

# Critical Materials Recovery

EGM Presentation | 30 September 2024

ASX: **NMT** | AIM: **NMT** | OTCQX: **NMTAY** | DEU: **9R9**

Authorised for release by Christopher Reed,  
**Managing Director of Neometals**



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## Summary information:

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## Not financial product advice:

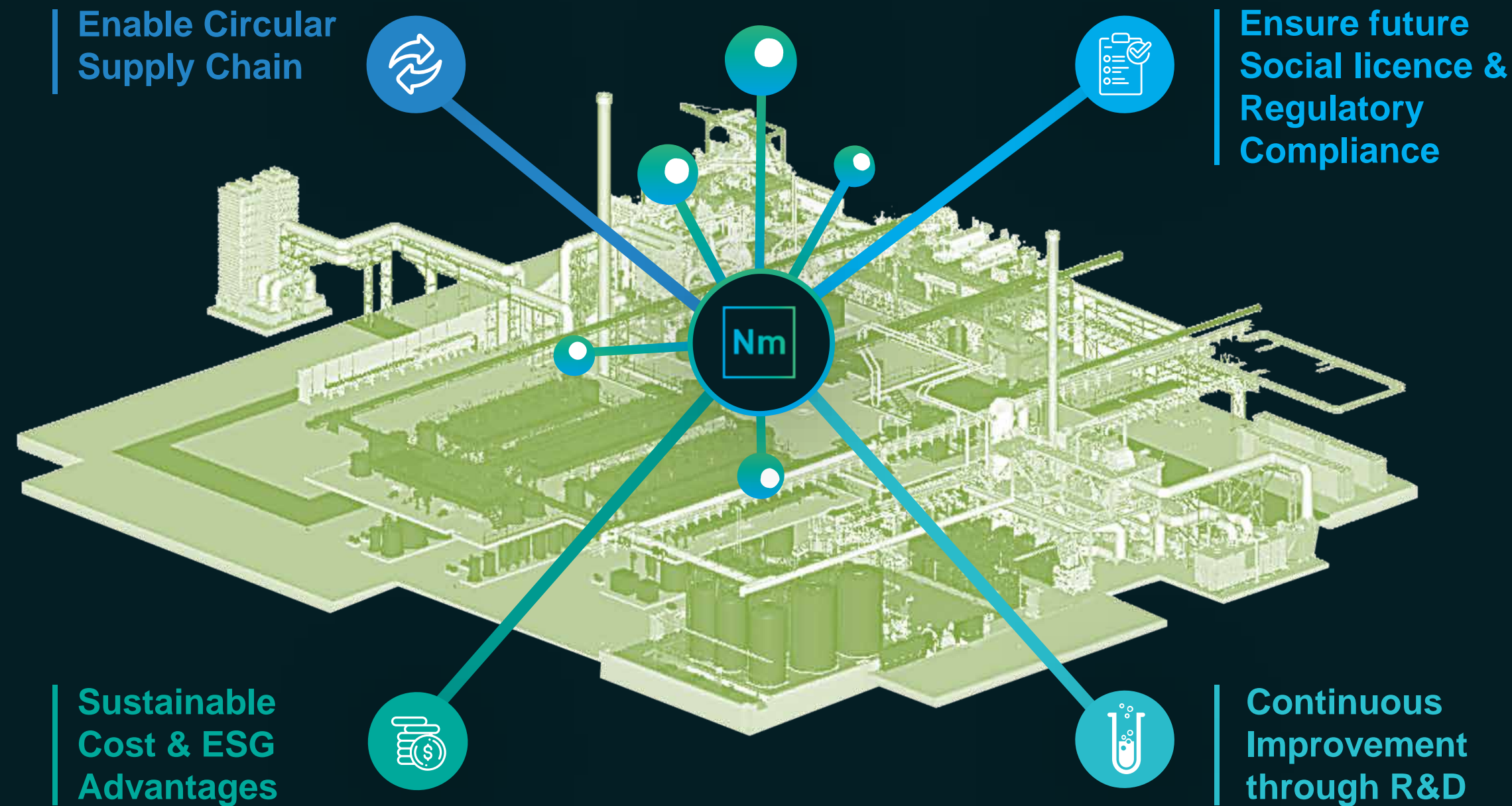
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# Focus (What We Do)

Commercialising our portfolio of sustainable process technologies to recycle and recover critical materials from high-value waste streams



















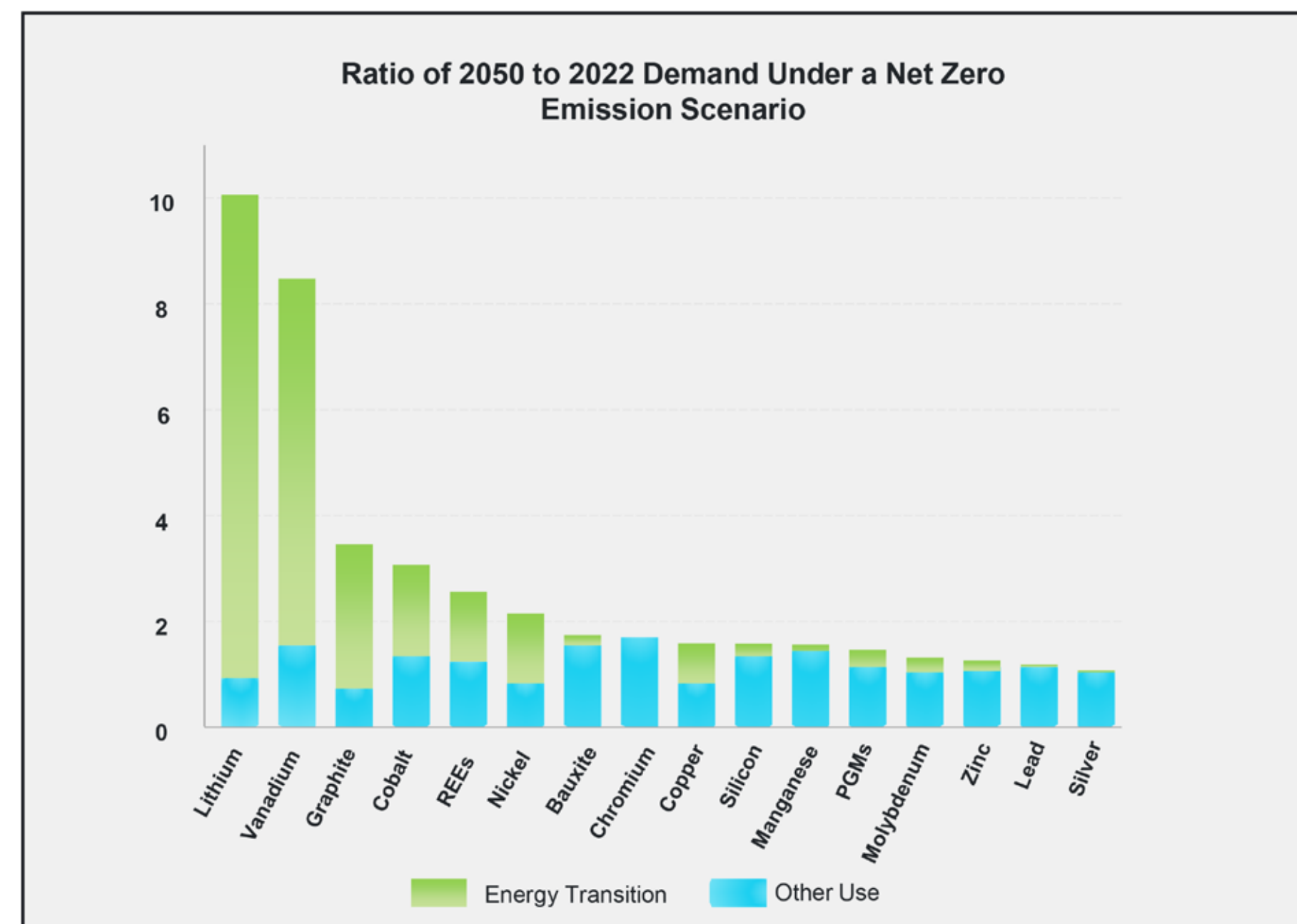
- Primobius JV is building Mercedes-Benz a 2,500 tpa integrated spoke and hub pilot plant
- Product readiness for ~21,000 tpa integrated plants expected 2H2025
- Lithium Chemical and Vanadium Recovery technologies approaching Industrial Partner Validation stage of development



