



**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

# Delivering the World's Next Primary Vanadium Mine

## Strategic Commodity Focus

Noosa Mining & Exploration  
Investor Conference

14 July 2021



TECHNOLOGY  
METALS AUSTRALIA LIMITED

# Important Information

## Disclaimer

This presentation has been prepared by Technology Metals Australia Limited (“Company”). It does not purport to contain all the information that a prospective investor may require in connection with any potential investment in the Company. You should not treat the contents of this presentation, or any information provided in connection with it, as financial advice, financial product advice or advice relating to legal, taxation or investment matters.

No representation or warranty (whether express or implied) is made by the Company or any of its officers, advisers, agents or employees as to the accuracy, completeness or reasonableness of the information, statements, opinions or matters (express or implied) arising out of, contained in or derived from this presentation or provided in connection with it, or any omission from this presentation, nor as to the attainability of any estimates, forecasts or projections set out in this presentation.

This presentation is provided expressly on the basis that you will carry out your own independent inquiries into the matters contained in the presentation and make your own independent decisions about the affairs, financial position or prospects of the Company. The Company reserves the right to update, amend or supplement the information at any time in its absolute discretion (without incurring any obligation to do so).

Neither the Company, nor its related bodies corporate, officers, their advisers, agents and employees accept any responsibility or liability to you or to any other person or entity arising out of this presentation including pursuant to the general law (whether for negligence, under statute or otherwise), or under the Australian Securities and Investments Commission Act 2001, Corporations Act 2001, Competition and Consumer Act 2010 or any corresponding provision of any Australian state or territory legislation (or the law of any similar legislation in any other jurisdiction), or similar provision under any applicable law. Any such responsibility or liability is, to the maximum extent permitted by law, expressly disclaimed and excluded.

Nothing in this material should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities. It does not include all available information and should not be used in isolation as a basis to invest in the Company.

## Future matters

This presentation contains reference to certain intentions, expectations, future plans, strategy and prospects of the Company.

Those intentions, expectations, future plans, strategy and prospects may or may not be achieved. They are based on certain assumptions, which may not be met or on which views may differ and may be affected by known and unknown risks. The performance and operations of the Company may be influenced by a number of factors, many of which are outside the control of the Company. No representation or warranty, express or implied, is made by the Company, or any of its directors, officers, employees, advisers or agents that any intentions, expectations or plans will be achieved either totally or partially or that any particular rate of return will be achieved.

Given the risks and uncertainties that may cause the Company’s actual future results, performance or achievements to be materially different from those expected, planned or intended, recipients should not place undue reliance on these intentions, expectations, future plans, strategy and prospects. The Company does not warrant or represent that the actual results, performance or achievements will be as expected, planned or intended.

## Competent Person’s Statement

*The information in this report that relates to Exploration Results are based on information compiled by Mr John McDougall. Mr McDougall is the Company’s Exploration Manager and a member of the Australian Institute of Geoscientists. Mr McDougall has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (“JORC Code”). Mr McDougall consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to Mineral Resources is based on information compiled by Mr Aaron Meakin. Mr Aaron Meakin is a Principal Consultant of CSA Global Pty Ltd and is a Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy. Mr Aaron Meakin has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code”). Mr Aaron Meakin consent to the disclosure of the information in this announcement in the form and context in which it appears.*

*The information that relates to Ore Reserves is based on information compiled by Mr Daniel Grosso an employee of CSA Global Pty Ltd. Mr Grosso takes overall responsibility for the Report as Competent Person. Mr Grosso is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Person in terms of the JORC (2012 Edition). The Competent Person, Daniel Grosso has reviewed the Ore Reserve statement and given permission for the publication of this information in the form and context within which it appears.*

*The information in this report that relates to the Processing and Metallurgy for the Yarrabubba and Gabanintha projects is based on and fairly represents, information and supporting documentation compiled by Mr Brett Morgan of METS Engineering Group Pty Ltd. Mr Morgan is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2012 edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. The Competent Person, Brett Morgan consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

All currency amounts are in AUD\$ unless stated otherwise.

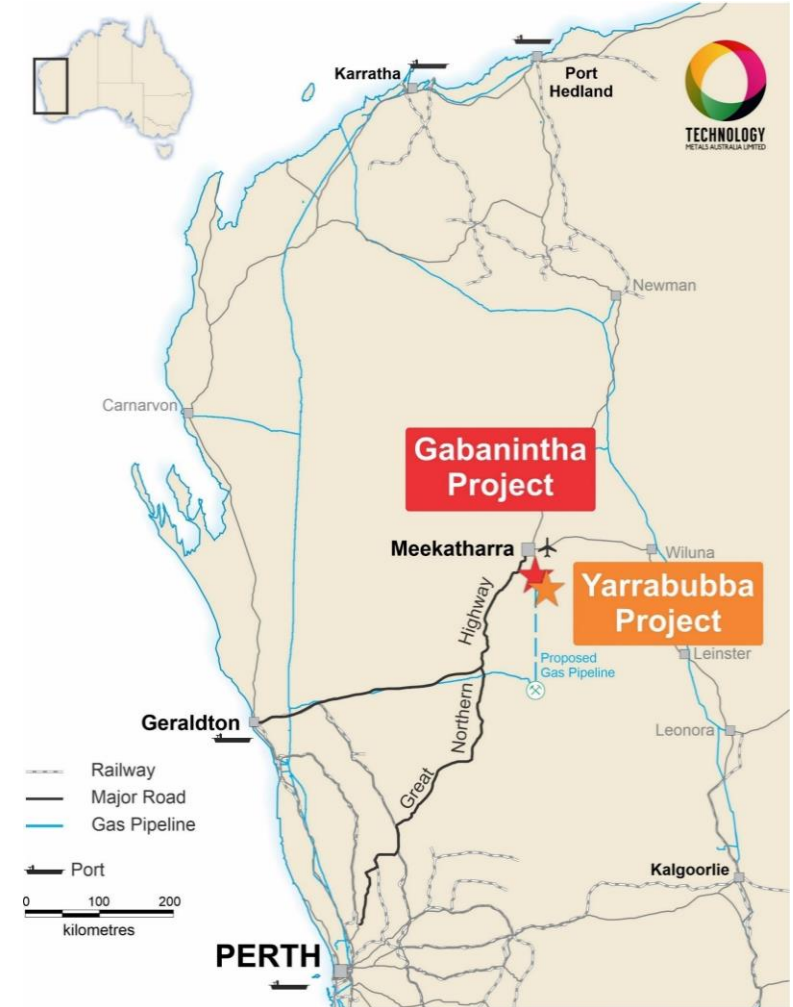




TECHNOLOGY  
METALS AUSTRALIA LIMITED

# Why Invest in TMT?

- **Strategic Commodities in a Tier 1 Jurisdiction.**
- **Gabanintha Vanadium Project** – DFS<sup>1</sup> delivered large scale, long life, lowest cost quartile, high purity Tier 1 vanadium project.
  - EBITDA **A\$2,776** million over initial 16 years.
  - NPV<sub>8% pre tax</sub> **A\$663** million at current prices.
  - Offtake for up to 75% of average annual output.
- **Yarrabubba Iron-Vanadium Project** – a near term modest capital development project to unlock the Gabanintha value.
  - Proposed<sup>2</sup> 1.5Mtpa of high grade iron ore with vanadium credit.
  - DFS on track for delivery in Q4 2021.
- **Granted** mining leases, environmental approvals on track.
- **Regionally / nationally** significant projects in proven mining region.
- **Implementing staged** cost effective development approach to minimise initial capital and maximise benefits for stakeholders.



