



URBAN MINING  
MATERIALS FOR A  
MORE SUSTAINABLE  
FUTURE

**Bell Potter Unearthed Presentation.**

February 2022  
ASX Code: NMT  
OTC/Nasdaq Intl: RDRUY  
Frankfurt: 9R9

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



**Neometals**

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## **Compliance Statement:**

The information in this document that relates to Exploration Results and Mineral Resource Estimates 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 Estimate

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 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

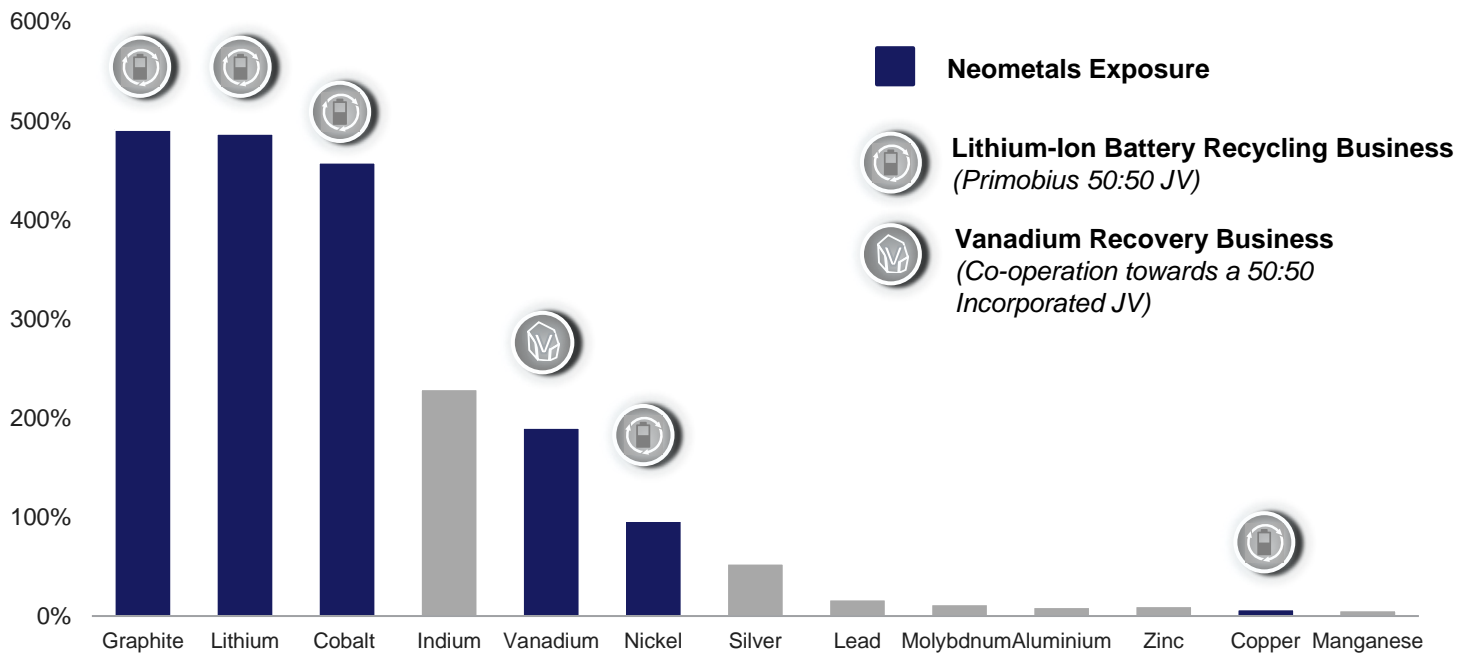
## “Neometals innovatively develops opportunities in minerals and advanced materials essential for a sustainable future”

- Our growing team identifies and secures opportunities, builds value, removes risk and attracts partners to develop projects and return value to shareholders - +\$80m in last 5 yrs
- Focus - integrated minerals/materials for EV and ESS sectors to decarbonise the supply-chain
- Pivoting position from hard-rock mining to more sustainable materials recovery and recycling.
- 3 core projects – all reaching FIDs in 2022 being:
  1. Lithium-ion Battery Recycling
  2. Vanadium Recovery
  3. Barrambie Titanium and Vanadium



# UNPARALLELED EXPOSURE TO ELEMENTS ESSENTIAL TO THE ENERGY TRANSITION MEGATREND

2050 Annual Demand from Energy Technologies as Percentage of 2018 Production



Source: World Bank Group

# BOARD AND MANAGEMENT TEAM



**Steve Cole**  
Chair



**Doug Ritchie**



**Dr Natalia Streltsova**



**Chris Reed**  
Managing Director /  
CEO



**Dr Jennifer Purdie**



**Les Guthrie**



**Jason Carone**  
Company Secretary /  
CFO



**Michael Tamlin**  
COO



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



**Darren Townsend**  
CDO



**Giuliano Giordani**  
Financial Controller



**Jeremy Mcmanus**  
GM – Commercial and  
Investor Relations



**Gavin Beer**  
GM – Lithium  
Processing



**Matthew Read**  
GM – Lithium  
Projects



**Dirk Kotzee**  
Manager - Projects



**Irena Ivanova**  
GM – Evaluation  
Studies



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



**Casper Adson**  
GM – Barrambie  
Project



**Greg Hudson**  
GM – Geology



**Anél Joubert**  
Manager - ESG



**Angeline Mchibwa**  
Research  
Metallurgist



**Matthew Carter**  
Manager - Data



**Rihanna Vanin**  
Project Engineer



**Owen Casey**  
Senior Project  
Geologist

# ESG IN PRACTICE



ESG parameters woven into policy, systems, procedures – core business



**FINALIST**



**German Sustainability Award 2022**



supporting  
**carbon neutral**  
Turn Emissions into Trees™

**PASSAGES**  
YOUTH ENGAGEMENT HUB

Partners:



**MADALAH**  
Making A Difference And Looking Ahead



**Curtin University**



# CORPORATE DASHBOARD



**ASX: NMT OTC:RDRUY**

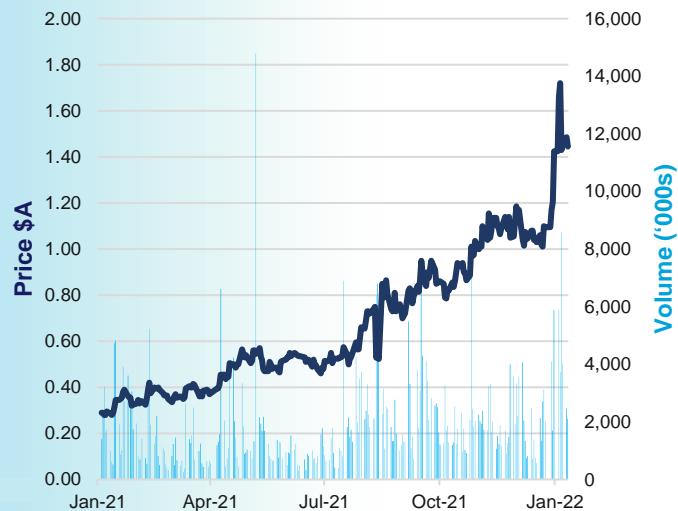
Shares on Issue <sup>1</sup>	m	548.4
Share Price (04-Feb-22)	A\$	1.425
Market cap (04-Feb-22)	A\$m	780
Cash (31-Dec-21) <sup>2</sup>	A\$m	72.8
Debt	A\$m	-
Investments (31-Dec-21) <sup>3</sup>	A\$m	47.9

