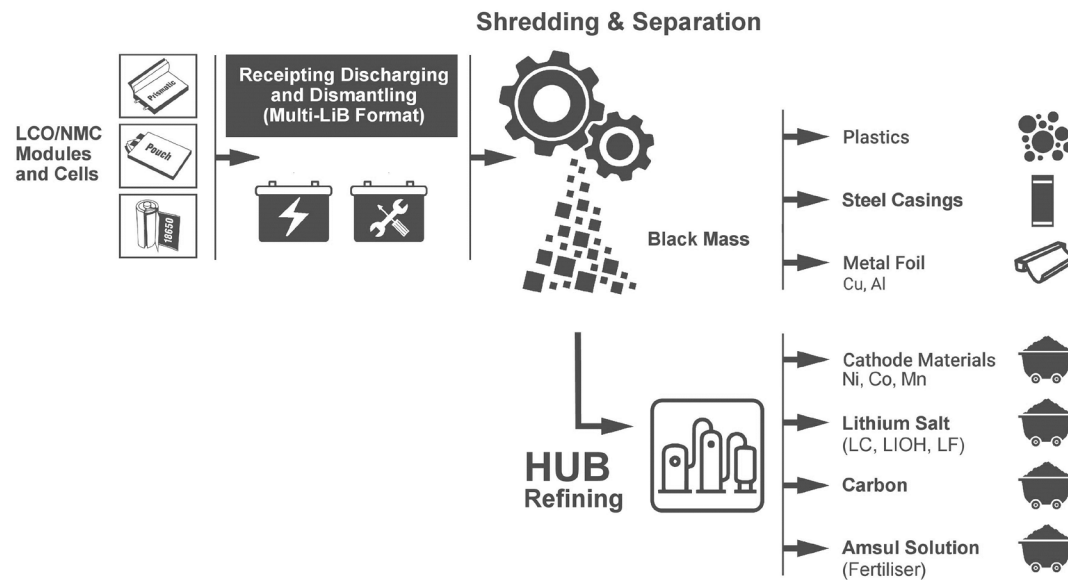
Source: European commission, FCAB





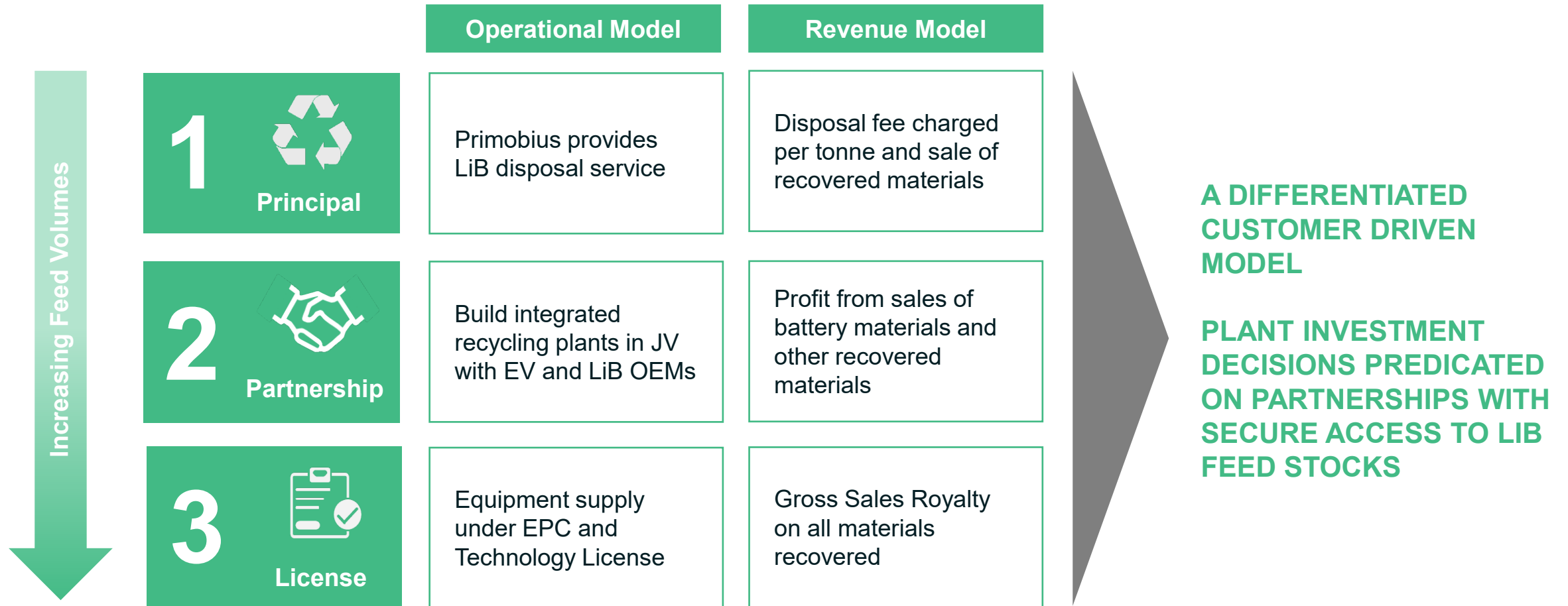
# Neometals Solution

- Equipment solutions backed by leading German plant builder
- Safe, environmentally-friendly process producing high purity, low carbon battery materials

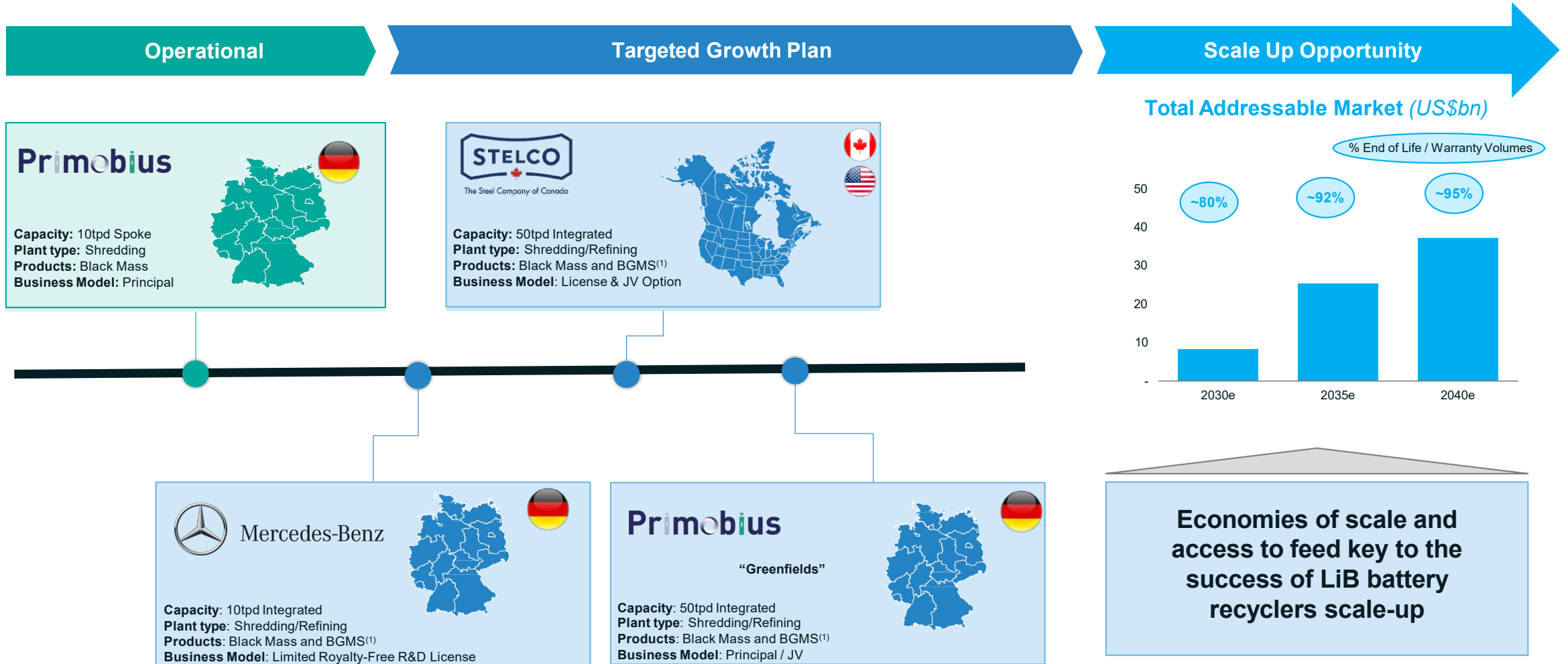


# Business Model – Recycling

- Flexible business models deliver lowest total cost of recycling



# Status - Commercial Pipeline\*



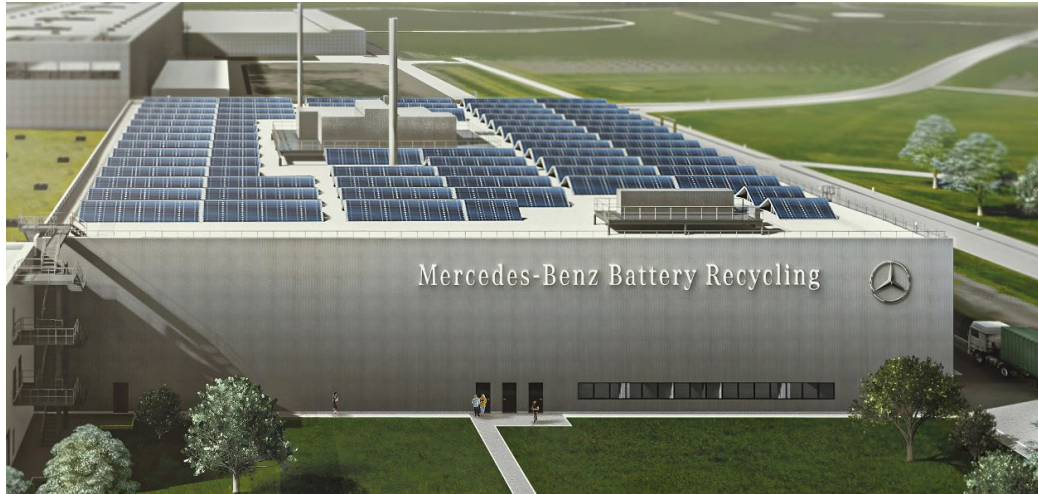
\*Subject to Customer, Primobius and Neometals Board Approvals

1. BGMS = Battery Grade Metal Sulphates

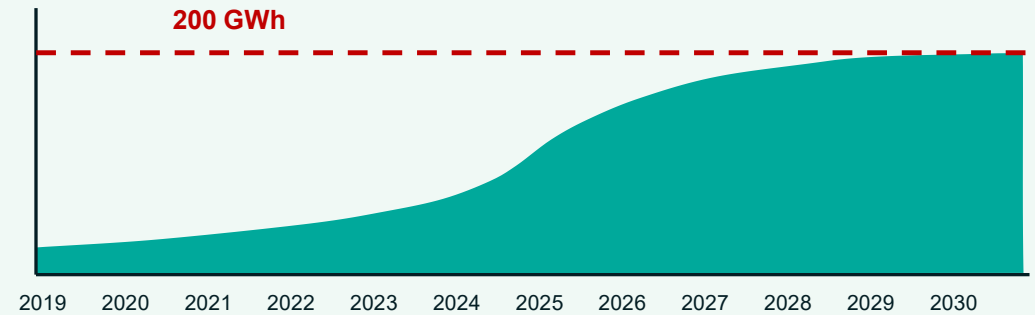
Source: RBCe. NCM battery recycling North America and Europe.