# Neometals' Three Business Units Support the Energy Transition

We are focused on EU and North America, the 2<sup>nd</sup> and 3<sup>rd</sup> largest battery (and waste) producing markets respectively and leveraged to the two of the strongest commodity markets forecast to 2050

Business Unit	 Lithium Battery Recycling	 Lithium Chemicals	 Vanadium Recovery
Description	Building turn-key recycling plants to recover battery materials for reuse	Process to produce Lithium Hydroxide directly from brine concentrates via electrolysis	Process to produce high-purity (99.5%) vanadium pentoxide from steelmaking slag
Location	  		  
Entity & NMT Ownership	Recycling IP (50%) & Primobius GmbH (50%)	Refining IP (70%)	Recovery IP (100%) VRP1 SPV (87%)
JV Partner	 Leading global plant builder	 Leading global lithium producer	  Funded by the European Union
Stage	Industrial Validation	Pilot Complete	Pilot & DFS Complete, Project Financing
Customers & Targets <sup>1</sup>	  	Lithium Brine Producers and Developers	Steel Makers utilising magnetite feedstocks



Sources: International Energy Agency (IEA) World Energy Outlook (2023); and IMF calculations.

Note: The chart shows the IEA's projected increase in mineral demand (in quantity terms) broken down by sector as a ratio of 2050 to 2022 demand, under the IEA's net zero emissions transition scenario.  
REE - Rare Earth Elements; PGMs - Platinum Group Metals

## Notes:

1. Neometals has the option to acquire between 25-50% of Stelco Battery Recycling SPV

# Corporate Dashboard

## ASX: NMT OTCQX: NMTAY

Shares on Issue <sup>(1)</sup>	m	689.8
Share Price	A\$	0.145
Market Capitalisation	A\$m	100
Cash (21 Aug-24) <sup>(2)</sup>	A\$m	9.3
Debt (30 Jun-24) <sup>(2)</sup>	A\$m	–
Investments (30 Jun-24) <sup>(3)</sup>	A\$m	15.5

## BROKER COVERAGE

EUROZ HARTLEYS

Cavendish



## MAJOR SHAREHOLDERS

William Richmond <sup>(4)</sup>	9.9%
David Reed <sup>(4)</sup>	4.1%
Top 20 <sup>(5)</sup>	40.2%
No. of Shareholders <sup>(5)</sup>	12,842

**Notes:** Market data as at 25 September 2024 (unless otherwise noted)

1. Excludes ~15.2m performance rights

2. NMT Management

3. NMT June Quarterly Report

4. Miraql as at 30 August 2024

5. Computershare as at 17 September 2024

6. Supporting information available at <https://www.asx.com.au/markets/company/NMT>

*“The decline in battery materials prices over the last 2 years has been challenging, particularly with our strong lithium price correlation as referenced in the diagram below. However, the strong fundamentals of our approach to managing EV transition opportunities – cheaper operating costs for owners and lower emissions - remain firmly intact. Our JV recycling business is generating revenue, and the pipeline is growing. We will adjust to this new reality and push through the headwinds.”*

– Chris Reed (MD/CEO)

## FY24 SHARE PRICE PERFORMANCE



# Strong Team

Experienced executives backed by a board of skilled specialists

## Non-Executive Board

### Independent Chairman



**Steven Cole**

**40+ years in legal consultancy, corporate management, and diverse board experience** including roles at Matrix Composites (ASX:MCE)

### Independent Non-Executive Director



**Doug Ritchie**

**Senior executive with 35+ years, notably with Rio Tinto.** Extensive international corporate experience, including China

### Independent Non-Executive Director



**Les Guthrie**

**40+ years experience in global corporate and project management.** Notable roles at BHP and BG Group

## Key Management

### MD/CEO



**Chris Reed**

**20+ years leadership, co-founder.** Holds qualifications in commerce and mineral economics



### ED/COO



**Jennifer Purdie**

**30+ years leadership across mining, energy, manufacturing sectors.** Senior roles at Adani Renewables, Rio Tinto, BHP and Alcoa



### Head of Vanadium



**Darren Townsend**

**30+ years leadership across exploration, development and operations** including executive roles at Peak Rare Earths, De Grey Mining and Sons of Gwalia

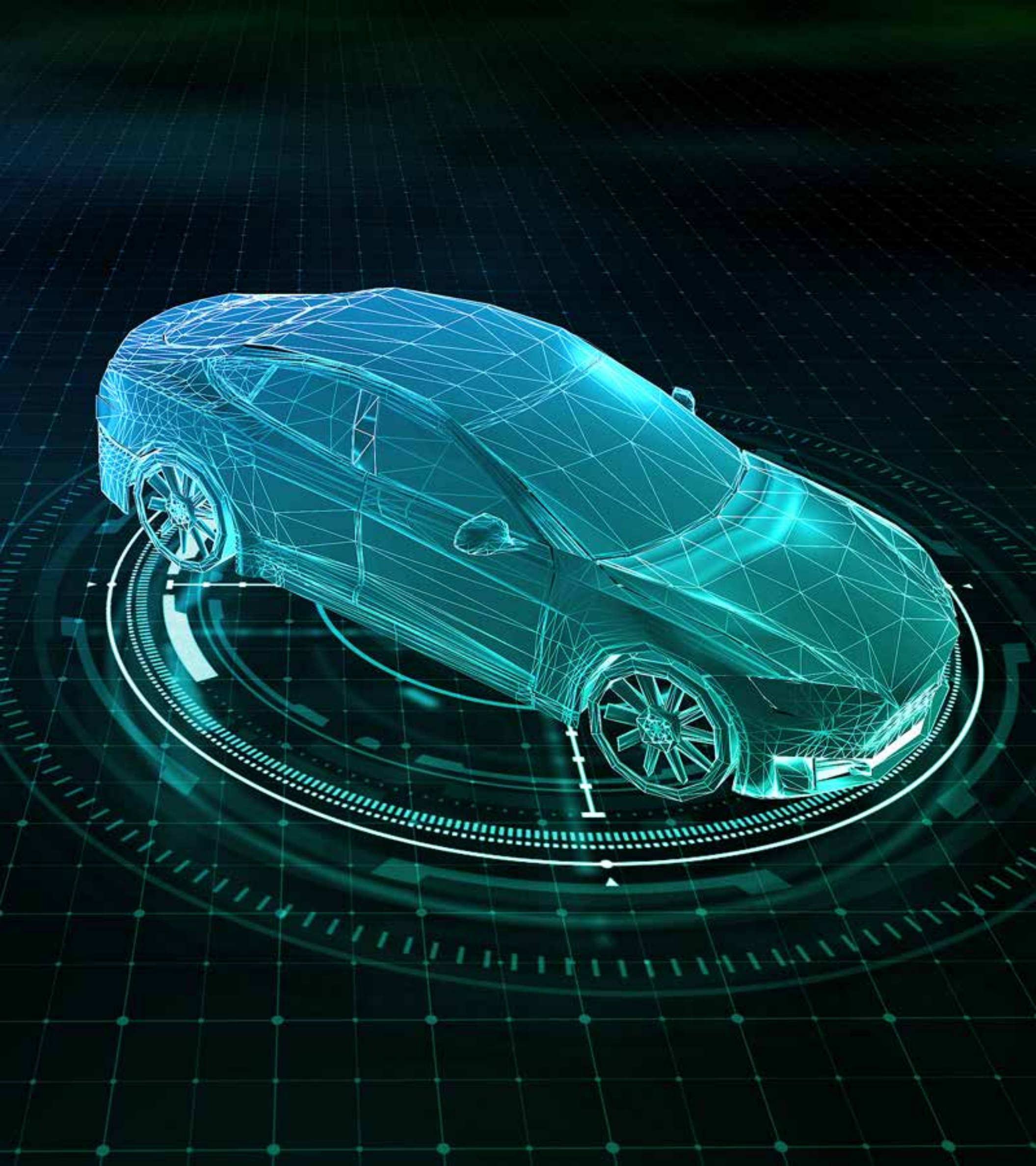
### CFO/ Company Secretary



**Chris Kelsall**

**30+ years' experience in financial, energy and technology sectors** including Deutsche Bank, ABN AMRO Rothschild, HSBC, Mediterranean Oil & Gas and Tokamak Energy





