

TNG LIMITED

ASX:TNG

Company Update
May 2017

Paul Burton, Managing Director



FORWARD LOOKING STATEMENTS

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COMPETENT PERSON'S STATEMENTS

- ▶ The information in this report that relates to the Mount Peake Mineral Resource estimates is extracted from an ASX Announcement dated 26 March 2013, (see ASX Announcement – 26 March 2013, “Additional Information on the Mount Peake Resource”, www.tngltd.com.au and www.asx.com.au), and was completed in accordance with the guidelines of the JORC Code (2012). Initial mining and financial assessment work, based on the Mineral Resource, followed (see ASX Announcement – 15 July 2013, “TNG Considers Two-Stage Development Option for Mount Peake Project, NT”, www.tngltd.com.au and www.asx.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.
- ▶ The information in this report that relates to the Mount Peake Ore Reserve estimates is extracted from an ASX Announcement dated 31 July 2015, (see ASX Announcement – 31 July 2015, “Mount Peake Feasibility Study Confirms a World-Class Project”, www.tngltd.com.au and www.asc.com.au) and was completed in accordance with the guidelines of the JORC Code (2012). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Ore Reserve estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.
- ▶ The information in this report that relates to Exploration Results for Mount Peake and Mt Hardy projects are based on information compiled by Exploration Manager Mr Kim Grey B.Sc. and M. Econ. Geol. Mr Grey is also a member of the Australian Institute of Geoscientists and a full time employee of TNG Limited. Mr Grey 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 a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Grey consents to the inclusion in the report of the matters based on his information in the form and context in which it appear.

PRODUCTION TARGETS AND FINANCIAL INFORMATION

- ▶ Information in relation to the Mount Peake Definitive Feasibility, including production targets and financial information, included in this report is extracted from an ASX Announcement dated 31 July 2015, (see ASX Announcement – 31 July 2015, “Mount Peake Feasibility Study Confirms a World-Class Project”, www.tngltd.com.au and www.asx.com.au). The Company confirms that all material assumptions underpinning the production target and financial information set out in the announcement released on 31 July 2015 continue to apply and have not materially changed.

Key Corporate and Financial Data

ASX code:	TNG
Market capitalisation (at 15c):	\$121M
Shares on issue:	804M
Cash (at 15 April 2017):	\$7.3M

Auditors: KPMG
Lawyers: Clifford Chance

Board of Directors

Paul Burton	Managing Director
Stuart Crow	Non-executive Director
Rex Turkington	Non-executive Director
John Davidson	Non-executive Director

Major Shareholders

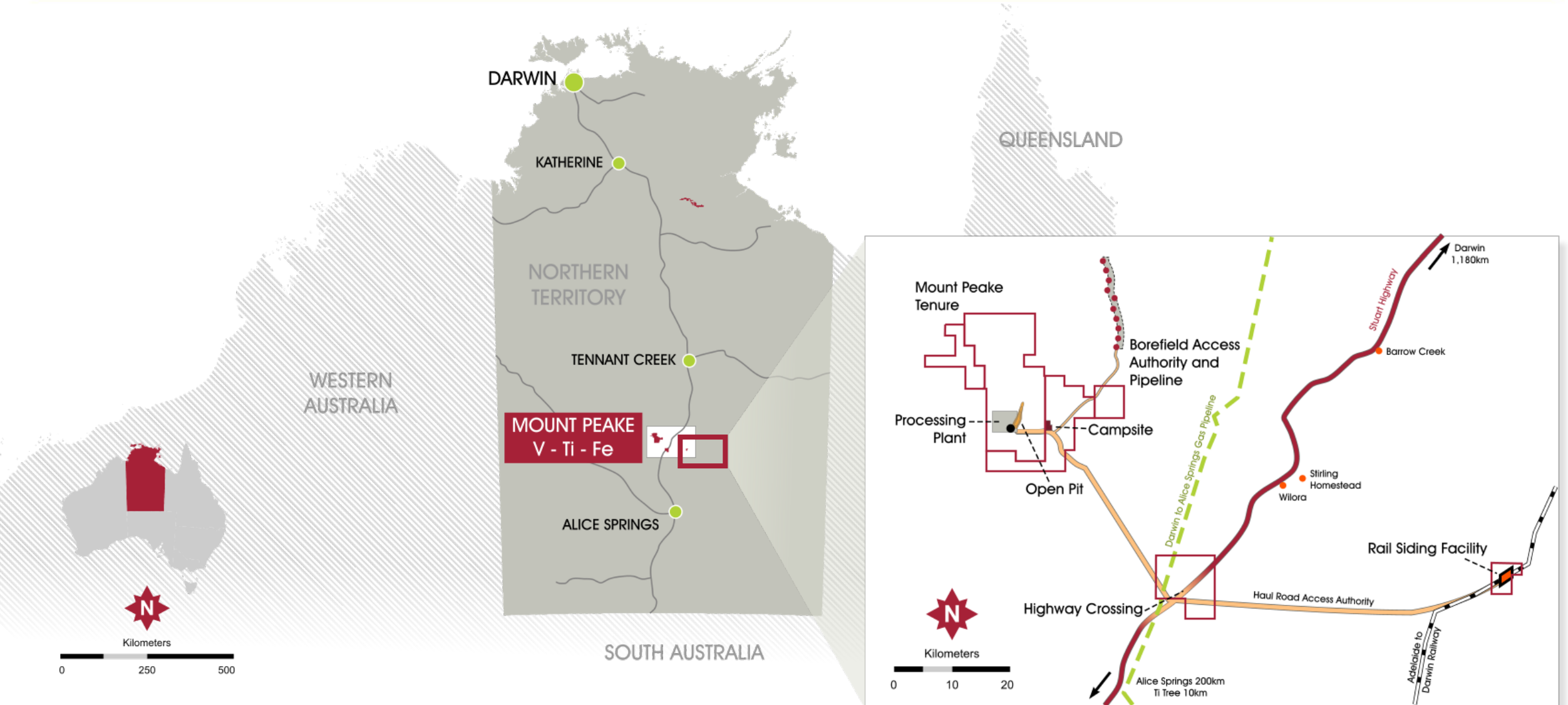
WWB Investments P/L	9.94%
Aosu Investment & Development Co	6.99%
Ao-Zhong International Mineral Resources	3.85%
SMS Investments SA	1.81%