## Major Shareholders (04-Feb-22)

David Reed (Non-Executive Director)	6.9%
Clearstream/Deutsche Börse	3.5%
Top 20	35%
No of Shareholders	~13,325

Note 1: Excludes 15.29 performance rights.  
 Note 2: incl A\$4.2M restricted term deposits  
 Note 3: Loan receivables and investments

## 12 Month Share Price Performance



Source: Neometals



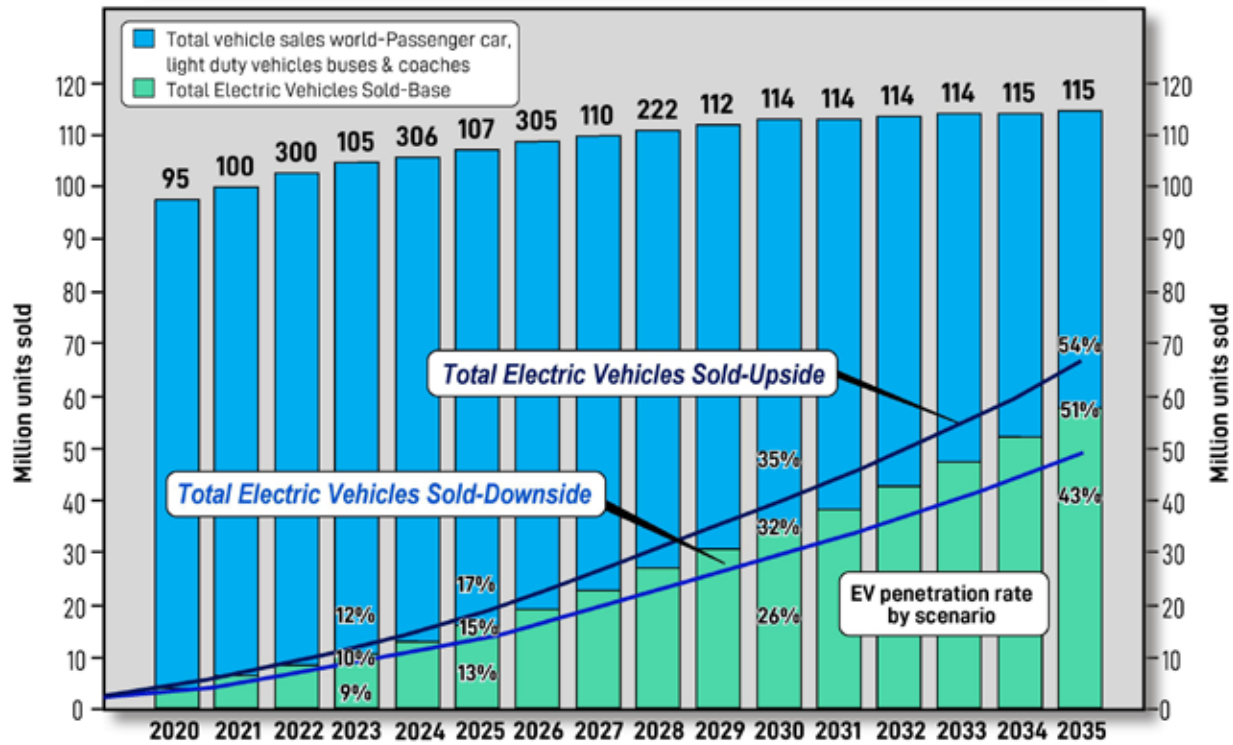




# BATTERY ENERGY STORAGE

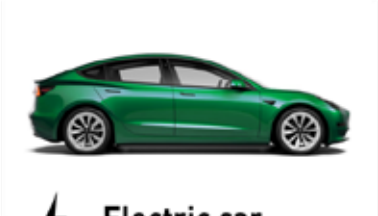
MARKET BACKDROP FOR EV/ESS SECTORS

# INCREASING EV SALES AND PENETRATION RATES ARE AN IMMUTABLE FACT.



Source : rho motion

# BUT WE NEED TO ADDRESS THE EMERGING 'CARBON SHOCK' OF EV'S

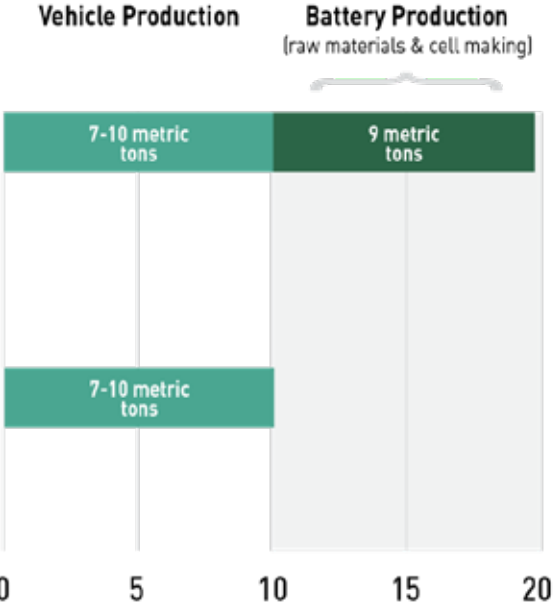


⚡ Electric car



💧 Internal combustion engine car

## Vehicle Manufacturing CO<sub>2</sub> Emissions



Source: De Correspondent, 14/7/17. Elsevier, LCA for hydrometallurgical recycling of mixed LiB & NiMH waste, 30/3/21. Ivi Report, Lithium-ion Vehicle Battery Production, November 2019