1 - TMT ASX announcement 21 August 2019 for full details of the DFS: Financial Metrics at long term historical average price of US\$8.78/lb V<sub>2</sub>O<sub>5</sub>

2 - TMT ASX announcement 4 May 2021

# Corporate Overview

**TMT**

ASX Code

**\$49.6m**

Market Cap  
*(as at 13 July 2021)*

**18.7m**

Unlisted Options<sup>1</sup>  
*(various exercise)*

**\$5.5m**

Cash  
*(pro-forma as at 30 June 2021)*

**150.2m**

Shares on Issue

**2.65m**

Performance Rights<sup>2</sup>

<sup>1</sup> Includes 12.35m director and employee options – 3.9m vested, 4.1m to vest on GVP FID, 4.35m vest on YIVP hurdles

<sup>2</sup> 50% vest on Yarrabubba FID, 50% vest on first production from Yarrabubba

CAPITAL STRUCTURE

Holder Name	Holding (%)
BNP Paribas Nominees	10.9%
Great Southern Flour Mills	9.3%
Retzos Group	5.4%
Colin David Iles	4.0%
Station Nominees	3.3%
Atasa Holdings	3.2%
<b>TOTAL TOP 20</b>	<b>49.2</b>

# Board and Management



**Ian Prentice**  
Managing Director



**Michael Fry**  
Non-Exec Chairman



**Sonu Cheema**  
Non-Exec Director / Co Sec



**Michael Bourke**  
Project Director

**Manjot Singh**  
Process Engineer

**John McDougall**  
Exploration Manager

Board & Management holdings – ~9.4% fully diluted





# Building a Globally Relevant Resources Company

Focused on value creation for shareholders and the communities in which we operate and playing our role in the move to decarbonization

“TMT is working with local, state and national stakeholders to deliver long term social and economic benefits to the communities in which we live and work while minimising impact to the environment”

## Environment

Constructive consultation with WA EPA supporting progress on the GVP ERD.

Early engagement with Traditional Owners and Pastoralists to minimise impacts.

Promote energy efficiency and minimise water usage.

Policy of mitigation, minimisation and rehabilitation.

## Social / Community

Policy in place to support local procurement and employment wherever practical.

Support community events and activities – developing a social licence to operate.

Generate training, business and work opportunities for Traditional Owners.

Pursue downstream processing options to ensure value add and skills development.

## Governance

Instilling a culture of high ethical standards throughout the group and its activities.

Aim to always operate in a safe and respectful manner.

Focus on active risk management throughout the business.

Develop, nurture and maintain our people.