(Directors and their related companies hold approximately 4% of issued capital)

12-month share price – as at 27 April 2017



Mount Peake: Project Layout



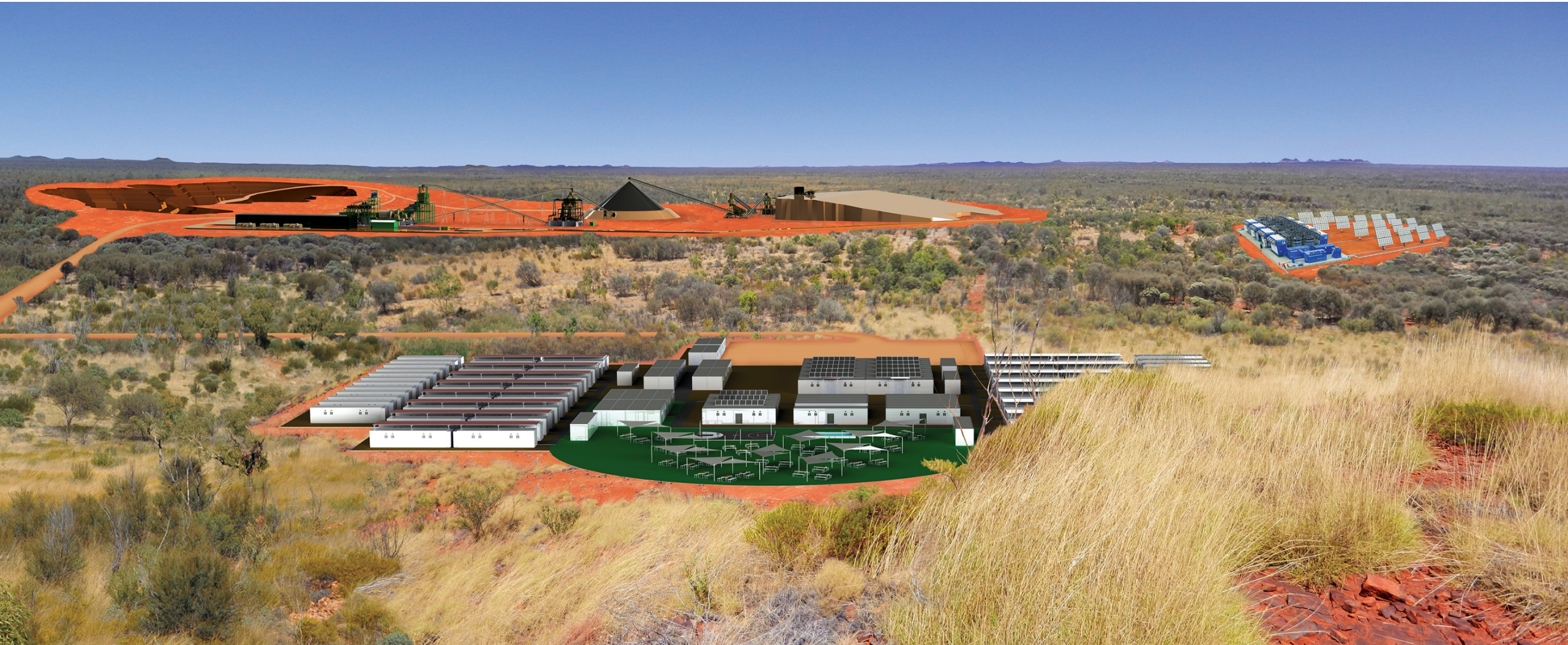
- ▶ A Vanadium-Iron-Titanium Project, located in northern Australia's development hub
- ▶ World-scale project with 17 year mine life: circa A\$27.3b
- ▶ Project Facilitation Agreement (PFA) signed with Northern Territory Government
- ▶ TIVAN™ metals refinery to produce high-purity products for export including:
 - ▶ 17,560t V_2O_5 ,
 - ▶ 236,000t TiO_2 pigment
 - ▶ 637,000t pig iron
- ▶ Binding Heads of Agreement with SMS Group for design of TIVAN™ refinery
- ▶ MOU for mine/refinery construction and operation
- ▶ Development ready: feasibility study completed in 2015, final approvals due this quarter
- ▶ Robust economics: A\$4.9b NPV, 41% IRR
- ▶ Advanced financing discussions and binding offtake agreements in place