# Status Cont'd - Partnership with Mercedes-Benz



## MERCEDES-BENZ TARGET CELL PRODUCTION\*\*



### Key Illustrative Assumptions

- ~10 year battery life
- ~4.5MWh to tonne of battery

## POTENTIAL MERCEDES-BENZ EOL LIB RECYCLING REQUIREMENTS BY 2040



900ktpa of batteries

Potential EOL recycling requirement by 2040 with additional volumes potentially available from production scrap



~50 x 50tpd OR 5 x 500tpd Plants

Required to process\*

\*Based on Neometals assumptions.



Partnership



Mercedes-Benz



- Cooperation agreement between Mercedes-Benz recycling subsidiary and Primobius
- Cooperation agreement follows partnership for designing and constructing a 2,500tpa Recycling Plant located in Kuppenheim, Germany
- Long-term collaboration to recycle next generation cell formats and chemistries
- Strong validation of the Primobius technology

\*For further information, refer to ASX release dated 13 May 2022 – "Primobius executes Co-operation Agreement with Mercedes Benz"

\*\*Source: Mercedes-Benz Strategy Update: electric drive, July 2021

# Status Cont'd - Partnership with Stelco

Technology license and JV option (≤50%) with Stelco in North America\*

**in North America**

Partnership

- Recycling venture to offer a holistic end-of-life vehicle recycling solution in North America with the ability to secure large feedstock volumes
- Stelco will be responsible for supply of LiB feedstock and the securing of sites for plants
- Exclusively licensed to Stelco in North America except right to recycle for German OEMs has been retained
- Primobius has an option to acquire 25–50% of the equity in Stelco's recycling SPV
- Non election would lead to a 10% royalty on gross revenue earned from the use of the technology<sup>(1)</sup>

\*For full details refer to Neometals ASX release dated 31 December 2021 titled "Primobius to Enter North America with Stelco for Recycling of Electric Vehicle Batteries"

(1) Scope for reductions in the royalty rate depending on IRRs generated, and a minimum royalty fee in cases of stalled recycling production.

Stelco is positioned to be a leader in the electric vehicle circular economy

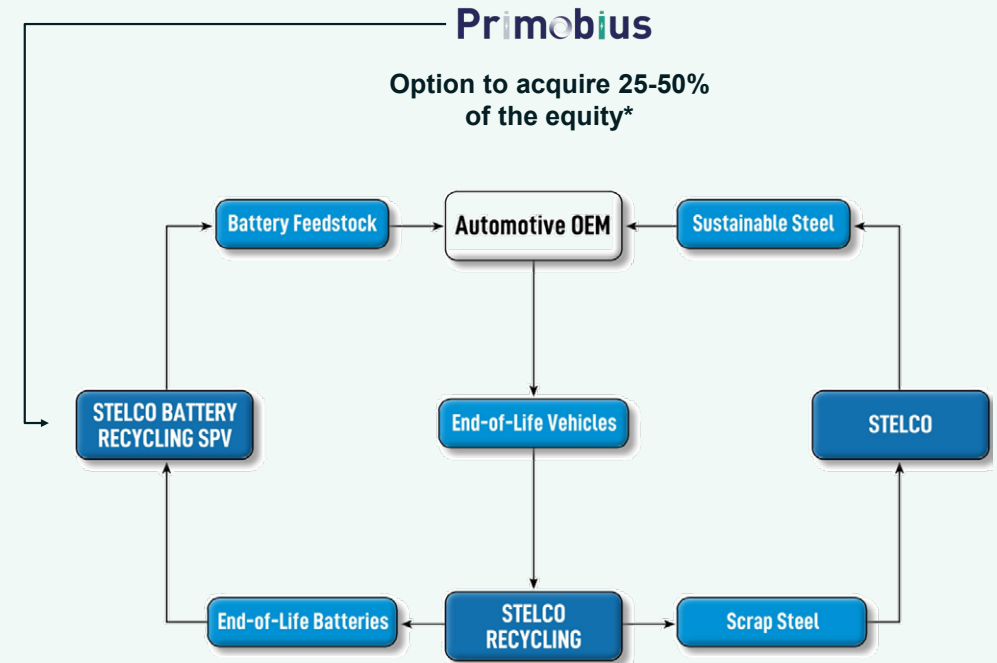


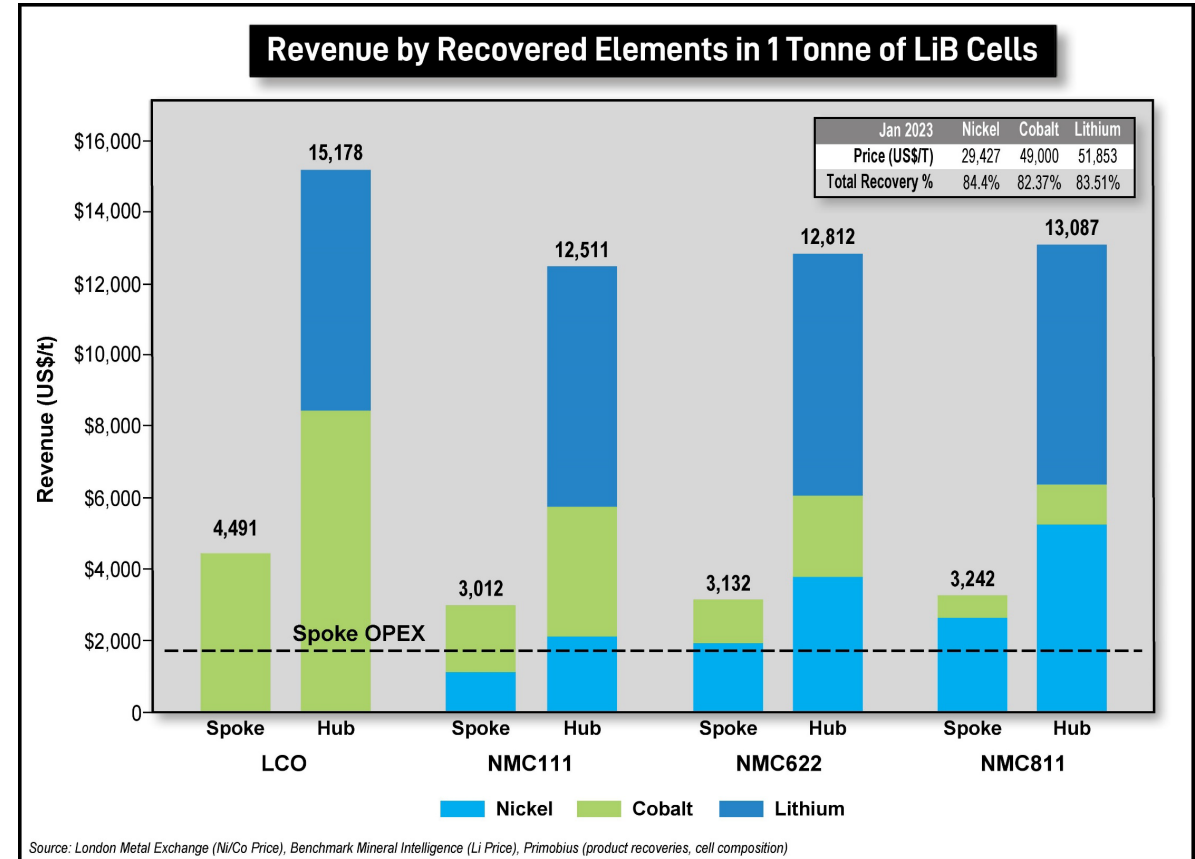
Diagram showing relationship between Stelco and the Electric Vehicle (Automotive OEM) value chain



# Financials - Robust Economics Across Key Battery Chemistries

- ✓ Disclosed capital costs include land, plant, buildings, plant and equipment, installation, infrastructure, pre-production, EPC costs and contingency
- ✓ New design includes Europe's first integrated module discharge and disassembly operation – provides futureproof flexibility to handle any mix of production scrap, warranty return or EOL arisings
- ✓ Hub Engineering Cost Study Results expected JunQ 2023

Primobius Spoke ECS Outputs	
Annual Throughput (Feed)	21 ktpa
Annual Production (Black Mass)	7,130 tpa
Operating Cost per tonne of feed	US\$1,400/t <sup>(1)</sup>
Capital Costs (incl 20% contingency)	US\$104m



\*For further information, refer to ASX release dated 13 September 2022 – “Primobius – 50tpd Spoke Engineering Cost Study Results” and the assumptions set out therein.  
 1. Assumes 1:1 USD:Euro FX

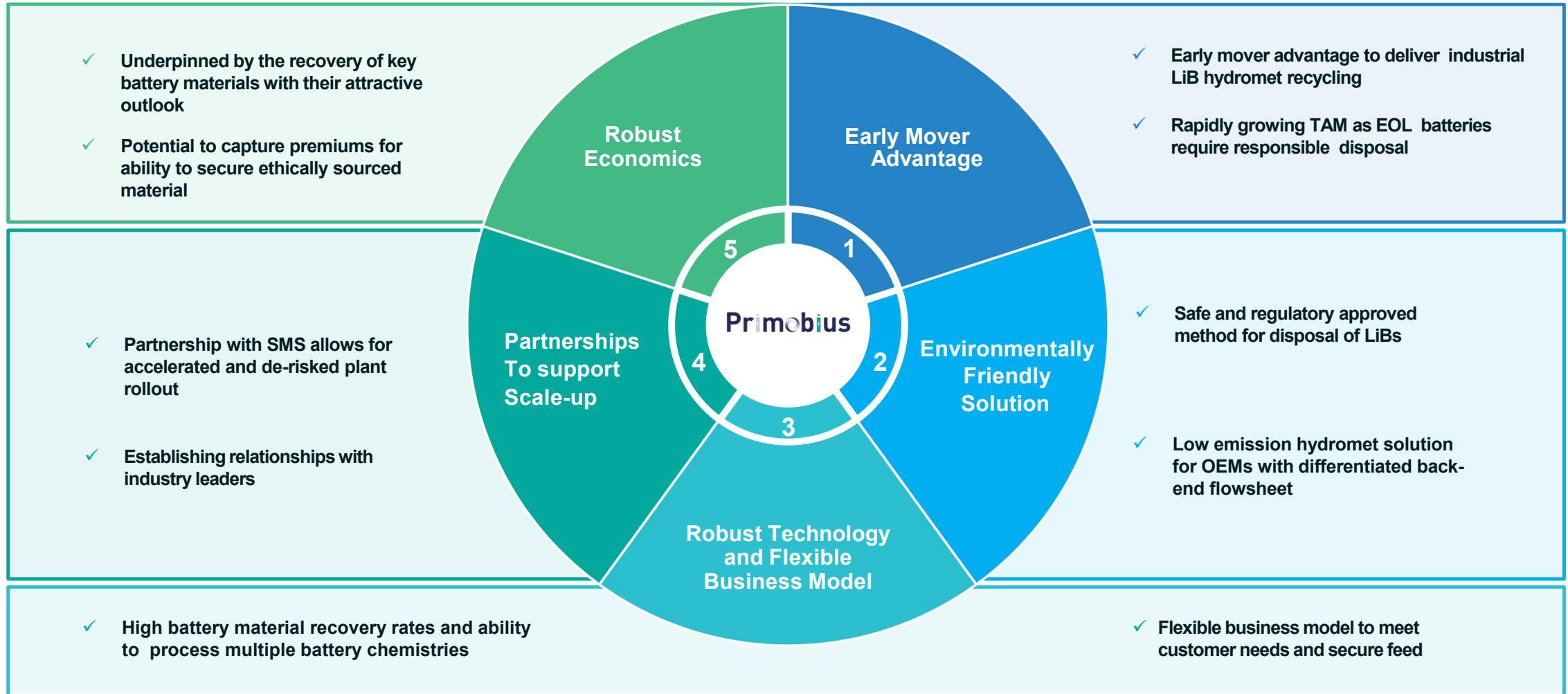
# Indicative Timeline – LiB Recycling



\* Subject to Customer Award/Primobius and Neometals Approvals

\*\* Key Performance Indicators (KPI) as negotiated at Supply

# Highlights - Unique Positioning for Rapid Growth







# Vanadium Recovery

**Vanadium Recovery Process Technology**  
100% Neometals

**Vanadium Recovery Project 1 - Finland**  
72.5% NMT via Incorporated JV with Critical Metals Ltd,  
Recycling Industries Scandinavia AB ("RISAB")

