

# Greener Battery Materials



Corporate Presentation | May 2022

ASX Code: **NMT** | AIM Code: **NMT** | Frankfurt: **9R9** | OTC Code: **RDRUY**

Authorised for release by Christopher Reed,

**Managing Director of Neometals**

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## Compliance Statement:

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

17/04/2018 Barrambie Project – Mineral Resource Update

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 is an emerging, sustainable battery materials producer.



3 business units supporting energy transition in the EV / ESS supply chains:

1. Li-ion Battery Recycling (Ni/Co)
2. Vanadium Recovery
3. Lithium Chemicals



Underpinned by proprietary, green, processing technologies

- 16 Granted Patents
- 54 Patents Pending



ESG commitment. Recycling and recovery minimise reliance on mined materials and reduce carbon footprint



Focus on continuous development and innovative commercialisation with strong partners



Strong, growing team with track-record of value creation, project execution and shareholder return.

# CORE BUSINESS SNAPSHOT

TWO PROJECTS REACHING FID IN 2022

Technology



**Lithium-ion  
Battery  
Recycling**



**Vanadium  
Recovery**



**Lithium  
Chemicals**

50:50 Incorporated JV **Primobius**

Evaluating a 50:50 JV

Evaluating a 50:50 JV via RAM  
(70% NMT/30% MIN)

Partners

**SMS group**

**Critical  
Metals**

**MINERAL  
RESOURCES**



Mercedes-Benz

**SSAB**

**STELCO**

**ITOCHU**

**H2green steel**

**BONDALTI**  
EVOLVING CHEMISTRY

Projects

FID: 50tpd – SepQ 22

FID: End 2022

FID: End 2023

CAPEX: US\$165m<sup>(1)</sup>

CAPEX: US\$184M<sup>(2)</sup>  
(200ktpa capacity)

CAPEX: TBA

OPERATIONS:  
2H 2023

OPERATIONS:  
1H 2025

OPERATIONS:  
End 2025

<sup>(1)</sup> For further information, refer to ASX release dated 7th May 2021 – “Lithium Battery Recycling - Outstanding Cost Estimates” and the assumptions set out therein.

<sup>(2)</sup> For further information, refer to ASX release dated 4th May 2021 – “Vanadium Recovery Project - Outstanding PFS Results” and the assumptions set out therein.

# GREEN BATTERY MATERIALS PORTFOLIO

FOCUS ON EUROPE AND NORTH AMERICA

EMERGING AS WORLDS 2<sup>ND</sup> AND 3<sup>RD</sup> BIGGEST BATTERY PRODUCING REGIONS



# EXPERIENCED AND 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



**Michael Tamlin**  
COO/Lithium



**Darren Townsend**  
CDO/Vanadium



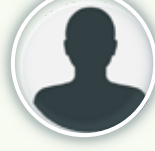
**Giuliano Giordani**  
Financial Controller



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



**Dirk Kotzee**  
Manager – Project  
Services



**TBA**  
Head of Recycling



**Gavin Beer**  
GM – Lithium  
Processing



**Irena Ivanova**  
GM – Evaluation  
Studies



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



**Greg Hudson**  
GM – Geology



**Casper Adson**  
GM – Barrambie  
Project



**Pablo Carabajal**  
Manager - Finance



**Anél Joubert**  
Manager - ESG



**Matthew Carter**  
Manager - Data



**Matthew Read**  
GM – Lithium  
Projects



**Adam Farghaly**  
Metallurgist



**Rihanna Vanin**  
Project Engineer

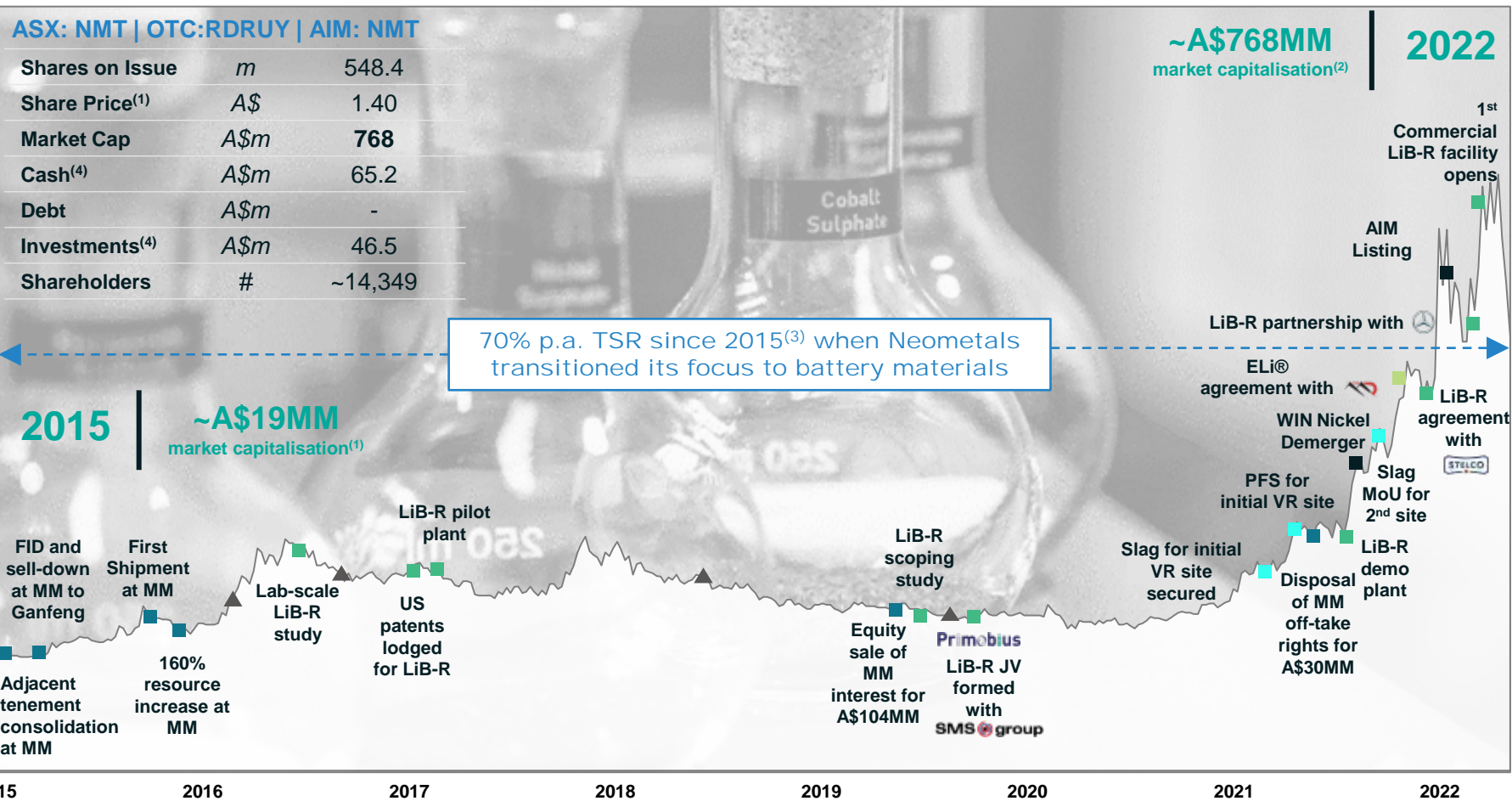


**Eric Taarland**  
GM – Vanadium  
Marketing



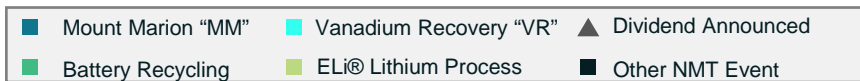
**Owen Casey**  
Senior Project  
Geologist

# NEOMETALS TRACK RECORD



Note: Weekly average share price shown on chart.

1. Based on market close 1 January 2015. Sourced from CapIQ.
2. Based on market close 13 May 2022. Sourced from CapIQ.
3. Compound annual growth rate in Total Shareholder Returns (TSR) assuming dividend re-investment between 1 January 2015 and 5 May 2022. Sourced from Bloomberg
4. As at 31 March 2022.





# LITHIUM-ION BATTERY RECYCLING

Intellectual Property Holding Company  
100% Neometals (SMS group earning 50%)

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

**Primobius**

Battery recycling without limits



# ISSUE

PARTICIPANTS IN THE BATTERY VALUE CHAIN ARE SEEKING SOLUTIONS TO REDUCE CO<sub>2</sub> AND SATISFY REGULATORY / MORAL OBLIGATIONS



Fire Risk



Pollution (GHG)



Landfill



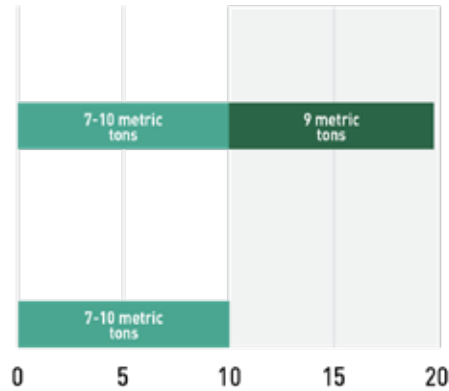
Material Shortages / \$



Circular Economy

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

Vehicle Production      Battery Production  
(raw materials & cell making)