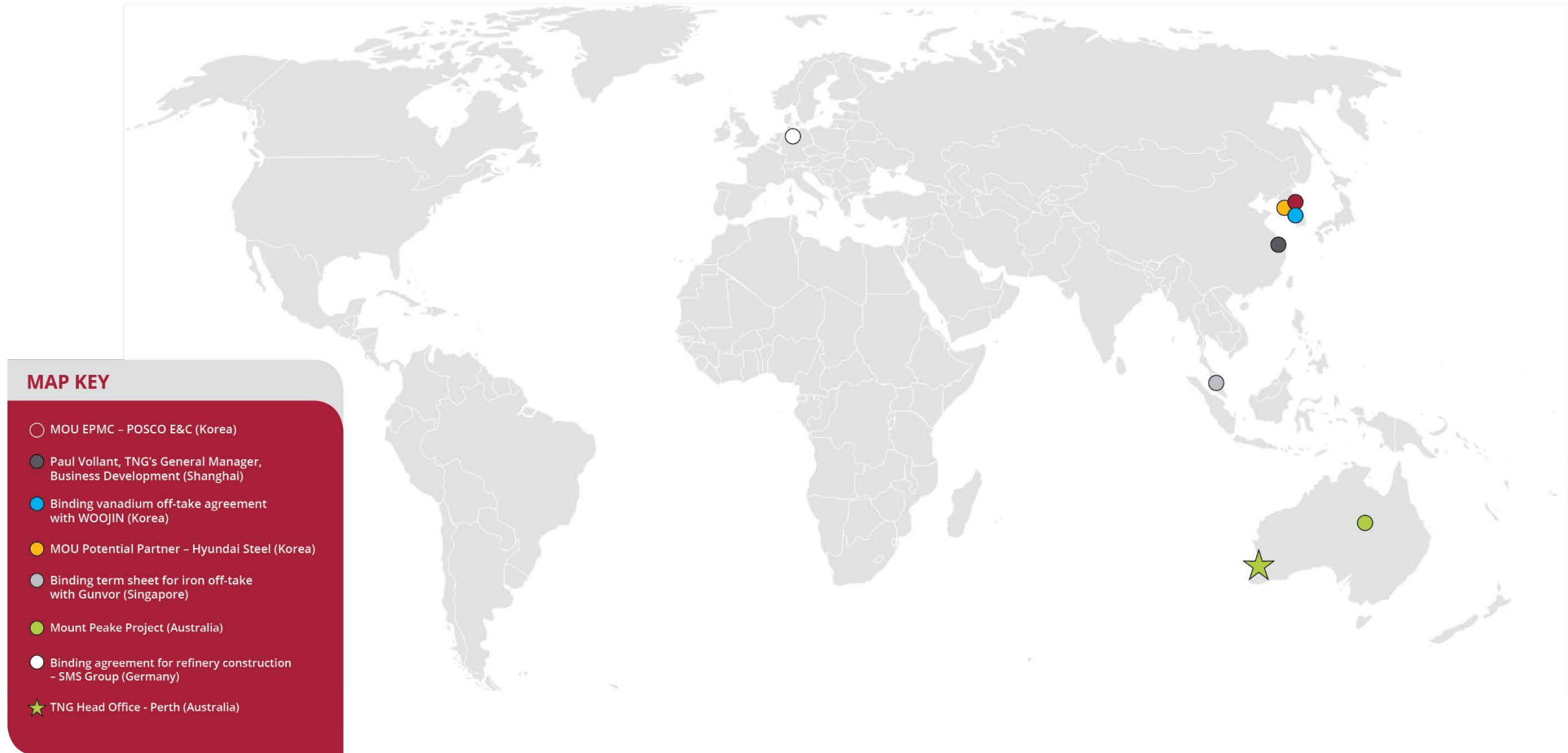
Mount Peake Feasibility Study: Key Metrics

Project life	17 years
Mining rate	3Mtpa <i>(Stage 1)</i> expanding to 6Mtpa <i>(Stage 2)</i> after 4 years
Pre-production capital estimate <i>(including all infrastructure)</i>	A\$970 million <i>(Stage 2 expected to be covered from revenue)</i>
Total operating costs <i>(including mining, processing, transport & royalties)</i>	A\$167 per tonne
Total revenue (life-of-mine)	A\$27.3 billion
Operating cash flow (life-of-mine)	A\$13.6 billion
Net cash flow (life-of-mine)	A\$11.6 billion
Payback period	4 years
Net annual operating cash flow	A\$780M
IRR pre-tax	41%
NPV (at 8% discounted)	A\$4.9 billion

Refer ASX announcement 31 July 2015.

