



Building a major strategic metals company: the Mount Peake Vanadium-Titanium-Iron Project

Corporate Presentation
May 2019

Paul Burton
Managing Director & CEO

Disclaimer



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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.

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 20 November 2017, (see ASX Announcement - 20 November 2017, "Updated Feasibility Study Results", 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 20 November 2017 continue to apply and have not materially changed.

TNG Limited Corporate Overview



TNG is an Australian resources company that is progressing towards development of its 100%-owned world class Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory, Australia.

Board of Directors	
John Elkington	Non-Executive Chairman
Experienced Chairman; Mining professional with development experience	
Paul Burton	Managing Director & CEO
Exploration and Mining Executive; Project Developer, Geologist	
John Davidson	Non-Executive Director
Resources, Energy & Tech Executive	
Greg Durack	Non-Executive Director
Mining Executive; Project Development, Delivery & Operations	

Top Shareholders	
Vimson Group - Indian iron ore mining conglomerate	11.49%
WWB Investments P/L - private investor	8.30%
Aosu Investment & Development Co - strategic Chinese investor	5.83%
SMS Investments SA - Mount Peake development partner	1.45%
JP Morgan Nominees Australia Limited – Institution	1.36%
TNG Directors' holdings	0.89%

Corporate Data*	
ASX code	TNG
Cash (31-Mar-19)	\$12.0 million
Shares on issue	963.5m
Market capitalisation (at 10c)	\$96.3m