⚡ Electric car



💧 Internal combustion engine car

Source: Duesenfeld

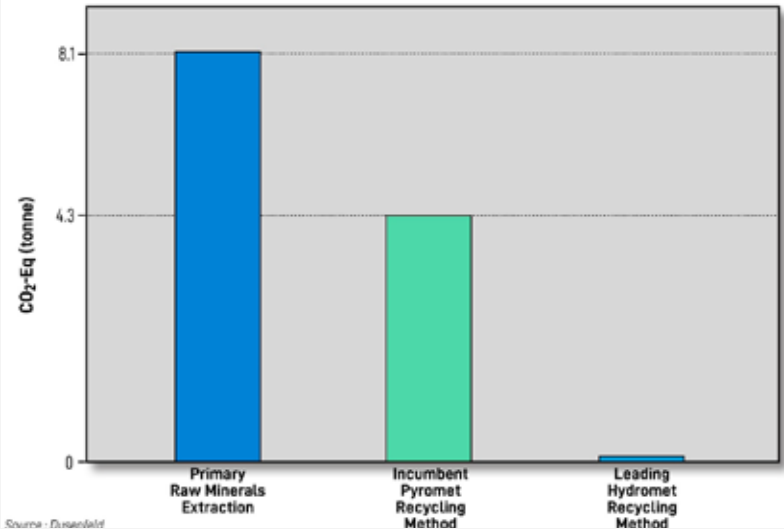
# NEED



LARGE OPPORTUNITY FOR SUNRISE HYDROMETALLURGICAL RECYCLING PROVIDERS

- Solution to OEM's needing to meet proposed regulations
- Strategic supply chain resilience
- Support to circular economy
- Compelling total addressable market ("TAM")

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



Source: Duesenfeld

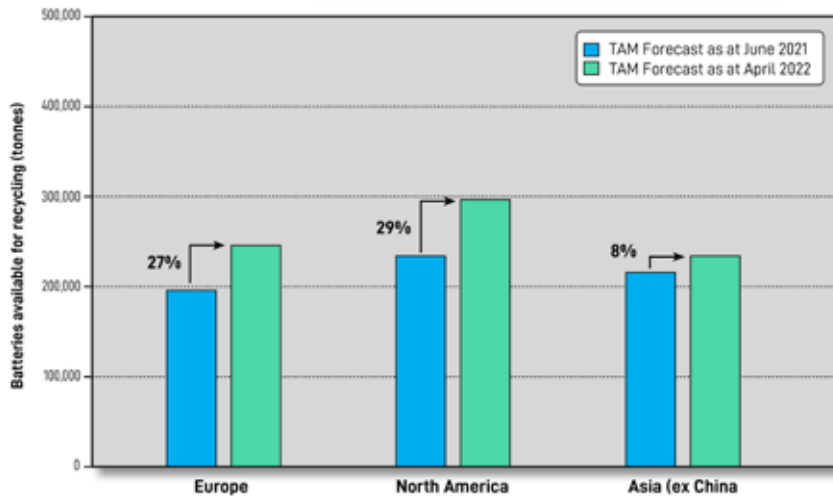
# MARKET – REQUIRES ST CAPACITY AND LT SCALE



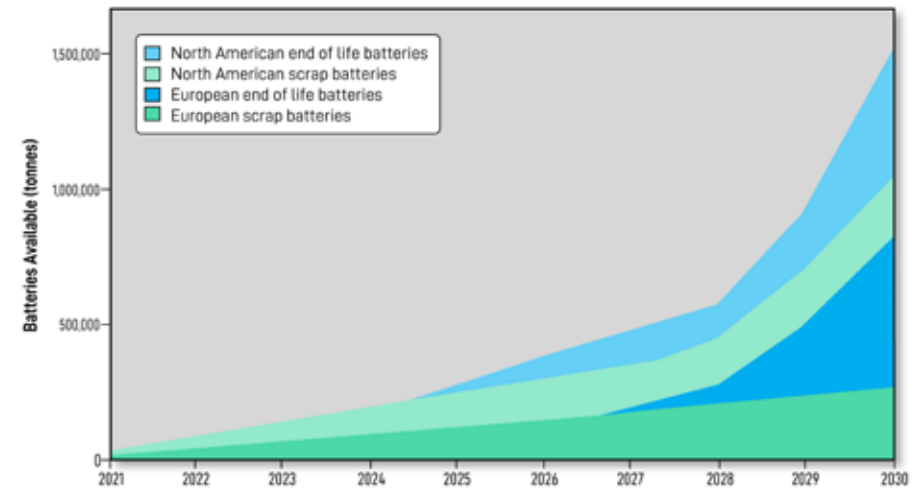
PRIMOBIUS' DEVELOPMENT READINESS DOVETAILS WITH AN EXPLOSION OF EV AND CELL MANUFACTURING PLANTS AND LARGE VOLUMES OF END-OF-LIFE EVS MID-DECADE

NEED MORE PLANTS AND BIGGER PLANTS

**Lithium-ion Batteries Available for Recycling by Region in 2026**



**European/North American Battery Availability**



Source: Benchmark Mineral Intelligence

Source: Benchmark Mineral Intelligence (Gigafactory cell capacity, June 2021 & Apr 2022) and Neometals Management (utilisation rate 75%, scrap rate 15%, 8 year battery life, and cell weight 4.5g/Wh)

# PRIMOBIUS SOLUTION



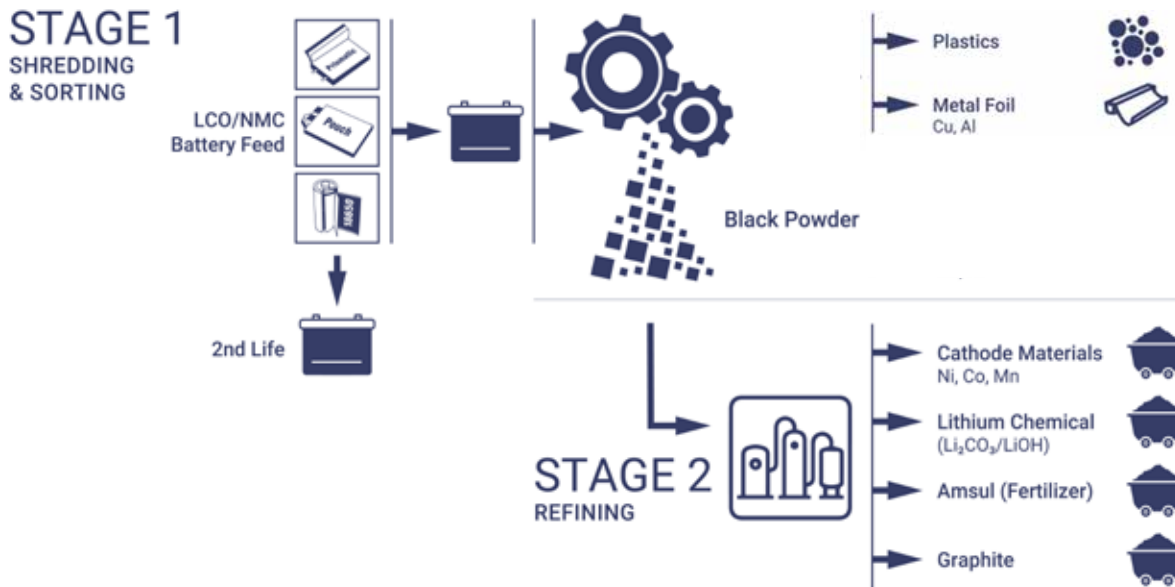
NEOMETALS PROCESSING TECHNOLOGY BACKED BY LEADING GERMAN PLANT BUILDER, SMS GROUP

SAFE, ENVIRONMENTALLY-FRIENDLY PROCESS PRODUCING HIGH PURITY, LOW CARBON BATTERY MATERIALS

**Primobius**  
Battery recycling without limits

**SMS**  **group**

## Neometals High-Level Flowsheet

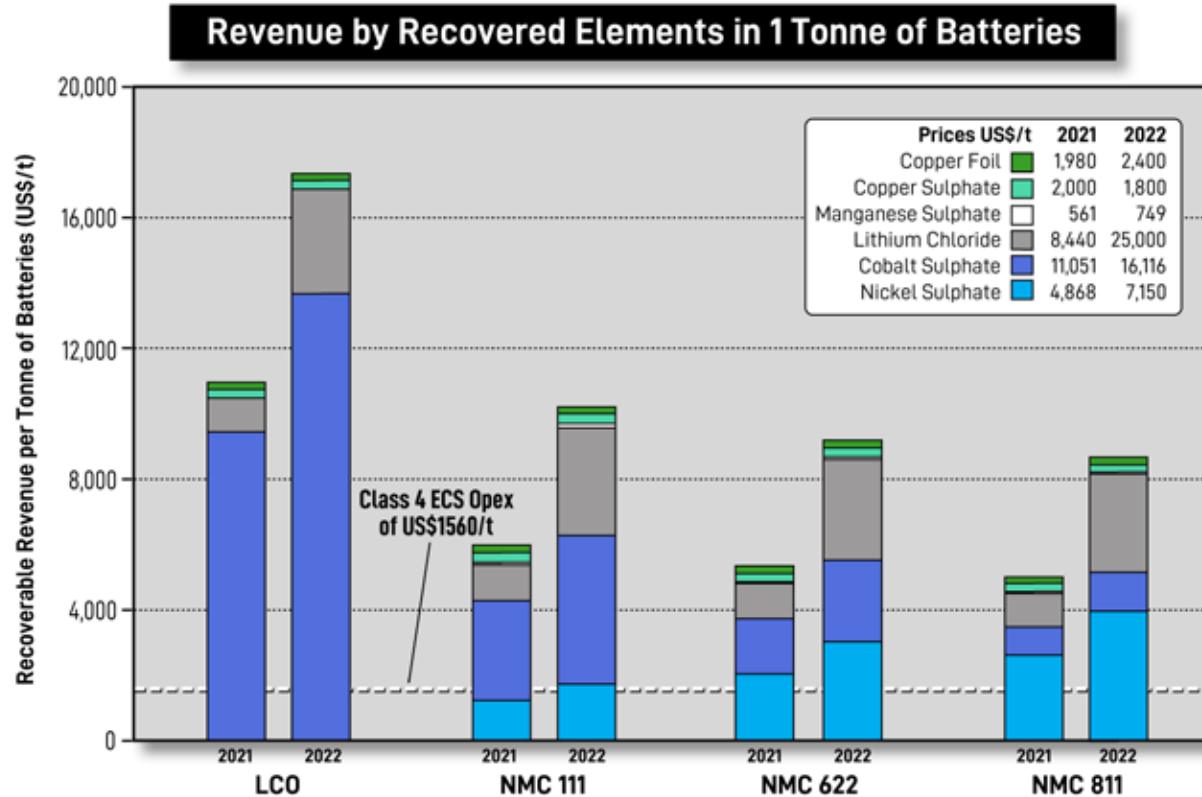




# FINANCIAL METRICS

AACE CLASS 4 ENGINEERING COST STUDY ESTIMATES, ±25% ACCURACY, MAY 2021

US\$165M CAPEX FOR 50 TONNE PER DAY\* – 18,250 TONNE PER ANNUM BATTERY CAPACITY



Source : Pricing - Fastmarkets (Cobalt, Nickel, Manganese - Spot Feb. 2022),  
 Neometals Mangement (Lithium - 2022 Forecast), Class 4 Study (2021 Prices)  
 Battery cell composition and product recovery - Class 4 Engineering Cost Study (May 2021)

\*For further information, refer to ASX release dated 7th May 2021 – “Lithium Battery Recycling - Outstanding Cost Estimates” and the assumptions set out therein.