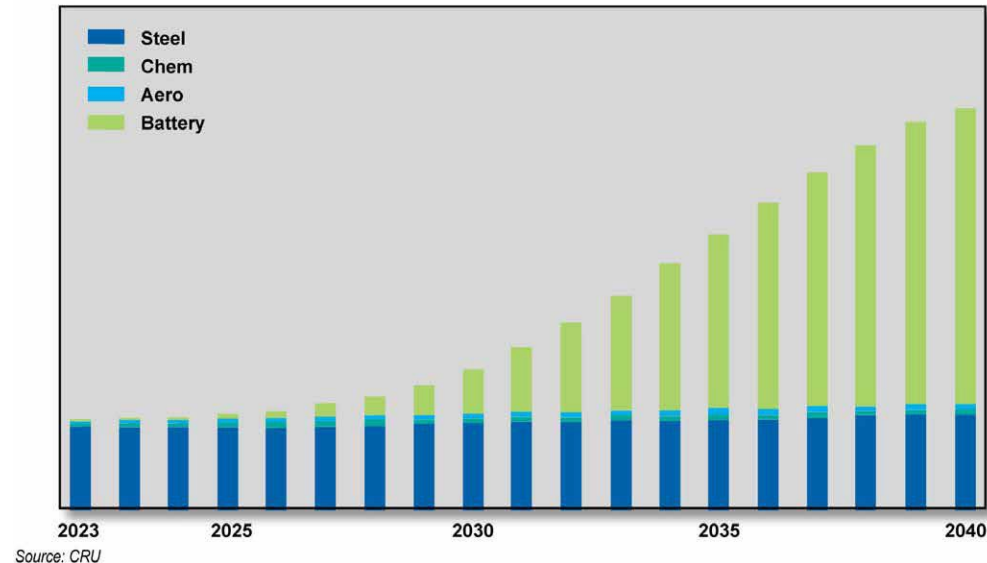


# Need - Growth Market Supported by Energy Transition

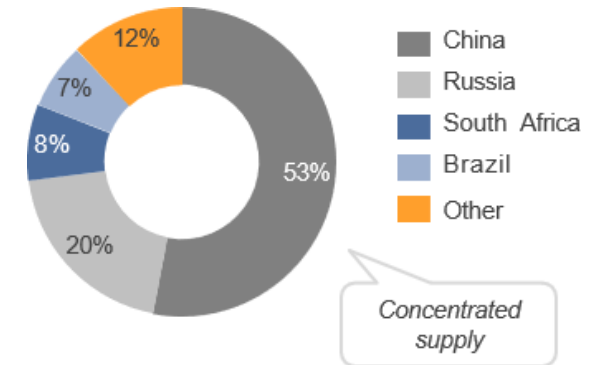
## Market Dynamics

- Vanadium consumption is primarily anchored to steel production with demand from energy storage (vanadium redox flow batteries) becoming dominant use next decade
- Once in operation, RISAB will supply c. 3% of the global vanadium supply (2027) and it will be the only European vanadium producer
- VRP1 aims to be largest producer of high-purity  $V_2O_5$  for the production of electrolyte for VRFBs
- Given the current geopolitical environment and a push to reduce reliance on China, European prices are expected to continue to remain stable<sup>1</sup>

## Vanadium demand by end use, 2023-2040



## Current production by country



Sources: Wood Mackenzie 2022, Vanitec  
1) Based on CRU market study as of January 2023





# Opportunity - Extracting Vanadium from Industrial By-product

## Introduction to the Finnish Vanadium Recovery Project (“VRP1”)

### Plant location and key information

-  Location: **Tahkoluoto Port, City of Pori, Finland**
-  Average annual revenue: **~200M USD (post-ramp-up)**
-  Capital cost: **~314M USD**
-  Operating cost: **US\$4.19/lb V<sub>2</sub>O<sub>5</sub> (lowest quartile)**
-  Construction timeline: **H2 2023 – H2 2025**
-  Slag secured: **10 years 2m tonnes minimum** (stockpiled plus first right to purchase additional volumes from SSAB’s future production)
-  Throughput: up to **300k tonnes p.a.**
-  Annual production: **~9k tonnes V<sub>2</sub>O<sub>5</sub>**



### Company description and background

- RISAB (“Company”) is established by two green battery materials and technology companies Critical Metals and Neometals
- The Company will build and operate a plant which will recover vanadium from steel production side stream and process it into high-purity vanadium that is used e.g., in greener steel and energy storage applications (the “Project” or “VRP1”)
- Currently the raw material (slag) is secured for 10-year term
- The final investment decision is subject to finance - RISAB has leading Nordic investment banks managing the equity and debt financing process



### Selected stakeholders:



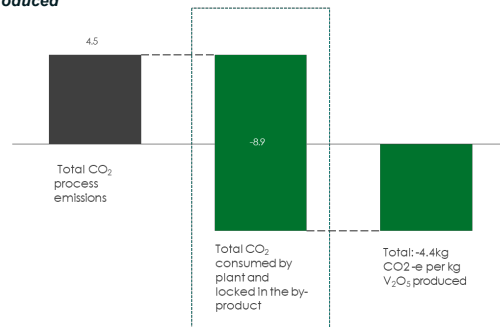
For further information, refer to ASX release dated 8<sup>th</sup> March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results

# Neometals Solution

- Unique (EU patent pending) hydrometallurgical process to recover vanadium from stockpiled slag utilising captured CO<sub>2</sub> from local emitters as primary reagent in process.
- Conventional equipment configured in a fully piloted novel process
- Potential for negative/zero carbon production of battery-grade material
- Can permanently chemically sequester CO<sub>2</sub> in tailings product, potential for use in building products as inert.

## CARBON FOOTPRINT\*

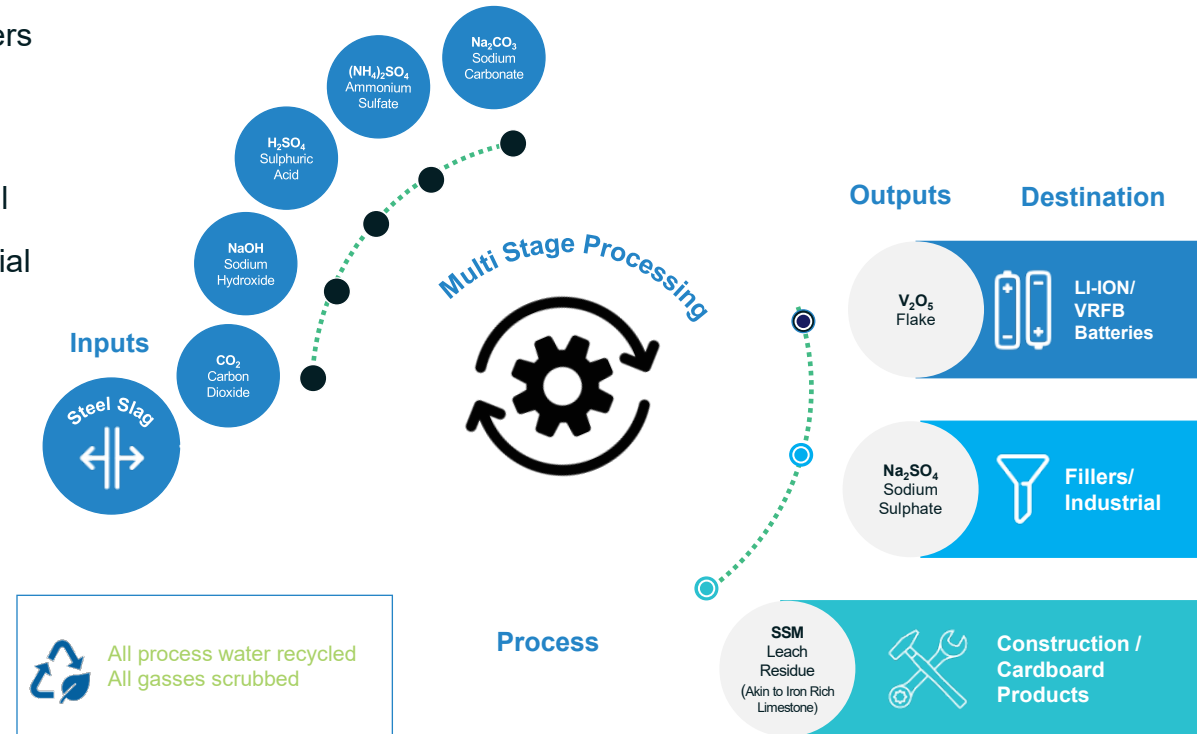
kg CO<sub>2</sub>-e per kg V<sub>2</sub>O<sub>5</sub> produced



*The company will be one of the largest consumers of CO<sub>2</sub> in Finland annually and will source its CO<sub>2</sub> from industrial processes*

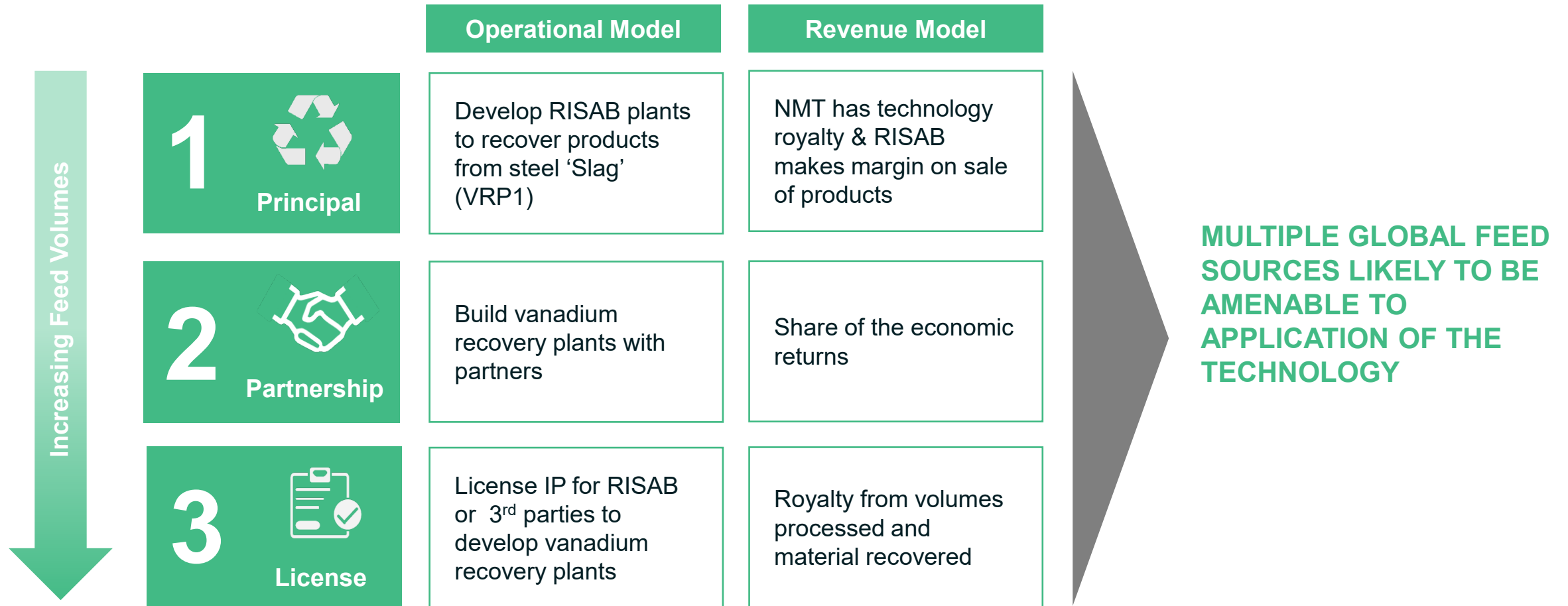
Sources: Internal image based on data from Minerva  
 1) CO<sub>2</sub> emissions are related to e.g. electricity, steam boiler, transport and consumption of other materials