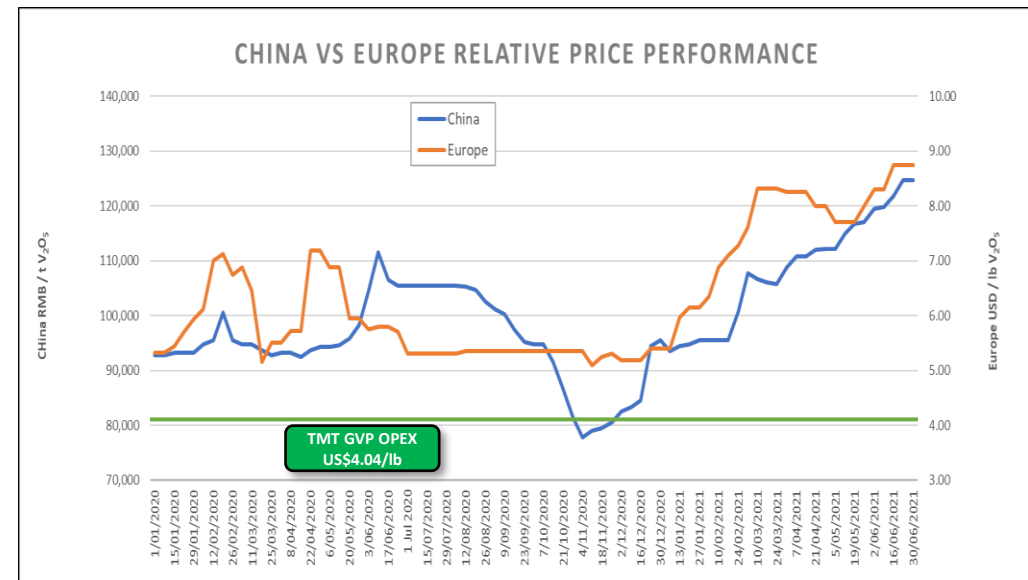


# Vanadium – a Critical Mineral Supporting Net Zero

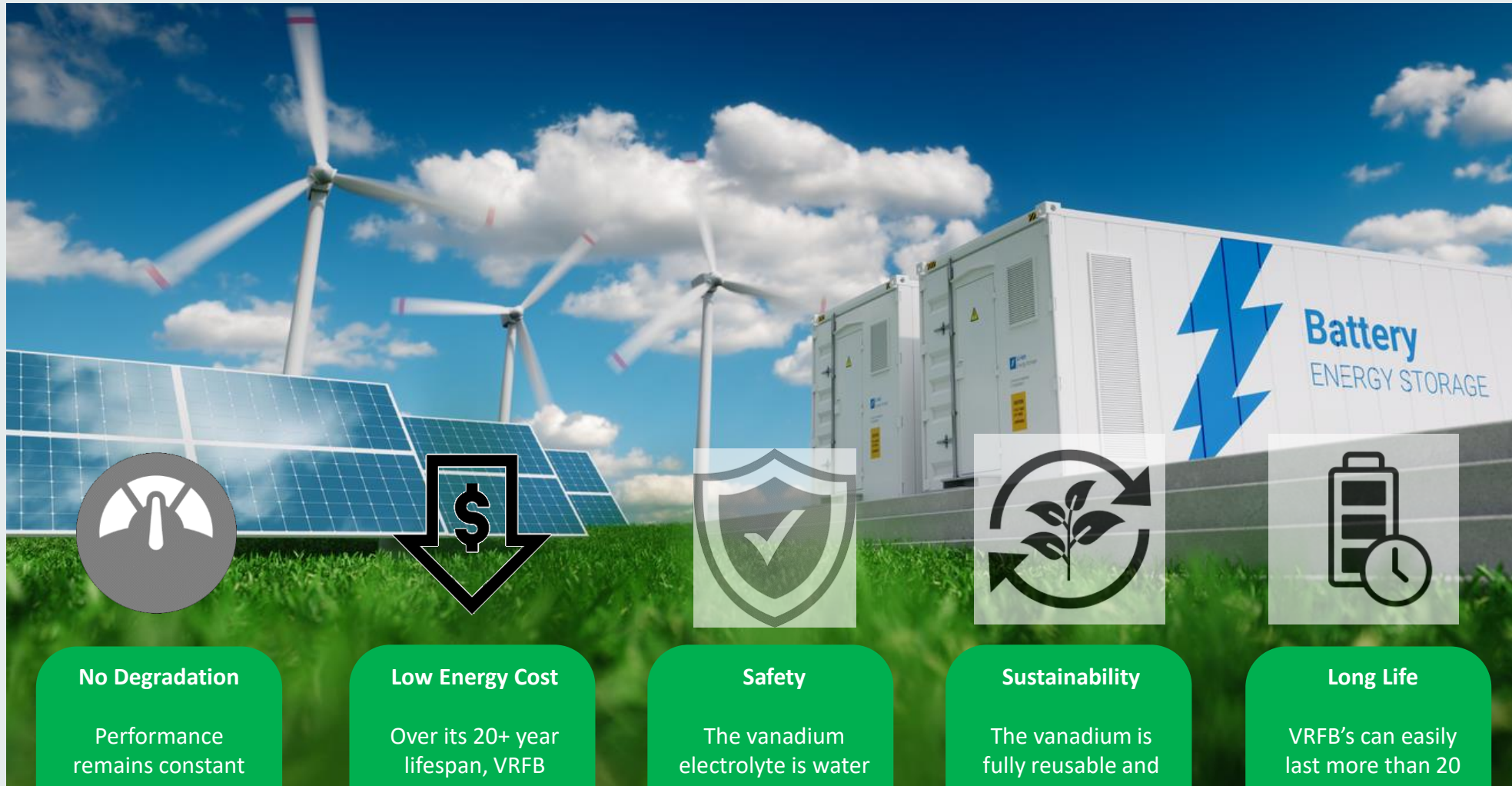


- Vanadium has an important role to play strengthening steel, enabling higher quality steel, lowering emissions.
- It is also used in very large scale batteries (VRFB) that don't degrade over time, ideal for support of renewable energy.
- Tightening market with consumption in steel in China and improving demand in Europe and North America.
- COVID-19 impacts – stimulus spending on infrastructure and focus on renewable energy / storage.

“We see significant growth in demand for vanadium - which we foresee due to its growing use in high grade steel and flow batteries.”  
Sir Mick Davis, former Xstrata plc CEO



# VRFB's – Enabling the Future of Green Energy



## No Degradation

Performance remains constant with excellent long term charge retention



## Low Energy Cost

Over its 20+ year lifespan, VRFB technology offers the lowest cost per kWh stored (LCOE)



## Safety

The vanadium electrolyte is water based and is totally non flammable



## Sustainability

The vanadium is fully reusable and recyclable at end of the battery life



## Long Life

VRFB's can easily last more than 20 years with very high cycle life (up to 20,000 cycles)





**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

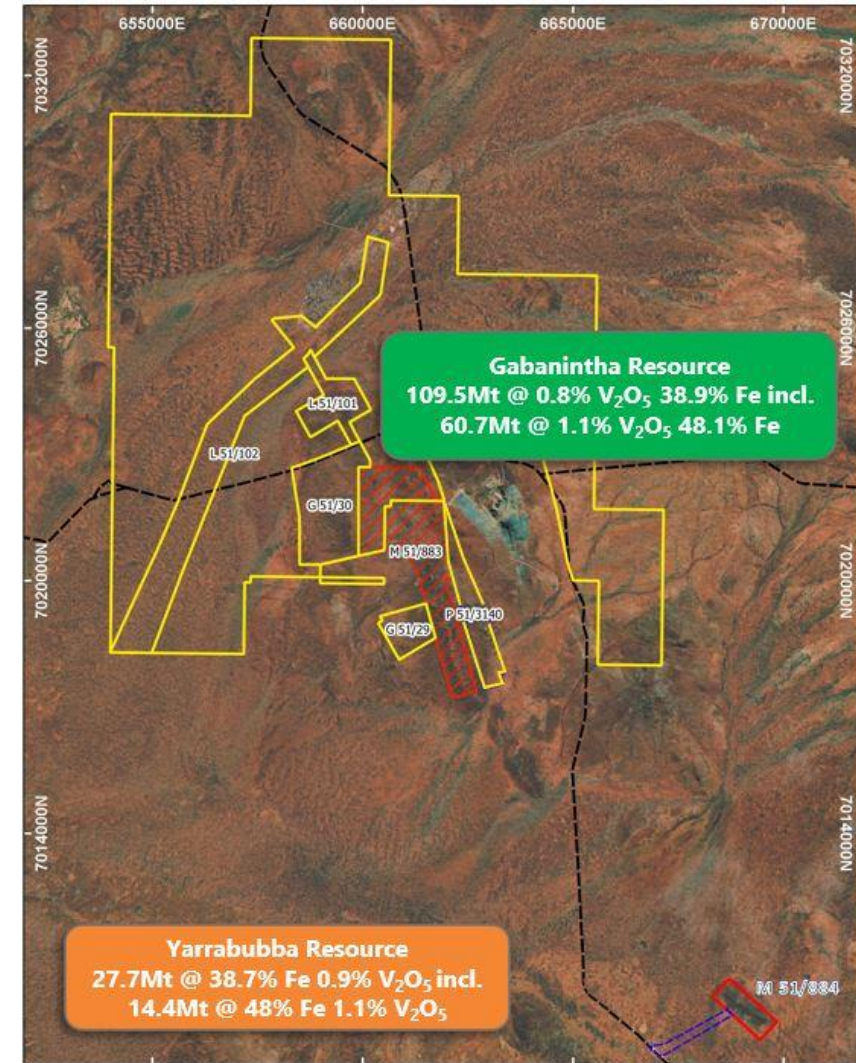
# YARRABUBBA IRON-VANADIUM PROJECT

## PREMIUM IRON ORE PRODUCT INTO A BOOMING MARKET



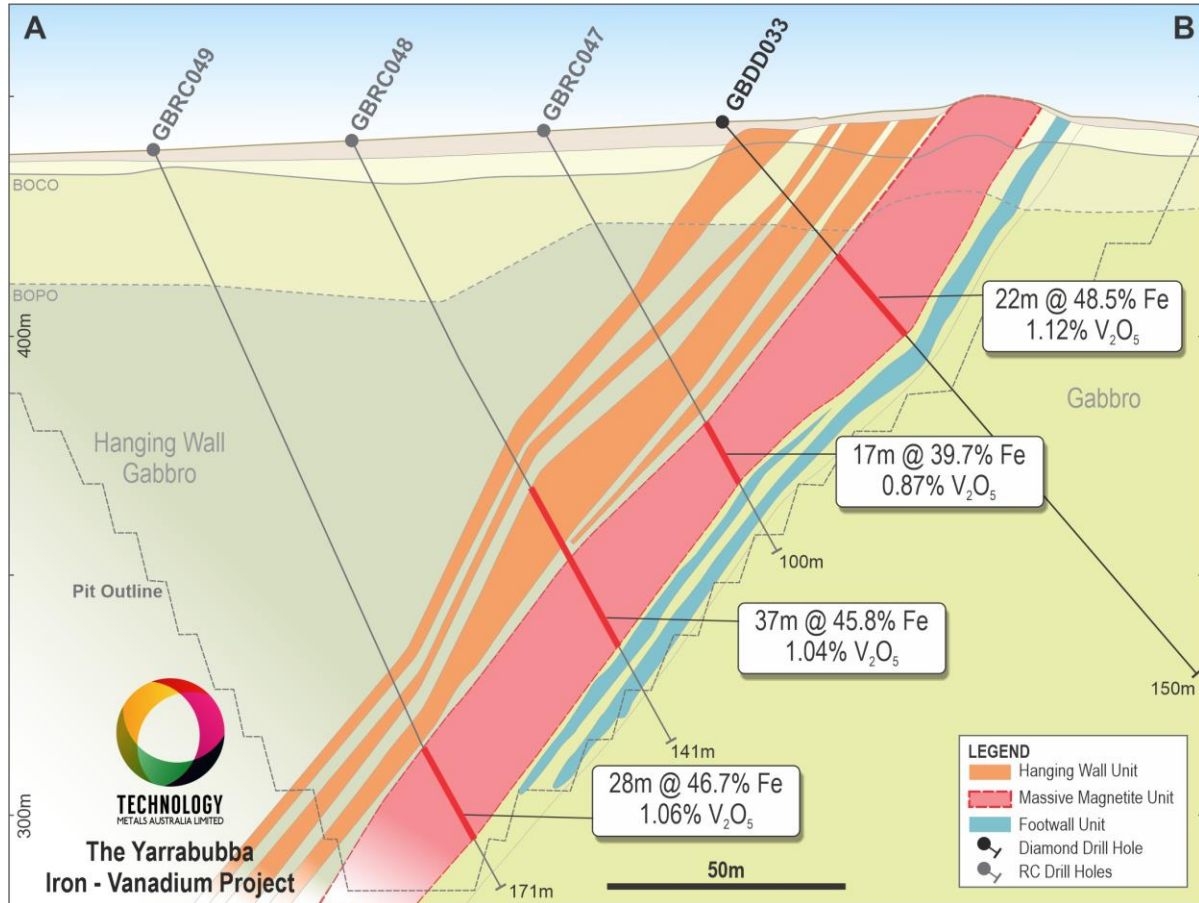
# Yarrabubba - Iron Ore Product to Attract Premium Pricing