* As at 10 May 2019

Mount Peake Project

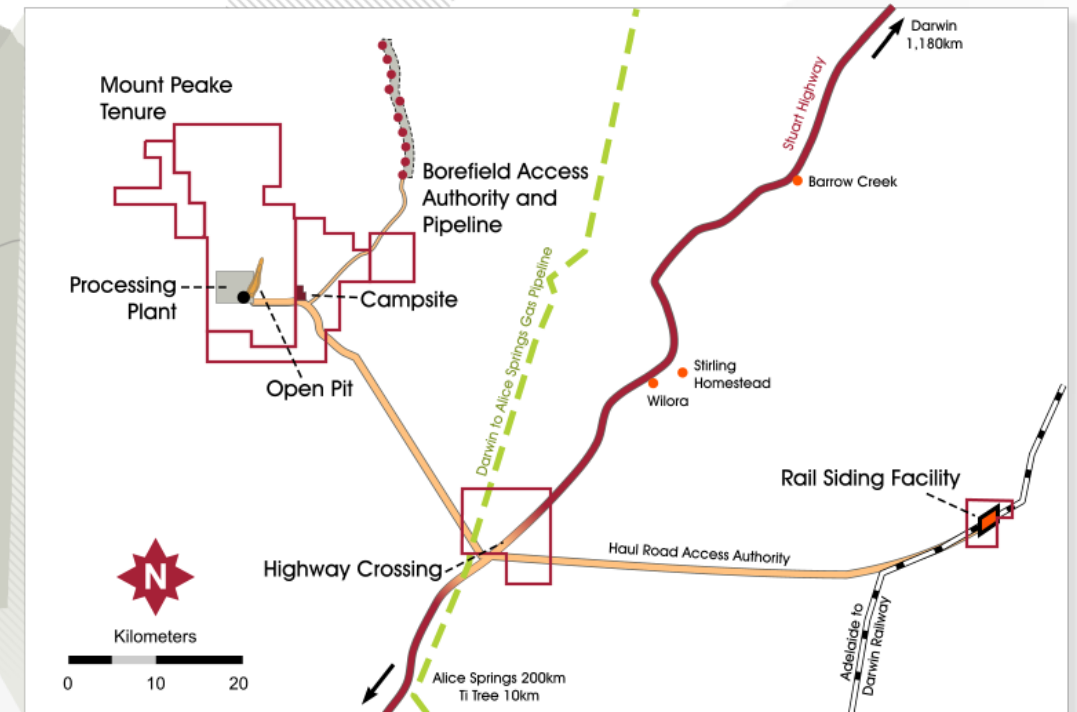
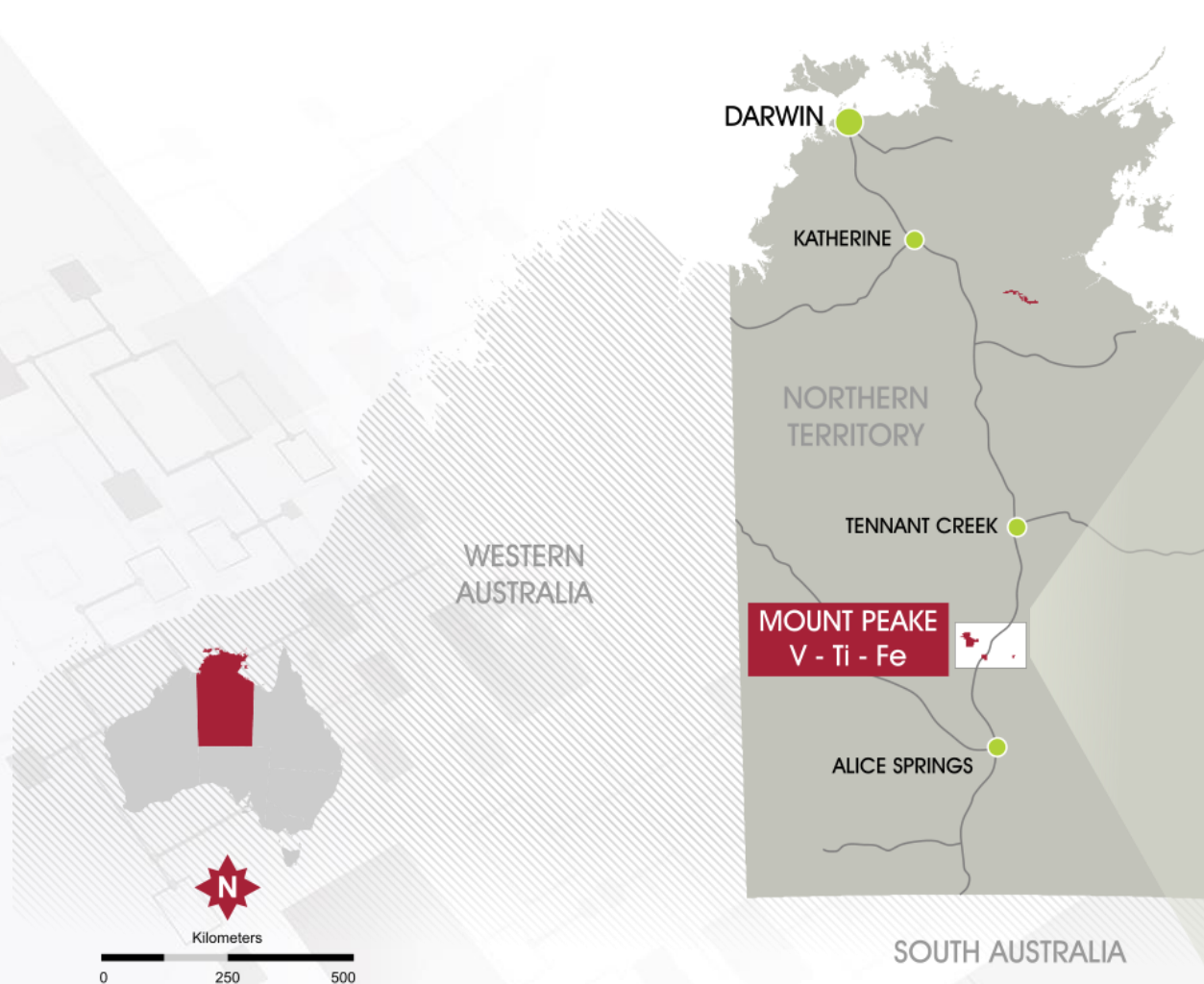
A WORLD CLASS STRATEGIC METALS DEPOSIT

- ▶ Large, long-life asset located in a stable and supportive jurisdiction for major resources projects
- ▶ Close proximity to existing transport and power infrastructure
- ▶ Extensive development studies completed; FEED (front-end engineering & design) underway
- ▶ Global network of strategic partners
- ▶ Project funding underway