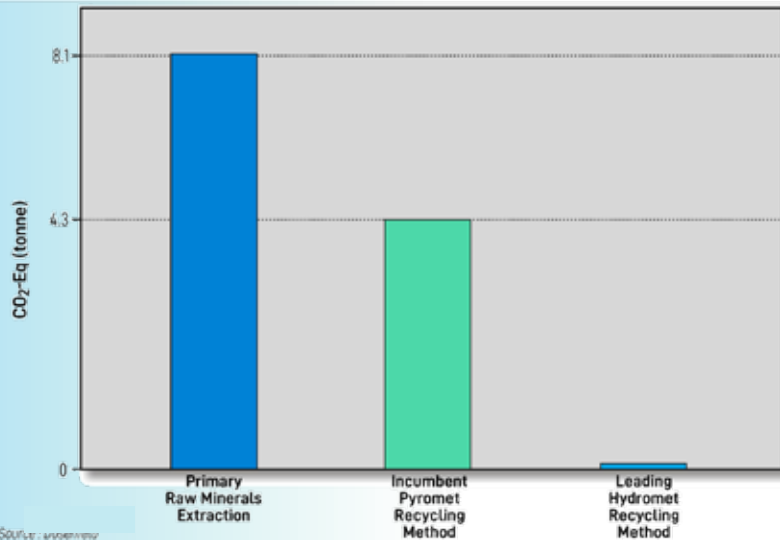
# ECO-FRIENDLY RECYCLING PRODUCES LOWEST CO2 BATTERY MATERIALS



HYDROMETALLURGICAL  
RECYCLING  
HAS THE LOWEST  
CARBON FOOTPRINT



### Raw Material CO<sub>2</sub> Savings – Traditional Mining vs Pyromet and Hydromet Battery Recycling

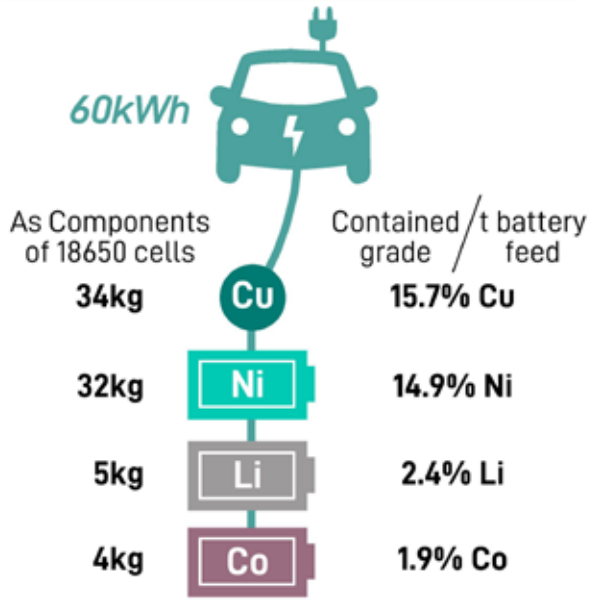


SOURCE: ANDERSON

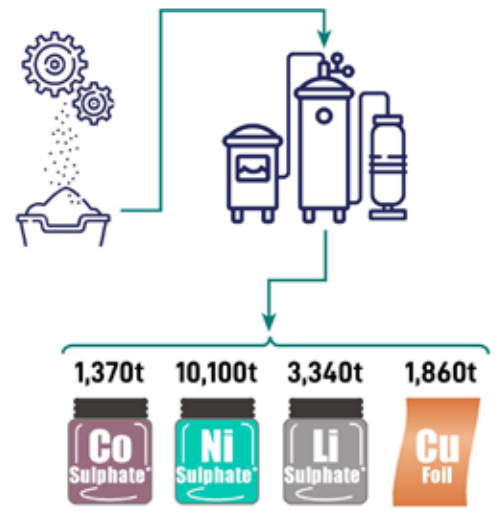
Source: Duesenfeld

# DEVELOPED OWN PROCESS FOR A SUPER HIGH GRADE RESOURCE - LI BATTERIES

## Typical BEV Battery Composition Using NCM 811 Chemistry



## Annual Primobius Production @ 50 Tonnes per Day of Battery Cells



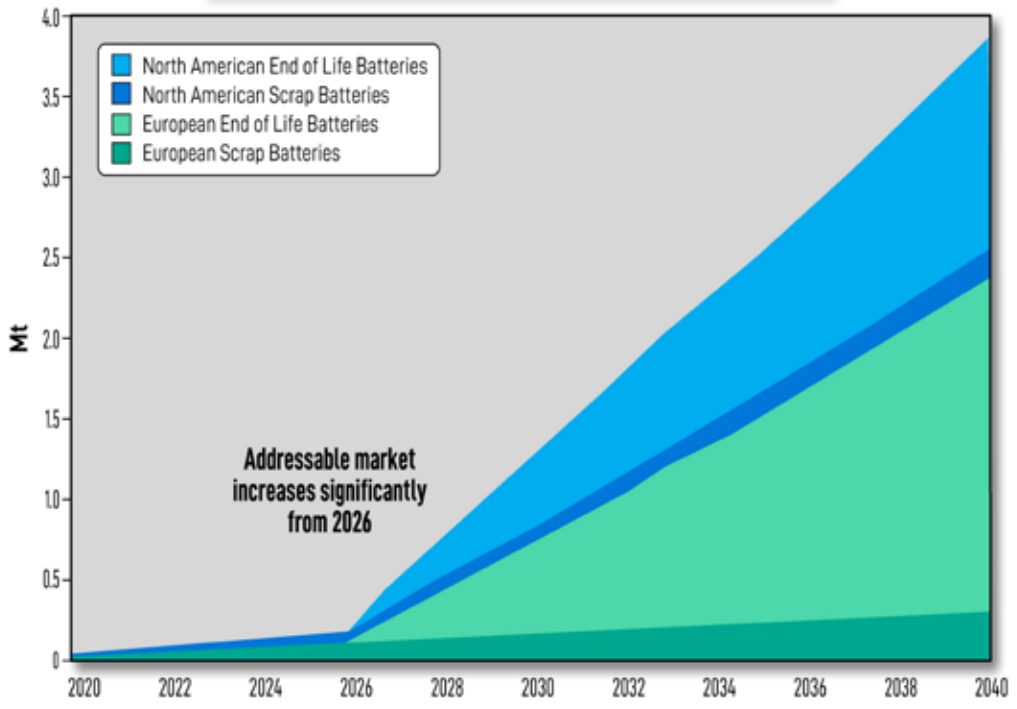
\*CoSO<sub>4</sub> · 7H<sub>2</sub>O, NiSO<sub>4</sub> · 6H<sub>2</sub>O, LiSO<sub>4</sub> · H<sub>2</sub>O