- Proposed<sup>1</sup> 1.5Mtpa of high grade, high purity iron ore (+ vanadium) magnetite product.
- **62.8% Fe and 1.66% V<sub>2</sub>O<sub>5</sub>** at 75-micron grind size with **mass recovery of 49.6%**.
- Low levels of SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, S and P.
- Steel industry **paying premium** for high iron, low impurity feedstock.
- Titanium by-product at 46 to 47% TiO<sub>2</sub> from tails.
- High titanium recovery using standard gravity; product upgraded with magnetic separation.
- TZMI estimate product highly marketable and would achieve US\$140 – US\$180/tonne FOB.



# TECHNOLOGY METALS AUSTRALIA LIMITED

## Near Term, Low Risk Development Project



- Simple CMB flowsheet to deliver high purity iron ore at 75 - 90 micron grind.
- Key differentiators for Yarrabubba:
  - ✓ High in-situ iron grades
  - ✓ Very high mass recoveries
  - ✓ Low risk processing
  - ✓ Simple open pit mining
  - ✓ High quality product(s)
- Gabanintha DFS provides significant advantage in progressing development of Yarrabubba.
- CMB circuit to be built at Gabanintha – benefitting longer term Project development.
- Staged development strategy complementary to Gabanintha.



# Yarrabubba Development Activities

TECHNOLOGY  
METALS AUSTRALIA LIMITED

## Deliverables to support Yarrabubba development :

- Mining Leases – **granted**
- Bulk sample generation – **done**;
- Logistics, haulage routes, port – **progressing**;
- Gabanintha ERD – **draft feedback in**, update submitted for formal review – August;
- Definition of CMB flowsheet – **preliminary flowsheet done**;
- Resource infill/extension RC drilling – **done**;
- Resource upgrade – August;
- Reserve estimation – September;
- Pilot testwork – underway;
- Environmental submissions for Yarrabubba Mining Approvals – progressing.



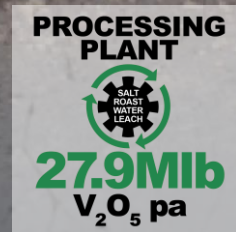
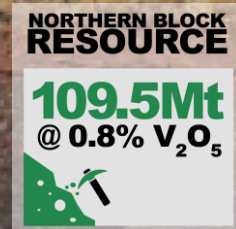


# GABANINTHA VANADIUM PROJECT

One of the Highest Grade Undeveloped Vanadium Deposits in the World



**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

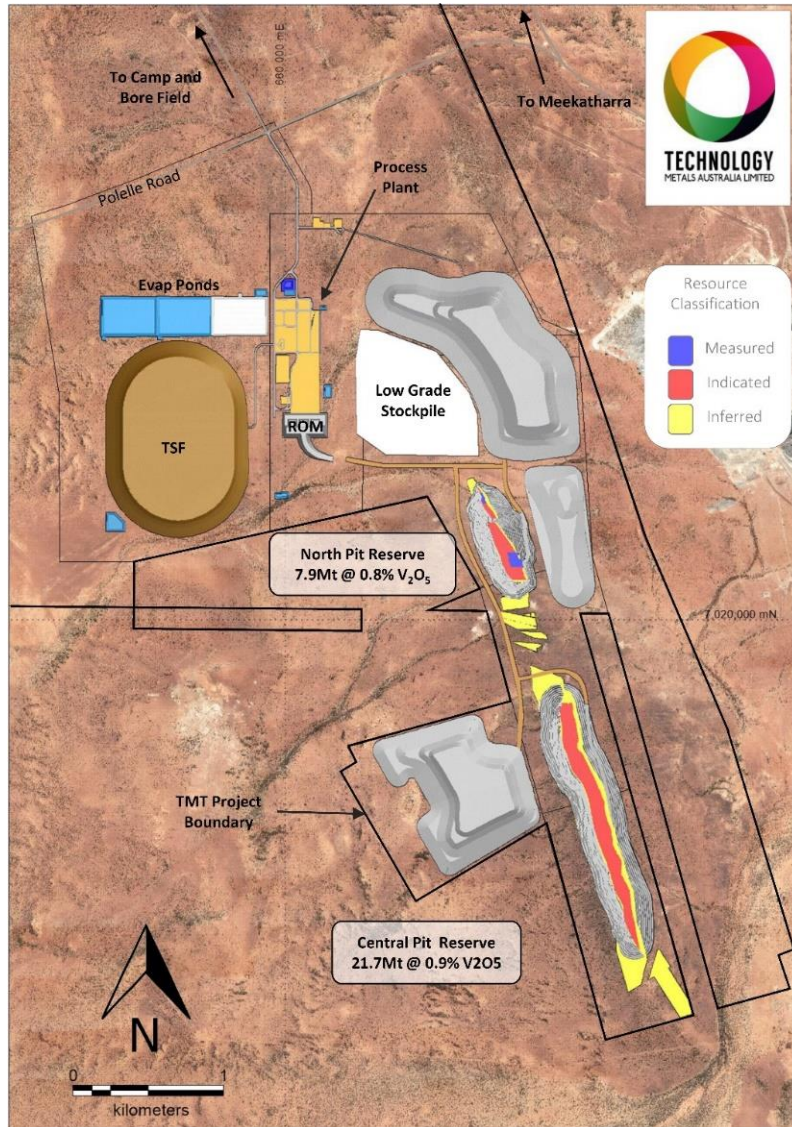






TECHNOLOGY  
METALS AUSTRALIA LIMITED

# Gabanintha - World Class Resource – Development Ready



- Technically robust DFS delivers outstanding project financial metrics.
- Life of mine **revenue of A\$5.7Bn** at US\$8.78/lb V<sub>2</sub>O<sub>5</sub>.
- Average annual EBITDA of A\$175 million.
- Lowest cost quartile **operating costs at US\$4.04/lb V<sub>2</sub>O<sub>5</sub>**.
- Initial 16 year mine life on Ore Reserve of 29.6Mt at 0.88% V<sub>2</sub>O<sub>5</sub>.
- Average annual production of 27.9Mlb premium +99% purity product feeding the green revolution.
- Ore body characterised by very shallow oxidation profile.
- Mining licences granted, environmental approvals on track.



TECHNOLOGY  
METALS AUSTRALIA LIMITED

# Project Development Partners

- WA Government Lead Agency Support – Future Battery Industry – supporting downstream processing.
- NAIF engagement – part of strategic funding approach.
- Gabanintha environmental approvals – constructive consultation with EPA.
- Gas transportation agreement with APA – lower gas transportation costs; access to emerging Perth Basin gas fields.
- Equipment vendor engagement – FLSmidth kiln supply agreement executed.
- Ongoing market engagement for product offtake / funding options – Sinosteel, CNMNC, Shaanxi Fengyuan, Big Power, LE System.