# FLEXIBLE BUSINESS MODELS

## MULTIPLE REVENUE GENERATION OPPORTUNITIES VIA FLEXIBLE OPERATING MODEL

- Target industrial-scale feed volumes direct from OEMs
- Primobius JV to execute global rollout
- Primobius underpinned by large delivery partner (SMS group) with ability to guarantee plant performance

# 1



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

# 2



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

# STATUS - COMMERCIAL PIPELINE



FIRST SHREDDING COMMERCIAL OPERATIONS PENDING H1 2022.  
PIPELINE OF ADDITIONAL COMMERCIAL OPPORTUNITIES MATURING

		Commercial Operations				
						
		 10tpd Shredder	 10tpd Integrated*	  50tpd Integrated	 50tpd Integrated	 50tpd Integrated
 <b>Plant Type</b>	<b>Shredding</b>	Shredding/Refining	Shredding/Refining	Shredding/Refining	Shredding/Refining	
 <b>Product/s</b>	<b>Black Mass</b>	Black Mass & BGMS <sup>(1)</sup>	Black Mass & BGMS <sup>(1)</sup>	Black Mass & BGMS <sup>(1)</sup>	Black Mass & BGMS <sup>(1)</sup>	
 <b>Status</b>	<b>Production Ready</b>	Front End Engineering FEL 1	Front End Engineering FEL 2 (Shredder)	Class 3 Engineering Cost Study	Demonstration Trials	
 <b>Location/s</b>	<b>Hilchenbach Germany</b>	Kuppenheim Germany	Hamilton Works Canada	Germany	Japan	
 <b>Business Model</b>	<b>Principal</b>	Limited Royalty-Free R&D License	License & JV Option	Principal/JV	MOU for JV	

1. BGMS = Battery Grade Metal Sulphates

\*For full details refer to Neometals ASX release dated 13<sup>th</sup> May 2022 titled "Cooperation with Mercedes-Benz "

# MERCEDES-BENZ



## COOPERATION AGREEMENT WITH MERCEDES-BENZ (LICULAR GMBH)\*

- Primobius selected to provide LICULAR engineering, supply and installation of equipment for a 2,500tpa Recycling Plant;
- Primobius will enter into a long-term research and development collaboration to recycle next generation cell formats and chemistries;
- Primobius to provide a non-exclusive technology licence, know-how, staff training, engineering support and plant management support to LICULAR; and
- Primobius and LICULAR to jointly evaluate an industrial-scale operation using Primobius' recycling technology and during the Recycling Plant operations period.

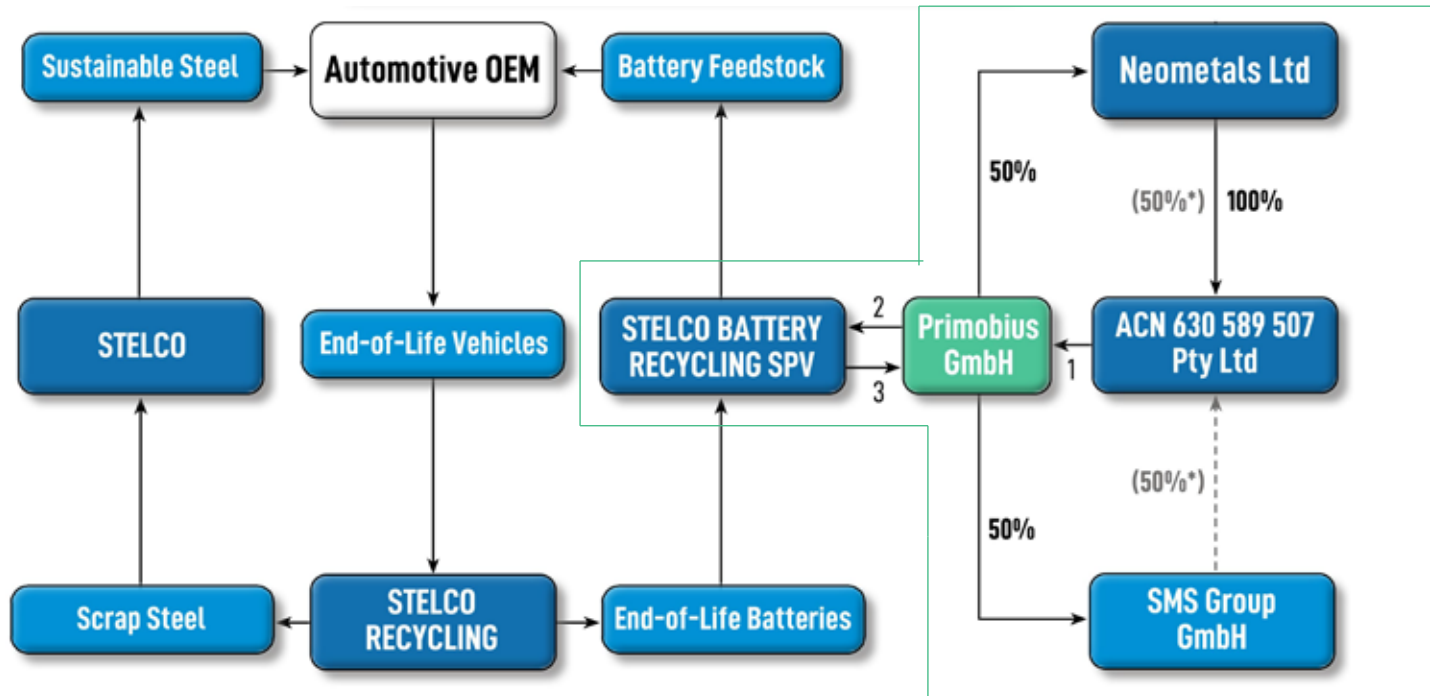
\*For full details refer to Neometals ASX release dated 13<sup>th</sup> May 2022 titled "Primobius Executes Cooperation Agreement with Mercedes-Benz"

# STELCO



## TECHNOLOGY LICENSE AND JV OPTION (≤50%) WITH STELCO IN NORTH AMERICA\*

- Steel Company of Canada (Stelco) transitioning to EAF production (greener steel)
- EAF needs scrap steel, EOL vehicle recycling is key source of scrap feed for Stelco
- More EOL vehicles are EV, lithium batteries require recycling, OEM's want to close the loop



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

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

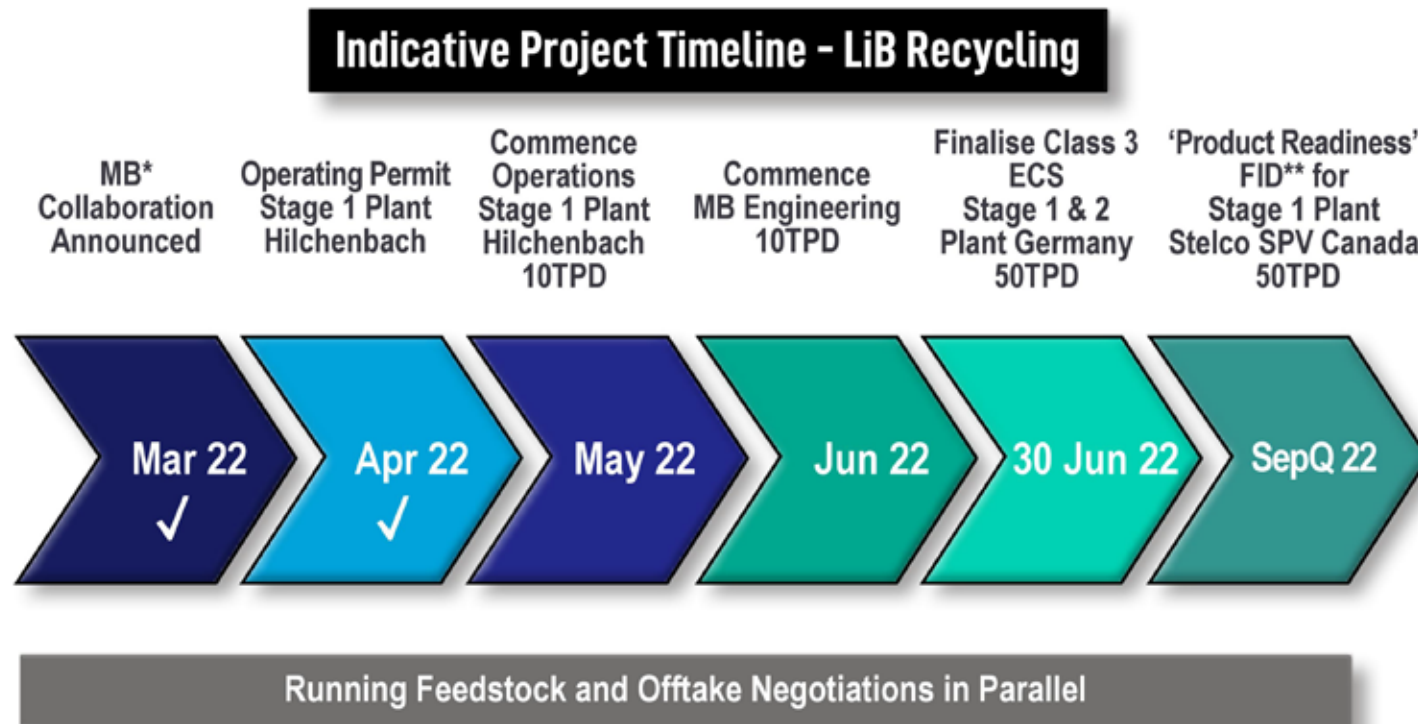
\*For full details refer to Neometals ASX release dated 31<sup>st</sup> December 2021 titled "Battery Recycling - Binding Agreements with Stelco for NA"





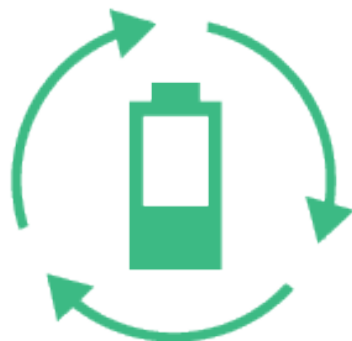
# INDICATIVE TIMELINE

DEMONSTRATION TRIALS FOR FEASIBILITY COMPLETE AND AACE CLASS 3 ENGINEERING COST STUDY FOR 50TPD INTEGRATED (STAGE 1 & 2) OPERATION ON TRACK FOR COMPLETION BY END OF JUNE 2022



\*Mercedes-Benz, Licular GmbH Project \*\* Subject to Board Approval and Primobius Board Approvals.