Source: Benchmark Minerals Intelligence



# WE ARE CERTAIN ALL BATTERIES WEAR OUT AND RECYCLING VOLUMES MIRROR PRODUCTION ON LAGGED BASIS

**Total Addressable Market for Primobius (ex Asia)  
Battery Cells Available for Recycling (Mt)\***

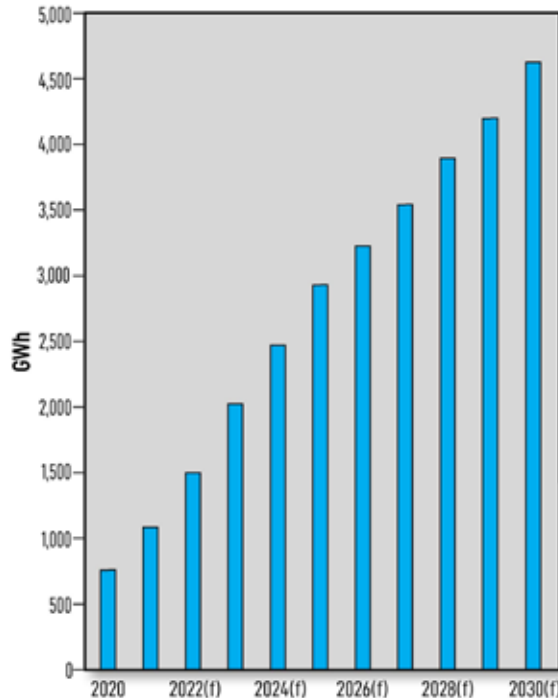




# WE CAN DELIVER KEY CATHODE MATERIALS INTO THE INSATIABLE BATTERY SUPPLY CHAIN WITH LOW

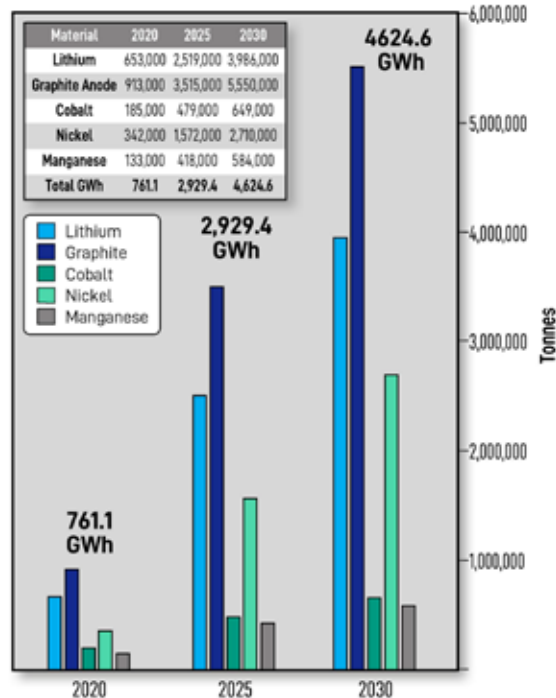


## World Lithium Ion Megafactory Capacity 2020-2030



## Megafactory Impact on Raw Materials

### Raw Materials Demand vs Global Lithium Ion Cell/Megafactory Capacity



Source: Benchmark Minerals Intelligence - October 2021

The data in this chart does not constitute a forecast, and assumes 100% utilisation rates



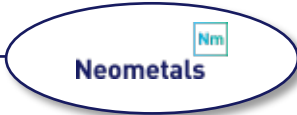
# Primobius

Battery recycling without limits

LI ION BATTERY  
RECYCLING PROJECT

50:50 JV with SMS group – 'Primobius GmbH'

# COMMERCIALISATION PARTNER TO LEVERAGE STRENGTHS OF BOTH PARTNERS



- ü Leading ESG credentials
- ü Proprietary battery recycling process
- ü Significant chemicals processing expertise
- ü Track record of project delivery



- ü Leading supplier of metallurgical equipment and processing plants for 150 years
- ü 14,000 employees in 95 sites globally
- ü Strong funding capability expected to deliver ~50% debt funding
- ü Strong reputation and has ability to deliver faster than others

50%



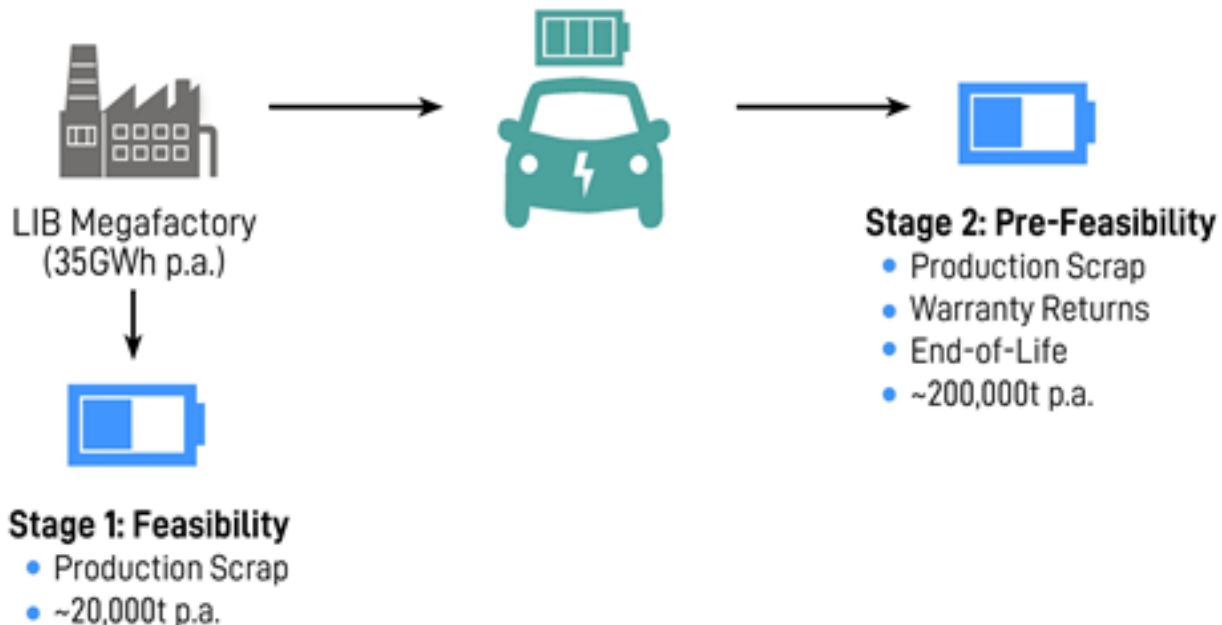
50%

- Exclusive 50/50 incorporated joint venture to pursue battery recycling
- SMS right to build, operate and procure debt financing\* on behalf of JV
- Commercial roll-out will leverage SMS global footprint, manufacturing capability and reputation