# Building world-class Lithium-ion Battery (LiB) Recycling Plants

**Primobius**





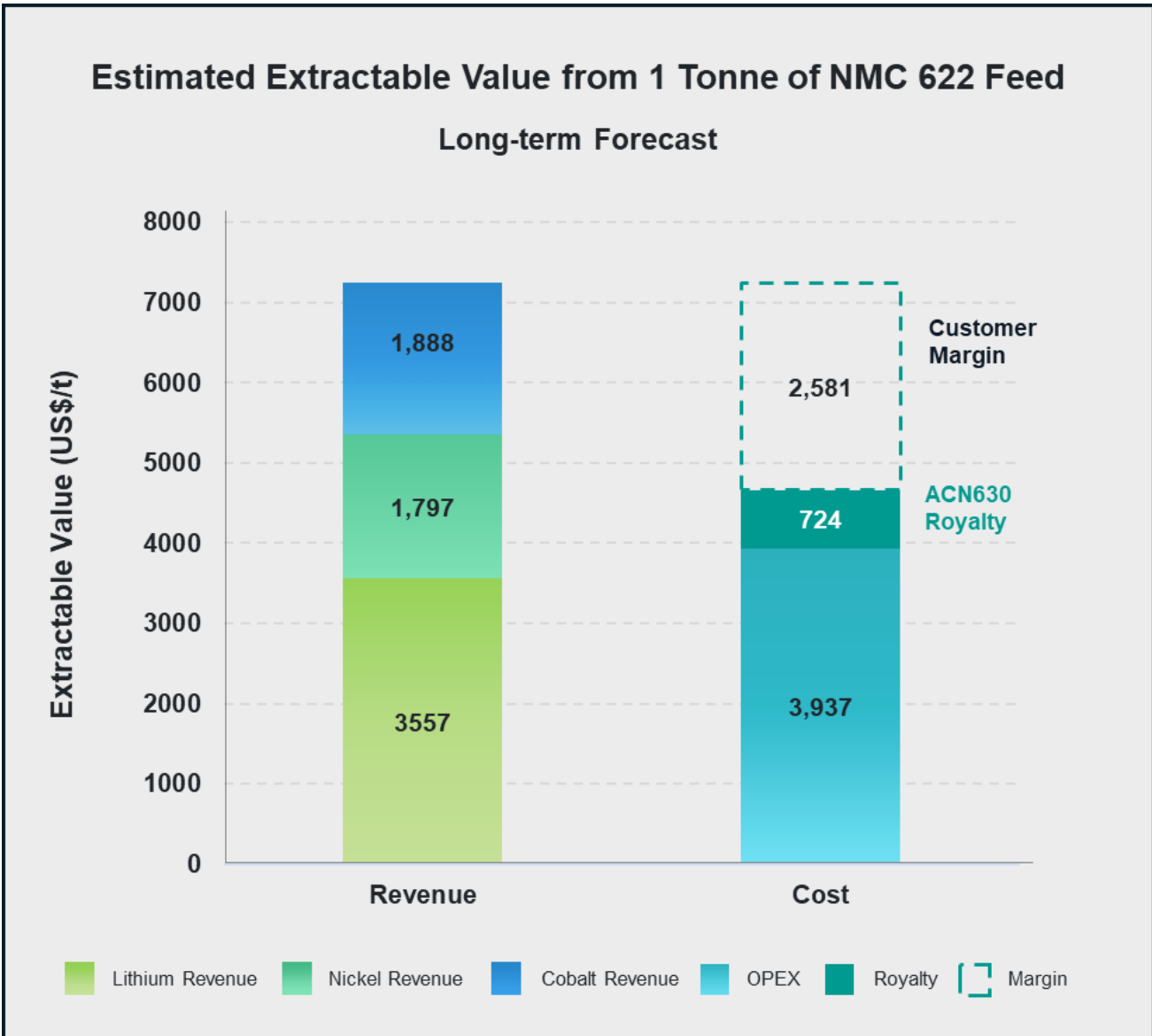
# Our TAM is a High Growth, High Value Waste Stream

- Targeting EU (mandatory recycling) & NA markets driven by production scrap, warranty returns and EOL
- A 10% market share (~300,000t) in 2040 equates to one 20,000 tpa plant supplied every year for the next 15 years
- Recoverable Li/Ni/Co from one tonne of high-energy NMC batteries equate to ~US\$7,000 (long-term forecast)



Source: Data adapted from Benchmark Mineral Intelligence Recycling Data Q1 2024  
NMT management provided estimate of MWh: weight ratio

Note: TAM = Total Addressable Market



Source: Primobius 2023 ECS (production and OPEX estimates). For further information and assumptions refer to ASX announcement 'Battery Recycling "Hub" Engineering Cost Study Results' released 1 August 2023. Benchmark Mineral Intelligence (lithium carbonate forecast), Consensus Economics (nickel/cobalt forecast), Golden Dragon (lithium fluoride premium)

Note: Please refer to slide 24 for forecast pricing table





# Recycling technology being commercialised via Primobius JV

Primobius can supply turn-key recycling plants based on a patented highly-efficient, low-cost process