LE SYSTEM CO., Ltd.

LE SYSTEM Co., Ltd.



# Investment Case

- ✓ **Leveraged** to delivery of critical minerals to support emissions reduction goals.
- ✓ **Delivering** on project development underpinned by high quality technical work.
- ✓ **Globally Significant** projects with robust economics and scope to stage funding.
- ✓ **Stable** operating environment with excellent infrastructure and access to services.
- ✓ **Team in place** focused on staged development strategy to maximise shareholder value.







**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

**FOLLOW US AS WE CREATE  
VALUE FOR SHAREHOLDERS**



[www.tmtlimited.com.au](http://www.tmtlimited.com.au)



[@TechnologyMetal](https://twitter.com/TechnologyMetal)



[ian@tmtlimited.com.au](mailto:ian@tmtlimited.com.au)

Suite 9, 330 Churchill Ave  
Subiaco WA 6008  
AUSTRALIA

Ph: +61 8 6489 1600  
Fax: +61 8 6489 1601





**TECHNOLOGY**  
METALS AUSTRALIA LIMITED

# APPENDICES



TECHNOLOGY  
METALS AUSTRALIA LIMITED

# One of the Highest Grade Vanadium Deposits in the World\*

- Global combined resource of 137.2Mt at 38.9% Fe and 0.9% V<sub>2</sub>O<sub>5</sub>
- High grade resource of 75.1Mt at 48.1% Fe and 1.1% V<sub>2</sub>O<sub>5</sub> in consistent basal massive magnetite
- Gabanintha Vanadium Project **Proven and Probable Reserve of 29.6Mt at 0.88% V<sub>2</sub>O<sub>5</sub>** at extremely high 98% tonnage conversion
- Yarrabubba Project maiden **Probable Reserve of 9.4Mt at 45.3% Fe and 0.97% V<sub>2</sub>O<sub>5</sub>**

**MINING  
RESERVE**

**29.6Mt**  
**@ 0.88% V<sub>2</sub>O<sub>5</sub>**

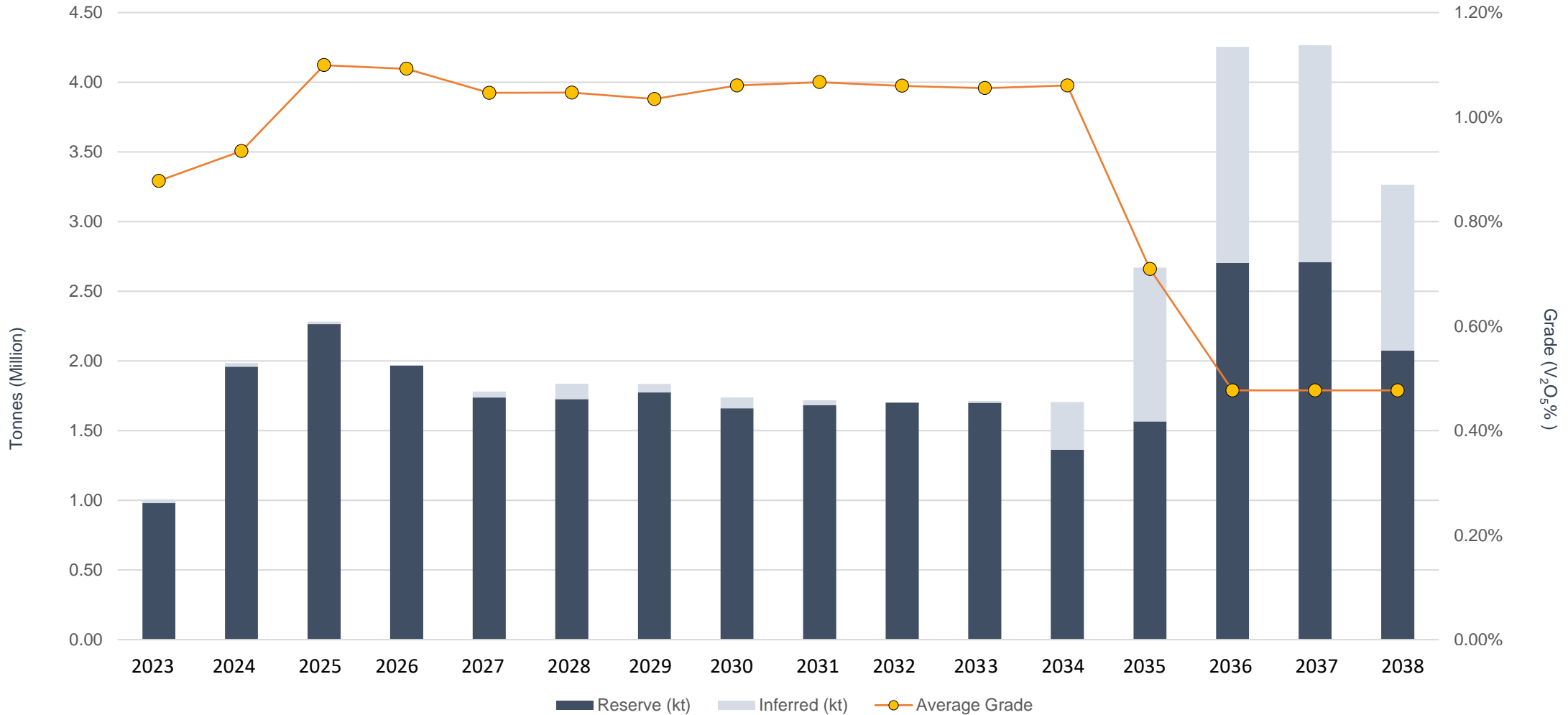
Material Type	Classification	Mt	V <sub>2</sub> O <sub>5</sub> %	Fe%	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	TiO <sub>2</sub> %	LOI%	P%	S%
Massive Magnetite	<b>Measured (North)</b>	<b>1.2</b>	<b>1</b>	<b>44.7</b>	<b>6.2</b>	<b>10.4</b>	<b>11.4</b>	<b>0</b>	<b>0.009</b>	<b>0.2</b>
	Indicated (North)	18.5	1.1	49.1	5.2	5.8	12.9	-0.1	0.007	0.2
	Indicated (South)	7.3	1.1	49.2	5.1	5.8	12.6	-0.6	0.004	0.3
	<b>Total Indicated</b>	<b>25.8</b>	<b>1.1</b>	<b>49.1</b>	<b>5.1</b>	<b>5.8</b>	<b>12.8</b>	<b>-0.3</b>	<b>0.007</b>	<b>0.2</b>
	Inferred (North)	41	1.1	47.7	5.6	7.1	12.6	0.3	0.008	0.2
	Inferred (South)	7.1	1.1	46.9	5.6	7.4	12.1	0.5	0.005	0.3
	<b>Total Inferred</b>	<b>48.1</b>	<b>1.1</b>	<b>47.6</b>	<b>5.6</b>	<b>7.2</b>	<b>12.5</b>	<b>0.3</b>	<b>0.008</b>	<b>0.2</b>
	<b>Massive Global</b>	<b>75.1</b>	<b>1.1</b>	<b>48.1</b>	<b>5.5</b>	<b>6.8</b>	<b>12.6</b>	<b>0.1</b>	<b>0.007</b>	<b>0.2</b>
Disseminated / Banded Magnetite	Indicated (North)	10.3	0.6	28.6	13.1	25.5	7.5	3	0.03	0.2
	Indicated (South)	2.3	0.7	33.1	9.5	20.6	8.5	2.3	0.014	0.3
	<b>Total Indicated</b>	<b>12.6</b>	<b>0.6</b>	<b>29.5</b>	<b>12.5</b>	<b>24.6</b>	<b>7.7</b>	<b>2.8</b>	<b>0.027</b>	<b>0.2</b>
	Inferred (North)	38.5	0.5	27.1	12.7	27.4	6.9	3.3	0.027	0.2
	Inferred (South)	11	0.6	27.7	13	25.9	7	2.7	0.015	0.3
	<b>Total Inferred</b>	<b>49.5</b>	<b>0.5</b>	<b>27.2</b>	<b>12.8</b>	<b>27.1</b>	<b>6.9</b>	<b>3.2</b>	<b>0.024</b>	<b>0.2</b>
	<b>Diss / Band Global</b>	<b>62.1</b>	<b>0.6</b>	<b>27.7</b>	<b>12.7</b>	<b>26.6</b>	<b>7.1</b>	<b>3.1</b>	<b>0.025</b>	<b>0.2</b>
<b>Combined</b>	<b>Global Combined</b>	<b>137.2</b>	<b>0.9</b>	<b>38.9</b>	<b>8.7</b>	<b>15.7</b>	<b>10.1</b>	<b>1.5</b>	<b>0.015</b>	<b>0.2</b>