\*For further information, refer to ASX release dated 8<sup>th</sup> March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results



# Business Model – Vanadium Recovery

- Flexible business models to generate JV revenue from exploitation of technology and sale of  $V_2O_5$  and by-products
- Multiple growth opportunities through pipeline of feedstock sources





# Financials – 2023 Feasibility Study

## THROUGHPUT RATE



**300,000dtpa**

## PRODUCTS



**19.1M lbs p.a.**  
high purity  
zero carbon V<sub>2</sub>O<sub>5</sub>

## OPEX (excl. royalty)



**US\$4.19/lb**

## CAPITAL COSTS



**US\$314.4M**

## NPV<sub>10</sub>\*



**US\$323M**

## IRR\*



**24.8%**

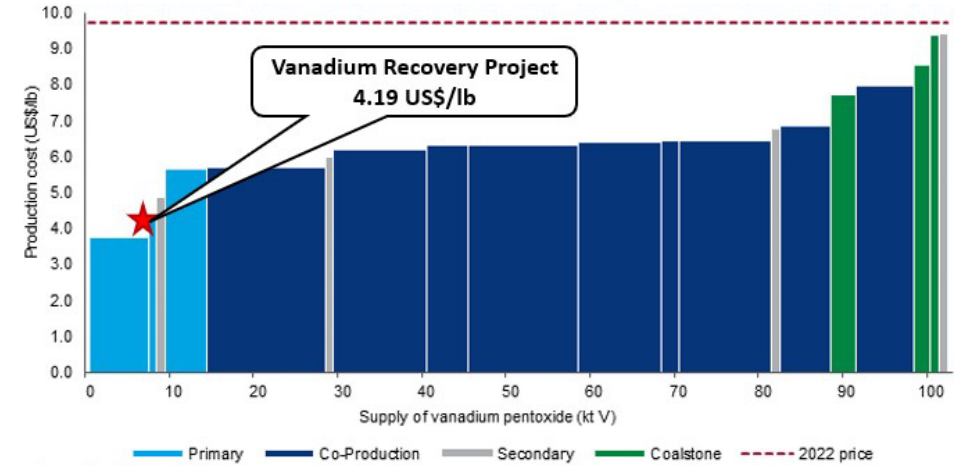
## SIMPLE PAYBACK



**5.7 years**

\* Pre tax

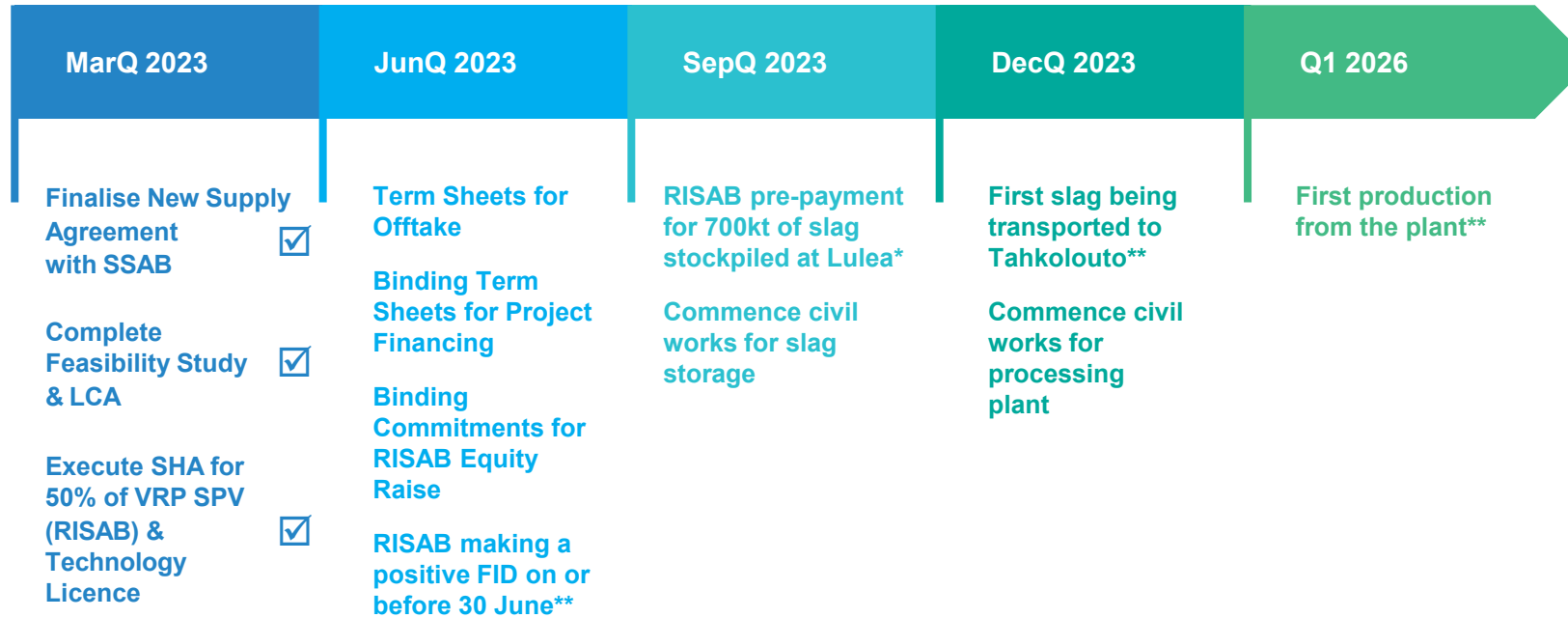
## Vanadium Cost Curve



For further information, refer to ASX release dated 8<sup>th</sup> March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results



# Indicative Timeline – Vanadium Recovery



\* Pre-payment to be paid within 72 hours after the Buyer's Positive Investment Decision

\*\* Subject to FID, approvals and finance

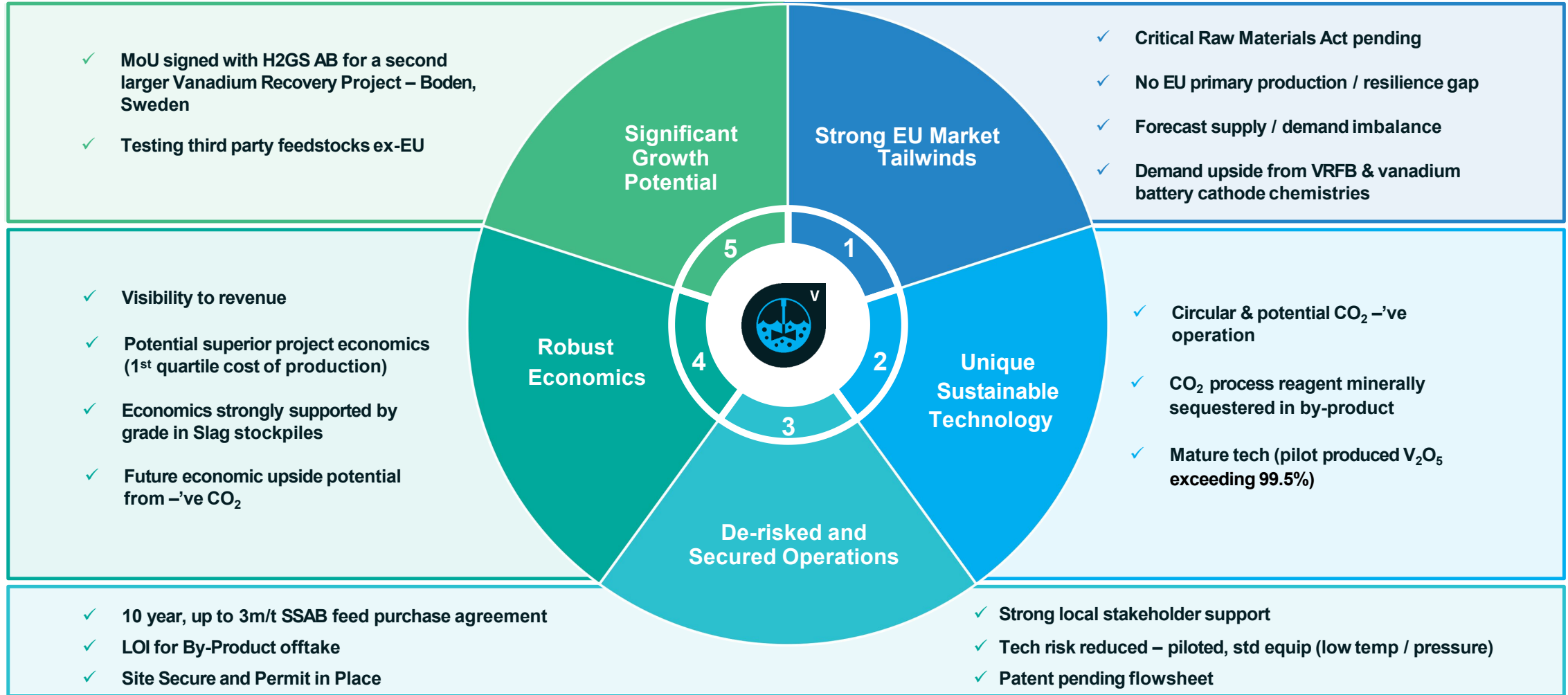
## Key Milestones

- 
**Lease agreement with the city of Pori**  
 Signed lease agreement with the city of Pori for the VRP plant to be situated in Tahkaluoto
- 
**Operational and environmental permit**  
 Permit to start operations from the Regional State Administrative Agency received
- 
**Feasibility study on vanadium applications**  
 Third party study confirming that produced vanadium pentoxide is suitable for vanadium flow redox battery technology and production
- 
**Contracts with SSAB and Letter of Intent with Betolar**  
 Signed Letter of Intent for by-product and binding Slag Supply Agreement



# Investment Case – Highlights

Supply constrained critical battery minerals without mining risk







# Lithium Chemicals

## **ELi™ Processing Technology**

Reed Advanced Materials ("RAM")