# INVESTMENT CASE



## LITHIUM-ION BATTERY RECYCLING

1

### **Auto OEMs and Batterymakers Require a LiB 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<sup>(1)</sup>. Highlighted by Stelco whole of vehicle recycling business model.

2

### **Environmentally Friendly Process Differentiated from Incumbent Technology –16 National Phase Patents pending**

Hydromet process has a negligible CO<sub>2</sub> 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 with lower emissions and less transport required than pyrometallurgical incumbents.

4

### **Attractive Economics and Exposure to Battery Metal Prices**

High purity chemicals not intermediates for ethical supply to the cathode producer supply chain with better recovery and lower emissions than pyrometallurgical incumbents

5

### **SMS Partnership and Flexible Business Plan Attracting OEM Partners**

SMS operational and manufacturing capability applied to a flexible business model provides a material speed to market advantage. Technology and business model validation from brand names like Mercedes and Stelco

1. Source: Circular Energy Storage 'The Lithium Battery Life-cycle Report 2021'



# VANADIUM

**Vanadium Recovery Process Technology**  
100% Neometals

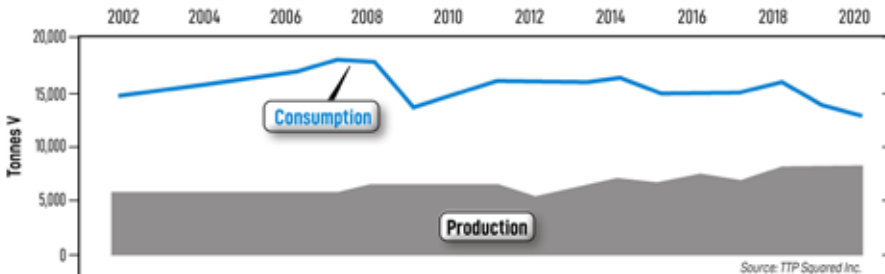
**Vanadium Recovery Project 1 - Finland**  
Evaluating a 50:50 Incorporated  
JV with Critical Metals Ltd



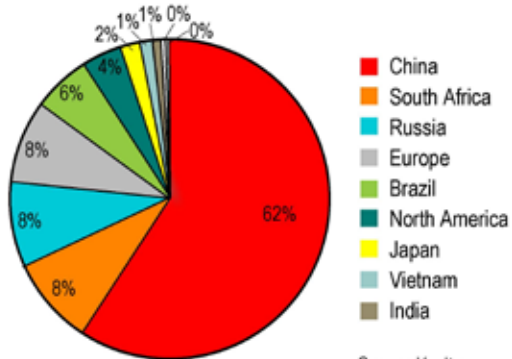
# ISSUE

- EU in supply deficit and totally reliant on Russian feedstock
- World reliant on Chinese production but it is a net importer!

Annual Vanadium Production & Consumption, Europe (excl Russia)



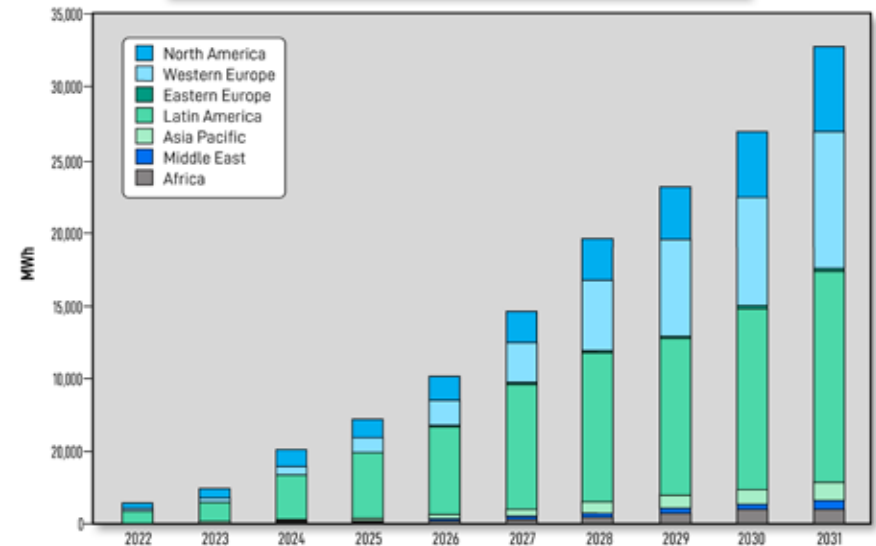
Vanadium Production by Country 2020



# NEED

- EU domestic sustainable sources of this critical battery material
- Low or zero carbon supply footprint required by EU
- High purity material in volumes for VRB and LiB applications

Annual Installed VRFB Utility-Scale & Commercial & Industrial Battery Deployment Energy Capacity by Region

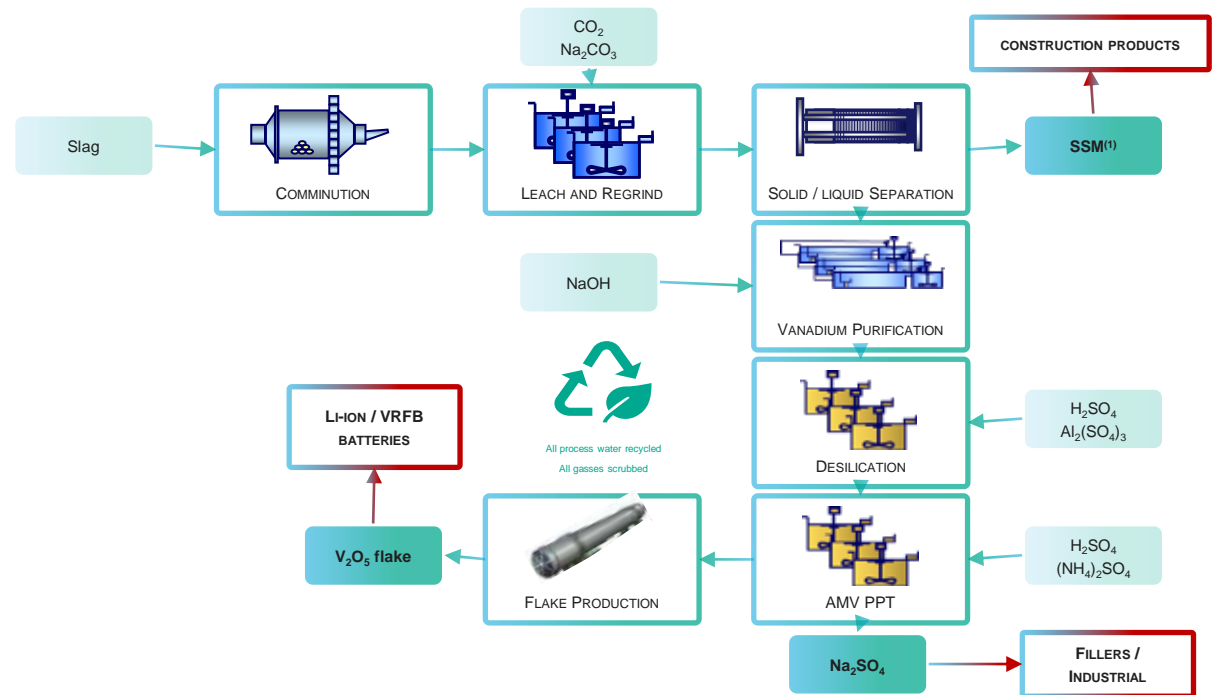




# NEOMETALS SOLUTION

UNIQUE VANADIUM RECOVERY PROCESSING TECHNOLOGY TO SUSTAINABLY PRODUCE HIGH-PURITY GRADE VANADIUM WITH LOWEST CARBON FOOTPRINT

- Utilise stockpiled by-product of the Scandinavian steel industry
- Unique (EU patent pending) hydrometallurgical process which can utilise captured CO<sub>2</sub> from local emitters as primary leaching reagent
- Can permanently chemically sequester CO<sub>2</sub> in tailings product, potential for use in building products as inert filler.
- Potential for negative/zero carbon production of battery-grade material
- Conventional equipment configured in a fully piloted novel process





# CURRENT STATUS

SUCCESSFUL PILOT TRIALS COMPLETE, PROCESSING SITE SECURED,  
FEASIBILITY STUDY NEARING COMPLETION, MOU FOR BY-PRODUCT OFFTAKE

## PROJECT 1 – PORI, FINLAND (VRP1)

- Neometals funding evaluation to FID for the recovery of vanadium using NMT's proprietary eco-friendly hydromet process and developing as a 50:50 Incorporated JV with Critical Metals Ltd
- Supply Agreement with Scandinavian steel giant SSAB for  $\geq 2\text{Mt}$  of high-grade vanadium-bearing by-product (“Slag”)