\*Note: The Mineral Resources were estimated within constraining wireframe solids using a nominal 0.9% V<sub>2</sub>O<sub>5</sub>% lower cut-off grade for the massive magnetite zones and using a nominal 0.4% V<sub>2</sub>O<sub>5</sub>% lower cut-off grade for the banded and disseminated mineralisation zones. The Mineral Resources are quoted from all classified blocks within these wireframe solids above a lower cut-off grade of 0.4% V<sub>2</sub>O<sub>5</sub>%. Differences may occur due to rounding.

\* – Refer TMT ASX announcements dated 29 March 2019 and 1 July 2020 for full details of the mineral resource estimation.



# ROM Feed in Excess of 1%<sup>1</sup>



Annual Crusher Feed Showing Feed Grade and Tonnage plus Distribution of Inferred Mineral Resources  
(Process feed post 2034 sourced from low grade stockpiles built up over LOM – to be displaced with high grade feed from Southern Tenement)

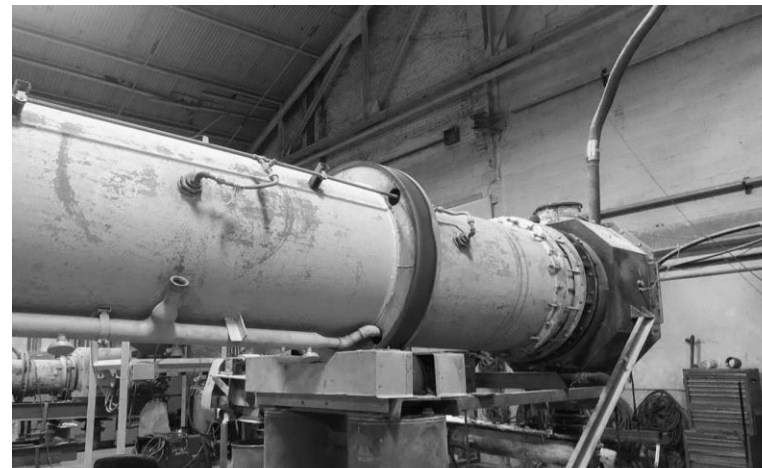
# Pilot Test Work De-Risks Project and Confirms Scalability



## CONFIRMS VERY HIGH YIELD TO MAGNETIC CONCENTRATE

11.5T bulk sample processed through Crushing Milling Beneficiation pilot plant

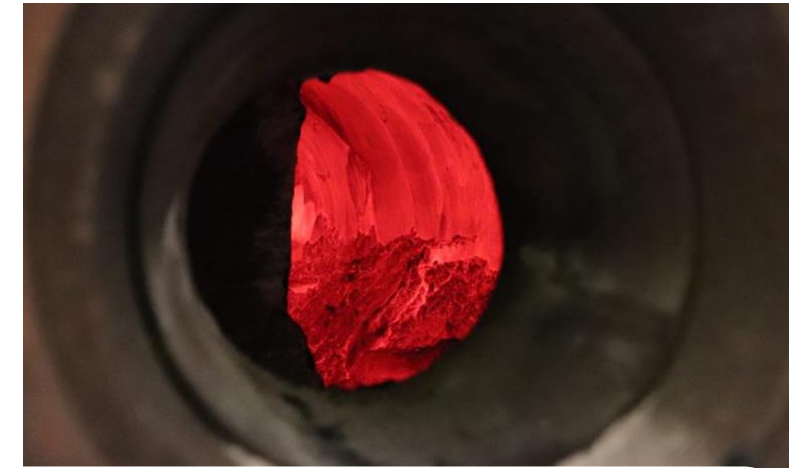
Confirmed very high yield to magnetic concentrate with low deleterious elements



## PILOT SCALE KILN TESTWORK CONFIRMS VERY HIGH RECOVERY RATES

7.5T of magnetic concentrate processed through pilot scale rotary kiln delivered average vanadium recovery of 88.6%