Discharging Stations



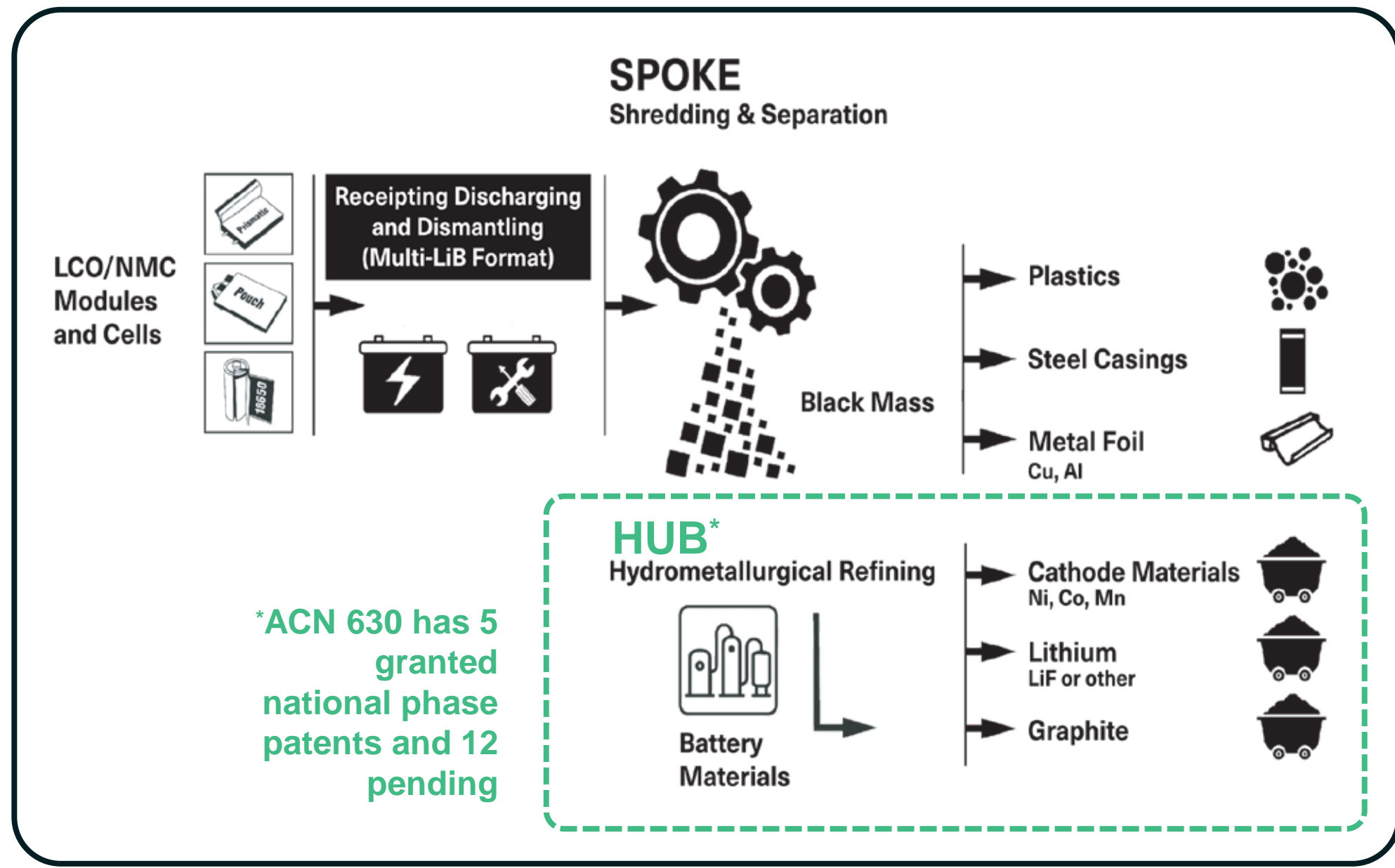
Disassembling Station



Shredding and Beneficiation Plant (Spoke)

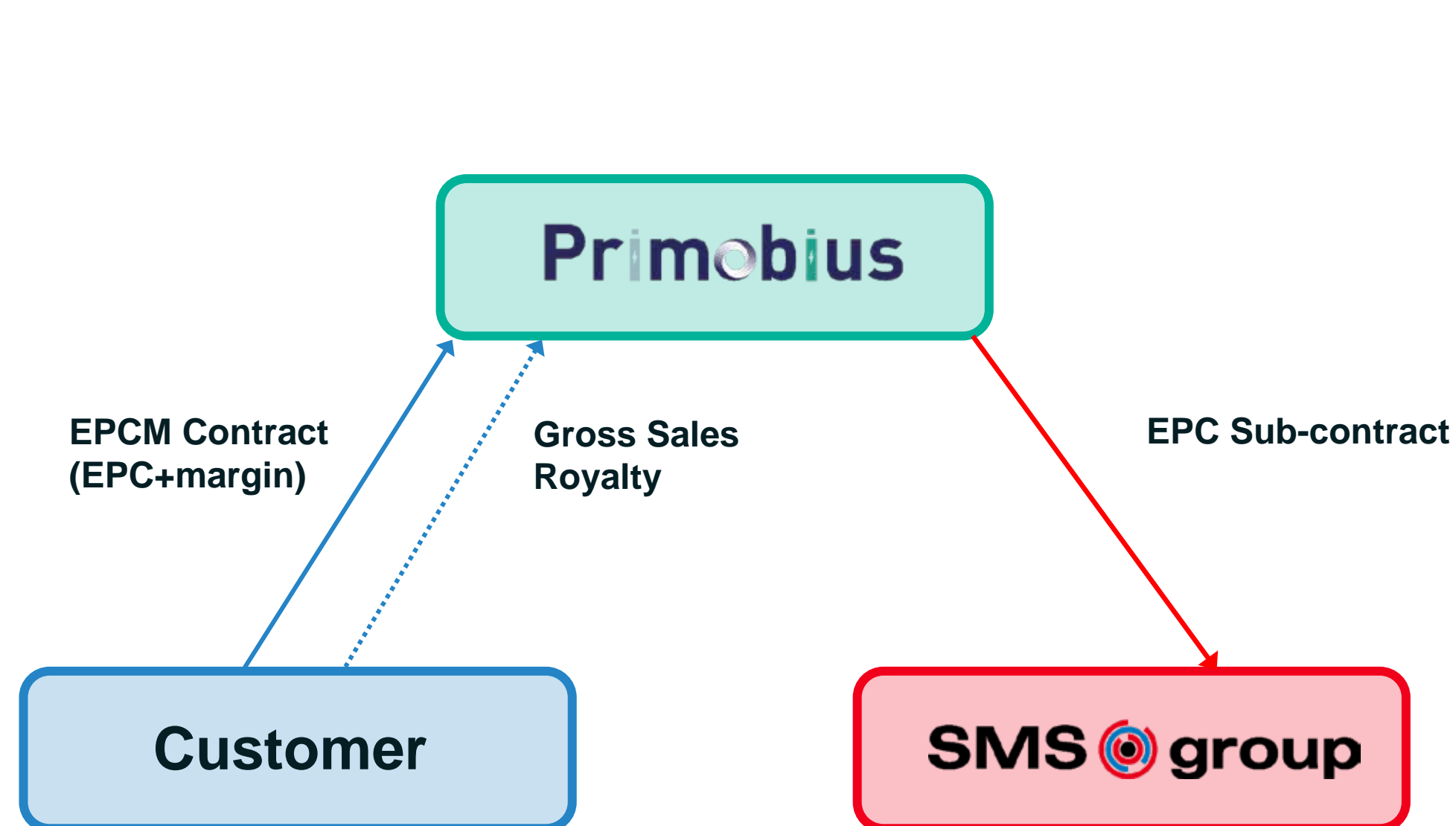


Hydrometallurgical Plant (Hub)