## PROJECT 2– BODEN, SWEDEN (VRP2)<sup>1</sup>

- MoU<sup>(1)</sup> with H2 Green Steel (future green steel producer) to evaluate second, larger, vanadium production operation

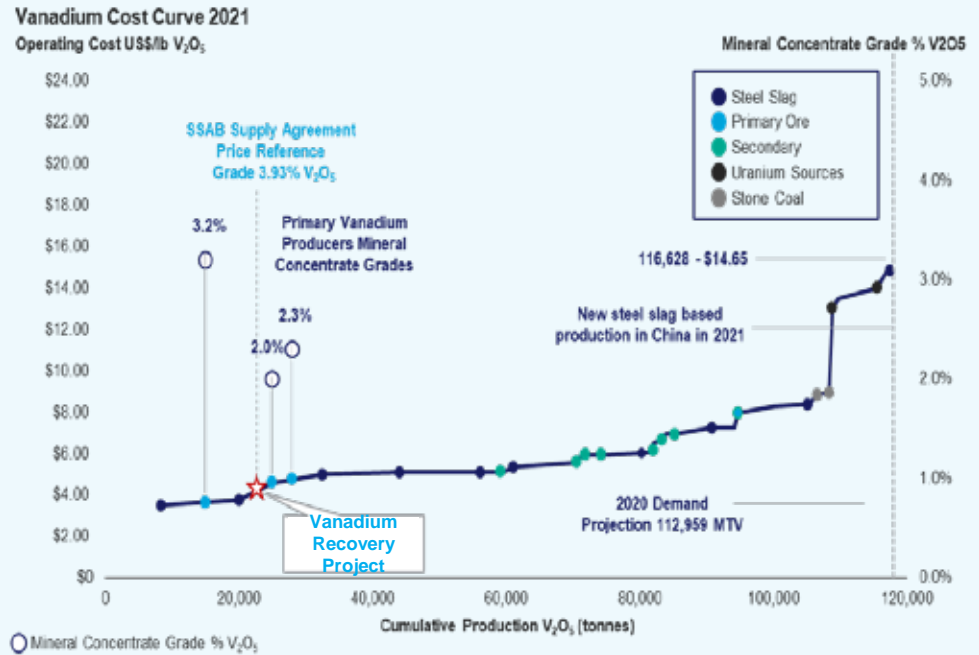


<sup>(1)</sup> H2GS MoU is non-binding. For full details refer to ASX release dated 13th September 2021 titled “H2GreenSteel MOU for 4 Mt High-Grade Slag”



# ROBUST FINANCIAL METRICS – NO MINING RISK

SALE OF HIGH PURITY V TO BATTERY INDUSTRY PLUS BY-PRODUCTS TO INDUSTRIAL APPLICATIONS. SUPPORTED BY LOWEST QUARTILE COSTS AND ESG CREDENTIALS



Source: TTP Squared – Cost Curve, Neometals Management – Mineral Concentrate grades for select vanadium producers market as “O”

<sup>(1)</sup> All figures expressed on a 100% ownership and pre-tax basis. For further information, refer to ASX release dated 4th May 2021 – “Vanadium Recovery Project - Outstanding PFS Results” and the assumptions set out therein. Page 3 of the announcement contains the financial summary which is the source of the throughput rate, production rate, operating costs (“OPEX”), initial capital costs, pre-tax net present value using a 10% discount rate (“NPV10”) and pre-tax payback period. The internal rate of return was calculated by Neometals Management.

# BUSINESS / REVENUE MODEL



FLEXIBLE GROWTH MODEL WITH MULTIPLE POTENTIAL REVENUE STREAMS

1



**V Products**

Produce high-purity Vanadium Pentoxide ( $V_2O_5$ ) targeting EV/ESS supply chain from SSAB, H2 Green Steel and other third-party feeds

2



**By Products**

LOI with Betolar to offtake SSM for 'Geoprime' building products, carbon credits from permanently sequestered  $CO_2$  and small volume sales of sodium sulphate by-product

3



**License**

Licensing IP directly for royalty to Critical Metals JV and third-party steelmakers

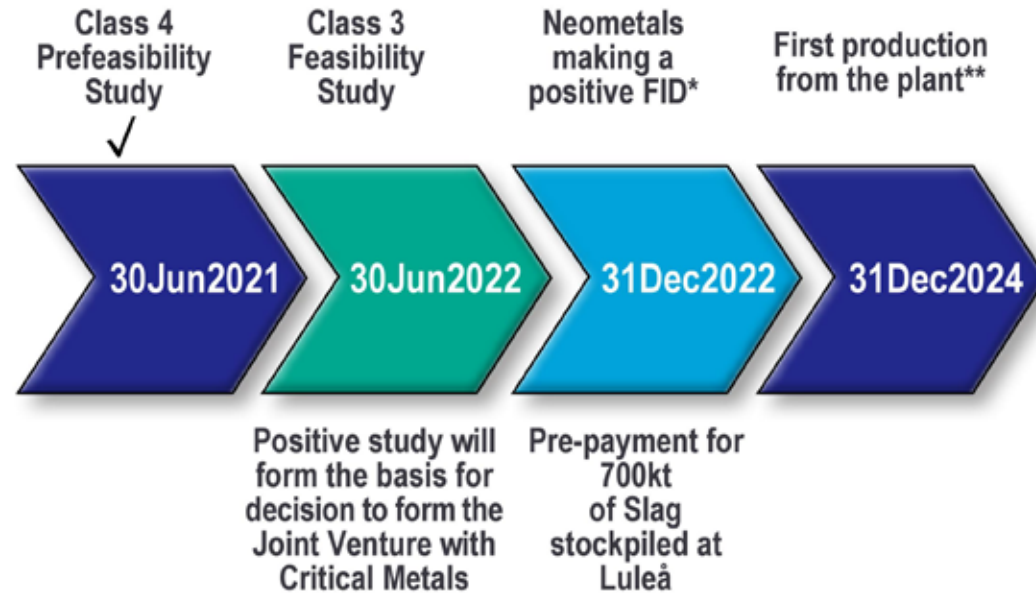




# INDICATIVE TIMELINE

FUNDED TO FID. CLASS 3 FEASIBILITY AND CUSTOMER PRODUCT TRIALS UNDERWAY IN PARALLEL WITH ENVIRONMENTAL PERMITTING IN FINLAND

## Indicative Project Timeline - Vanadium Recovery Project



\* Subject to successful studies and Neometals/Critical Metals Board Approval. \*\* Subject to FID, approvals, finance



# INVESTMENT CASE



## VANADIUM RECOVERY

1

### Strong Fundamentals for low-carbon Vanadium in EU

Forecast supply / demand imbalance for Vanadium with demand upside from new lithium vanadium battery cathode chemistries and Vanadium redox flow batteries

2

### Piloted, environmentally-friendly Technology – PCT/EU patents pending

Pilot plant produced high-grade V<sub>2</sub>O<sub>5</sub> powder (exceeding 99.5%) using a process which utilises carbon as major reagent and can sequester carbon in by-product.

3

### Secure Feedstock for first commercial operation

10 year, minimum 2 million tonne purchase agreement with leading Scandinavian steel maker SSAB.

4

### Robust Economics and Cost Position

PFS incorporating an AACE Class 4 engineering confirms superior project economics and the projects 1<sup>st</sup> quartile cost of production. Economics strongly supported by vanadium grades in Slag stockpiles


5

### Significant Future Growth Potential from Additional Sites

MoU signed with H2GS AB for a second larger Vanadium Recovery Project – Boden, Sweden. Testing third party feedstocks ex-EU


# KEY CATALYSTS

NEOMETALS IS APPROACHING MULTIPLE FID'S WITH BUSY PERIOD OF CATALYSTS




## Lithium-ion Battery Recycling

2H22:
<ul style="list-style-type: none"><li>ECS 50tpd integrated</li><li>10tpd Mercedes shredder PO</li><li>50tpd Stelco shredder FID* (inc. option exercise)</li></ul>
1H23:
<ul style="list-style-type: none"><li>10tpd Disposal Plant at full capacity</li><li>10tpd Mercedes refinery PO*</li><li>50tpd Stelco SPV refinery FID*</li></ul>
2H23**:
<ul style="list-style-type: none"><li>Mercedes 10tpd shredder operational</li><li>50tpd Stelco shredder operational</li></ul>



## Vanadium Recovery

2H22:
<ul style="list-style-type: none"><li>Feasibility Study Results</li><li>FEED Study</li><li>Offtake/Debt Term Sheets</li><li>VRP1 FID* and Slag prepayment</li></ul>
1H23:
<ul style="list-style-type: none"><li>Detailed Design Study</li><li>Commence site works</li><li>Order lead items</li><li>Complete Slag Storage Facilities</li></ul>
2H23**:
<ul style="list-style-type: none"><li>Commence Slag Shipping</li><li>Commence construction</li></ul>



## Lithium Chemicals

2H22:
<ul style="list-style-type: none"><li>Class 3 ECS</li><li>Pilot Plant Engineering &amp; Procurement</li></ul>
1H23:
<ul style="list-style-type: none"><li>Install Pilot Plant</li><li>Commence Pilot Trials</li><li>Decision to commence Class 2 FEED Study</li></ul>
2H23**:
<ul style="list-style-type: none"><li>Complete Class 2 FEED Study</li><li>FID to formalise Bondalti JV*</li></ul>

*Note: partner negotiations, offtake and feed arrangements will be run in parallel with the above*

*\* Subject to successful studies and Neometals/partner Board Approvals*

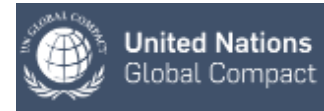
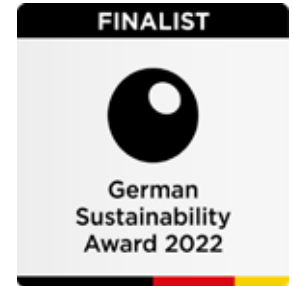
*\*\* Subject to FID, approvals and finance*

# 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 mining with recovery and recycling
- Commercialising internationally recognised sustainable processing technologies
- Transparent reporting to GRI, SASB, TCFD..
- 3<sup>rd</sup> report in progress



# COMPANY HIGHLIGHTS

## NEOMETALS IS AN ATTRACTIVE INVESTMENT



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



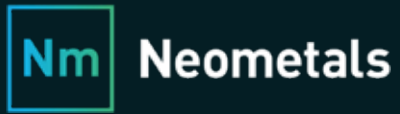
**Strong balance sheet**, fully funded to to key investment decisions



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



ASX Code: **NMT**  
AIM Code: **NMT**  
[neometals.com.au](http://neometals.com.au)

Thank you.