Mount Peake Project

WELL LOCATED IN THE NORTHERN TERRITORY NEAR ALL KEY INFRASTRUCTURE



Mount Peake Deposit

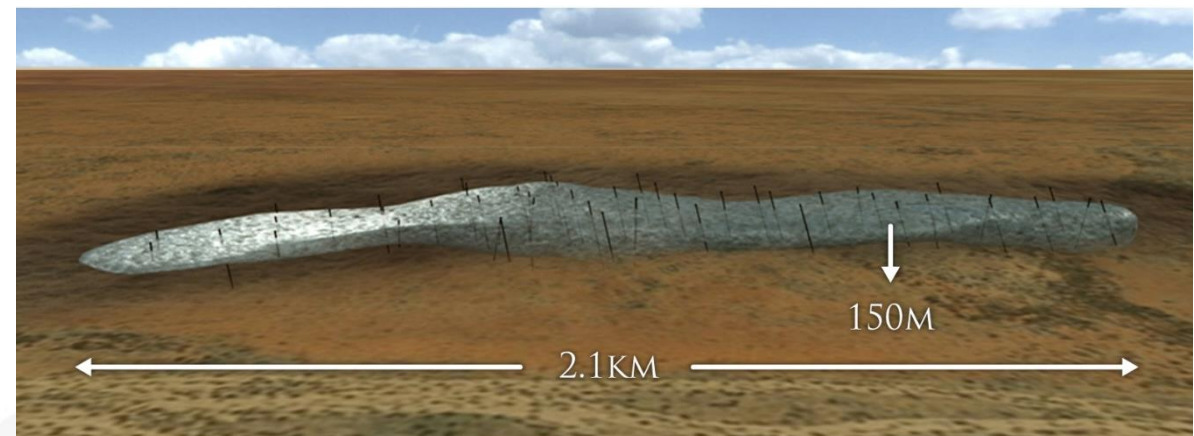
GEOLOGICALLY ADVANTAGEOUS – FLAT LYING, HOMOGENEOUS AND SHALLOW

Mineral Resources¹

Category	Tonnes (Mt)	V ₂ O ₅ %	TiO ₂ %	Fe%	Al ₂ O ₃ %	SiO ₂ %
Measured	117	0.29	5.5	24	8.2	33
Indicated	20	0.29	5.3	23	8.7	33
Inferred	22	0.25	4.7	21	9.4	36
Total	159	0.28	5.4	23	8.4	33