Mount Peake: Concept Mine Layout Plan





Binding LOM Off-take Agreements

► Vanadium Products:

- Binding Life-of-Mine (LOM) Off-take Agreement and Technology Transfer Agreement with WOOJIN Metals
- WOOJIN's proprietary technology currently has the world's highest vanadium recovery rate and is expected to significantly enhance the Project's profitability

► Iron Products:

- Binding Term Sheet for LOM Off-take Agreement with major global commodity trader Gunvor (Singapore)

► Titanium Products:

- Off-take to be agreed



Project Development Agreements

- ▶ **European-based global engineering giant**
- ▶ Binding agreement for engineering, design and construction of the TIVAN™ refinery in Darwin
- ▶ MOU for joint commercial exploitation of TIVAN™ technology
- ▶ Assisting TNG to obtain funding for refinery construction through Export Credit Agencies or other structured finance
- ▶ *SMS is one of the most significant writers of new business for Germany's Export Credit Agencies, which provide finance on competitive terms to new projects or industries which could benefit German industry*
- ▶ **Global engineering and services provider**
- ▶ Pre-Mine development, operations and investment agreement for total project delivery
- ▶ *Downer is a leading service provider in markets including mining, minerals and metals processing, transport services, technology and communication services, utilities services, engineering, construction and maintenance (EC&M) and rail, employing around 20,000 people worldwide*

SMS  **group**

Downer 
Relationships creating success

Processing polymetallic ores

- Use of **abundant and low-cost raw material**: titanomagnetite
- Extraction of **three target metals**: Fe, V and Ti

Uses **well-proven** technology

- Based on an **innovative reconfiguration** of proven components
- Individual process steps **successfully** demonstrated **at industrial scale**