\* On best endeavours basis

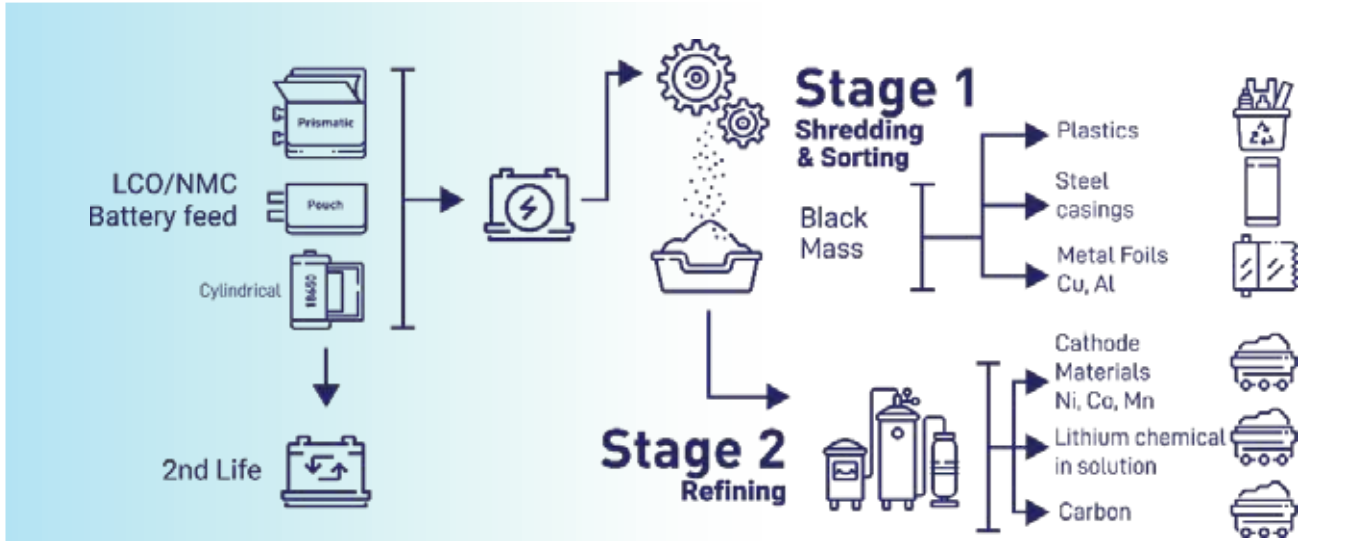


# AIMING TO BE RECYCLER OF CHOICE FOR CELLMAKERS AND CARMAKERS



# OUR PROPRIETARY RECYCLING PROCESS

Being demonstrated in Hilchenbach Germany 21/22

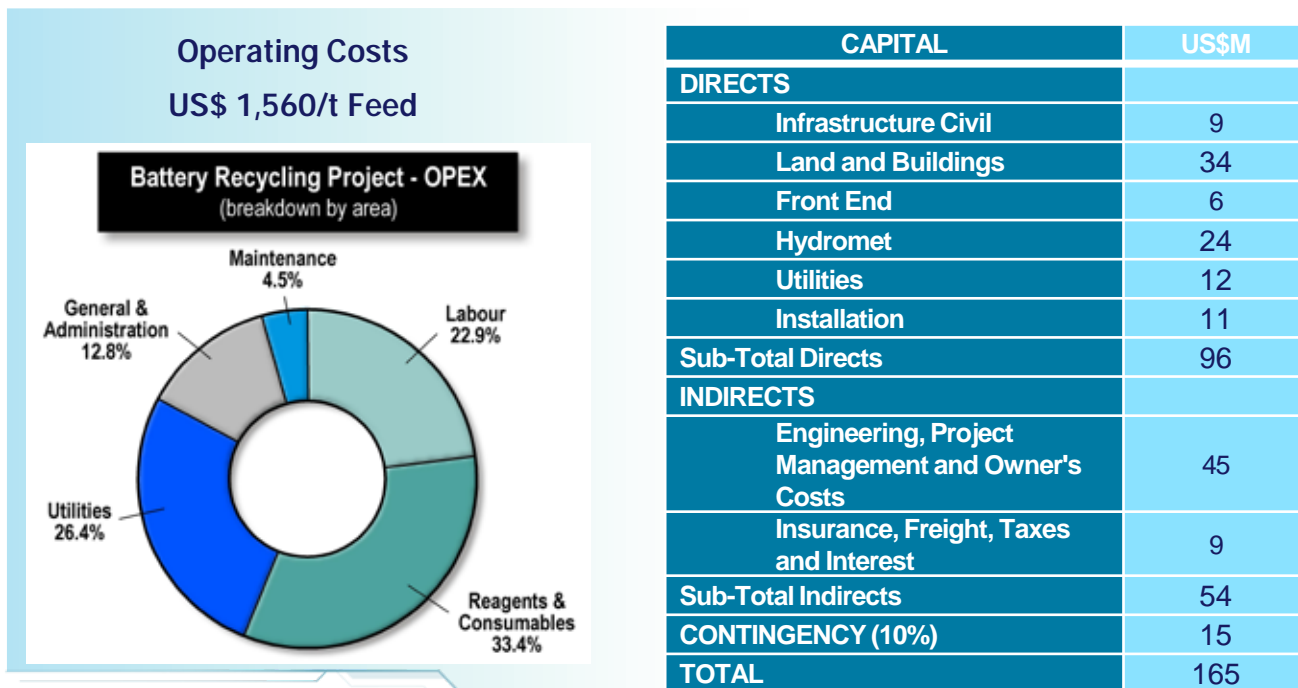


- 85% Recycling Efficiency to date aiming to improve
- Ni+Co Sulphates (+80% Rev\$) meet Chinese cathode specs
- Tailings is fertiliser feedstock



# ENGINEERING COST STUDY ESTIMATES MAY 2021 - AACE CLASS 4 ( $\pm 25\%$ )

Based on Pilot Plant at SGS Canada in 2019/20



Refer to Neometals ASX Announcement:- Lithium Battery Recycling – Outstanding Cost Estimates (7 May 2021) and the assumptions set out therein.

Note: total numbers may not sum due to rounding

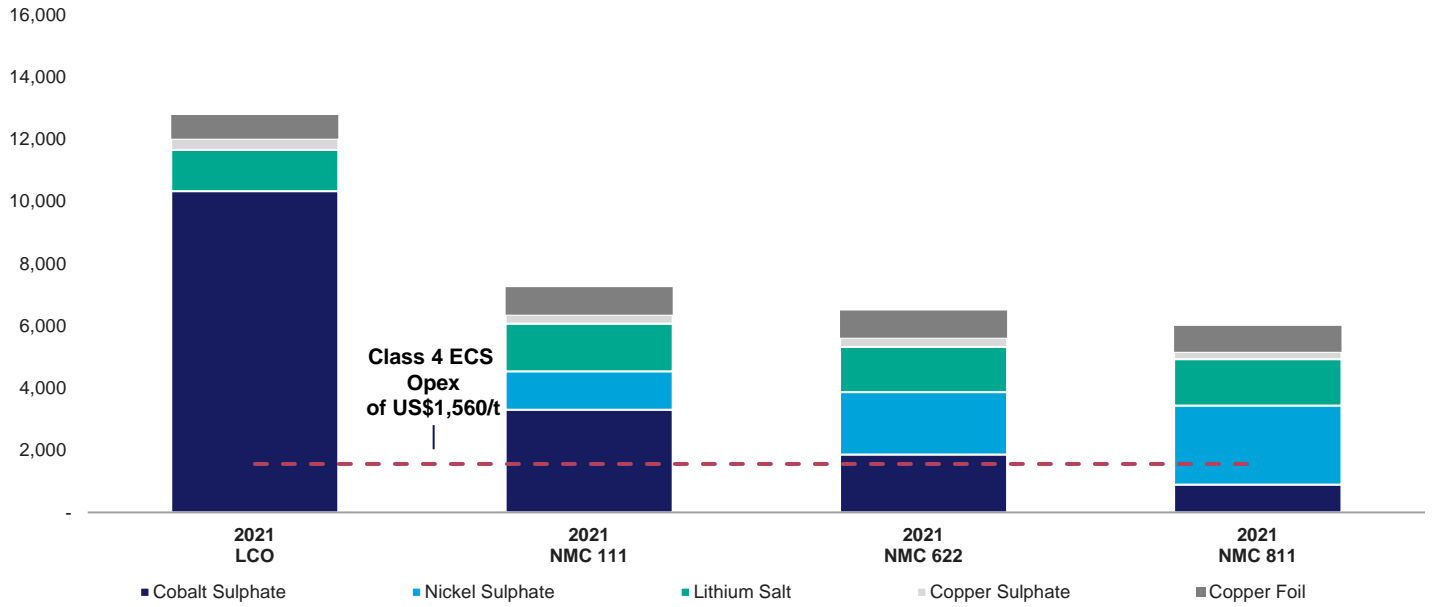




# ROBUST ECONOMICS ACROSS MAJOR EV BATTERY CHEMISTRIES

## Revenue by Recovered Elements in 1 Tonne of Batteries

Recoverable Revenue per Tonne of Batteries (US\$/t)<sup>(1)</sup>



**Notes:**  
 1. Pricing – Benchmark Mineral Intelligence (Cobalt, Nickel and Lithium – Spot), Asian Metal (Manganese Sulphate – Spot), Neometals Management (Copper Products – Forecast), Battery Cell Composition, Product Recovery – Class 4 Engineering Cost Study (May 2021)

# FLEXIBLE BUSINESS / REVENUE MODELS

1



Principal

- Primobius to responsibly process production scrap or EOL batteries for a fee. Customer option to purchase all products under offtake agreement

2



Partnership

- Primobius to build and operate recycling plant(s) both share economic returns – JV etc. Partner option to purchase all products under offtake agreement