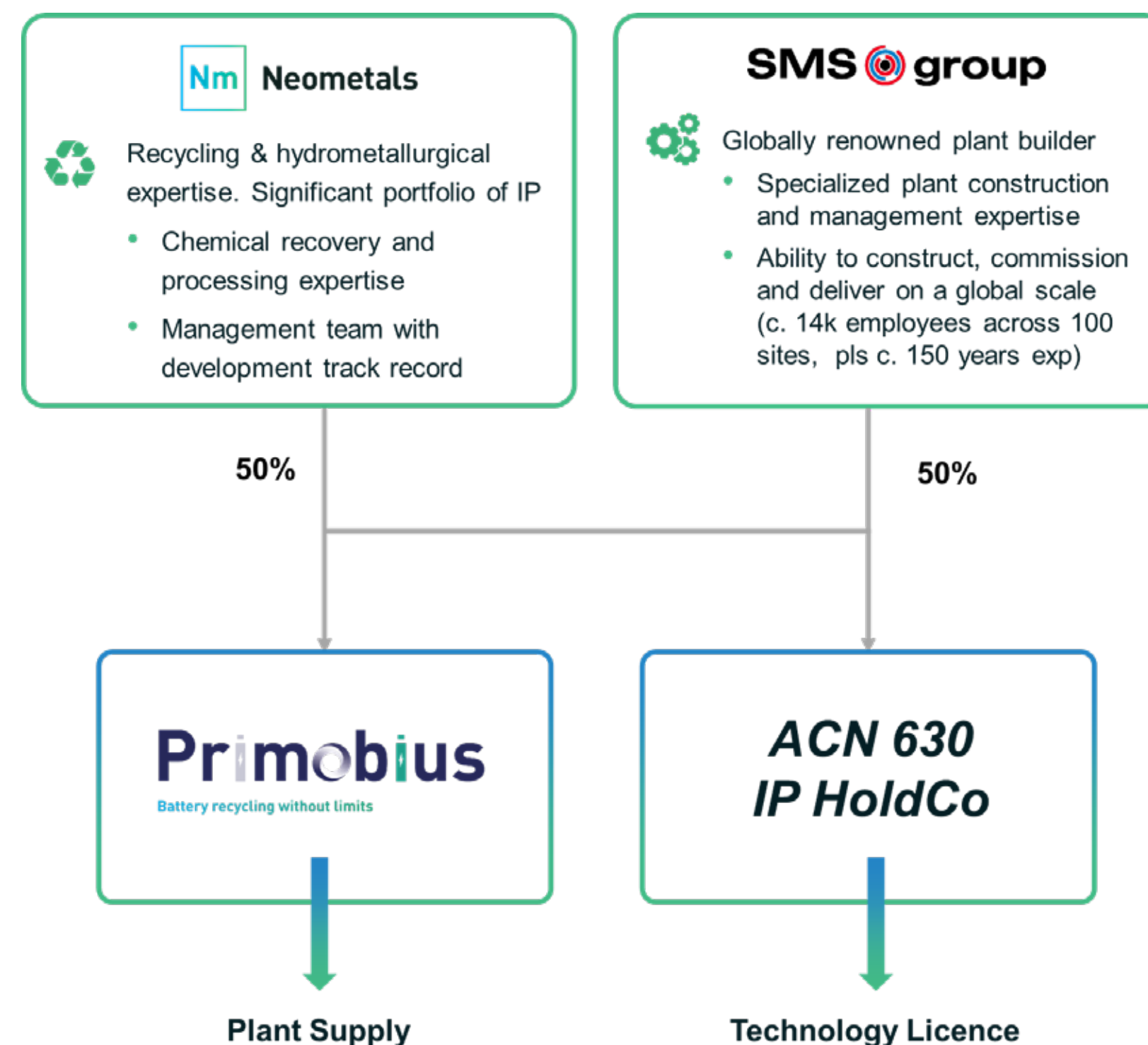


# Unique Business Model to Maximise Market Penetration

- Aim to supply plants to customers rather than compete against them
- Up-front plant supply margins – capital-light, lower-risk
- Royalty stream on end-product value recovered over plant life



Source: NMT Management July 2024





# Go-To-Market Strategy

- Tailoring and delivering solutions to meet customers' economic, regulatory and social needs
- Delivering flexible business models to meet customers wants (flexibility to match recycling offering to strategy)

## Needs

1

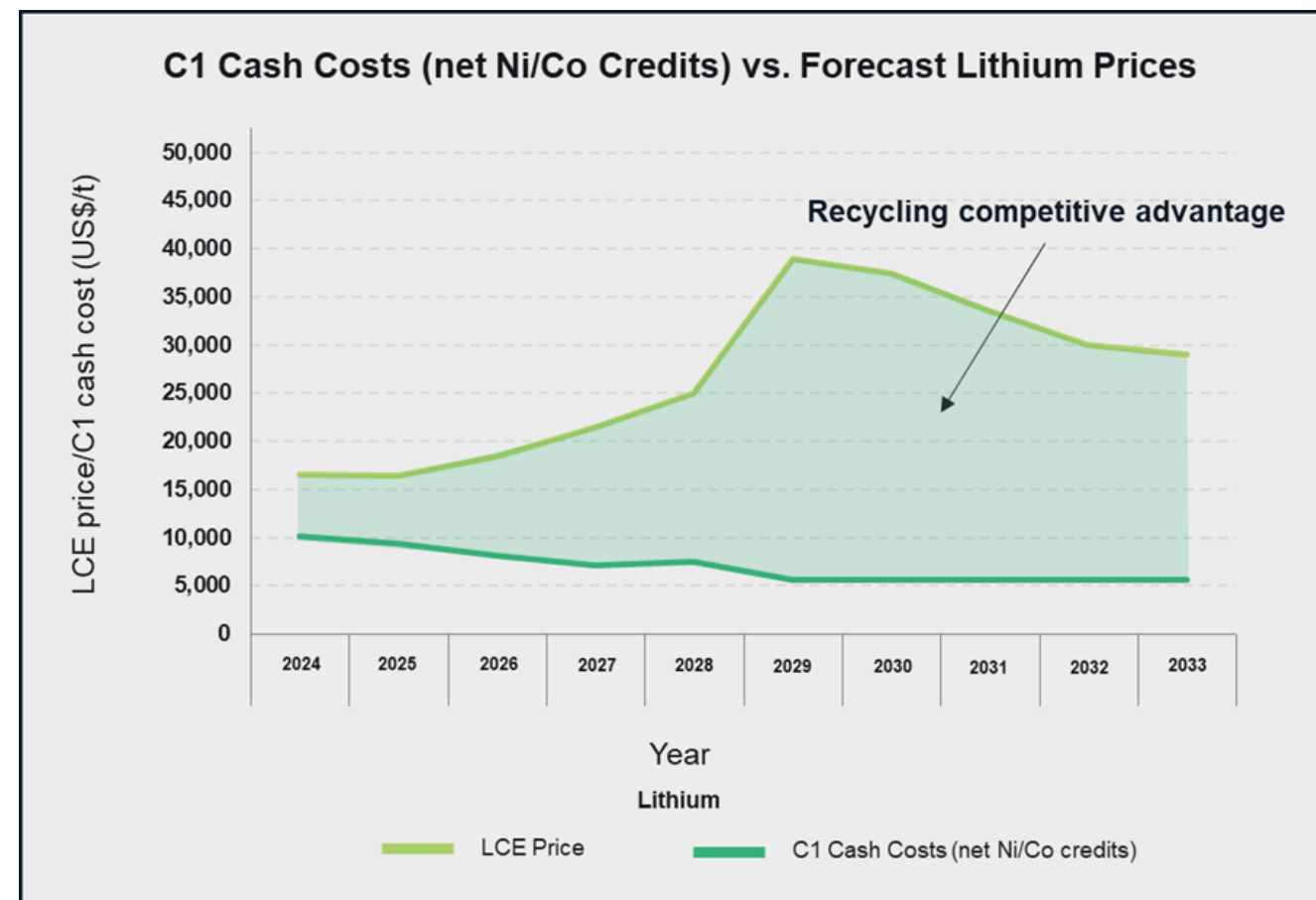
Licence to Operate

2

Low Cost

3

Low Carbon



Note: C1 cash costs net Ni/Co by product credit  
Source: Primobius July 2023 ECS (operating cost and production), Consensus Economics (nickel/cobalt price), Benchmark (LCE forecast price)

Note: Please refer to slide 24 for forecast pricing table

## Wants

A

Service

**LiB Disposal Service**  
Hilchenbach, Germany



B

Partnership

**Mercedes-Benz Pilot Plant**  
R&D collaboration



C

Licence

**North America, Balkans, Italy, Ireland, Italy, UK, Scandinavia**



**PREFERRED BUSINESS MODEL**



# Mercedes-Benz: Industrial Validation

- Potential long-life relationship with marquee OEM
- Successful 'industrial validation' will trigger global rollout of commercial-scale plants