# APPENDICES

# CORPORATE DASHBOARD

NEOMETALS HAS SIGNIFICANTLY OUTPERFORMED THE ASX200, A\$82M RETURNED VIA DIVIDENDS AND BUY BACKS IN THE LAST ~5 YEARS

ASX: NMT OTC:RDRUY

Shares on Issue <sup>(1)</sup>	m	548.4
Share Price	A\$	1.40
Market capitalisation	A\$m	<b>768</b>
Cash (31-Mar-22) <sup>(2)</sup>	A\$m	65.2
Debt	A\$m	-
Investments (31-Mar-22) <sup>(3)</sup>	A\$m	46.5

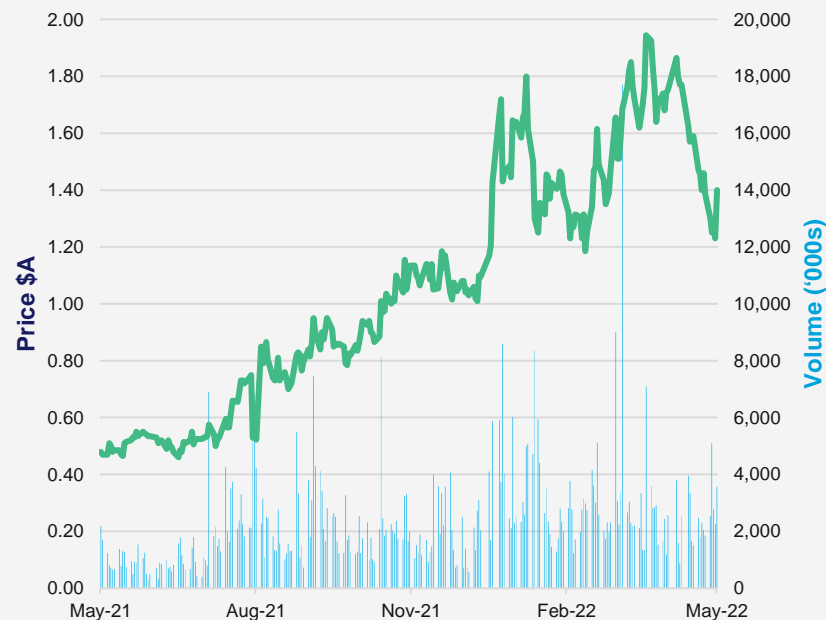
## MAJOR SHAREHOLDERS

David Reed (Founder, Former Non-Executive Director)	6.6%
Clearstream/Deutsche Börse	3.87%
Top 20	37.89%
No of Shareholders	~14,349

Notes: Market data as at 13 May 2022.

- <sup>(1)</sup> Excludes 15.3M performance rights
- <sup>(2)</sup> incl A\$4.2M restricted term deposits
- <sup>(3)</sup> Loan receivables and investments

## 12 MONTH SHARE PRICE PERFORMANCE







# LITHIUM CHEMICALS

## **ELi<sup>®</sup> Processing Technology**

Reed Advanced Materials (“RAM”)

70% Neometals / 30% Mineral Resources Ltd

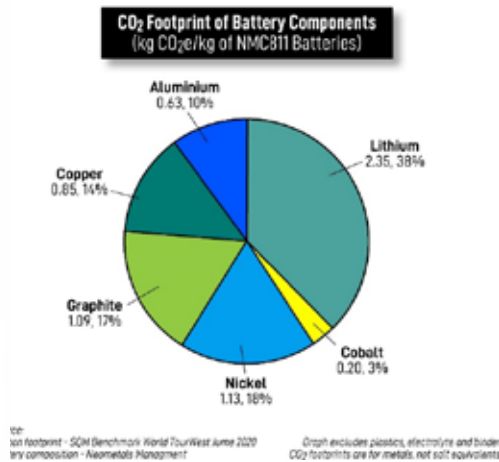
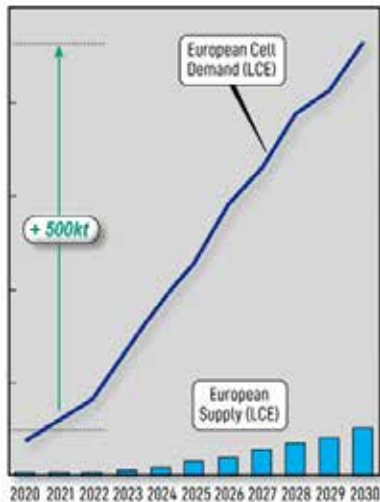
## **Lithium Chemicals Project - Portugal**

Co-funding evaluation of 50:50 JV with

Bondalti Chemicals SA using ELi<sup>®</sup> Process

# NEED

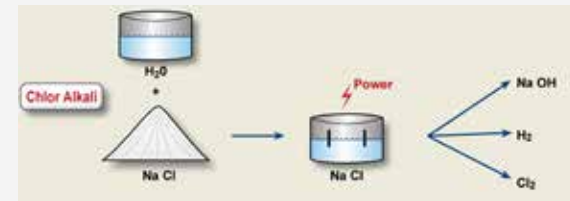
LITHIUM NON-SUBSTITUTABLE IN LIB  
 EU HAS NO OPERATING LITHIUM DEPOSITS  
 LARGEST CONTRIBUTOR TO CO2 FOOTPRINT OF LIB



# 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



# SOLUTION

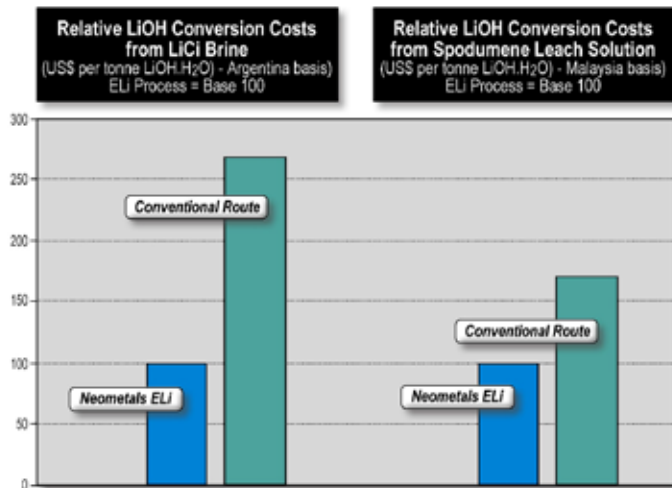
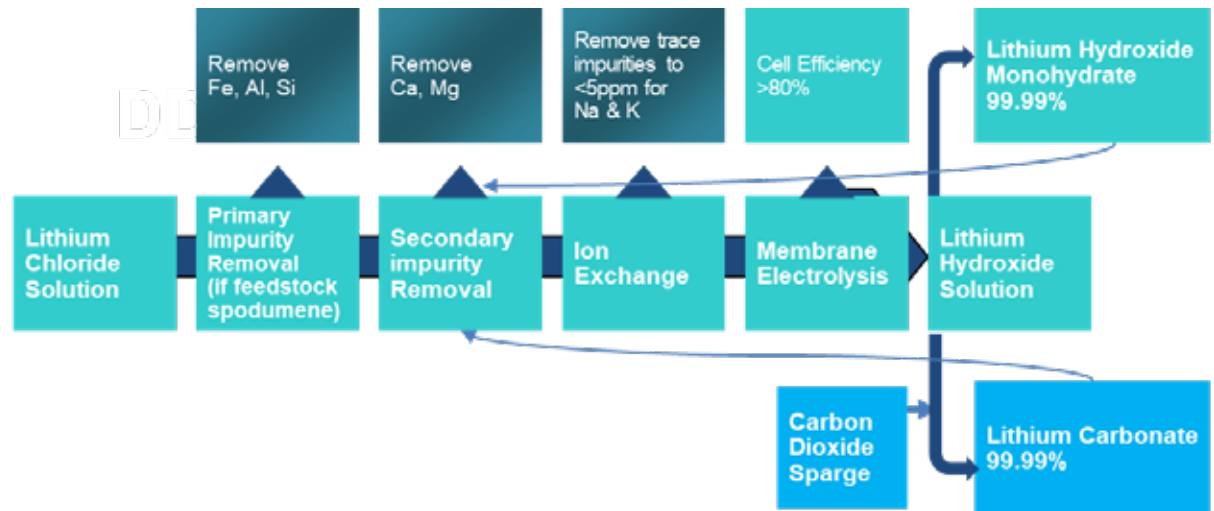


UTILISES OFF-THE-SHELF CHLOR-ALKALI ELECTROLYSERS

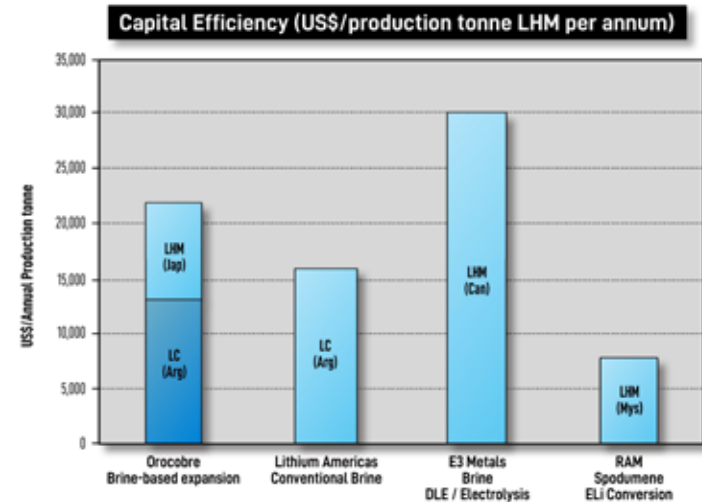
BATTERY QUALITY LITHIUM CHEMICALS, NO IMPORTED SODA ASH/CAUSTIC SODA

CAN UTILISE RENEWABLE POWER AND SEQUESTER CARBON

SIGNIFICANT OPERATING AND CAPITAL COST ADVANTAGES



Source: Hatch (2018)