Small environmental footprint

- **Hydrometallurgical process**
- **No smelters** involved

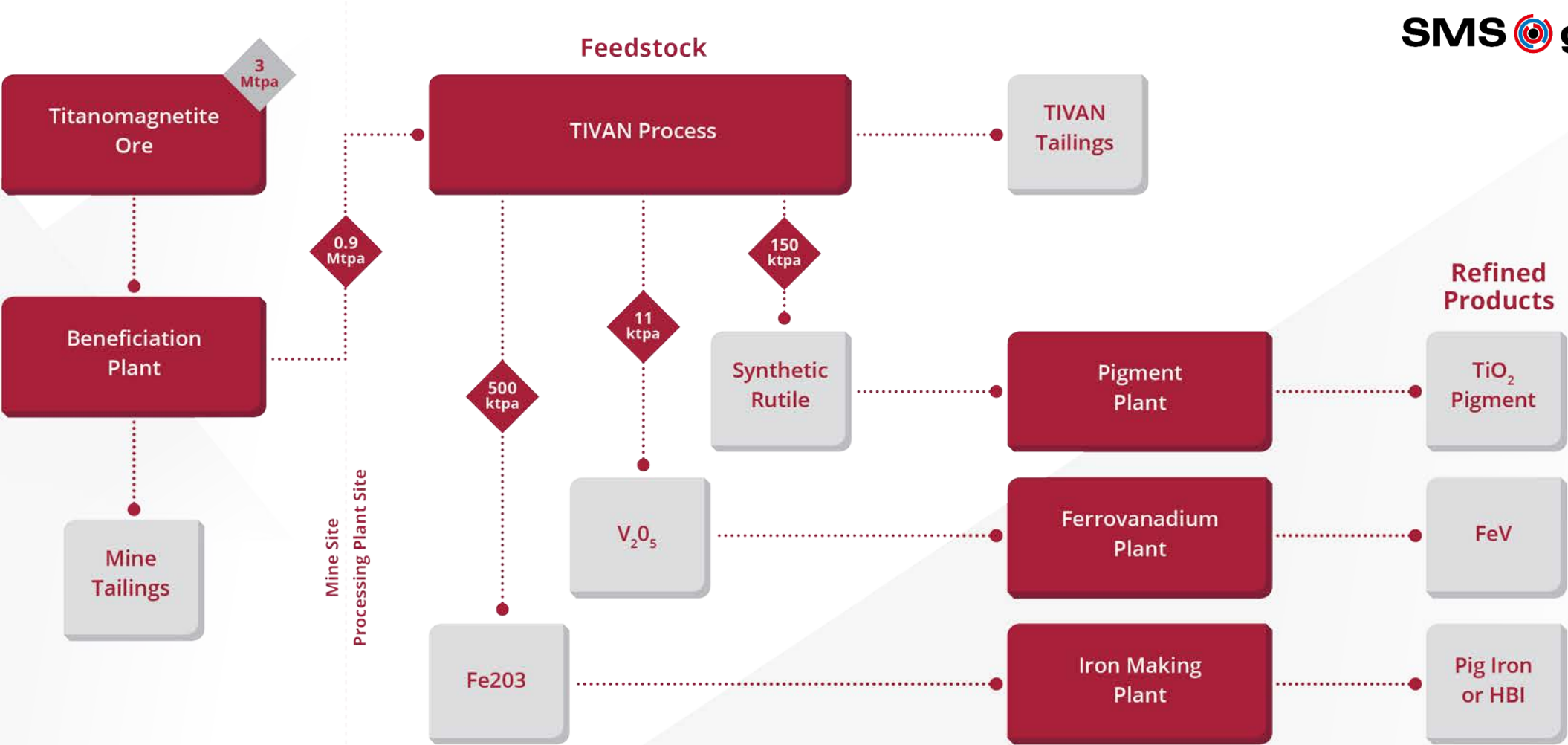
Highly economic process

- **Multiple revenue streams** from products with one common processing train
- **Low operating cost**

Titano-magnetite Ores: Key Strategic Advantages

- ▶ **ABUNDANT:** many known, accessible and easy-to-mine deposits
- ▶ **ILMENITE SHORTAGE:** high-grade ilmenites, suitable for synthetic rutile production are becoming scarce
- ▶ **GROWING VANADIUM DEMAND:** urbanization in fast-growing emerging markets calls for the construction of high rises, requiring large quantities of vanadium-reinforced rebar
- ▶ **POTENTIAL FOR ADDITIONAL PRODUCTS:** the hydrometallurgical processing of titano-magnetite also allows the extraction of other valuable fractions, such as scandium, high-purity silicon and MgO

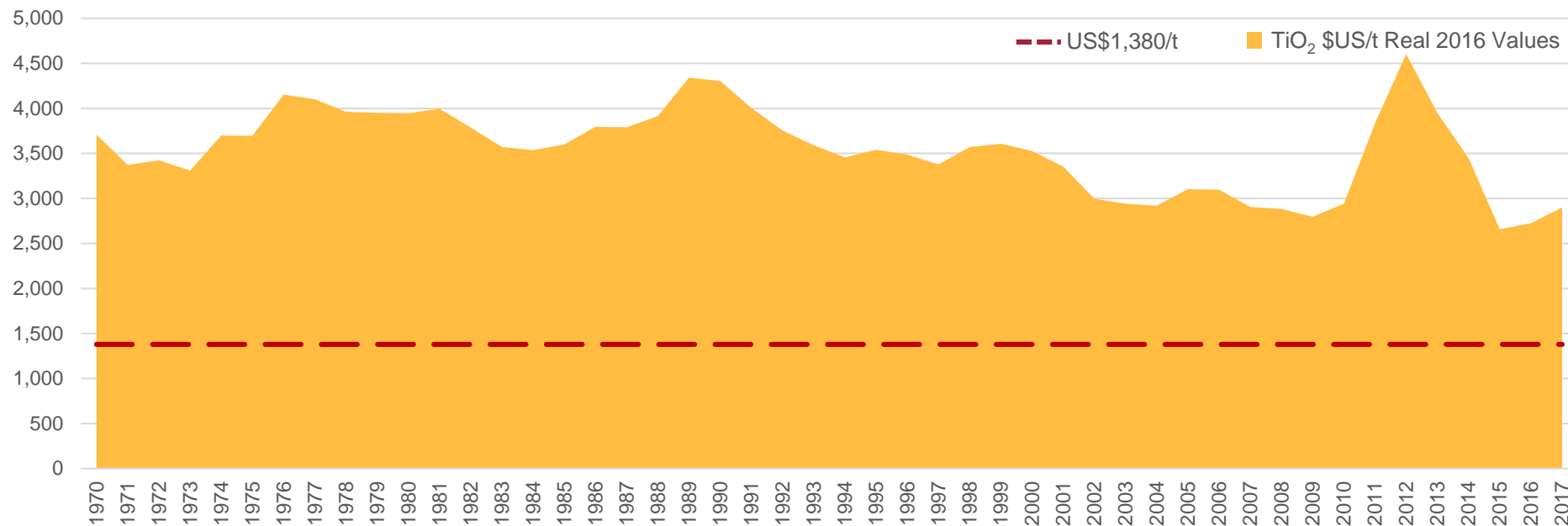




TIVAN'S Products: Titanium Dioxide

Titanium dioxide pigment (TiO₂)

- ▶ World demand: 6,600,000tpa
- ▶ TNG's Phase 1 production: 236,000tpa (3.5% of world demand)
- ▶ Main usage: Paint, plastics, paper and inks
- ▶ TNG's cost of production: Approx US\$1,380/tonne (dotted line below)