Magnetite concentrate

V ₂ O ₅	TiO ₂	Fe
1.04%	16.35%	51.42%



Mount Peake Mine Site

PLANNING FOR THE MAGNETITE CONCENTRATOR

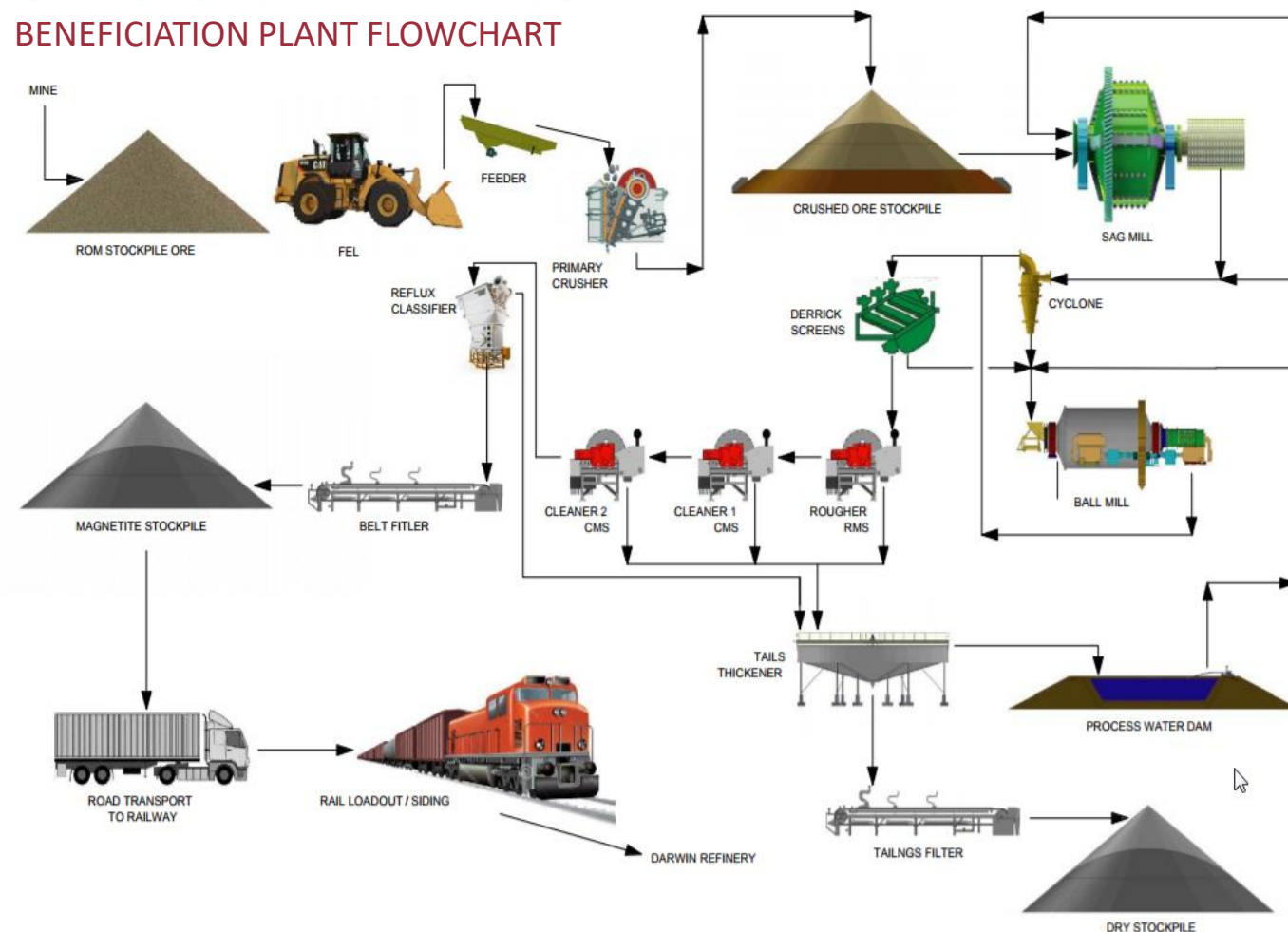
Ore Concentration

- ▶ Mine site concentrator to produce a magnetite concentrate
- ▶ To utilise equipment that is proven in the application and provides flexibility in design to allow for plant expansion
- ▶ Extensive metallurgical testwork has been completed to optimise the flowsheet and ensure the magnetite concentrate meets the specifications of the downstream refinery

Magnetite Concentrate Logistics

- ▶ 900kt of concentrate planned to be produced per annum (Y1 to Y4), eventually expanding to 1,800ktpa (Y5 to Y17) under the stage 2 upgrade
- ▶ The magnetite concentrate to be trucked on a haul road to a purpose built rail siding and loading facility on the Alice Springs-Darwin Railway
- ▶ The concentrate then to be sent by rail 1,400km north to the project's proposed Darwin based refinery
- ▶ A purpose built rail siding and unloading facility to be used to unload and stockpile concentrate at the refinery, ready for further processing

