

**ASX Announcement** 

14 March 2018

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#### **Directors**

Michael Fry: Chairman

lan Prentice: **Executive Director** 

Sonu Cheema:

**Director and Company Secretary** 

#### **Issued Capital**

22,750,001 ("TMT") Fully Paid Ordinary Shares

22,500,000 Fully Paid Ordinary Shares classified as restricted securities

14,850,000 Unquoted Options exercisable at \$0.25 on or before 31 December 2019 (13,700,000 classified as restricted securities)

3,000,000 Unquoted Options exercisable at \$0.35 on or before 12 January 2021

ASX Code: TMT FRA Code: TN6

#### TMT INVESTOR PRESENTATION AND CONFERENCE

Technology Metals Australia Limited (ASX: **TMT**) ("**Technology Metals**" or the "**Company**") is pleased to provide the attached presentation to be given as part of the Company's participation and presence at the Australian Energy and Battery Minerals Investor Conference to be held in Brisbane for 14 and 15 March 2018.

The Company is also pleased to advise that Independent Investment Research (IIR) recently completed a Research Report (Report) on Technology Metals Australia Limited. To view a copy of the Report, please visit our website at <a href="https://www.tmtlimited.com.au">www.tmtlimited.com.au</a>.

For, and on behalf of, the Board of the Company,

Ian Prentice

Executive Director
Technology Metals Australia Limited

- ENDS -

#### **About Technology Metals Australia Limited**

**Technology Metals Australia Limited (ASX: TMT)** was incorporated on 20 May 2016 for the primary purpose of identifying exploration projects in Australia and overseas with the aim of discovering commercially significant mineral deposits. The Company's primary exploration focus is on the Gabanintha Vanadium Project located 40km south east of Meekatharra in the mid-west region of Western Australia with the aim to develop this project to potentially supply high-quality V2O5 flake product to both the steel market and the emerging vanadium redox battery (VRB) market.

The Project, which consists of five granted tenements and one exploration licence application, is on strike from, and covers the same geological sequence as, Australian Vanadium Limited's (ASX: AVL) Gabanintha Vanadium project. Vanadium mineralisation is hosted by a north west – south east trending layered mafic igneous unit with a distinct magnetic signature. Mineralisation at Gabanintha is similar to the Windimurra Vanadium Deposit, located 270km to the south, and the Barambie Vanadium-Titanium Deposit, located 155km to the south east. The key difference between Gabanintha and these deposits is the consistent presence of the high grade massive vanadium – titanium – magnetite basal unit, which is expected to result in an overall higher grade for the Gabanintha Vanadium Project.

# TECHNOLOGY METALS AUSTRALIA LIMITED

(ASX: TMT; FRA: TN6)

AUSTRALIAN ENERGY AND BATTERY MINERALS CONFERENCE BRISBANE – MARCH 2018

"A World-Class Vanadium Development Opportunity"

### Important Information



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

#### Disclaimer

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#### **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 presentation that relates to Exploration Results are based on information compiled by Mr Ian Prentice. Mr Prentice is a Director of the Company and a member of the Australian Institute of Mining and Metallurgy. Mr Prentice has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this presentation 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 Prentice consents to the inclusion in this presentation 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 Resource estimates is based on information compiled by Mr Aaron Meakin. Mr Meakin is a Principal Consultant with CSA Global and a Member of the Australian Institute of Mining and Metallurgy. Mr Meakin has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report 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' ("JORC Code"). Mr Meakin consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

#### Investment Highlights



#### "Invest in a World-Class Vanadium Development Opportunity"

Vanadium Market in Deficit; structural change reducing supply on the cusp of a period of expected dramatic demand growth delivering a near 400% price increase in past 18 months.

Wholly Owned Gabanintha Vanadium Project; 5.5km strike length of high grade mineralised layered mafic igneous unit – one of the highest grade vanadium deposits in the World.

Updated Global Resource; consistent high grade core of **55.0Mt at 1.1%**  $V_2O_5$  within a global resource of **119.9Mt at 0.8%**  $V_2O_5$ , containing maiden Indicated Resource of **21.6Mt at 0.9%**  $V_2O_5$  (Northern Block only).

**Emerging Developer;** Technology Metals Australia (TMT) A\$18.5 million market capitalisation\* - upgraded resource and detailed metallurgical testwork feeding in to a pre-feasibility study.