70% Neometals / 30% Mineral Resources Ltd

## **Lithium Chemicals Project - Portugal**

Co-funding evaluation of 50:50 JV with Bondalti

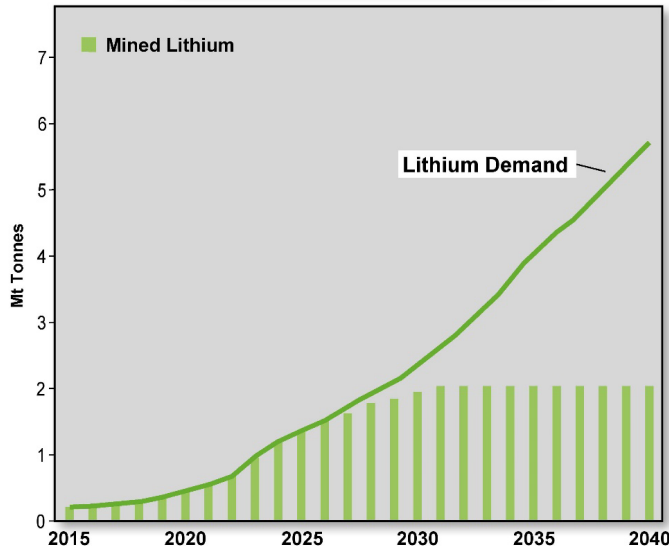
Chemicals SA using ELi™ Process



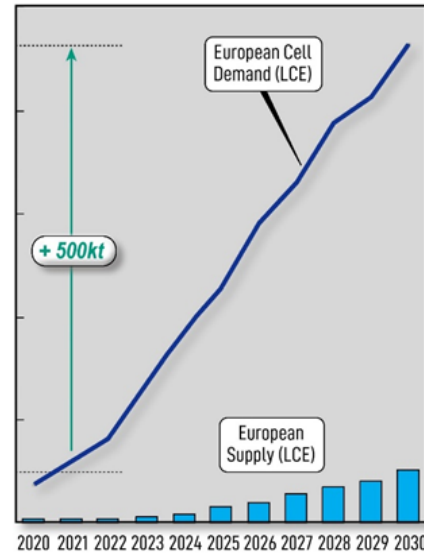
# Need

- Lithium non-substitutable in LiB
- Looming global shortage
- EU has no major operating lithium deposits

**Lithium Market Balance**



Source: Benchmark Minerals Intelligence (2022)

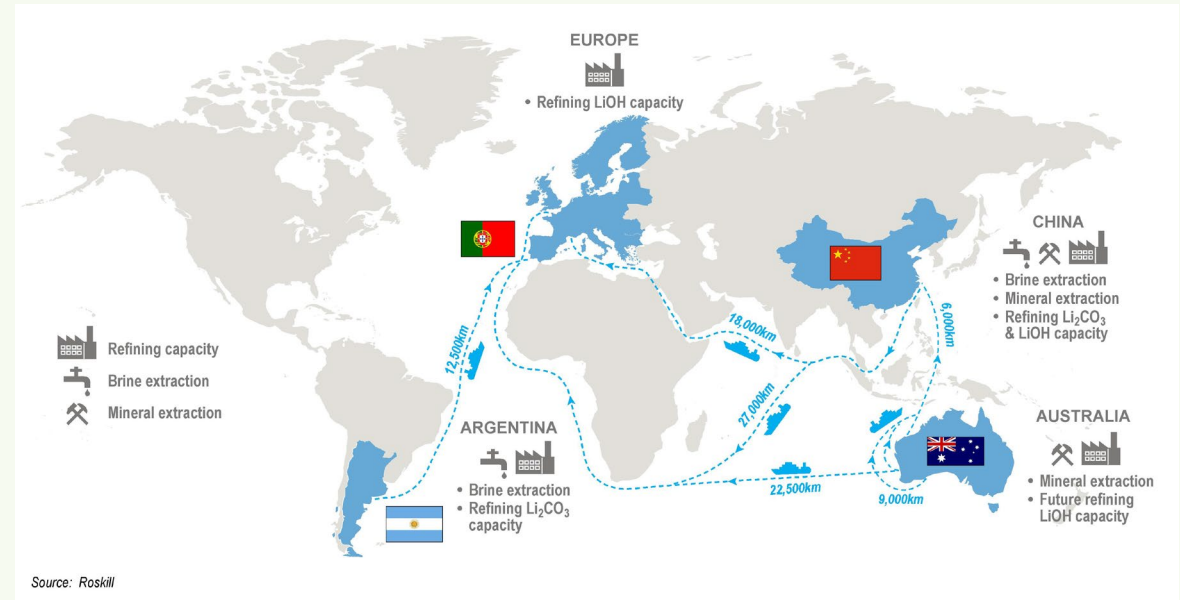


Source: Benchmark Forecasts

# Opportunity

Deploy proprietary patented ELi process into Europe with strong local partner.

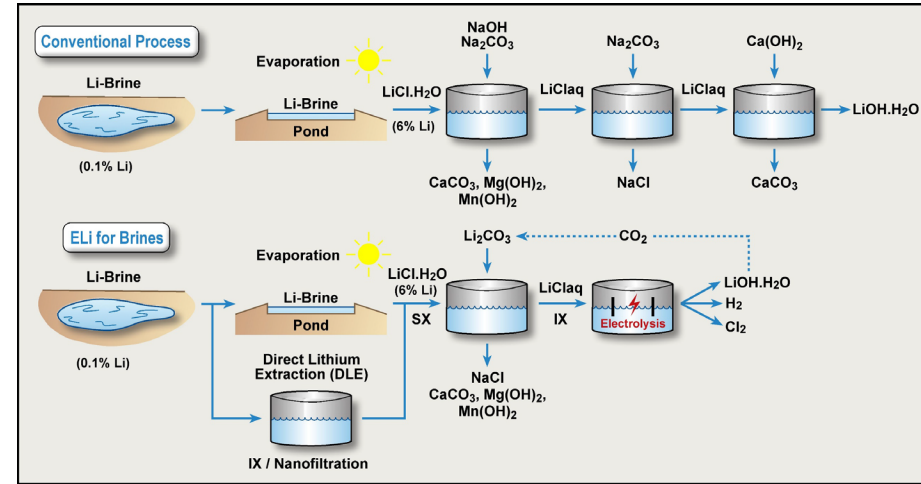
- Grow global lithium production from lithium chloride (brine) deposits in South America, largest known resources and lowest carbon intensity
- ELi Process uses electrolysis to convert lithium chloride into battery-quality lithium hydroxide, replaces traditional carbon-intensive reagents with electricity in conventional chlor-alkali cells



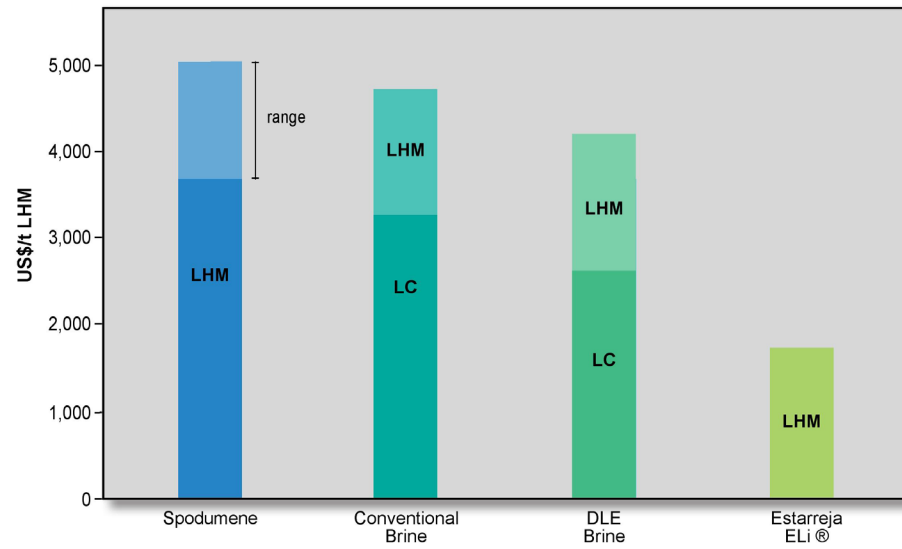
Source: Roskill

# Solution

- Utilises off-the-shelf chlor-alkali electrolyzers
- Battery quality lithium chemicals, no imported soda ash/caustic soda
- Can utilise renewable power and sequester carbon
- Significant operating and capital cost advantages

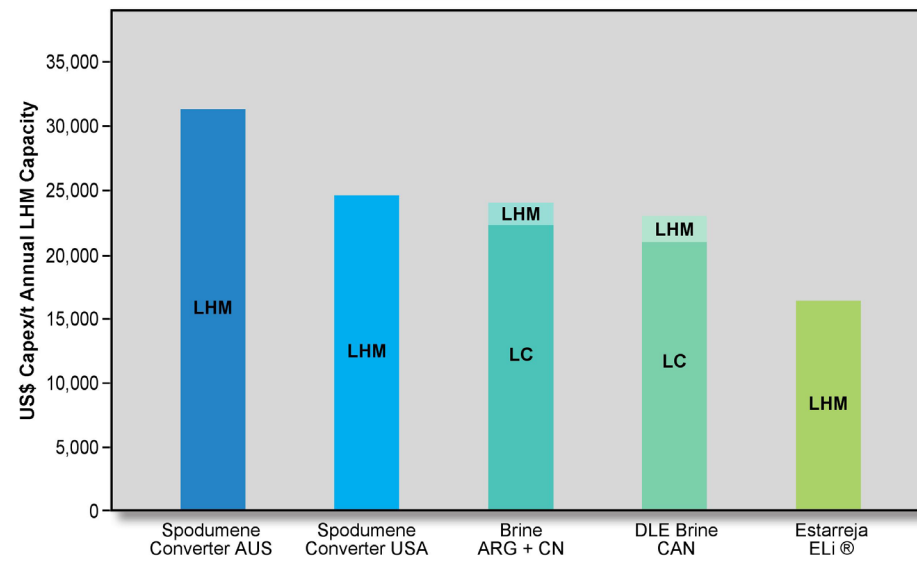


**Est. Opex Comparison (Conversion to LHM)**



Sources: LAC, AKE/ORE, E3 Li, PLL, ALB, Management estimates, ECS, Benchmark Mineral Intelligence.