Source: Orocobre, Lithium Americas, E3 Metals Company Reports, Eytle CLJ Engineering Cost Study (2018)



# BONDALTI PARTNERSHIP

LEVERAGE BONDALTI'S STRONG EXPERIENCE IN CHLOR-ALKALI

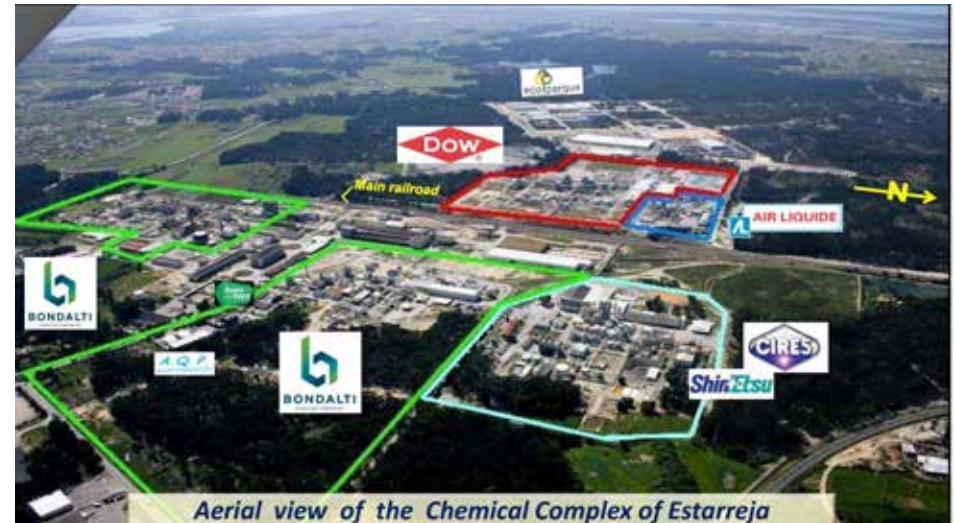
EXTENSIVE INFRASTRUCTURE ENABLES FAST-TRACK EVALUATION AND PILOTING AT THEIR ESTARREJA CHEMICAL SITE

## Bondalti:

- Largest Portuguese chemical producer - based in Estarreja chemical cluster
- Seeking entry into LiOH production using its chlor-alkali process infrastructure
- Production synergy for ELi<sup>®</sup> to ship H<sub>2</sub> and Cl<sub>2</sub> by-products “over the fence”
- Experienced and competent industrial operator of same type of chlor-alkali plant used for ELi<sup>®</sup>

## Cooperation\*:

- Binding cooperation to pilot ELi<sup>®</sup> 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



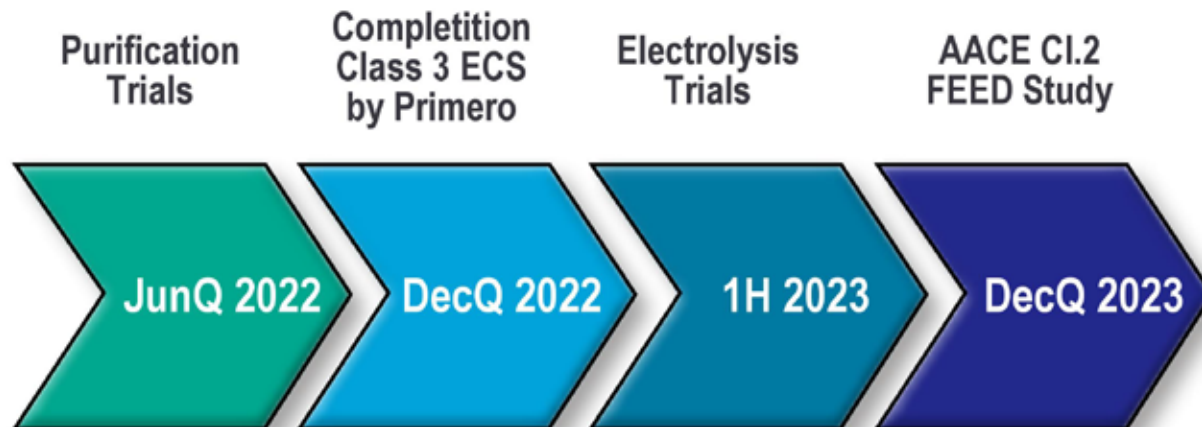
\*For further information, refer to ASX release dated 13<sup>th</sup> December 2021 – “Agreement to Commercialise ELi Lithium Process in EU”

# STATUS / NEXT STEPS

FUNDED THROUGH PILOT PLANT TO CLASS 2 FEED STUDY



## Indicative Timeline - Bondalti ELi<sup>®</sup> Cooperation



*\* Subject to Steering Committee approvals*



# INVESTMENT CASE



## ELi<sup>®</sup> LITHIUM PROCESS

- 1 Unique Technology with 12 granted patents and 18 pending**  
*Technology well guarded. Importantly the process has been proven at semi-pilot scale and supported by Feasibility Study economic evaluation.*
- 2 Significant operating and capital cost advantage**  
*Recovery and regeneration of key reagents on site eliminates expensive imports*
- 3 Compelling environmental benefits to reduce CO<sub>2</sub> footprint**  
*Potential for significant reduction carbon footprint due to shift in primary reagent to electricity and elimination of carbon intensive transportation of feedstocks and reagents, potential for additional savings with renewable power*
- 4 Strong partner to scale up and commercialise in EU**  
*Bondalti is Portugal's largest chemical business in with extensive chlor alkali experience, and plant that can be repurposed to produce lithium hydroxide,*
- 5 Flexible business models that can be replicated globally**  
*Neometals (through RAM) can deploy globally (ex-EU) as principal, in partnership with, or licence to lithium developers/producers for royalty stream*



# BARRAMBIE TITANIUM AND VANADIUM

**Barrambie Titanium and Vanadium Project**  
100% Neometals

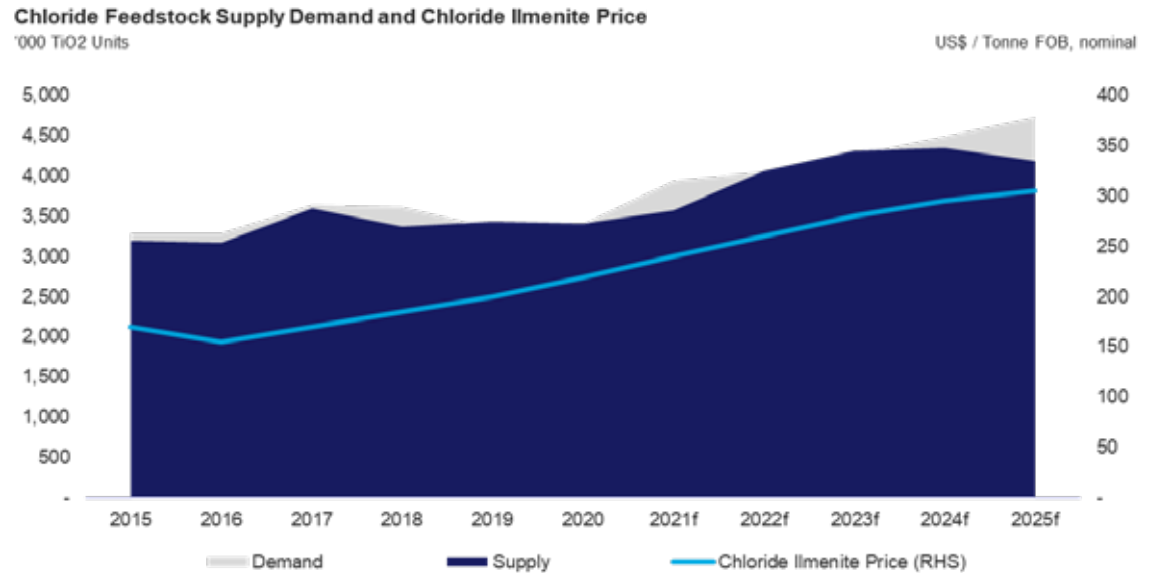


# NEED & OPPORTUNITY

CHINA IS HALF WORLD MARKET AND SWITCHING TITANIUM PIGMENT PRODUCTION TO MORE SUSTAINABLE CHLORIDE PROCESS

WORLD SUPPLY OF QUALITY CHLORIDE FEEDSTOCKS IN DECLINE, PRICES STEADILY INCREASING FOR LAST 5 YEARS

- Chloride Pigment production requires high-grade feedstocks such as rutilites, high quality ilmenites and high-grade titanium slags
- Primary mineral sands (rutile, ilmenite) deposits are being depleted, smelting of hard-rock titanium concentrates from Rio and China set benchmark prices
- Barrambie is one of the highest-grade hard rock Titanium assets globally<sup>1</sup>
- Key mining/construction permits in place
- Working with Chinese partners to realise and optimise value<sup>2</sup> from production