3



License

- License IP directly for royalty and potentially EPC recycling plant(s)

# PRIMOBIOUS WITH A SPEED TO MARKET ADVANTAGE

	Operational Readiness MarQ 22	Investment Decision SepQ 22	Primobius Battery recycling without limits	ITOCHU
	 10tpd Shredder	  <b>STELCO</b> The Steel Company of Canada 50tpd Integrated*	 50tpd Integrated*	 Integrated*
 Plant Type	Shredding	Shredding & Refining	Shredding & Refining	Shredding & Refining
 Product/s	Black Mass	BGMS	BGMS	BGMS
 Status	Procurement & Fabrication	Demo Trial	MoU	MoU
 Business Model	Principal	Principal	JV	JV

**Notes:**  
 1. BGMS – Battery Grade Metal Sulphates  
 2. Subject to NMT and JV Board approval.

# 10TPD COMMERCIAL SHREDDING PLANT



# HYDROMET REFINERY DEMO PLANT



## Indicative Project Timeline - LiB Recycling

Stage 1 Completed Demonstration Plant Trials  
 10TPD Complete Construction & Commissioning  
 Stage 1 Complete Class 3 ECS Capex & Opex  
 Stage 2 Complete Demonstration Plant Trials  
 10TPD Commence Operations\*  
 Stage 2 Class 3 ECS Capex & Opex and Feasibility Study  
 50TPD FID\* & Execute Plant Supply Agreement

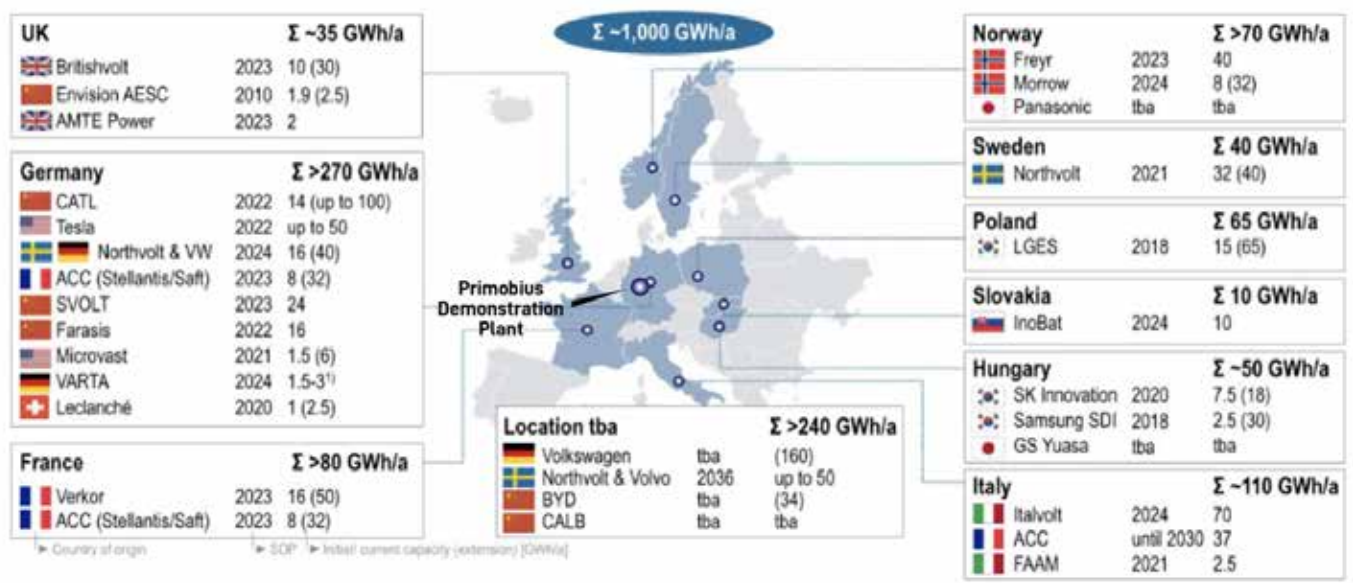


Running Feedstock and Offtake Negotiations in parallel



# PROVIDE BATTERY DISPOSAL SERVICE IN EU THEN SCALE-UP AND INTEGRATE AS REQUIRED

Announced annual LiB cell production capacity until 2030 (GWh/a)  
- By country, by companies



Source: Roland Berger, July 2021, from Press Releases, Company Announcements & Expert Interviews

1) Roland Berger estimate based on 100-200 in units of 21700 cells



# NEW EU BATTERY REGULATIONS ARE A MASSIVE TAILWIND FOR US

Need to address the disconnect between the current state of the EV materials supply chain and the future ambitions of the auto OEM, and consumers with a focus on ESG principles

- Security of raw material supply
- CO<sub>2</sub> footprint
- Transparent, ethical provenance
- Recycling

## Staggered EU Regulation Implementation



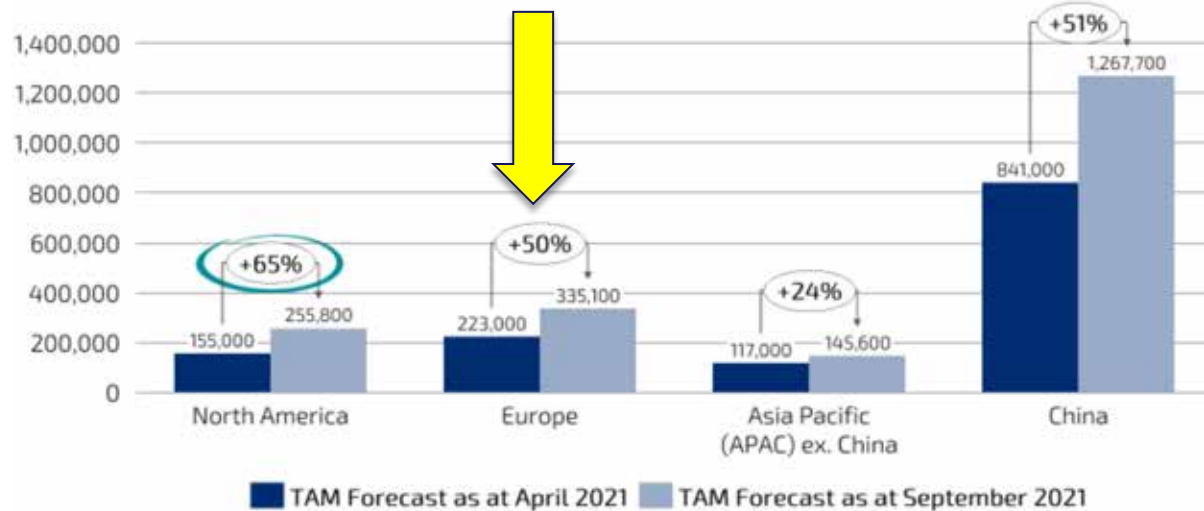
- ∅ CO<sub>2</sub> footprint declaration >2kWh
- ∅ Recycling efficiency to 65%. Existing producers using pyromet recycling typically has 45% efficiency
- ∅ Digital passport, labelling carbon footprint
- ∅ Recycling efficiency targets for Co, Pb, Li, Ni, Cu
- ∅ Recycled content declarations, carbon footprint requirements
- ∅ Recycling efficiency to 70%
- ∅ Minimum recycled content requirements - will result in larger players engaging with companies such as Neometals