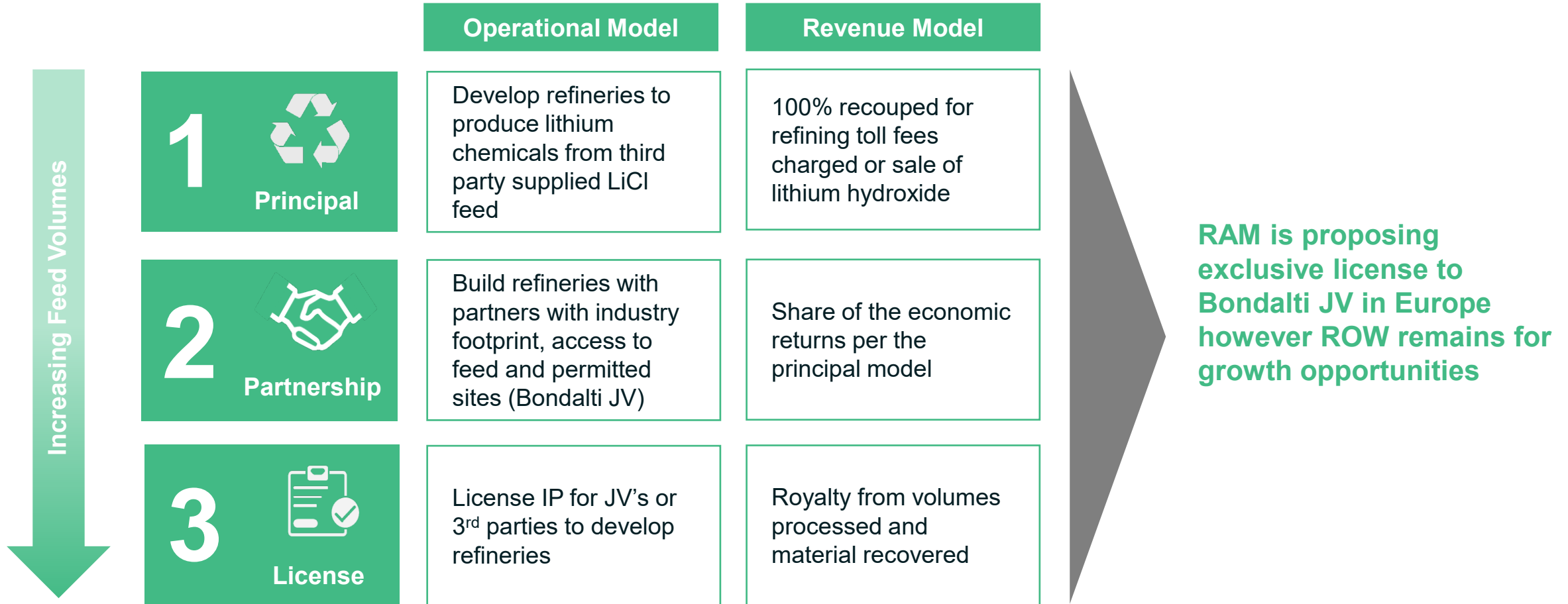
**Est. Capital Intensity (LHM Conversion)**



Sources: ALB, E3 Li, PLL, Livent, Management estimates, Class 3 ECS, Benchmark Mineral Intelligence.

# Business Model – Lithium Chemicals

- Flexible business models offering different ways to meet industry needs and different capital intensities
- Offers alternative for brine suppliers who cant access capital or don't have expertise to downstream process beyond LiCl



# Status - Bondalti Partnership

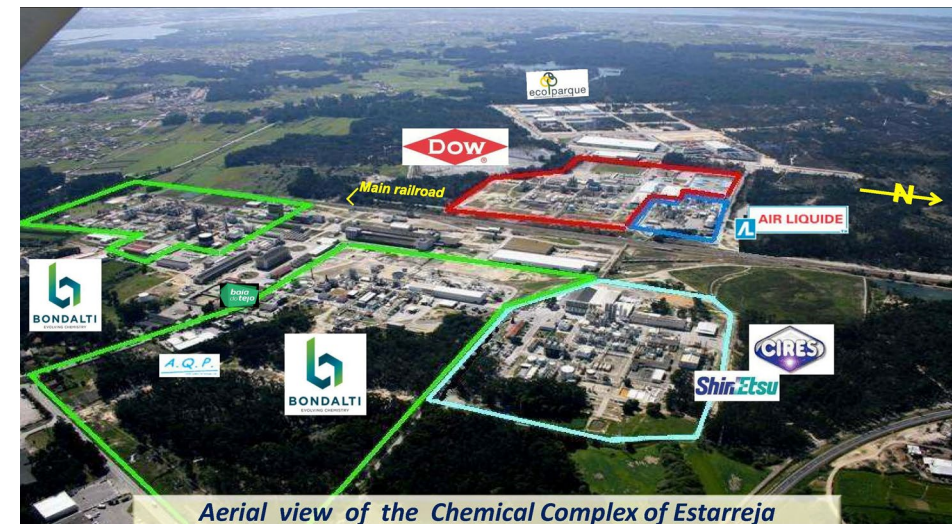
- Leverage Bondalti's strong experience in chlor-alkali
- Extensive infrastructure enables fast-track evaluation and piloting at their Estarreja chemical site

## Bondalti:

- Private Group Jose de Mello company
- Focus on chlor-alkali chemical and aniline production
- Largest Portuguese chemical producer
- Production base in Estarreja chemical cluster
- Bondalti seeking entry into LiOH production using chlor-alkali process infrastructure
- Production synergy for ELi™ to ship H2 and Cl2 by-products “over the fence”
- Experienced and competent industrial operator of same type of chlor-alkali plant used for ELi™

## Cooperation:

- Binding cooperation to pilot Eli and evaluate future 50:50 JV to produce LiOH for European auto value chain
- RAM would issue the JV a royalty free license to the technology
- Equal co-funding on pilot and evaluation activities



Aerial view of the Chemical Complex of Estarreja

# Financials – Engineering Cost Study

- Sale of high purity LHM to battery industry plus by-products to industrial applications.
- Supported by lowest quartile costs and ESG credentials.

ECS Metrics (100% ownership basis)	
Annual Production	25,000tpa LHM
Annual Throughput	80,000 tpa Brine @ 6% Li
Average Operating Cost (±15%)**	€1,768/t (US\$1,945/t) LHM
Total initial capital costs (±15%)***	€405M (US\$446 M)
Capital Intensity****	€16,200/t (US\$17,840/t) LHM capacity

See Table 2 for further information on ECS capital costs, includes direct and indirect costs

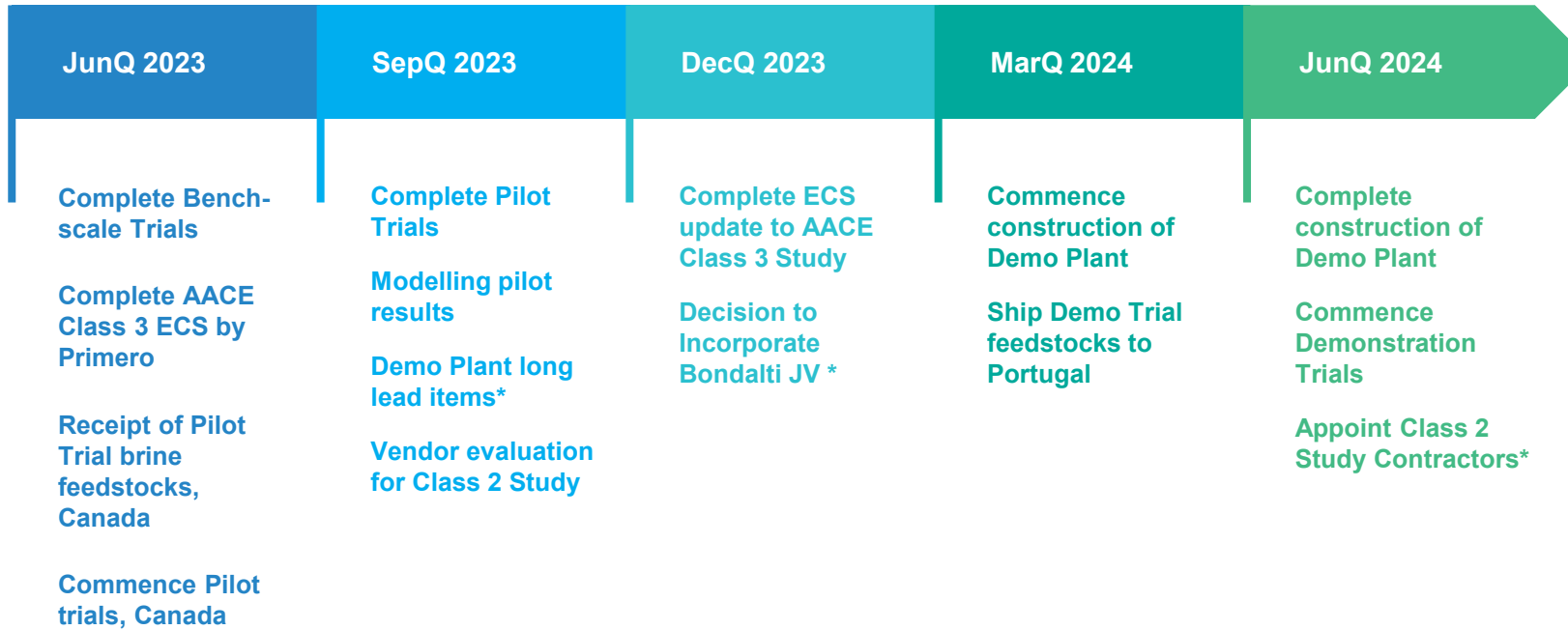
\* Association for the Advancement of Cost Engineering

\*\* from receipt of 6% Li brine concentrate to packaged high purity “battery grade” lithium hydroxide product, excluding by-product credits

\*\*\* Total of direct and indirect capex including 15% contingency, EPC fees and design post-Class 3

\*\*\*\* Based on total capex and 25,000tpa LHM capacity

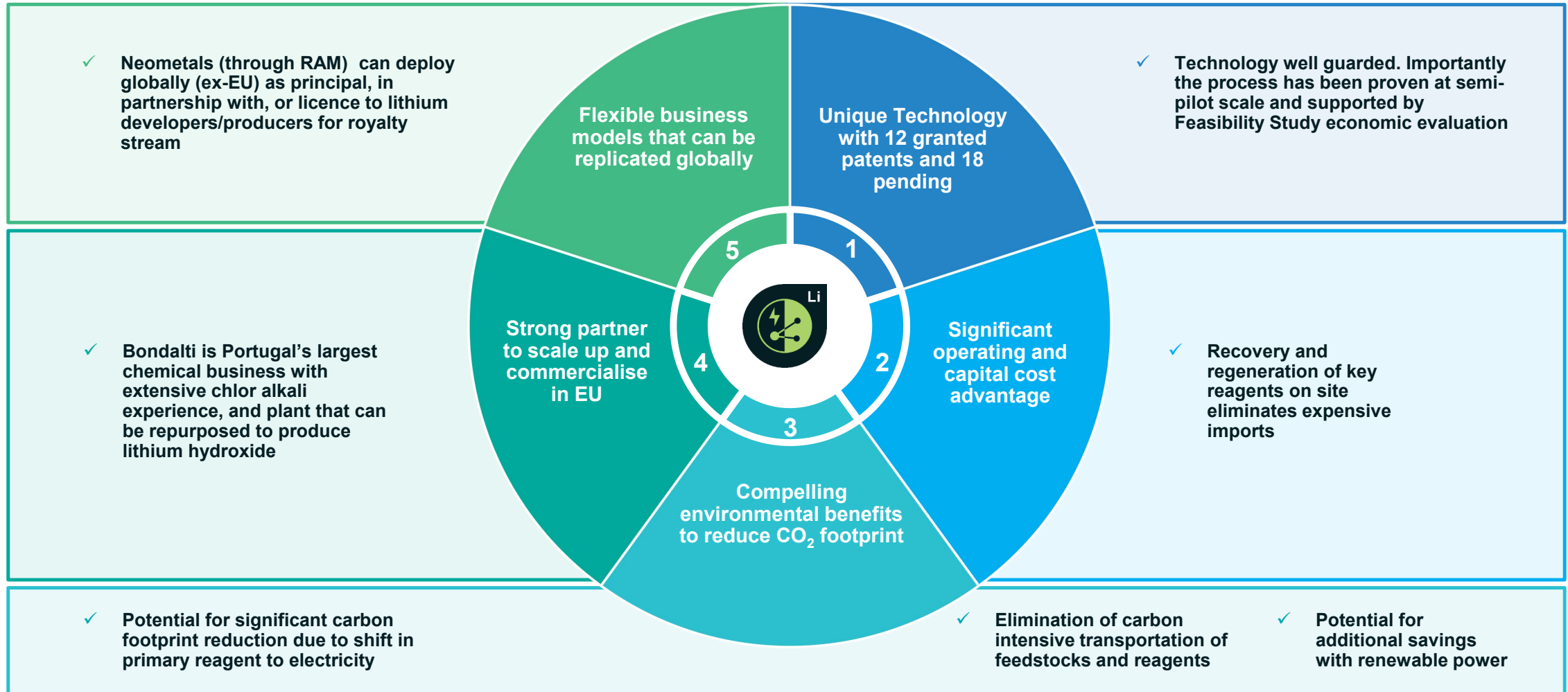
# Indicative Timeline - Lithium Chemicals