BENEFICIATION PLANT FLOWCHART

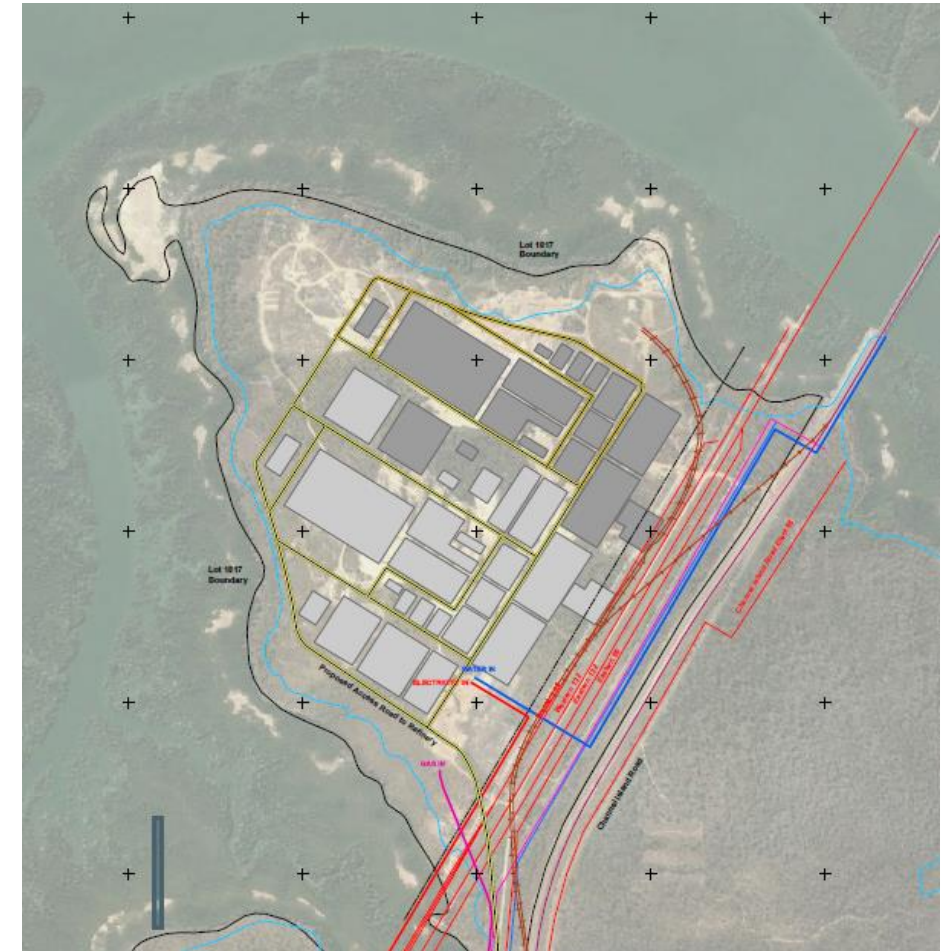
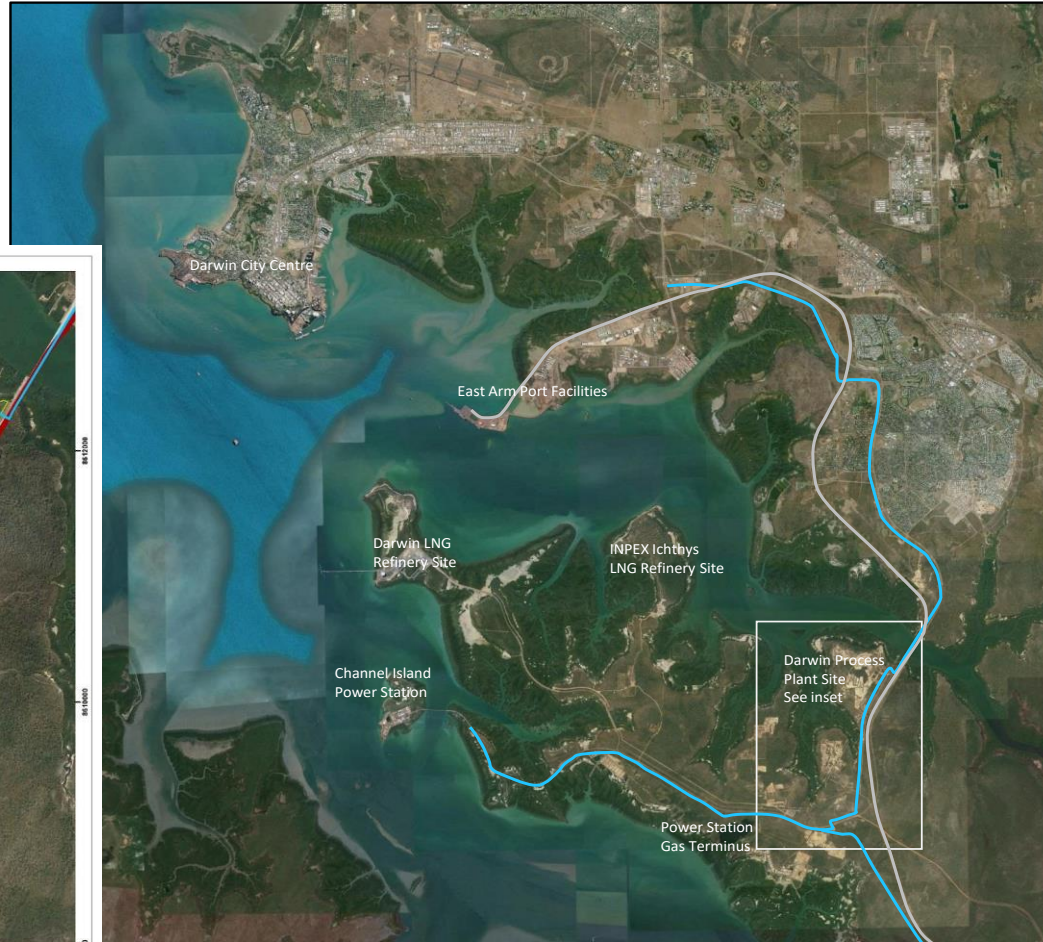
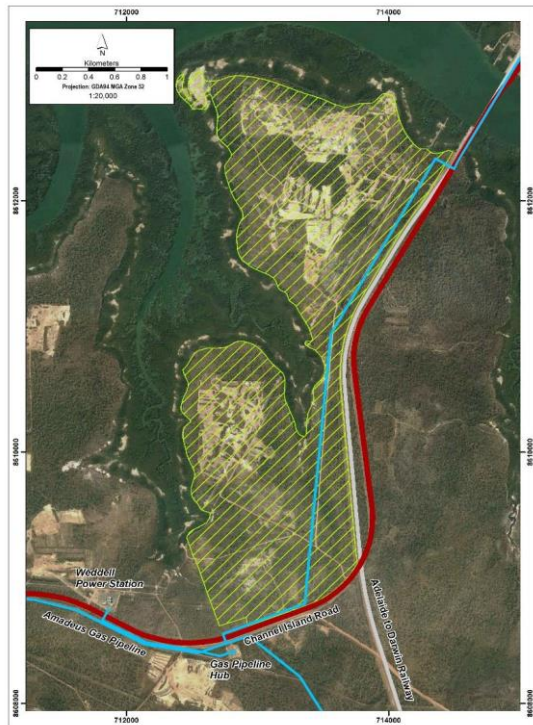