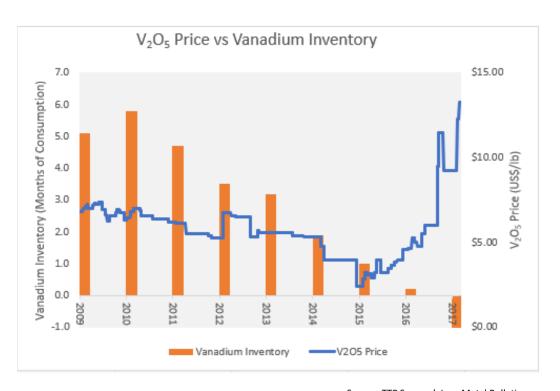
**Global Comparatives;** Largo Resources, Inc. (TSX:LGO market cap CN\$697m) operating Maracas Menchen Mine, Brazil and TNG Limited (ASX:TNG market cap A\$125) advanced Mount Peake vanadium – titanium – iron project in Australia.

<sup>\*</sup> As at 12 March 2018, diluted for placement shares

#### Vanadium Market in Deficit



- Structural change in industry has seen consumption outstrip supply for the past five years with inventory now depleted.
- Industry rationalisation and environmental constraints in China resulting in a dramatic production decline.
- Ban on slag imports to China implemented 1 Jan 2018 amidst ongoing shutdowns of Chinese slag plants.
- Annual global production in 2016 made up of co-product from steel slag (73%), primary ores (17%) and 10% from secondary sources.
- Emerging primary producers ideally placed to meet increasing demand.

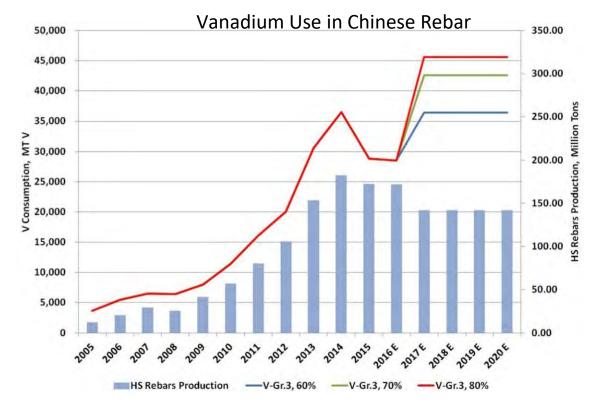


Source: TTP Squared, Inc., Metal Bulletin

### Vanadium Consumption Increasing



- Consumption in 2016 (~81,000t) dominated by steel alloys (91%) with energy storage at 2%.
- Addition of 0.2% vanadium content increases steel strength up to 100% and reduces weight for the same use by up to 30%.
- Newly implemented Chinese Rebar standard forecast to increase vanadium consumption in China by up to 50% (15,000tpa).
- Global consumption forecast to increase to 131,000tpa by 2025 (source: Roskill), excluding significant growth in the energy storage (battery) sector.



Source: China Iron & Steel Research Center

### Market Disruptor – VRB's



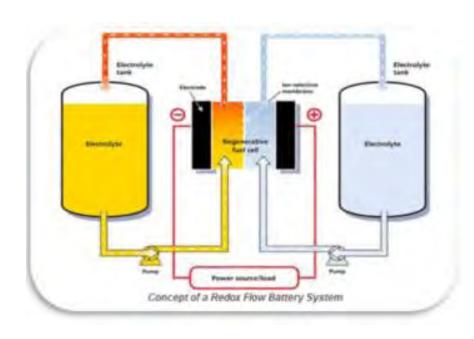
- Vanadium Redox Batteries (VRB's) provide an efficient storage and re-supply solution for renewable energy, suitable for largescale applications.
- VRB's are able to time-shift large amounts of previously generated energy for later use – balancing solar and wind intermittency.
- Vanadium ions in different oxidation states are used to store energy; battery capacity expandable by adding more storage tanks.
- Widespread adoption of VRB's could increase demand for vanadium by 10,000 – 20,000tpa by 2025.
- Rongke Power developing a 200MW/ 800MWh battery in Dalian, China, using ~6,960 tonnes V<sub>2</sub>O<sub>5</sub>.