Source: Artikel



TIVAN'S Products: Vanadium Pentoxide

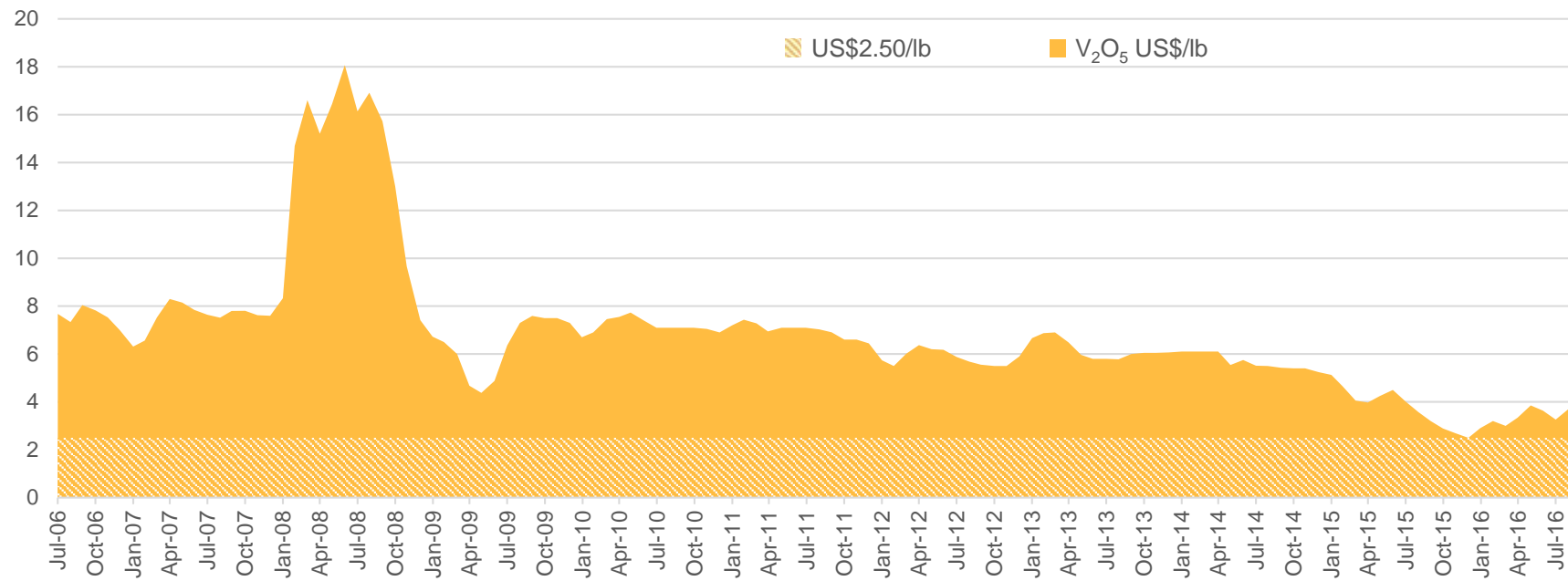
Vanadium Pentoxide (V_2O_5)

World demand: 140,000tpa

TNG's Phase 1 production: 17,560tpa (12.5% of world demand)

Main usage: Steel, non-ferrous alloys, chemicals, catalysts and energy storage (VRB)

TNG's cost of production: Approx US\$2.50/lb (shaded line below)



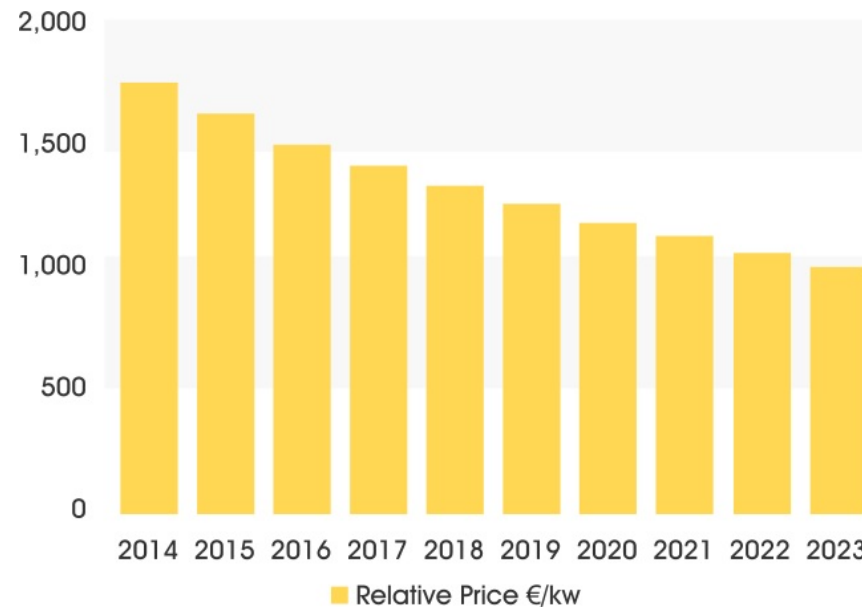
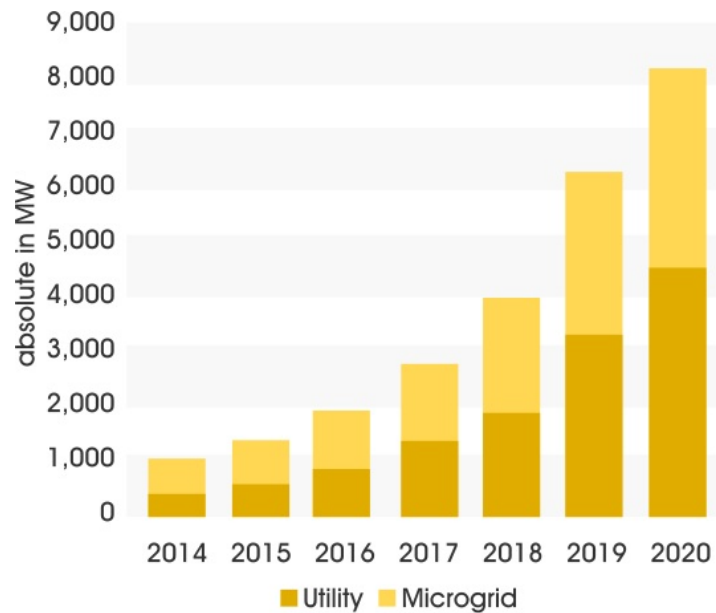
Source: Metal Bulletin