Source: TZMI Price Forecast May 2021; TZMI Supply Demand Forecast August 2021

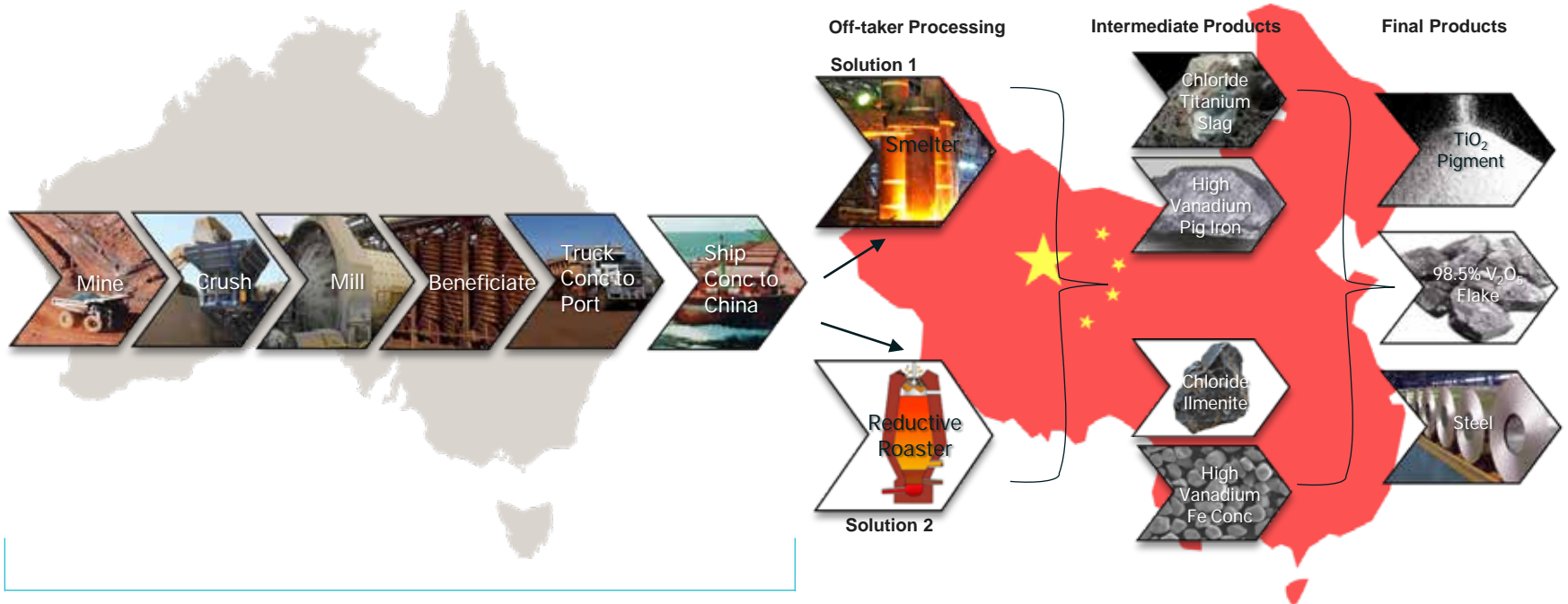
1. See Barrambie Mineral Resource Estimate on slide 44.
2. For further details of commercial partnerships via MOU please see: ASX release of 16/4/2021 titled "Barrambie - MOU for Cornerstone Concentrate Offtake" and ASX release of 4/10/2019 titled "MOU for JV to develop Barrambie"





# 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



# STATUS / NEXT STEPS

MOU FOR POTENTIAL 50:50 JV OPERATING JV WITH IMUMR<sup>1</sup> (CHINA)

MOU FOR OFFTAKE WITH TITANIUM SLAG PRODUCER JIUXING TITANIUM<sup>2</sup>

COMPLETING PFS TO BENCHMARK NEGOTIATIONS FOR BUILD-OWN-OPERATE CONTRACTORS

## Indicative Project Timeline - Barrambie Mixed Gravity Concentrate Route



\* Subject to successful Jiuxing trial, positive PFS and Board approval

1. for full details refer to ASX announcement entitled "MOU for JV to develop Barrambie" released on 4th October 2019
2. for full details refer to ASX announcement entitled "Barrambie - MOU for Barrambie Concentrate Offtake" released on 16th April 2021

# INVESTMENT CASE



## BARRAMBIE PROJECT

### 1 Strong Demand/Supply Fundamentals for Titanium

China is transitioning from sulphate to more environmentally friendly and sustainable chloride titanium production, so securing access to cleaner, higher grade chloride feedstock is a strategic imperative.

### 2 Large, High-Grade Resource<sup>1</sup> in Tier 1 Jurisdiction

One of the World's highest grade hard-rock titanium assets<sup>1</sup> with revenue upside from vanadium rich iron by-products. \$37M spent over +15 years.

### 3 'Mine-ready'

Granted mining proposal and Ministerial Approval to construct 3.2Mtpa concentrator MoUs with Chinese partners for potential operating JV and separate take-or-pay offtake

### 4 Capital Light Development Strategy

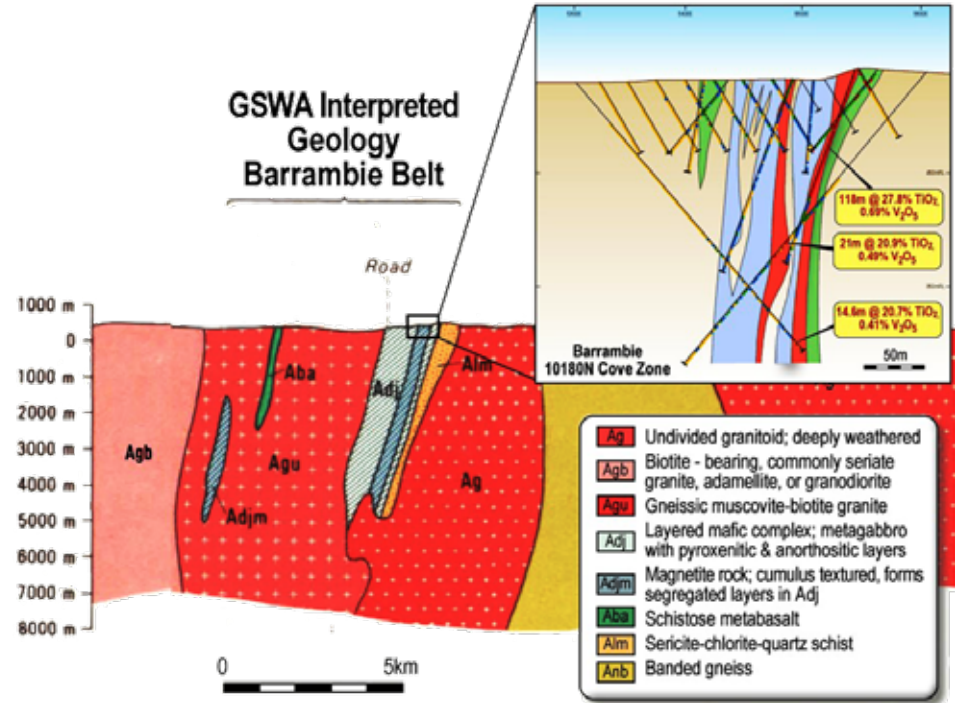
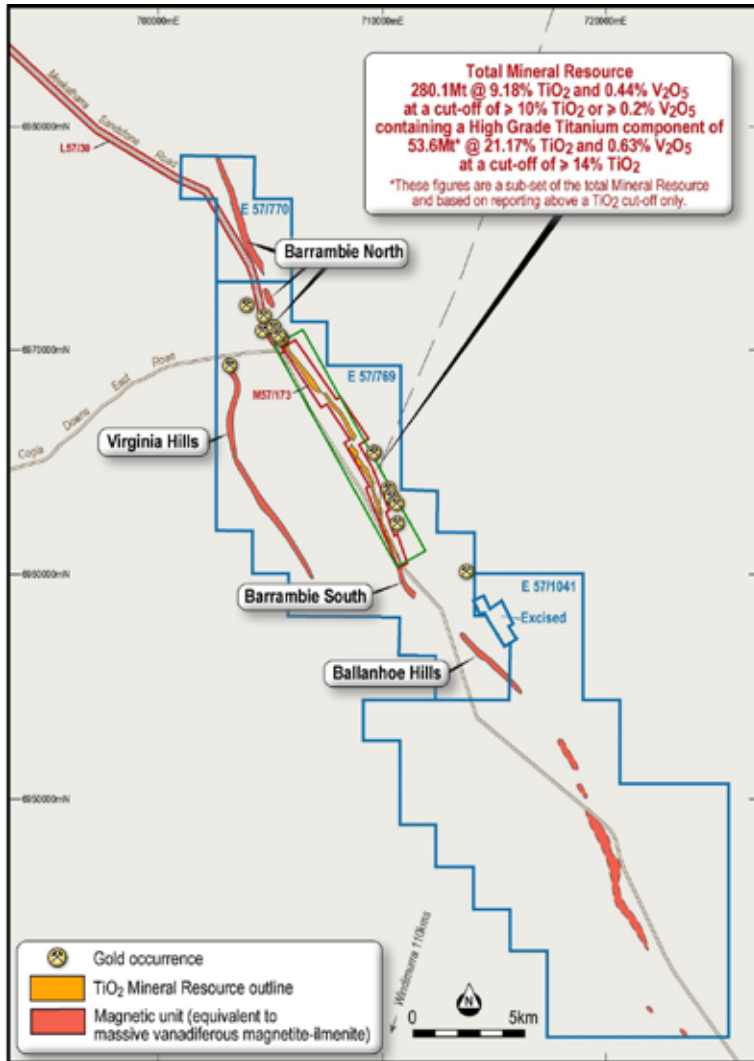
Potential BOO/T mining and concentration in Australia with intermediate product exported to China

### 5 Proven Partnering Business Model

Track record of working with partners to de-risk and deliver project execution outcomes with strong returns to shareholders (Mt Marion & Widgie Nickel examples)

1. For full details refer to Neometals ASX release dated 17th April 2018 titled "Barrambie Project - Mineral Resource Update" and Appendix: Barrambie Mineral Resource Estimate on slide 44

# MINERAL RESOURCE ESTIMATE



# MINERAL RESOURCE ESTIMATE



Global Mineral Resource as at 17 April 2018 <sup>1</sup>			
Classification	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>			
Classification	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 Grade TiO <sub>2</sub> Mineral Resource at (14% TiO <sub>2</sub> cut-off) <sup>2</sup>			
Classification	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  $\geq 10\%$  TiO<sub>2</sub> or  $\geq 0.2\%$  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 17<sup>th</sup> April 2018 titled "Barrambie Project - Mineral Resource Update"