### Advantages of VRB's



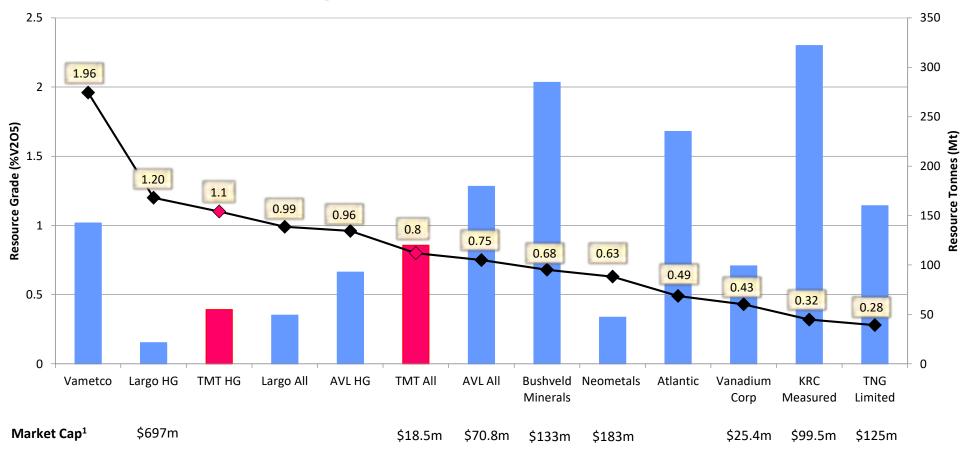


- Lifespan of +20 years with very high cycle life (up to 20,000 cycles) and no capacity loss.
- Rapid recharge and discharge, with very fast response time (<70ms).</li>
- Can discharge to 100% with no performance degradation with excellent long term charge retention.
- Only one battery element vanadium is anode and cathode – unique among flow batteries.
- Easily scalable into large MW applications; provide a grid scale solution – peak shaving, regulating load frequency, driving grid efficiency.
- Suitable for micro grids for remote communities, mine sites, islands etc.
- Improved safety (non-flammable) compared to Li-ion batteries.

# Global Vanadium Projects (ex China)

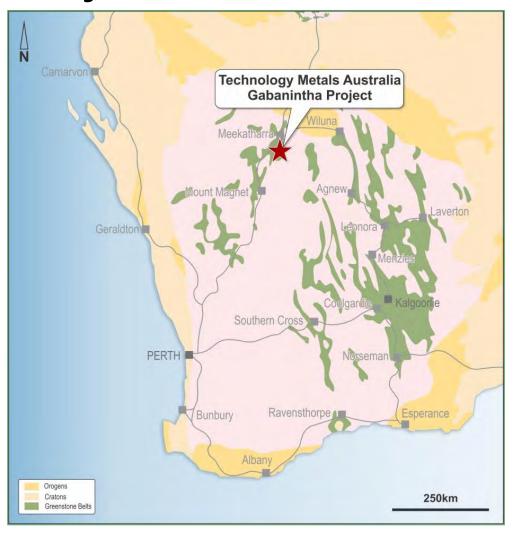
# TECHNOLOGY METALS AUSTRALIA LIMITED

#### **TMT** at the Right End of the Chart



<sup>1 –</sup> Market capitalisation of listed entities as at 12 March 2018. Bushveld Minerals and Neometals hold other significant resource assets. Vametco 59.1% owned by Bushveld Minerals. Atlantic Limited not listed.

#### **Project Overview**





#### Vanadium Project

- 40km South East of Meekatharra in Western Australia.
- Excellent infrastructure sealed Great Northern Highway from Perth passes within 30km of the project.
- Port of Geraldton 500km to the south west accessible via sealed highway.
- Gas pipeline within 150km.







- Project sits comfortably amongst the highest grade vanadium deposits in the World.
- Exceptional high grade resources of 55.0Mt at 1.1% V<sub>2</sub>O<sub>5</sub> within consistent, continuous basal massive magnetite zone across the Northern Block and the Southern Tenement.
- Overall global resource of 119.9Mt at  $0.8\% V_2O_5$  including an **Indicated Resource of 21.6Mt at 0.9\% V\_2O\_5** (Northern Block only).
- Northern Block resource increased to 98.4Mt at 0.8%  $V_2O_5$  including a high grade core of 44.6Mt at 1.1%  $V_2O_5$ .

Technology Metals Gabanintha Vanadium Project - Global Mineral Resources as at March 2018										
Material	Classification	Tonnage (Mt)	V2O5%	Fe%	Al2O3%	SiO2%	TiO2%	LOI%	Р%	S%
Massive magnetite	Indicated	14.5	1.1	49.2	5.1	5.8	12.8	-0.2	0.007	0.2
	Inferred	40.5	1.1	48.3	5.5	6.5	12.7	0.2	0.007	0.2
	Indicated + Inferred	55.0	1.1	48.5	5.4	6.3	12.7	0.1	0.007	0.2
Disseminated magnetite	Indicated	7.1	0.6	29.9	12.6	24.4	7.8	2.9	0.032	0.1
	Inferred	57.7	0.6	27.2	13.7	26.7	7.2	4.0	0.024	0.2
	Indicated + Inferred	64.9	0.6	27.5	13.5	26.4	7.2	3.9	0.025	0.2
Combined	Indicated + Inferred	119.9	0.8	37.1	9.8	17.2	9.7	2.1	0.016	0.2