Confirms end-to-end vanadium recovery of 77% for fresh massive magnetite ore



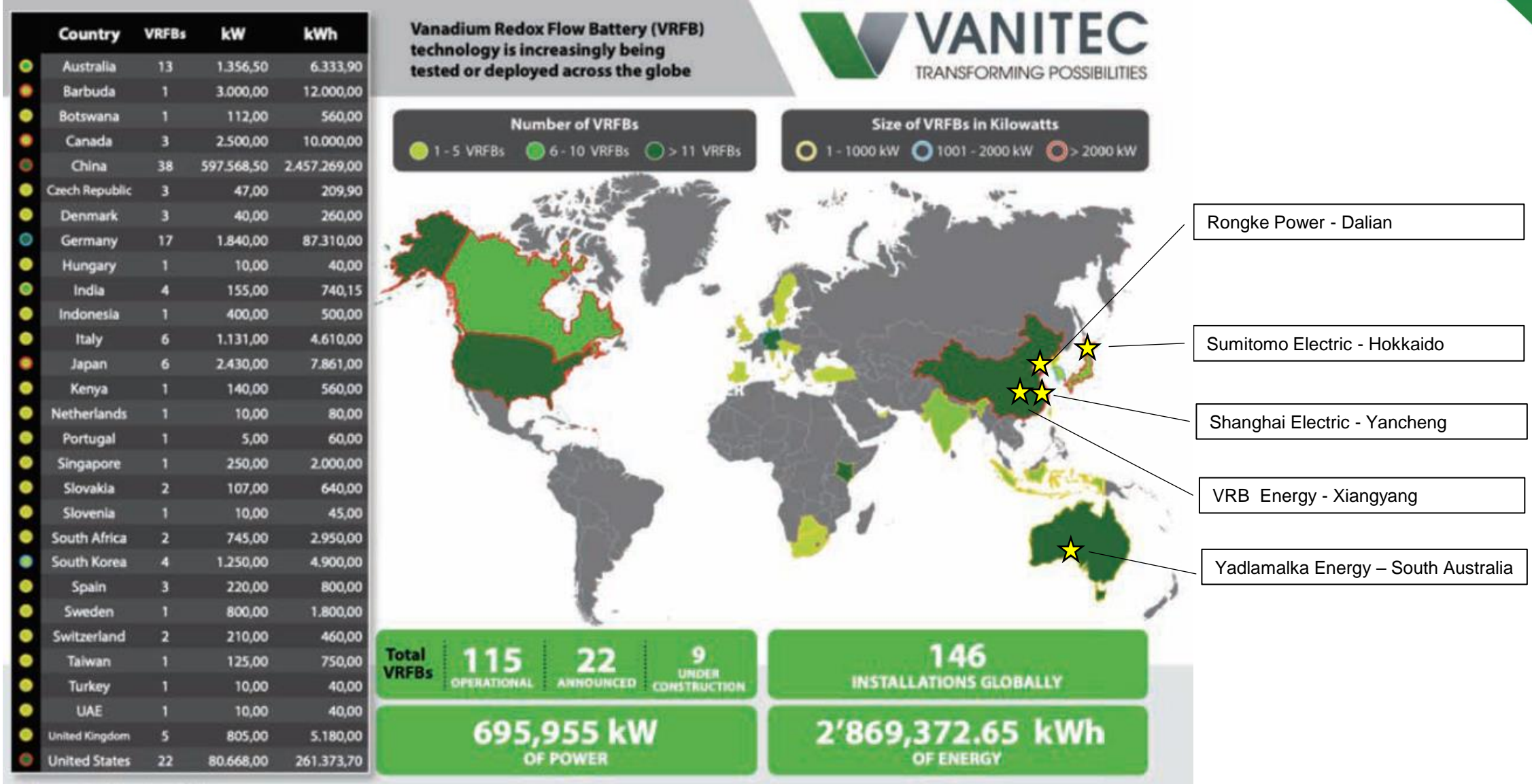
## DFS INCORPORATES KILN DESIGN AND OPERATING PARAMETERS

Pilot scale continuous salt roast / kiln testwork completed by kiln experts FLSmidth

FLSmidth provided kiln design and operating parameter inputs for DFS




# Deployment Accelerating on Path to Zero Carbon Future



# Recent and Planned VRFB Instalments

China is expected to install between **30 and 60 GWh of new energy storage capacity** by 2030. At ~9.25 tonnes of  $V_2O_5$  per MWh of VRFB this corresponds to extra demand of **28,000 – 56,000 tonnes  $V_2O_5$  per year** during 2021 to 2030 – a **15 to 30% increase on  $V_2O_5$  2020 output**.

 **融科储能 RONGKE POWER** Rongke Power's 200MW / 800MWh Dalian VRFB is in commissioning



VRB Energy plans to build 100MW / 500MWh Xianyang VRFB



 **上海电气 SHANGHAI ELECTRIC** Shanghai Electric plans to build 100MW / 400MWh Yancheng VRFB

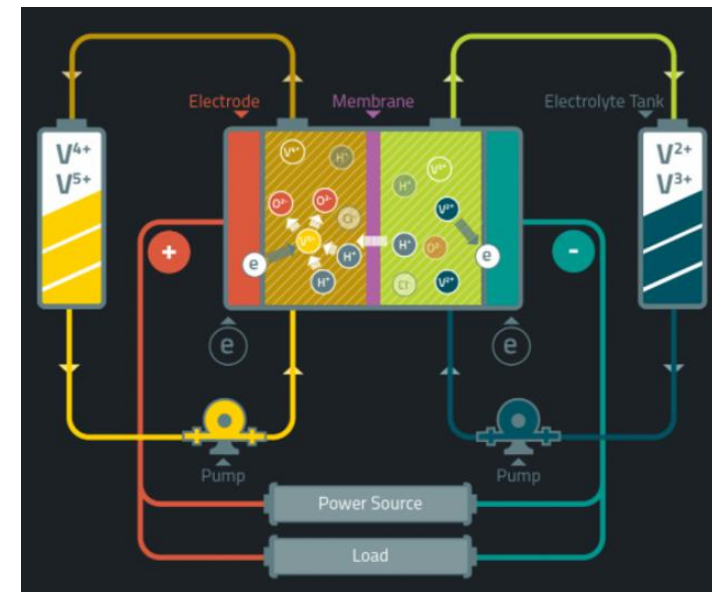
Sumitomo Electric building 51MWh VRFB linked to wind farm in Hokkaido



 **SCHMID**  
 **Nusaned Investment**  
A SABIC initiative to support local investment

JV established to build a 3 GWh VRFB factory in Saudi Arabia

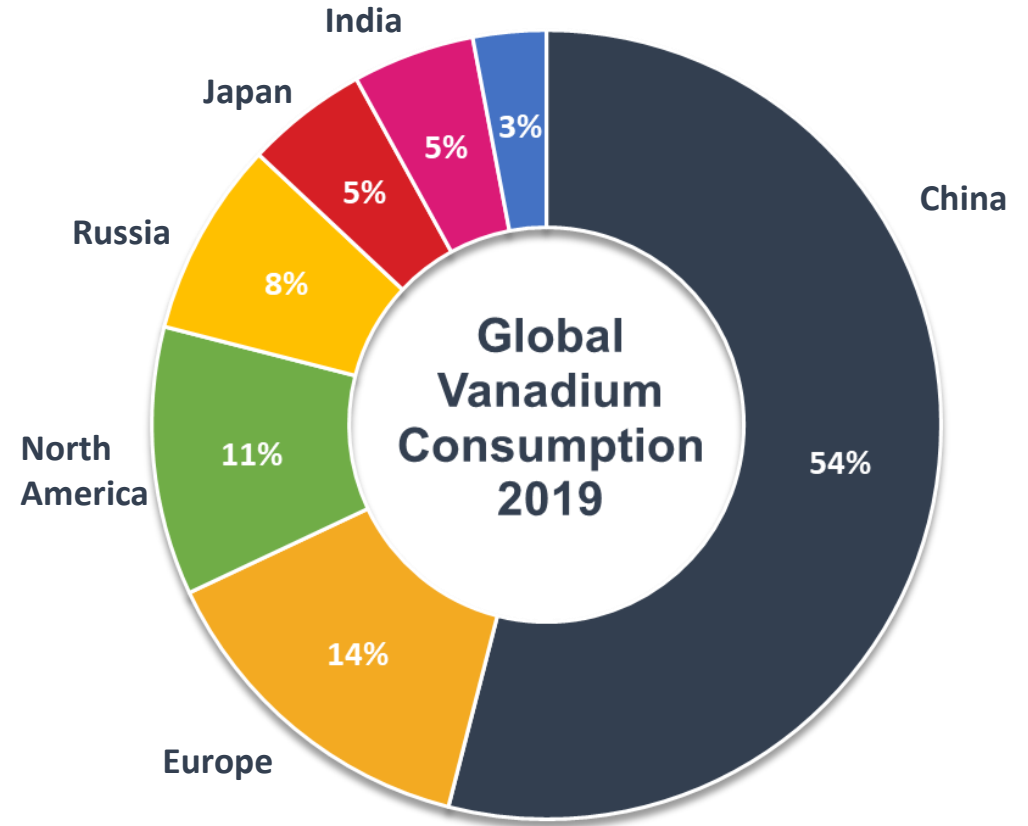
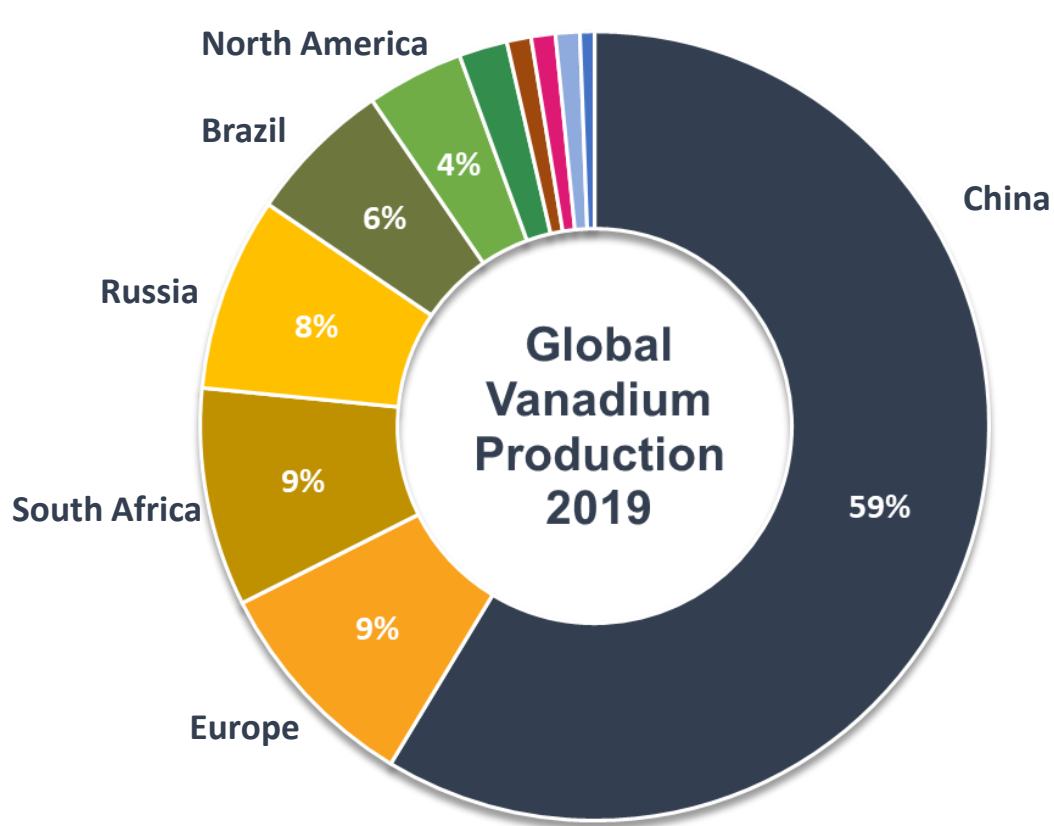
Invinity Energy actively deploying VRFB's in UK, North America & Australia