Partnership

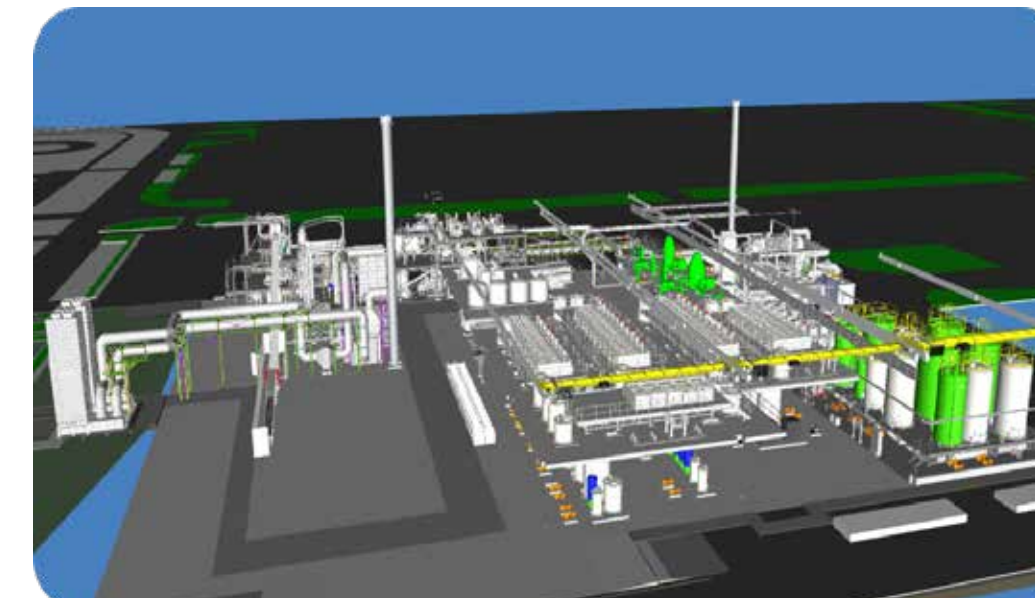


Mercedes-Benz



## Cooperation agreement with Mercedes-Benz

- 2,500 tpa Integrated Recycling Plant – opening 21<sup>st</sup> October 2024
- Supplied on fixed price, turn-key basis, royalty-free
- Long-term (5yr) R&D collaboration
- Industrial-scale plants require commercial licence







# Commercial Pipeline

- Mercedes industrial validation expected to crystallise business development pipeline into contracts
- First planned 21,000tpa plant supply and licence into the North American Market for end-of-life EVs



## in North America

- Exclusively licensed to Stelco for end-of-life LiB's in North America with exception of German OEMs for a 10% gross revenue royalty<sup>(1)</sup>
- Primobius has option to acquire 25–50% of the equity in Stelco's recycling SPV. If exercised the licence will be royalty free
- Stelco will be responsible for supply of LiB feedstock and the securing of sites for plants

## Non-binding MOU's



EU



Thailand



India

## Technology licencees (10% GSR Royalty)

- Redivium, formerly Hannans Ltd (NMT 26%)
  - Italy, Balkans (exclusive)
  - United Kingdom and Ireland (non-exclusive)
- Critical Metals (NMT 18%)
  - Scandinavia (exclusive), Redivium earning 50%

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"

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

For full details refer to Redivium (ASX:RIL) ASX release dated 27 July 2022 titled "Hannans – Improved Acquisition Agreement"



# Indicative Commercialisation Plan

- Product readiness defined as Primobius offering plant supply packages to third-parties
- Primobius must have back-to-back contract with SMS for fabrication, installation and commissioning
- MB Pilot Spoke and Hub steady state is condition precedent for Primobius/SMS offers of supply



1) The indicative timeline is subject to receipt and confirmation of purchase orders from a third party and Stelco respectively. A purchase order may not be received in accordance with the timeline presented. Primobius does not currently have a contracted or otherwise confirmed purchase order from a third party or Stelco in respect of either plant. The indicative timing is based on Neometals' current expectations regarding when Primobius will be able to offer the relevant plant supply.

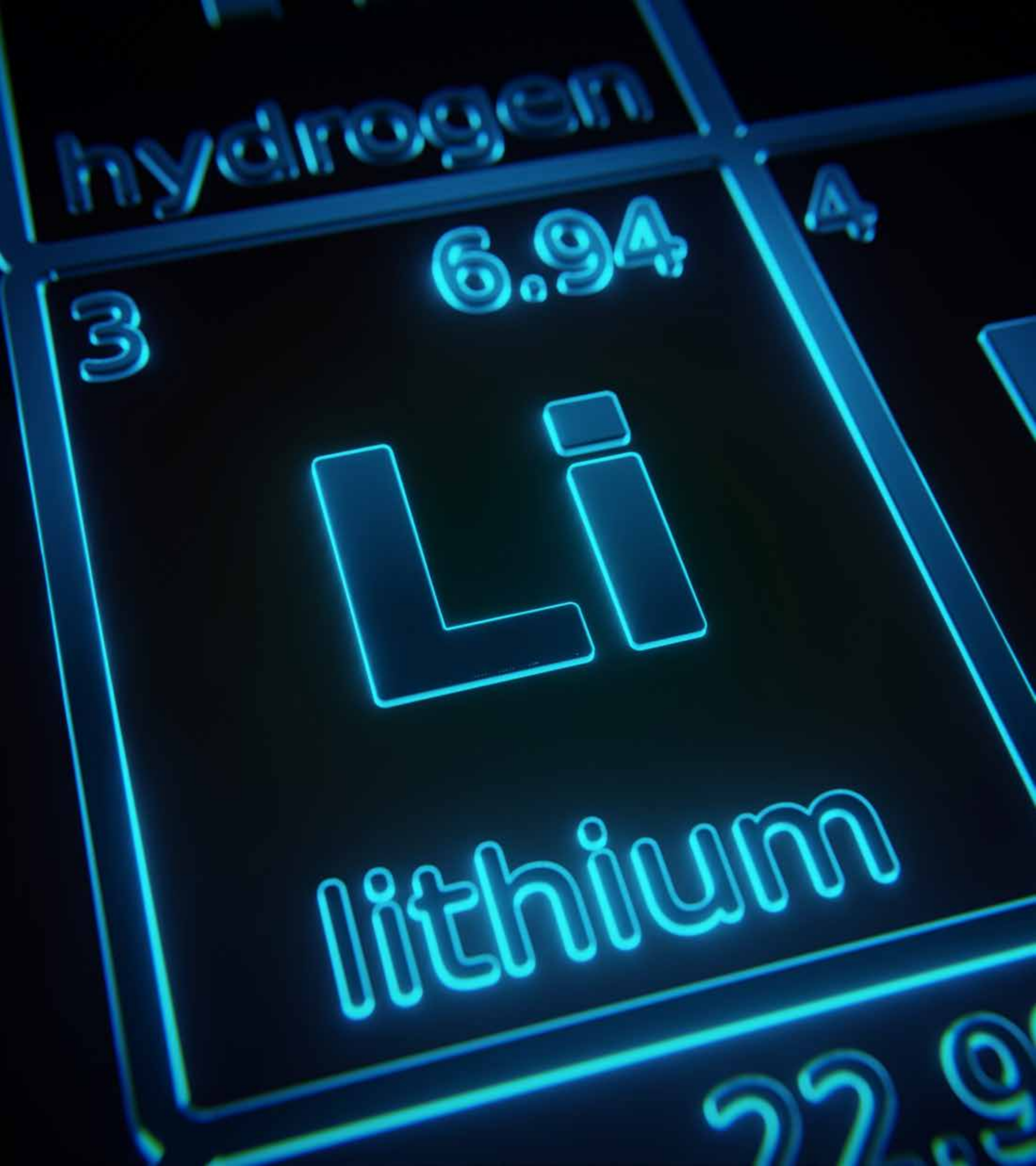
2) Timing for the proposed offer to Stelco is subject to further Primobius Board approval.

3) 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".