\*Subject to Steering Committee Approvals



# Investment Case – Lithium Chemicals





# Barrambie Titanium and Vanadium

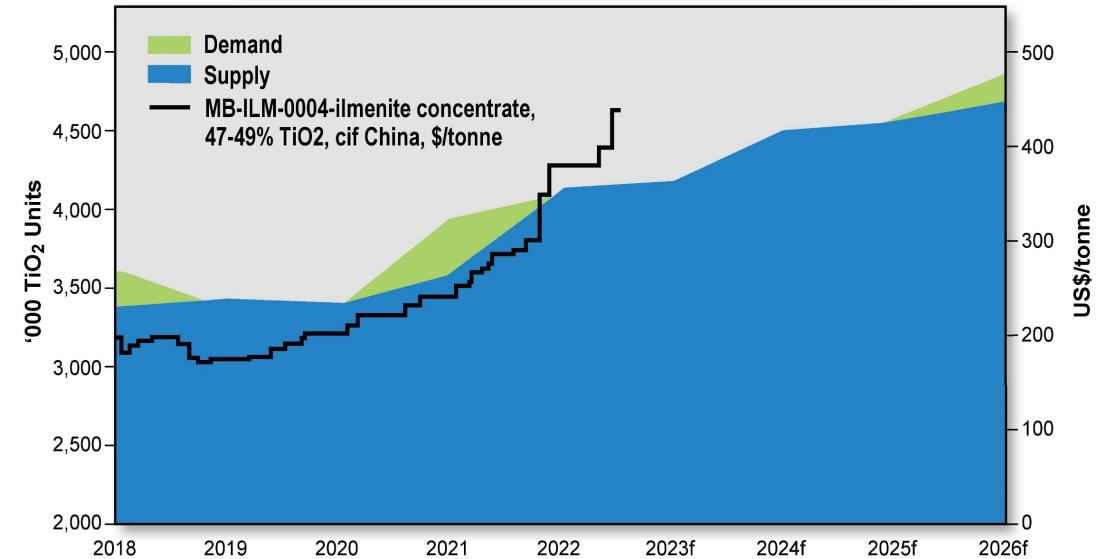
Barrambie Titanium and Vanadium Project  
100% Neometals

# Need & Opportunity

- China is half of the global titanium pigment production and is shifting to the more sustainable chloride process
- World supply of quality chloride feedstocks is in decline, with prices steadily increasing for the last 5 years

- Chloride pigment production requires high-grade feedstocks such as ilmenite, rutile and titanium slags
- Primary mineral sands (rutile, ilmenite) deposits are being depleted
- Neometals is working with Chinese partners to realise value from production<sup>1</sup>

**Chloride Feedstock Supply Demand Balance and Ilmenite Price**

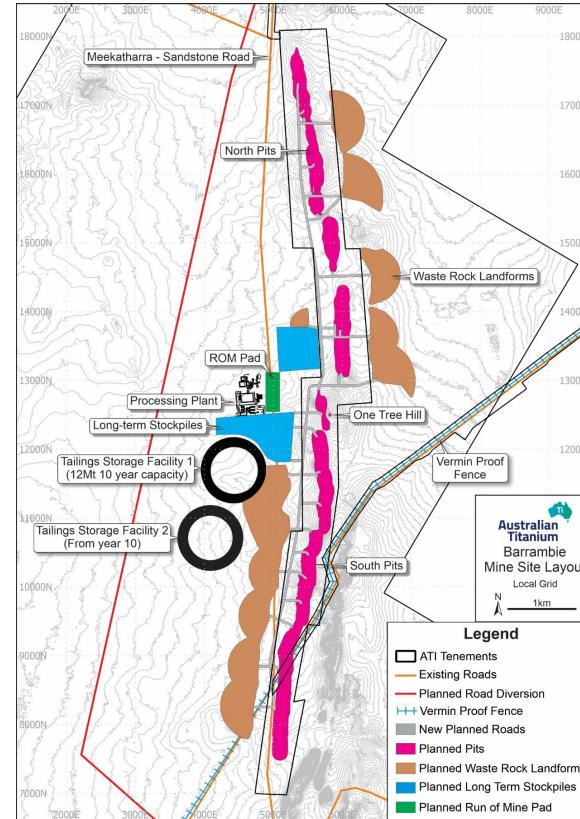


Source: TZMI, Titanium Feedstock Price Forecast, Issue 3, 2022 and Fastmarkets

1. For full details of commercial partnerships via MOU refer to:  
 Neometals ASX release dated 16th April 2021 titled "Barrambie - MOU for Cornerstone Concentrate Offtake" and  
 Neometals ASX release dated 4th October 2021 titled "MOU for JV to develop Barrambie"



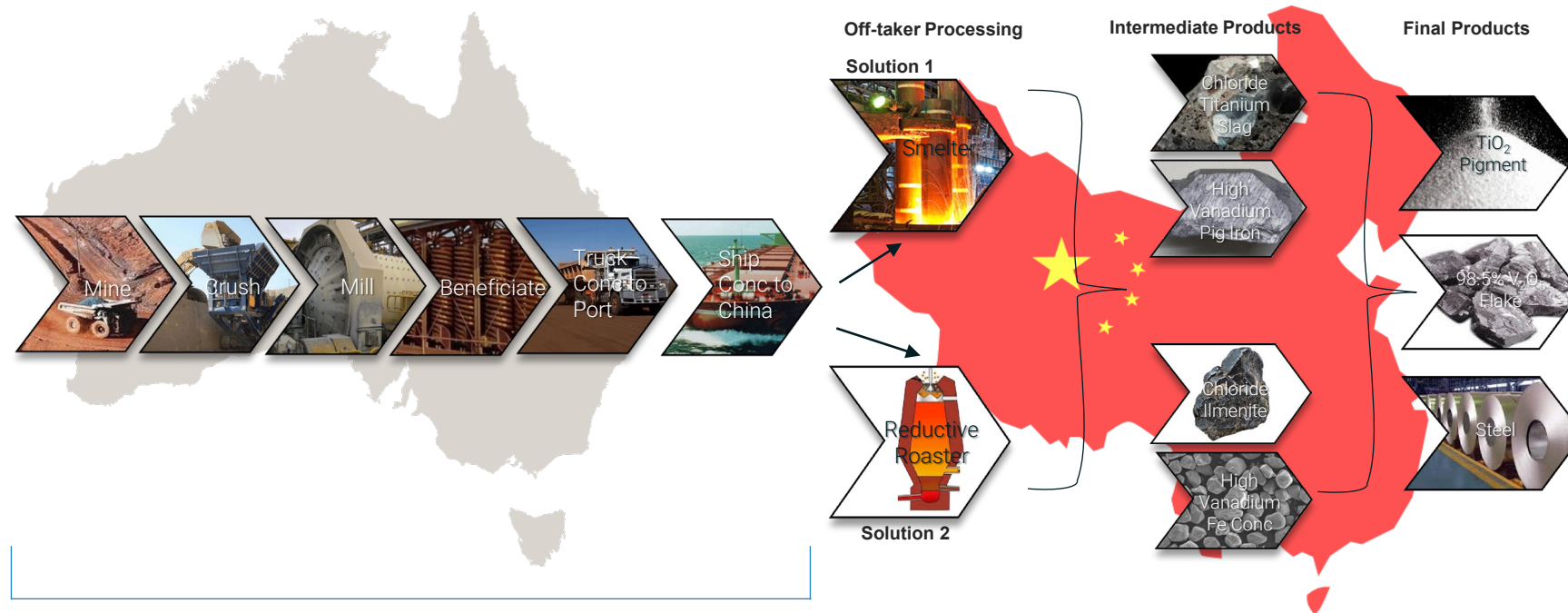
# Solution : Hard rock Ti from Barrambie



- One of the highest-grade hard rock titanium assets globally
- 100% owned in Tier 1 jurisdiction
- Granted mining lease and mining approval to extract approximately 1.2Mtpa of mineralisation
- Environmental approval secured in 2012 to mine and construct a 3.2 Mtpa processing plant. Implementation timeframe extension application underway.
- Attracted strong partner to optimise value realisation
- Successful commercial scale trial to demonstrate value in use to end users

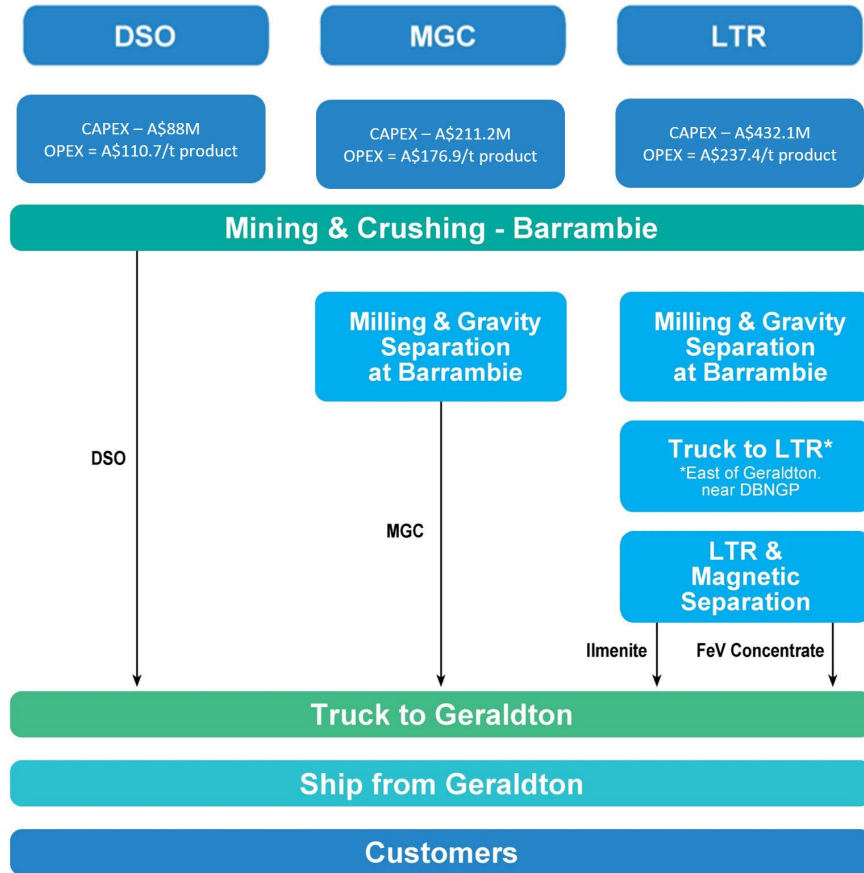
# Neometals Solution

Simple truck and shovel mining followed by gravity separation to produce mixed concentrates for export to China for smelting or further reduction to produce separate ilmenite and vanadium concentrates