Darwin Processing facility location

Legend

- Railway line
- Amadeus Gas Pipeline

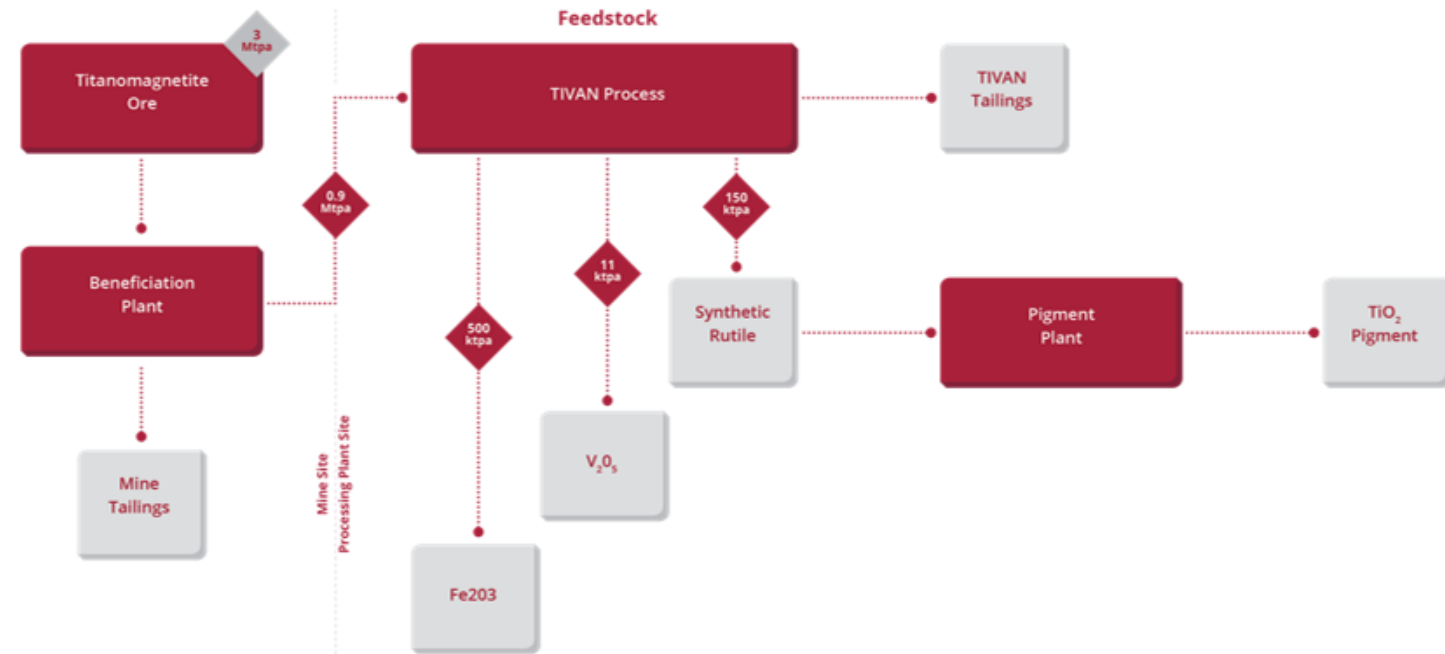
Darwin Process Plant Site



Mount Peake Downstream Processing TIVAN[®] Chemical Process

TNG DEVELOPED AND PATENTED PROCESSING TECHNOLOGY

- ▶ Conventional means of extracting vanadium from titano-magnetite ore is through a salt roasting, energy intensive, pyrometallurgical process
- ▶ Conventional processing unable to commercially extract all three elements
- ▶ TNG and its technical advisers, METS, CSIRO and SMS group, have developed the world first TIVAN[®] process to overcome these limitations
- ▶ TIVAN[®] utilises a combination of pyro and hydrometallurgical processes to extract vanadium as V_2O_5 , and commercially recover titanium dioxide and iron
- ▶ SMS to provide a process and product guarantee following the FEED