Vanadium Redox Flow Batteries: The future concept for energy storage

Market Forecast – Development of Power on the Energy Storage Market

- ▶ Industry CAGR 2015-2020: 30.8%
- ▶ Stronger growth in utility scale from 2018 onwards
- ▶ US\$6 billion market opportunity in 2020



Sources: Gildemeister, Pike Research, Navigant Research, Lux Research, Roland Berger, IHS, SNL Power



- ▶ A potential new vanadium application that can be mined and produced by TNG
- ▶ Vanadium flow batteries store energy in the electrolyte fluid
- ▶ Currently this electrolyte fluid has to be imported from overseas
- ▶ Life of a commercial lithium-ion battery = 5 to 8yrs
- ▶ Life of a vanadium flow battery is up to 20yrs
- ▶ At the end of that life the contents of the vanadium battery can be re-used



TIVAN'S Products: Pig Iron

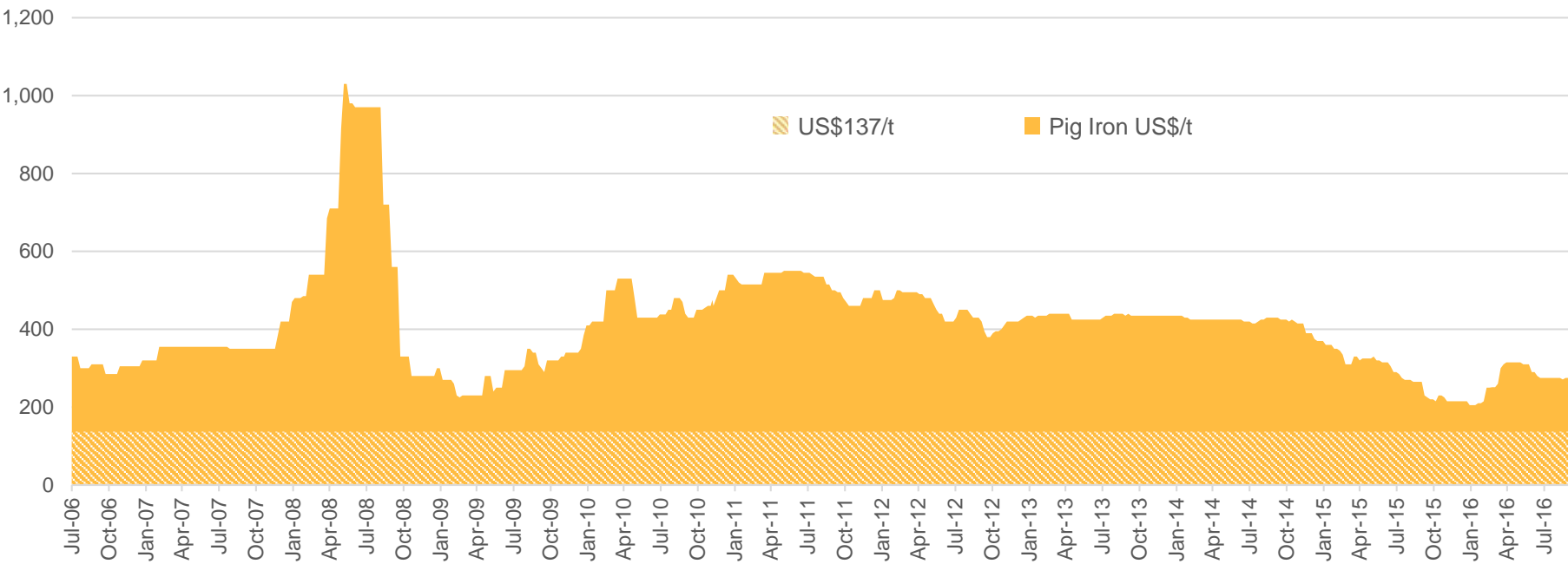
Pig Iron

World demand: 1.2 billion tpa

TNG's Phase 1 production: 637,000tpa (0.05% of world demand)