# EU SECOND LARGEST TARGET MARKET FOR BATTERY RECYCLING

## New Battery Mega-factory Deployment Far Exceeding Expectations

Tonnes of Lithium-ion Batteries Available for Recycling – by Region in 2025<sup>(1,2)</sup>



**Notes:**

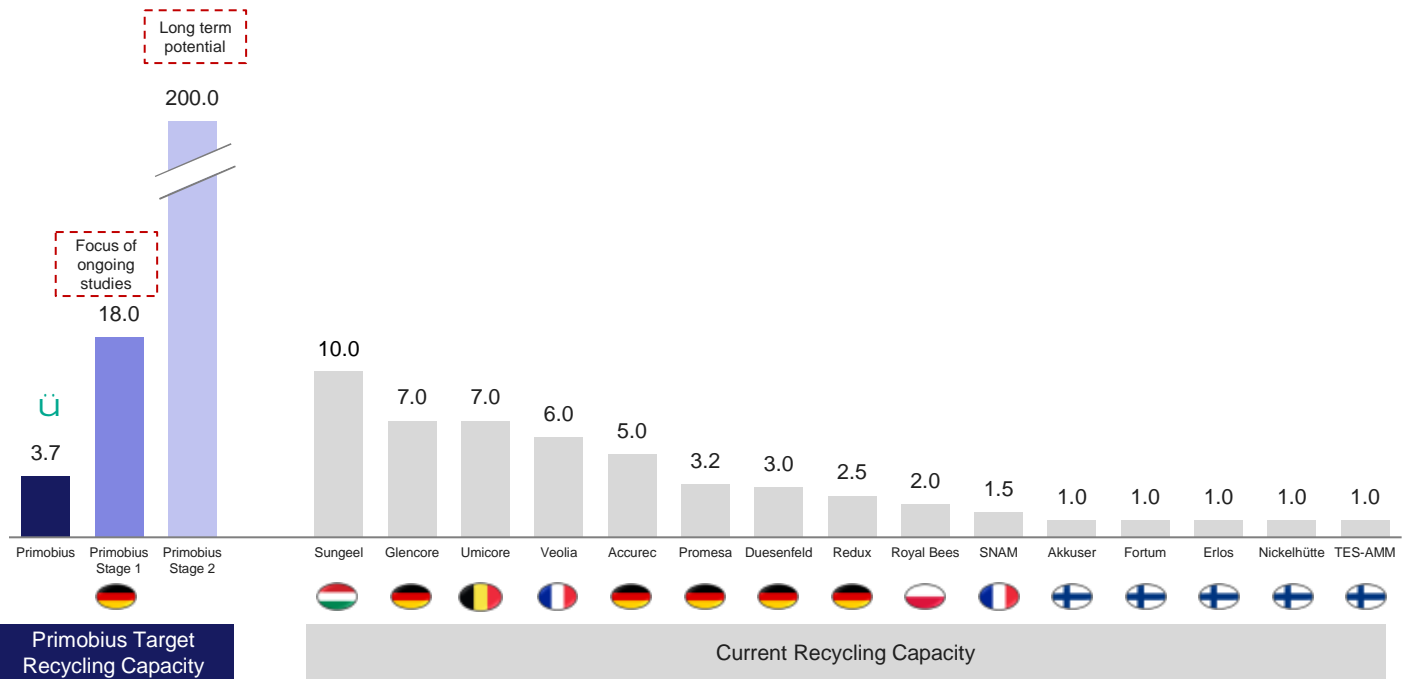
1. April 2021 vs Sept 2021 Total Addressable Market (TAM) Forecast. Units are tonnes of lithium-ion batteries available for recycling / year
2. Sources: Benchmark Mineral Intelligence ("BMI") Li-Cycle market intelligence and forecasting.

Source: LI-Cycle

# PRIMOBIOUS IS THE ENVIRONMENTALLY FRIENDLY AND SCALABLE RECYCLING SOLUTION REQUIRED BY WESTERN CELL 'PRODUCERS'

## Major European LIB Recycling Facility Capacities

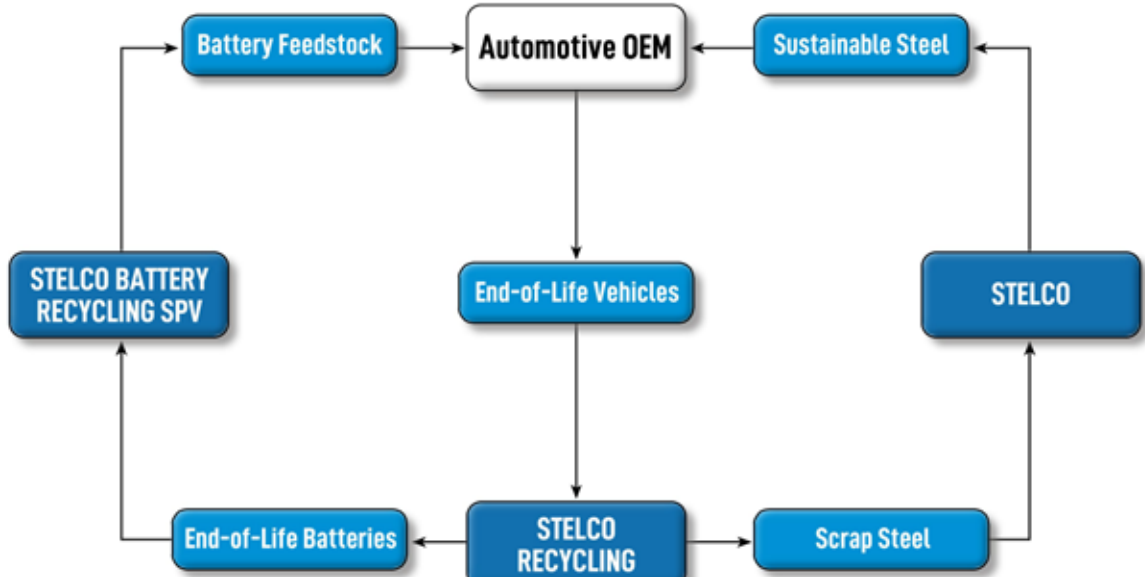
Capacity (ktpa)



Source: Neometals Management (Sept 2021); Benchmark Intelligence (2020)

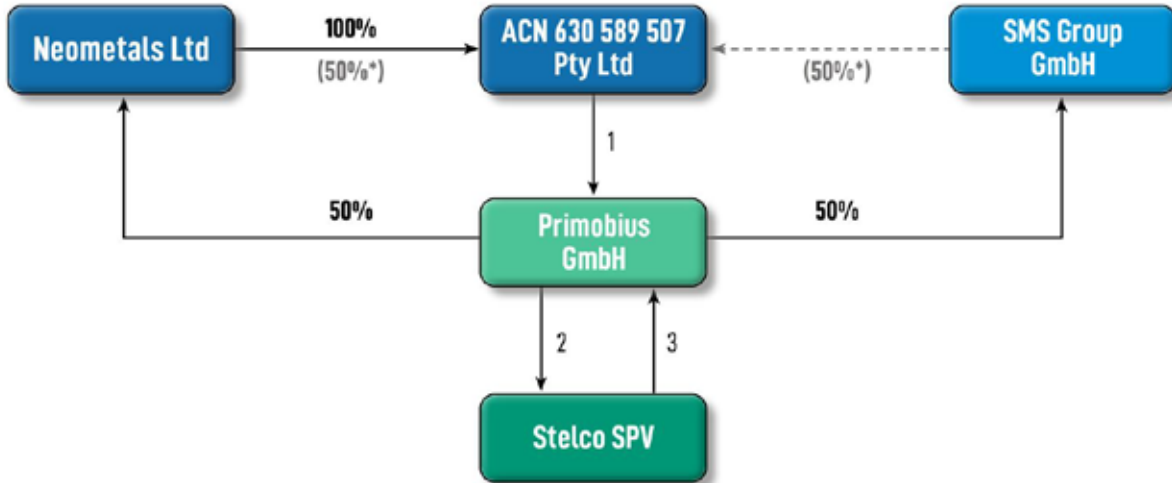
# STELCO LICENCE AND OPTION AGREEMENT FOR 50TPD INTEGRATED OPERATION IN NORTH AMERICA