Production forecasts (in tpa)

V_2O_5	TiO_2	Fe2O3
11,000	150,000	500,000

A Financially Robust Project

LIFE OF MINE OPERATIONAL AND FINANCIAL METRICS

Operational Metrics Annualized

Mine life	19 years
Mining Rate (ROM)	3Mtpa (Stage 1) expanding to 6Mtpa (Stage 2) after 4 years

Financial Metrics

Pre-production CAPEX	A\$853m
Payback period	3 years
IRR %	44%
Total Revenue	A\$29.2b
Operating Cash Flow	A\$13.5b
Net Cash Flow	A\$11.7b
Net Annual Operating Cash Flow	A\$738m
NPV (at 8% discounted)	A\$4.7b

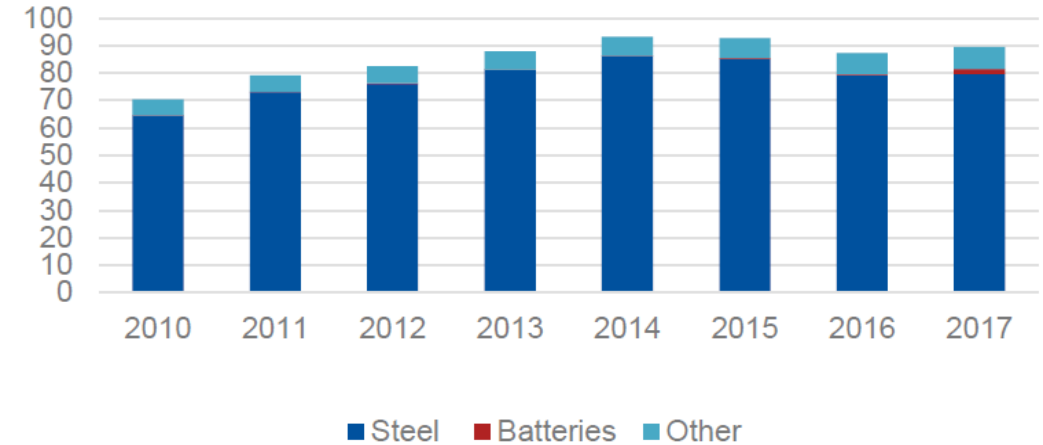
Vanadium

OVERVIEW

- ▶ Vanadium is mainly mined in China, Russia, South Africa and Brazil;
- ▶ About 80% of the commercial vanadium is produced through co-production (smelting high V bearing slag), 12% through processing of primary ore and the remaining recovered from secondary production (oil residues, catalysts, stone coal);
- ▶ Over 90% of vanadium is used in the steel industry (strengthening agent). Recent regulations in China have been the main driver for a surge in demand;
- ▶ Demand in new markets such as super alloys and flow batteries is still small but set to grow rapidly;
- ▶ The current low stocks level, rapid demand increase and supply constraints have all contributed to a spectacular price rise (+500%) over the past 2 years;
- ▶ Global demand is estimated to be 90,000tpa V or 160,000tpa V₂O₅ equivalent. TNG's production of 11,000tpa V₂O₅ will represent 6.8% of the world's demand.