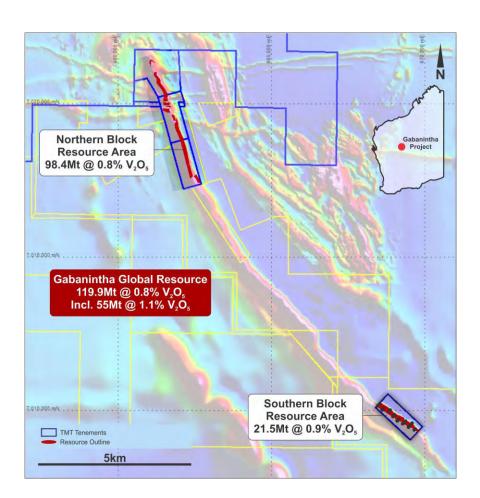
<sup>\*</sup> Note: The Mineral Resource was estimated within constraining wireframe solids using a nominal 0.9% V2O5 lower cut-off for the Massive magnetite zone and using a nominal 0.4% V2O5 lower cut-off for the banded and disseminated mineralisation zones. The Mineral Resource is quoted from all classified blocks within these wireframe solids above a lower cut-off grade of 0.4% V2O5. Differences may occur due to rounding.

<sup>2 -</sup> Refer TMT ASX announcements dated 13 June 2017, 18 December 2017 and 6 March 2018 for full details of the mineral resource estimation.

### **Project Setting**

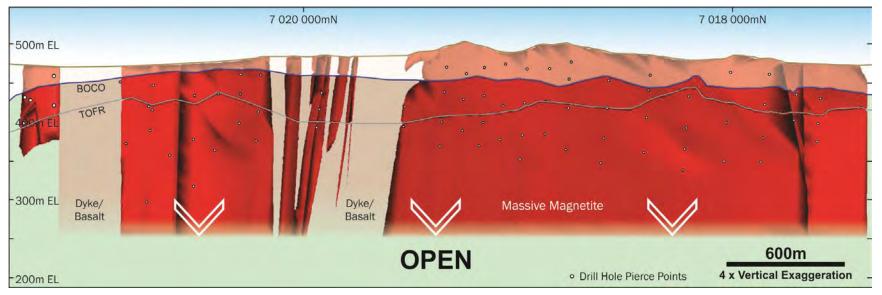


- Mineralisation hosted by a layered mafic igneous unit – magnetite enriched layers host high grade vanadium and titanium.
- Project contains over 5.5km strike length of the mineralised unit – divided in to Northern Block and Southern Tenement.
- Mineralisation extends to surface and outcrops along majority of strike length.
- Resource drilling completed on mix of 100m and 200m line spacing over +3.0km strike in Northern Block and 200m line spacing over +1.5km strike in Southern Tenement.
- Outstanding consistency of grade and continuity of mineralisation within high grade basal massive magnetite zone.



#### **Geological Control**



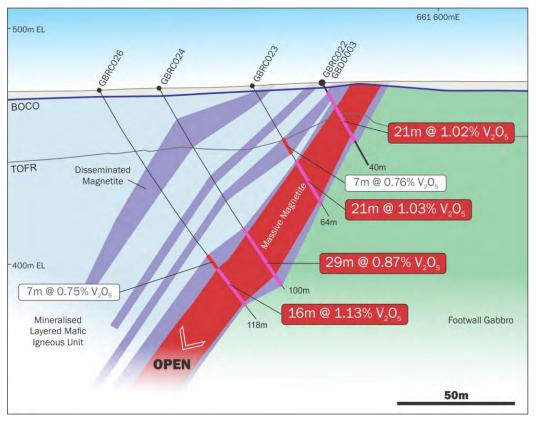


Long Section - Northern Block - Massive Magnetite Zone

- Northern Block divided into two main zones southern and northern by cross cutting dykes / faulting.
- Thickening of high grade mineralisation evident in +700m long Northern zone along with a significantly shallower oxidation profile.
- Resource remains open at depth limited by drilling high grade mineralisation intersected at in excess of 170m vertical.

### **Geological Control**





Section 0400N - Wide High Grade Mineralisation with Very Shallow Oxidation Profile

- Geometry of orebody expected to have a materially positive impact on project economics.
- Broad continuous high grade basal zone (massive magnetite) overlain by multiple medium grade zones.
- Excellent continuity of width and tenor of basal zone.
- Very shallow oxidation profile in northern zone of Northern Block likely to enable early access to transitional and fresh material.
- Southern Tenement appears to have similar very shallow oxidation profile.