**Stelco is Positioned to be a Leader in the Electric Vehicle Circular Economy**



# STELCO DEAL STRUCTURE AND TERMS

1. ACN 630 grants limited Commercial licence
2. Primobius to sublicense to Stelco Battery Recycling SPV (10% GRR)
3. SPV grants Primobius option to acquire 25-50% of SPV in consideration for GRR 0% + reimbursement (sunk costs to date - evaluation costs etc)



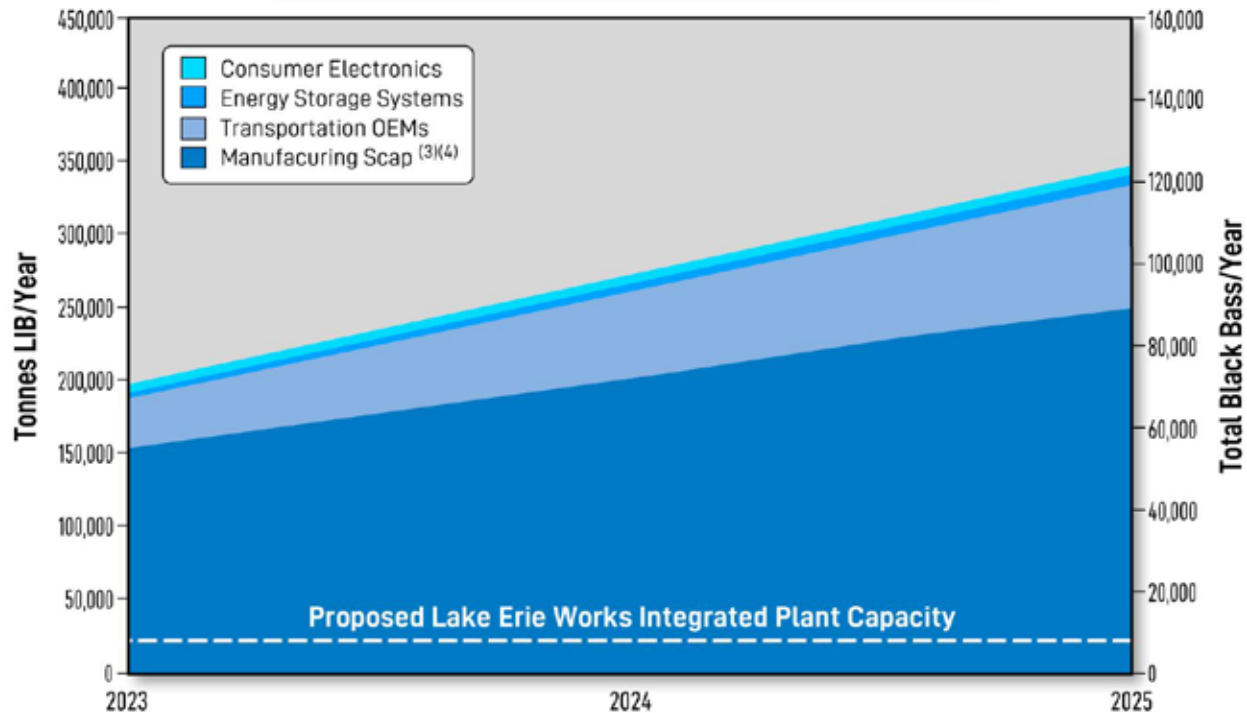
\* SMS will be issued new shares upon 'Commercial Operations' by Primobius

# PROPOSED LOCATION AT THE TOP OF AUTO ALLEY



# NORTH AMERICA IS THE THIRD LARGEST MARKET FOR RECYCLING OF LIB'S

## North America Total Addressable Market <sup>(1)</sup>



Sources: Benchmark Mineral Intelligence ("BMI") and Li-Cycle estimates

(1) BMI and Li-Cycle estimates as of Dec. 2021 Total Addressable Market (TAM) Forecast.

(2) After-sales includes Transport OEMs, ESS, Consumer Electronics and Other, largely accounting for end-of-life batteries including recalls.

(3) Manufacturing scrap demand estimate derived from BMI and Li-Cycle's Dec. 2021 Total Addressable Market (TAM) Forecast.

(4) Includes LG indication of additional planned capacity by 2025 - per theguru.co.kr.



# PRIMOBIUS LITHIUM-ION BATTERY RECYCLING PROJECT – HIGHLIGHTS



## Primobius Lithium-Ion Battery Recycling Business

1

### Auto OEMs and Batterymakers Require a Li-B Recycling Solution

*Global volume of 'end of life' LIBs available for recycling expected to grow at 18.8% per annum over the next ~10 years*

2

### Environmentally Friendly Process Differentiated from Incumbent Technology

*Hydromet process has a negligible Co2 emission footprint compared to primary minerals extraction or the incumbent pyromet recycling process for Li-B batteries*

3

### Flexible and Robust LiB Recycling Technology

*Multiple battery chemistries, formats and types can be processed without cell discharging with lower emissions and less transport required than incumbents*

4

### Attractive Economics and Exposure to Battery Metal Prices

*High purity chemicals not intermediates for ethical re-supply to the cathode producer supply chains with better recovery, lower emissions and less transport than incumbents*

5

### SMS Partnership and Flexible Business Plan Accelerates the Roll-out

*SMS operational and manufacturing capability applied to a flexible business model provides a material speed to market advantage*

# SUSTAINABILITY

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

- All projects, particularly EU, focused on materials for decarbonisation and the clean energy revolution
- Further – to support domestic supply chain resilience and increasing the lifetime of ethical resources
- Genuine ESG conviction – core business to support resilience and adaptability
- All projects align with corporate purpose and sustainability objectives. 2nd ESG report lodged - TCFD, ESG remuneration KPIs, 2021 NMT carbon neutrality, quantifiable targets for 2022



# COMPANY HIGHLIGHTS

## SECURITY



Strong balance sheet, no debt – can fund projects to near-term FIDs



Consistent strategy – innovative partnering to reduce risks and increase returns



History of cash returns and scrip to shareholders



Strong Board and proven Management team

## OPPORTUNITY



Growing portfolio of green critical materials projects in Europe & NA



Recycling maximises resource efficiency. Secure ethical supply chains for the circular economy



Organic growth from deploying technologies as principal, with partners or licensing models



Demonstrating best practice ESG - 'sustainable investment'





**Thank  
you**

**PLEASE VISIT  
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