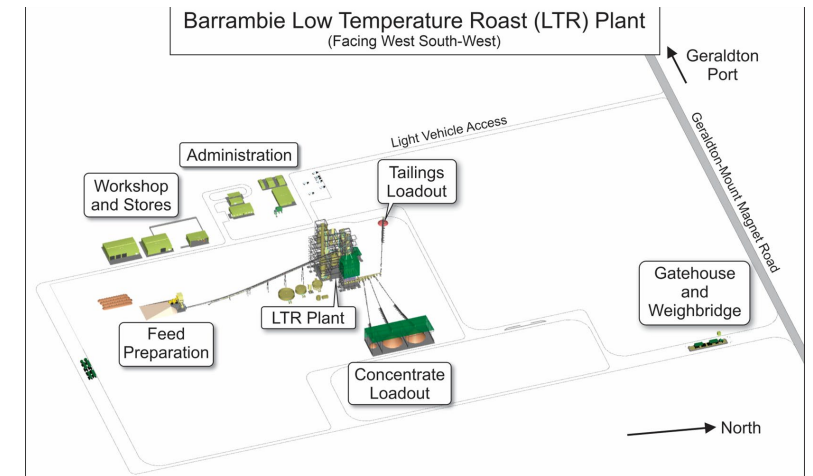
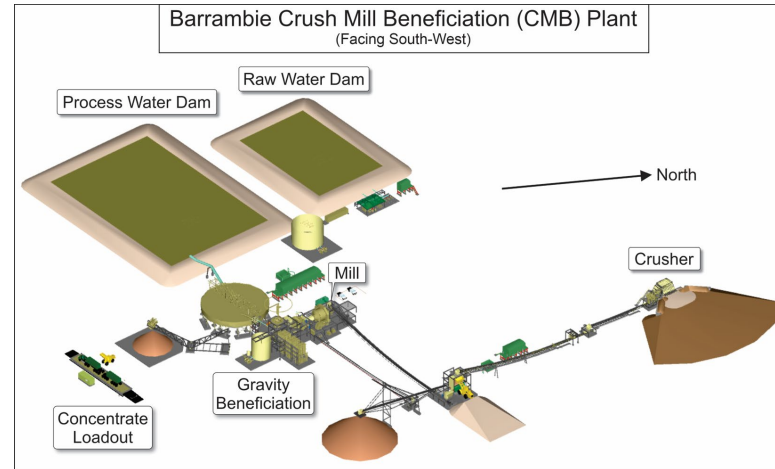


Neometals activities to prepare mineral concentrates for sale

# Clear pathway to Commercialise



\*Dampier to Bunbury Natural Gas Pipeline



For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"



# Robust PFS Results

## MINERAL RESOURCE\*



**280.1Mt**  
@ 9.18% TiO<sub>2</sub>

## ORE RESERVE\*\*



**44.5Mt**  
@ 18.7% TiO<sub>2</sub>

## PROCESSING PLANT



**First 10 years:**  
Ilmenite 522ktpa  
Middling ilmenite 57ktpa  
Iron-vanadium conc. 402ktpa

## PROJECT LIFE\*\*\*



**21 Years**

## OPEX



**AUD\$237.4**  
/t products

## PAYBACK



**5.67 years**

## CAPITAL COSTS



**AUD\$432.1M\*\*\*\***

## PRE TAX NPV<sub>10</sub>



**AUD\$391M\*\*\*\***

## FREE CASH FLOW\*\*\*\*\*

**Total**  
**AUD\$1,665M**  
**First 10 years**  
**AUD\$136M pa**

- The PFS confirms 'value-in-use' for Barrambie's product basket and supports dialogue with potential offtake partner Jiuxing

\* refer to Table 2 \*\* probable \*\*\* years of processing plant operation \*\*\*\* USD: AUD 0.6419 \*\*\*\*\* at US\$400/t Ilmenite  
\*\*\*\*\* at US\$300/t Middling ilmenite \*\*\*\*\* free cashflow is pre-tax and undiscounted  
at US\$85/t Iron-vanadium conc.

For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"

# Jiuxing Titanium MOU – DSO/MGC Offtake

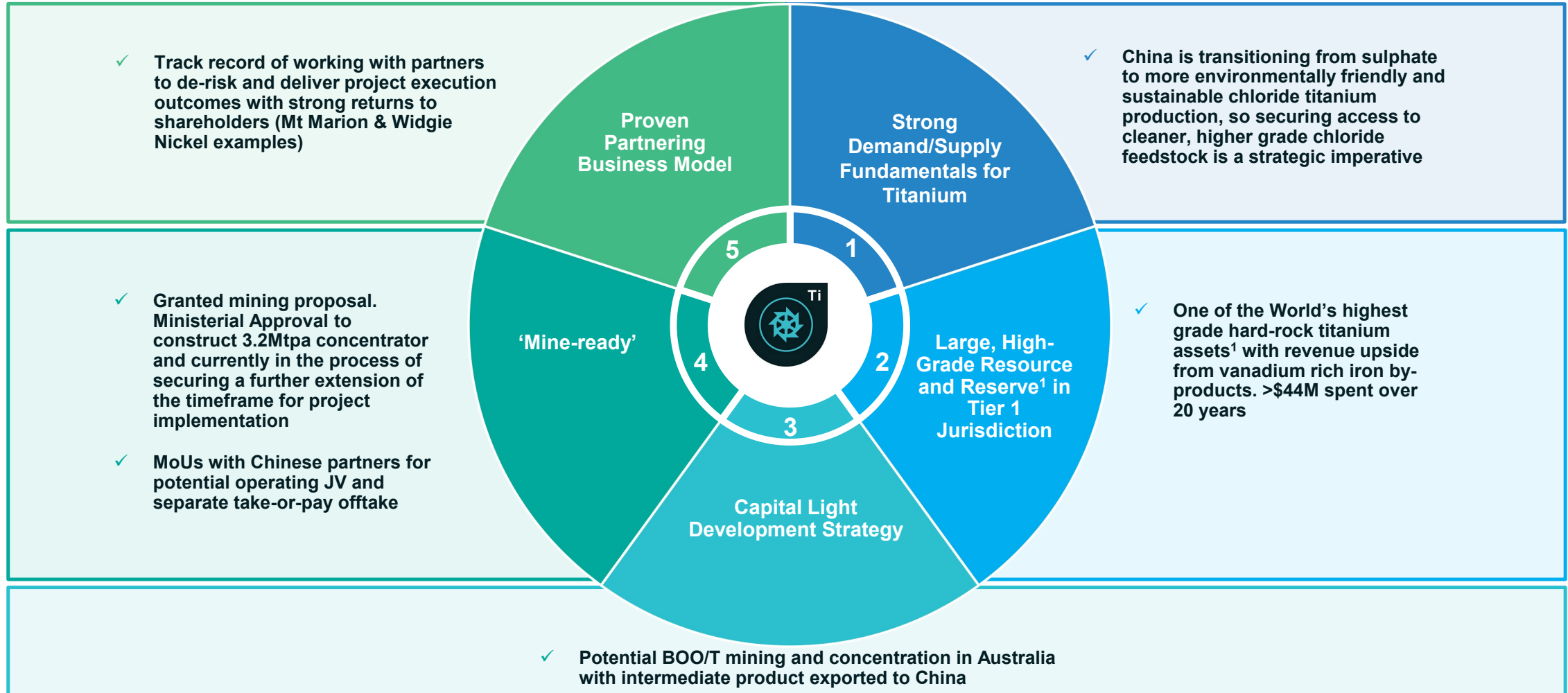
- **Offtake Term Sheet provides clear, capital light development pathway**
- **PFS being updated to reflect DSO/MGC only operation**
  
- Jiuxing Titanium Minerals (Liaoning) Co. Ltd (“**Jiuxing**”) is the largest chloride-grade titanium slag producer in China.
- 2021 Jiuxing offtake MoU for binding take-or-pay product offtake (“Offtake Agreement”) has progressed to Term Sheet execution. Proposed Offtake Agreement guiding principles:
  - Contract Period – 5 years from commercial scale production of DSO (planned 12 months DSO followed by 48 months MGC)
  - 2. Quantity – minimum DSO: 1,000,000 wet tonnes, MGC: 800,000 wet tonnes per annum;
  - 3. Sales Terms – DSO: actual delivered cost CIF China Main Port basis (including royalties) plus a fixed margin, MGC: derived from Australian Ilmenite concentrate, 55-58% TiO<sub>2</sub>, CIF China Main Port basis, multiplied by a payability factor, with upward adjustable fixed floor price; and
  - 4. Payment Terms – Payment for deliveries shall be made to ATi by draw down against Australian bank letter of credit.

# Indicative Timeline - Barrambie



\*Subject to Board Approval

# Investment Case



1. For full details refer to Neometals ASX release dated 17th April 2018 titled "Updated Barrambie Mineral Resource Estimate" and Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"

# Neometals Ltd





# Company Highlights

Neometals is an attractive investment at the forefront of the low carbon production of battery materials via recycling



Growing portfolio of **ESG-aligned, sustainable** battery materials businesses with near-term decision points



Proprietary green processing technologies underpin low-cost, low- carbon product



Clear **strategy** to commercialise with proven partnering business model



**Strong balance sheet**, fully funded to key investment decisions



Strong team with **track record** and commitment to **green circular economy** principles



Strong organic **growth** potential (size and scale) from pipeline of opportunities to deploy as principal, partner or technology licensor – whatever customer needs

# Appendix



# Barrambie Mineral Resource and Ore Reserve Estimate

## Global Mineral Resource as at 17 April 2018<sup>1</sup>

	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	187.1	9.61	0.46
Inferred	93.0	8.31	0.40
<b>Total</b>	<b>280.1</b>	<b>9.18</b>	<b>0.44</b>

## High Grade V<sub>2</sub>O<sub>5</sub> Mineral Resource (at 0.5% V<sub>2</sub>O<sub>5</sub> cut-off)<sup>2</sup>

	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	49.0	16.93	0.82
Inferred	15.9	16.81	0.81
<b>Total</b>	<b>64.9</b>	<b>16.90</b>	<b>0.82</b>

## High TiO<sub>2</sub> Mineral Resource (14% TiO<sub>2</sub> cut-off)<sup>2</sup>

	Tonnes (M)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)
Indicated	39.3	21.18	0.65
Inferred	14.3	21.15	0.58
<b>Total</b>	<b>53.6</b>	<b>21.17</b>	<b>0.63</b>

- (1) Based on Cut-off grades of ≥10% TiO<sub>2</sub> or ≥0.2% V<sub>2</sub>O<sub>5</sub>  
 (2) The high-grade titanium and vanadium figures are a sub-set of the total Mineral Resource. These figures are not additive and are reporting the same block model volume but using different cut-off grades

\*For full details refer to Neometals ASX release dated 17th April 2018 titled "Updated Barrambie Mineral Resource Estimate"

## Barrambie Titanium Ore Reserve Estimate - November 2022<sup>\*\*</sup>

Ore Reserve Category	Ore Tonnes (Mt)	TiO <sub>2</sub> (%)	V <sub>2</sub> O <sub>5</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)
<b>Probable</b>	<b>44.5</b>	<b>18.7</b>	<b>0.61</b>	<b>44.1</b>

*Cut-off is based on net value (revenue minus selling, processing, administration and incremental ore mining costs) >\$0/t on a diluted block-by-block basis from the parameters used in the pit optimisation. Ore Reserves reported are within the Mineral Resource estimates. This relates roughly to a 10% TiO<sub>2</sub> cut-off.*

\*\*For full details refer to Neometals ASX release dated 17th November 2022 titled "Robust Outcomes From Barrambie Titanium Project PFS"

**Thank you.**