"It is clear that momentum is building for the adoption of Invinity's technology.....We are now consistently seeing vanadium flow batteries recognised as a robust, reliable and proven way of making renewable energy truly dispatchable at grid scale." Larry Zulch, Invinity CEO



# Vanadium Supply / Demand



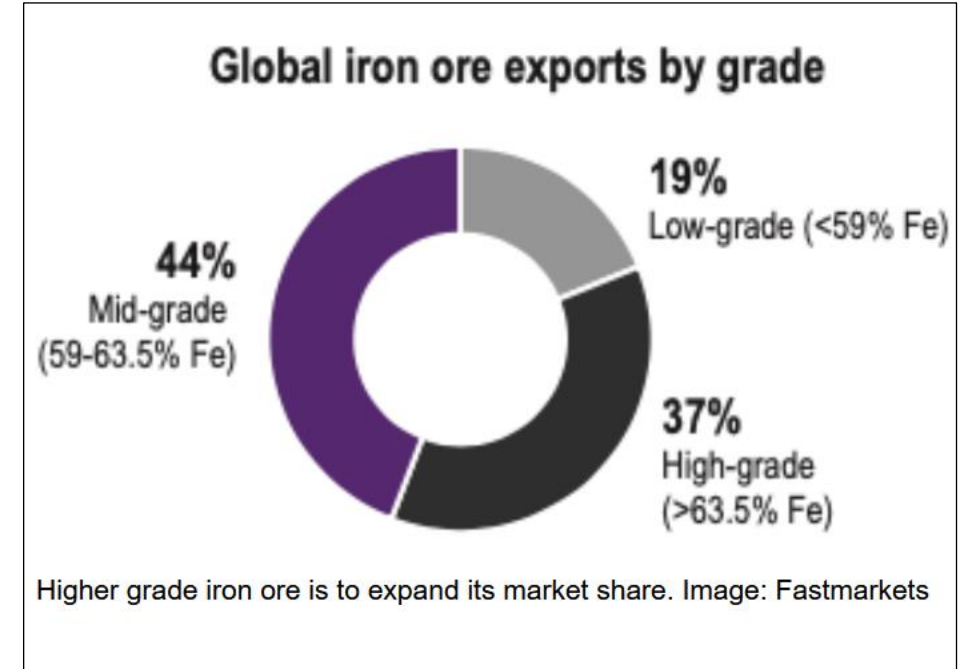
- Europe, North America, Japan and India net importers.
- Indian consumption set to grow significantly in near to mid term.
- Currently no production from Australia



TECHNOLOGY  
METALS AUSTRALIA LIMITED

# Iron Ore Market

- Iron ore prices (62% Fe, CFR China) have increased from US\$63/t to US\$180/t over last 12 months.
- China produced 1.05 Bn tonnes steel in 2020; MQ21 output 15% higher than MQ20. Mills increasing output on high-profit margins despite government environmental rules.
- Iron ore producers struggled to keep up with strong demand in MQ21 due to operational challenges and weather issues.
- Prices for 63.5% Fe iron ore (delivery Tianjin) up to >US\$190/t. Premiums for higher purity increasing due to desire for higher quality with lower environmental emissions.
- High grade iron ore with Fe >63.5% is set to expand by 17.5% over the decade of the 2020s and attract higher prices than standard and lower grade iron ore (Fastmarkets, April 2021).
- Customers are willing to pay a premium for higher grade iron ore with lower impurities such as alumina and silica.





## CNMNC a subsidiary of China Nonferrous Metal Mining Group Company.

- Binding take-or-pay offtake for 2,000Tpa (4.4Mlb pa) ~16% of annual production.
- Three year term with three-year extension.

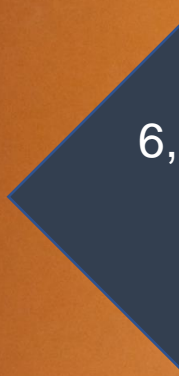


## Shaanxi Fengyuan offtake MOU over 3,000Tpa.

- Take-or-pay ~24% of annual production.
- Five-year term with five-year extension.

## Big Paver offtake MOU over 1,000Tpa take-or-pay and up to 5,000 Tpa

## LE System technical collaboration and downstream electrolyte production MOU.



6,000 to 10,000 tonnes of TMT's proposed production of 12,800Tpa  $V_2O_5$  covered under Binding Offtake and MoU





# Sinosteel Australia Letter of Intent

- Sinosteel Australia part of the WA business community since 1991.
- Lol covers negotiation of a life-of-mine iron-vanadium offtake.
  - Annual quantity of up to 1.5Mtpa
- EPC contract to be negotiated with Sinosteel Equipment & Engineering Co., Ltd (MECC).
- Technical collaboration with MECC supported development of indicative CMB flowsheet.

*“Sinosteel Australia is very pleased to have established this relationship with Technology Metals Australia and aim to progress our offtake and EPC contract discussions on the premium quality Yarrabubba Iron-Vanadium Product based on the principles of mutual benefit and respect” Sinosteel Australia Managing Director David Sun*