Main usage: Steel making

TNG's cost of production: Approx US\$137/t (shaded line below)



Source: Metal Bulletin



A pro-resource development government

- ▶ Darwin – Australia's northern development hub
- ▶ PFA signed in 2017 for TIVAN Metals Refinery
- ▶ 'Whole of Government' development approach
- ▶ Established Project Control Group led by government and TNG
- ▶ Excellent geological and infrastructure support
- ▶ Mount Peake Project adding positive economic and social contribution

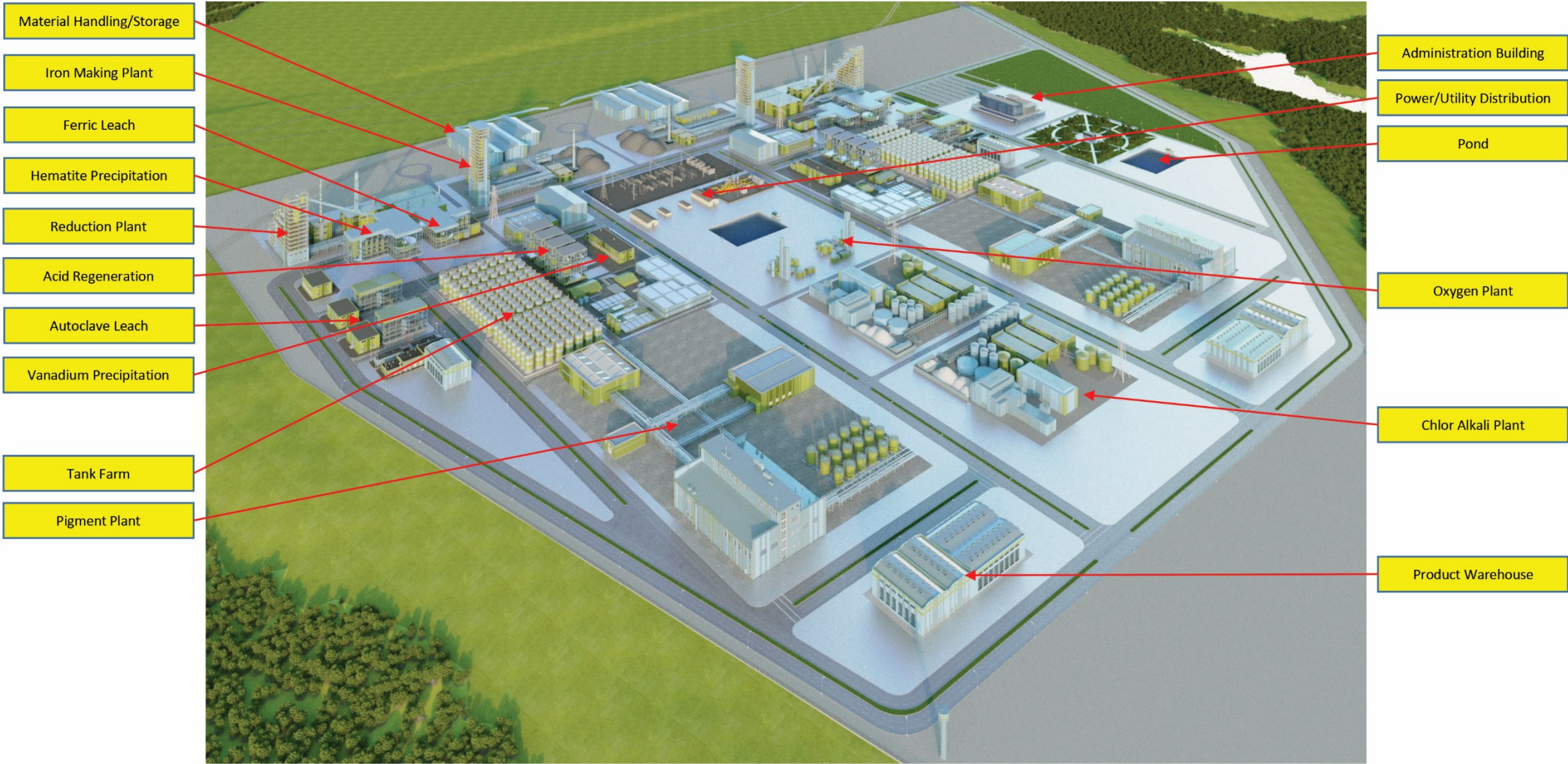


Working together to create opportunities for Aboriginal people

- ▶ A proactive consultative approach with Traditional Owners
- ▶ Creating pathways for training, employment and business opportunities
- ▶ Positive support for Mount Peake project development
- ▶ Clearance obtained for mine and infrastructure







Lot #1817, Channel Island Road, West Arm. View looking southeast.

- ▶ A Vanadium-Iron-Titanium Project, located in northern Australia's development hub
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Building a **World-Class Asset** in
Australia's **Northern Development Hub**