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

★ Option to acquire ≤50% Stelco LiB Recycling SPV expires 30 June 2025





# Lithium Chemicals

**ELi™ Processing Technology**

Reed Advanced Materials ("RAM")

70% Neometals / 30% Mineral Resources Ltd

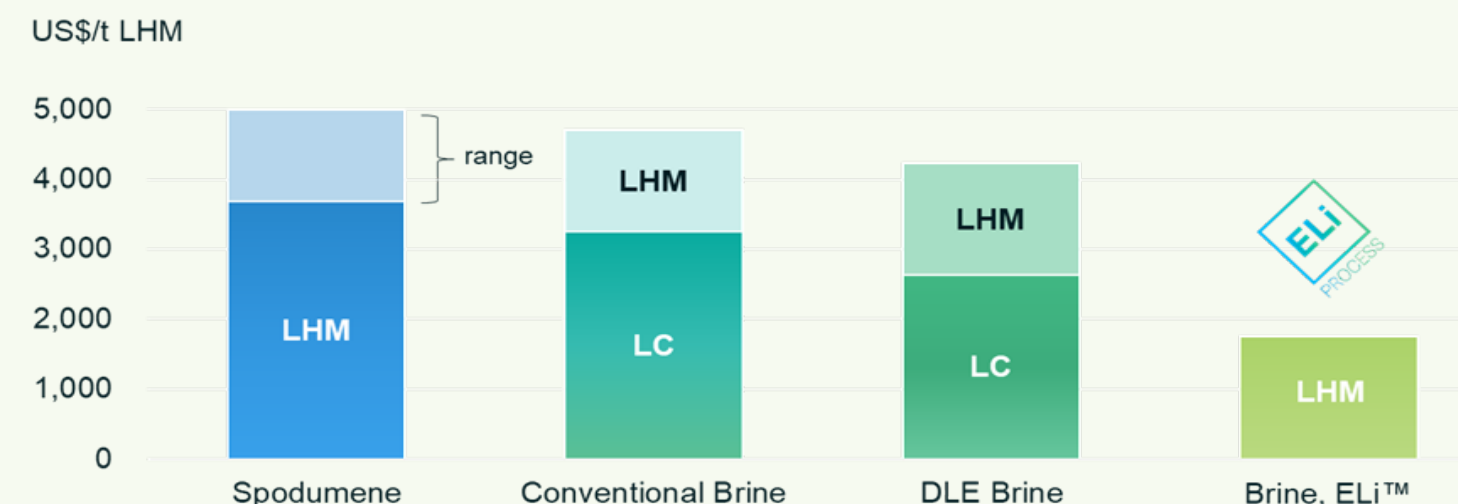


# ELi™ Process - Lithium Hydroxide Direct from Brines

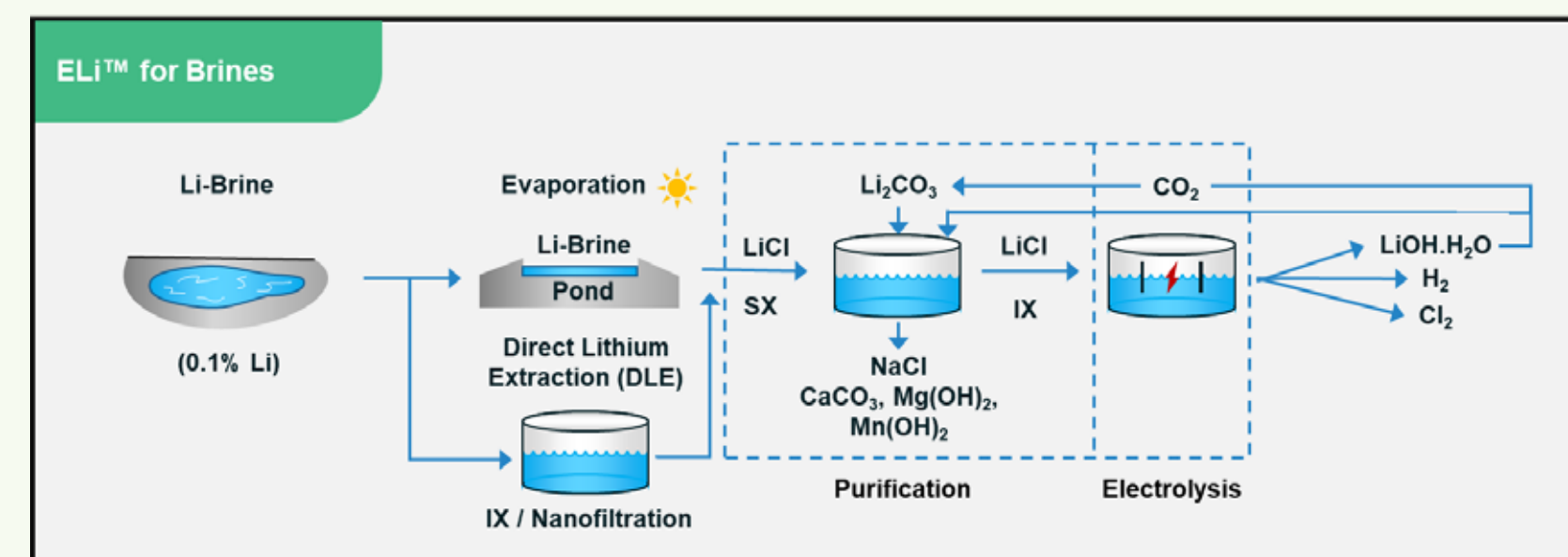
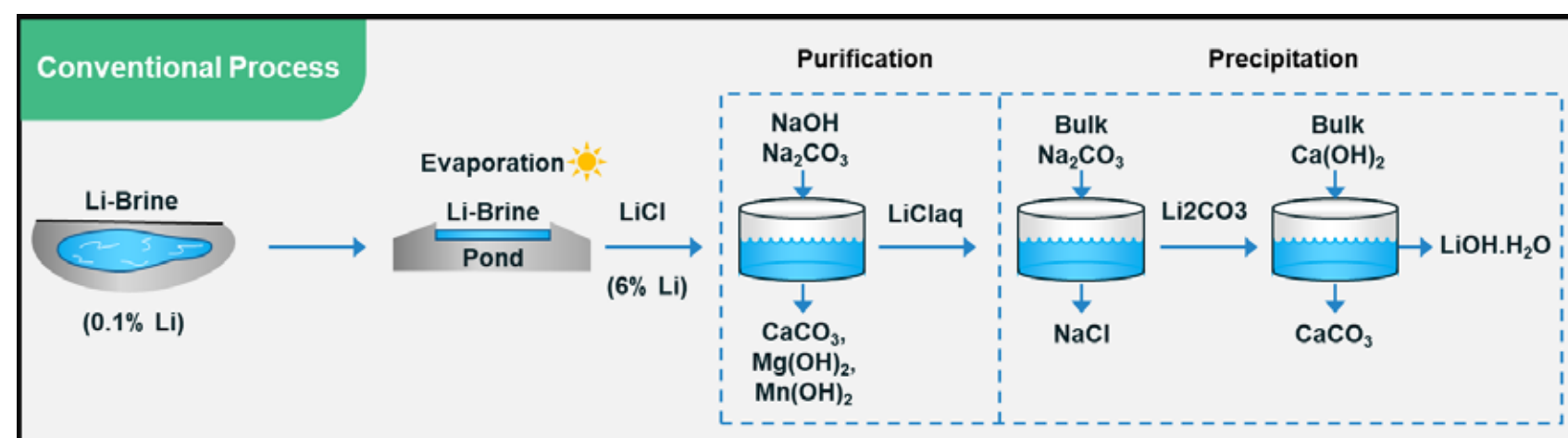
Low-cost solution for converting lithium chloride from brines and minerals directly to lithium hydroxide

- Highly efficient process targets production of battery-quality lithium hydroxide (“LHM”) directly from brine at potentially lowest cost
- Utilises off-the-shelf chlor-alkali equipment
- Electricity enables replacement of imported soda ash/caustic soda reagents and lower carbon footprint
- Long-duration (1,000hr) Pilot complete, results expected DecQ24

## Estimated Opex Comparison (Conversion to LHM)



Source: ALB, E3 Li, PLL, Livent, Management estimated, Class 3 ECS, Benchmark Mineral Intelligence.