### Metallurgical Testwork





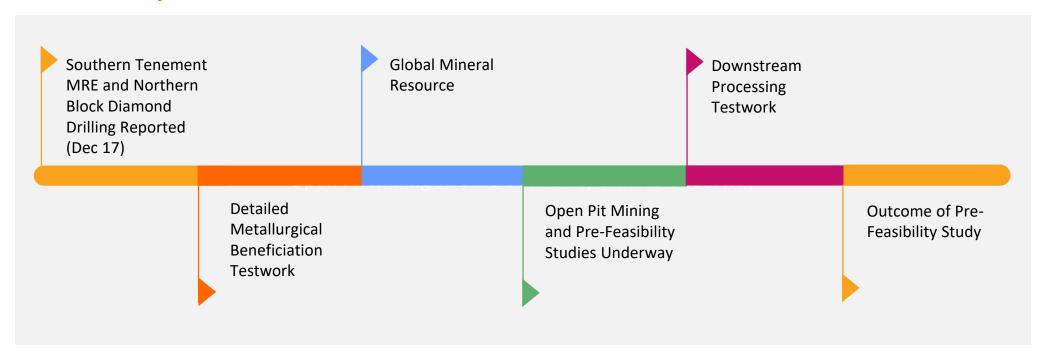
- Detailed testwork underway on diamond drilling composite samples.
- Outstanding recoveries of up to 97.8%
   V in to magnetic concentrate with very high weight recoveries of up to 85.6%.
- Concentrate grades of +1.3% V<sub>2</sub>O<sub>5</sub> delivered for transitional and fresh high grade massive magnetite zone.
- Exceptional rejection of deleterious elements Si and Al results in very high quality magnetic concentrate.
- Vanadium recovery to a magnetic concentrate not sensitive to grind size.
- Ongoing work assessing downstream processing focused on the extraction of vanadium using traditional salt roast / leach processing.





"Aggressive development timeline; momentum to be maintained"

January 2018 June 2018







Company Snapshot				
ASX Code	TMT			
Pro forma cash as at 12 March 2018	\$3.5m			
Market Cap (as at 12 March 2018)	\$18.5m			
Tradeable Shares on Issue	32.75m			
Escrowed Shares on Issue*	22.5m			
Total Shares on Issue	55.25m			
Options (\$0.25 – 31/12/19 expiry)*	14.85m			
Options (\$0.35 – 12/01/21 expiry)	3.0m			
Options (\$0.40 – April 2020 expiry)*	10.0m			
Enterprise Value	\$15.0m			

Top Shareholders – Pro Forma					
Twentieth Century Motor Company	30.1%				
Station Nominees PL	10.2%				



Rongke Power's VRB Factory in Dalian, China (up to 3GW capacity by 2020)

"We think there's a revolution coming in vanadium redox flow batteries.....You'll have to get into the mining business and produce ultra-pure vanadium electrolyte for those batteries on a massive scale"

- Robert Friedland, May 2017

ASX: TMT; FRA: TN6

<sup>\* - 22.5</sup>m shares and 13.7m \$0.25 options subject to restriction until 21 December 2018, 10m \$0.40 options subject to shareholder approval

## Company Board and Management





Michael Fry
Non-Executive Chairman

Michael Fry holds a Bachelor of Commerce degree from the University of Western Australia, is a Fellow of the Financial Services Institute of Australasia, and is a past member of the Australian Stock Exchange.

Mr Fry has extensive corporate and commercial experience, financial and capital market knowledge and a background in corporate treasury management.



Executive Director

Mr Prentice is a Member of the Australasian Institute of Mining and Metallurgy and holds a Bachelor of Science (Geology) from the University of Western Australia.

Mr Prentice has served as a Director for a number of ASX-listed resource companies, with activities ranging from exploration and project acquisition in Asia and Africa through to gold production in Australia.



Sonu Cheema Non-Executive Director and Company Secretary

Mr Cheema has completed a Bachelor of Commerce majoring in Accounting at Curtin University and is a member of CPA Australia.

Mr Cheema holds the position of Accountant and Company Secretary for Cicero Corporate Services and has over 10 years' experience working with public and private companies in Australia and abroad.

#### Summary

**Experienced Board / Management** team focused on delivering shareholder returns.

Minimal geological / resource risk with the Project amongst the highest grade deposits in the World; prefeasibility study underway.

Well placed to take advantage of structural change in the industry with expected demand growth in a reducing supply environment.

**Stable, well resourced** Western World mining environment to support project development, with excellent infrastructure and access to services.

**Team in place** to progress the project through development phases.