For further information, refer to ASX release dated 10 Nov 2023 - “Successful ELi Purification Pilot Trial”





# Vanadium Recovery

**Vanadium Recovery Process Technology**  
100% Neometals

**Vanadium Recovery Project 1 - Finland**  
87% Neometals  
11% Critical Metals Ltd  
1.1% EIT Raw Materials GmbH





# VRP1 – First Circular Vanadium Development in EU

Recent EIT Raw Materials equity and option for  $\leq 20\%$  at €50M pre-money valuation to fund new project financing process – approved for EIB debt finance



Location: **Tahkoluoto Port, City of Pori, Finland**



Capital cost: **~314M USD**<sup>4</sup>



Operating cost: **US\$4.19/lb  $V_2O_5$** <sup>4</sup> (lowest quartile)



Indicative Construction timeline: **H1 2025 – H2 2026**



Throughput: up to **300k tonnes p.a.**



Planned annual production: **~9k tonnes  $V_2O_5$** <sup>4</sup>



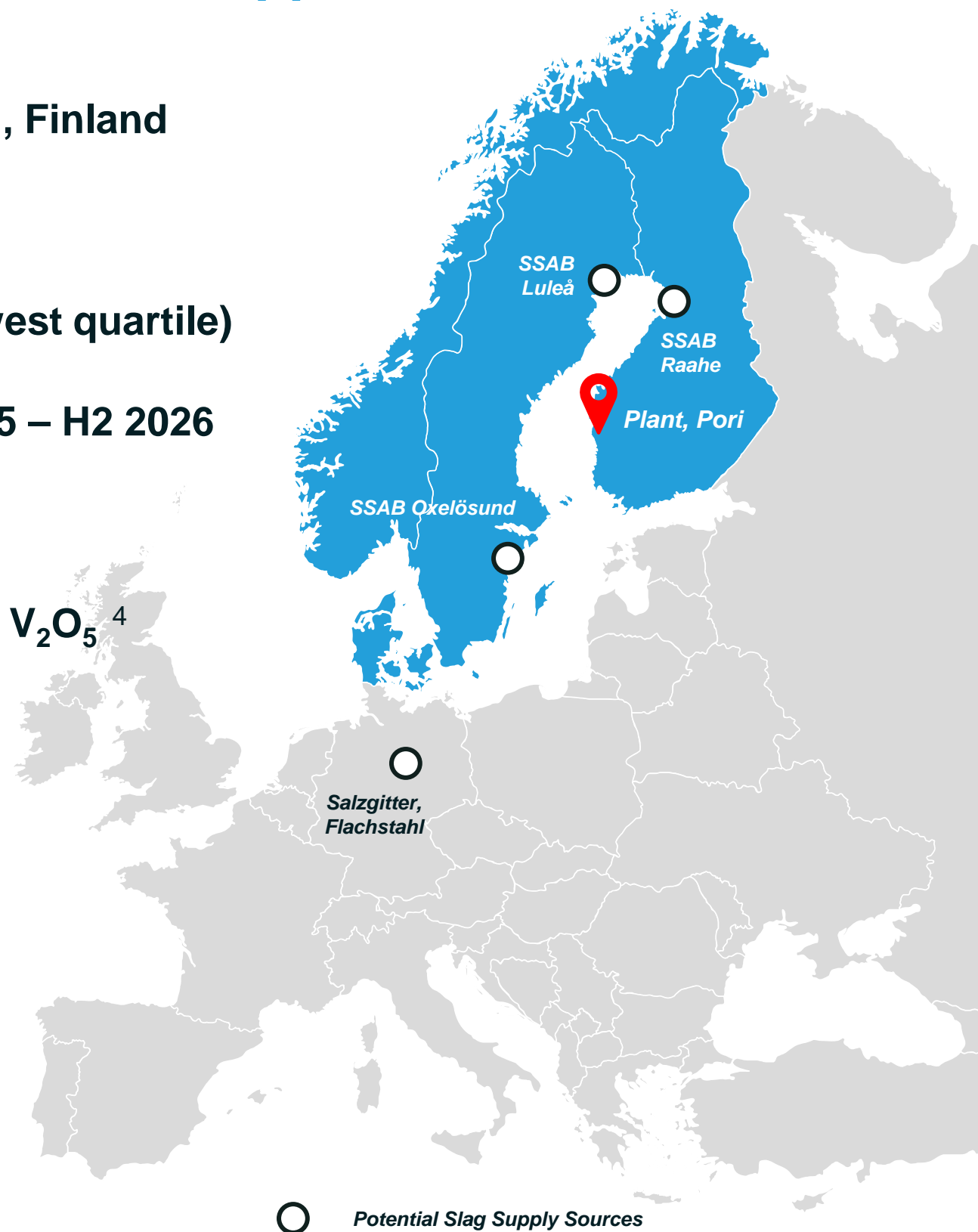
**Stakeholders**



**PORI**

**GLENCORE**

**H2green steel**



<sup>4</sup> For further information, refer to ASX release dated 8th March 2023 – Vanadium Recovery Project Delivers Strong Feasibility Results





# Barrambie Titanium and Gold

Barrambie Titanium and Gold Project  
100% Neometals





# Barrambie Project

## Tenement maintenance whilst seeking to divest VTM resources

- One of the highest-grade titanium deposits globally
- Granted mining lease and approval for 1.2m tpa mining operation
- Ministerial approval to construct up to 3.2m tpa processing plant - timeframe extension application in progress
- Successful pilot plant production of gravity concentrates, and commercial scale smelting proved value-in-use
- Significant gold exploration potential highlighted in Gold Exploration Target



Barrambie Titanium Ore Reserve Estimate – November 2022\*

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> (%)
Probable	44.5	18.7	0.61	44.1

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 optimization. Ore Reserves reported are within the Mineral Resource estimates. This relates roughly to a 10% TiO<sub>2</sub> cut-off.

Barrambie Gold Exploration Target – September 2024\*\*

Target Range	Tonnes (Mt)	Av Grade (g/t Au)	Ounces (Au)
Lower	8	1.3	335,000
Upper	10.5	2.3	775,000

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

\*\* For full details refer to Neometals ASX release dated 23<sup>rd</sup> September 2024 titled “Barrambie Gold Exploration Target”

# Summary





# Neometals' Unique Value Proposition

Neometals is at the forefront of the low carbon production of critical materials via recycling and recovery from waste



**Clear Strategy** – Delivering patented, environmentally-friendly solutions to recover critical materials from vast, growing waste streams arising from the electric vehicle and renewable energy storage thematic



**Sustainable Competitive Advantage** – Leading operating cost and carbon footprint versus mined products for users of our technology and plant supply customers



**Industrial Validation** – From marquee customer Mercedes-Benz, JV partner and global plant builder SMS group



**Smart Business Model** – Technology licensing and turn-key plant supply is replicable and scalable, much lower-capital, lower-risk than operating as principal



**Commercial Pipeline** – Primobius will offer commercial plants to technology licensees and MOU counterparties around the globe once Product Readiness is achieved - post-industrial validation by Mercedes-Benz



**Leverage to upside** – Exposure to transition to net zero, its most critical materials (Li & V) and their forecast recovery in prices from current unsustainable levels and unified policy tailwinds to counter Chinese dominance

# Thank you







# Appendix

## Commodity Forecast Prices from Benchmark Mineral Intelligence 2024

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Lithium Price (US\$ / t, real)	14,126	14,100	14,000	17,500	24,500	31,000	36,500	34,500	32,000	30,000
Nickel Price (US\$ / t, real)	16,945	17,421	17,891	17,954	17,566	18,416	18,416	18,416	18,416	18,416
Cobalt Price (US\$ / t, real)	35,917	36,951	38,971	41,230	41,176	43,956	43,956	43,956	43,956	43,956

Note: C1 cash costs net Ni/Co by product credit  
Source: Primobius July 2023 ECS (operating cost and production), Consensus Economics (nickel/cobalt price), Benchmark (LCE forecast price)