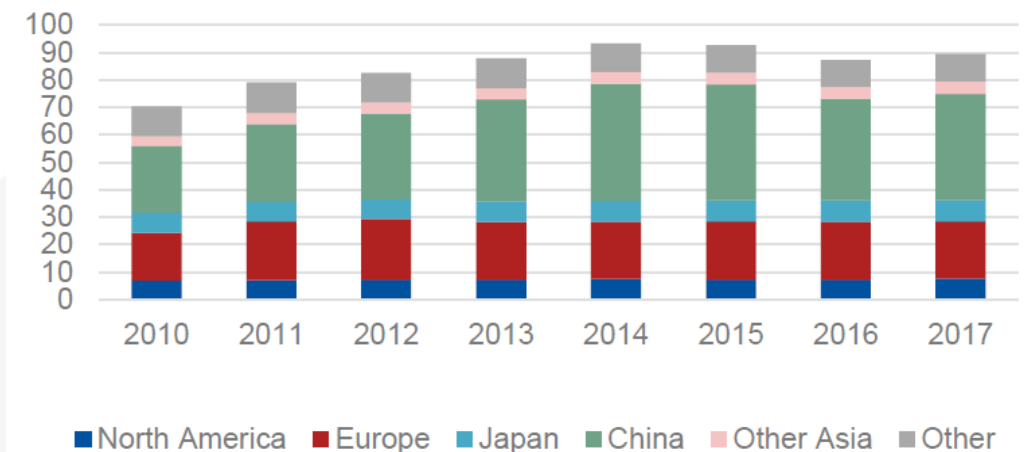
Vanadium demand by end-use

y-axis: '000 tonnes



Vanadium demand by region

y-axis: '000 tonnes





TNG PRODUCT & OFFTAKE AGREEMENT

- ▶ TNG's strategy is to be a fully integrated vanadium producer from mine to finished product
- ▶ High purity V₂O₅ will enable TNG to supply the steel industry as well as higher value niche markets such as Vanadium Redox Flow Batteries
- ▶ The vanadium industry is currently very strong, with high prices backed by structural changes pushing demand

OFFTAKE AGREEMENT



- ▶ Binding Life-of-Mine (LOM) Off-take Agreement with Woojin (Korea) for a minimum of 60% of TNG's production*
- ▶ Woojin is the second largest Ferro-Vanadium exporter in Asia with a V₂O₅ processing capacity of 22,000tpa and has a market share of 80%+ in its home market Korea
- ▶ Technology Transfer agreement with Woojin for V₂O₅ to FeV conversion plant
- ▶ Further negotiations for up to 40% offtake underway with leading vanadium buyers and distributors

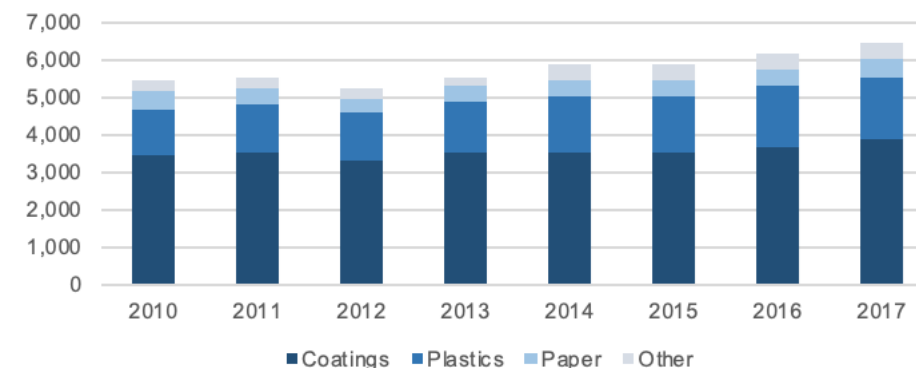
Titanium dioxide pigment

OVERVIEW

- ▶ Titanium dioxide (TiO_2) is the most used white pigment globally;
- ▶ The most important properties of TiO_2 pigment are optical such as opacity, brightness, gloss, weather resistance and durability;
- ▶ Pure TiO_2 is produced by sulfate (SP) or chloride (CP) process, then milled and surface treated to make pigment (containing 80-98% TiO_2);
- ▶ Historically not much vertical integration within the industry – producers are usually either upstream (feedstock) or downstream (pigment);
- ▶ TiO_2 pigment is non-toxic and environmentally friendly;
- ▶ Titanium dioxide market was worth around US\$20bn in 2018;
- ▶ About 60% of the titanium dioxide is used in coatings market (paints, coatings, inks and enamels);
- ▶ China and APAC markets are the main growth regions; and
- ▶ During the 2015-2025 period, global demand is forecast to grow at 4.1% CAGR to 8.825m tones in 2025.

Titanium dioxide demand by end-use

y-axis: '000 tonnes



Source: TIM

Oxides	Ilmenite	TiO_2 Slag	Tivan
TiO_2	44.0	79.4	74.20
Fe_{Total}	35.5	9.40	2.34
SiO_2	3.3	4.30	18.39
Cr_2O_3	0.09	0.13	0.03
Al_2O_3	0.7	1.80	2.43
MgO	4.5	5.70	0.42
CaO	0.35	0.66	0.91
V_2O_5	0.20	0.35	0.24

TiO₂ Pigment

TNG PRODUCT & OFFTAKE AGREEMENT

- ▶ TNG's strategy is to be a fully integrated TiO₂ pigment producer from mine to finished product
- ▶ Global demand is estimated at 6.5mtpa. TNG's production of 150,000tpa will represent 2.3% of the world's demand.
- ▶ Technology proposed to be provided by Ti-Cons (Germany), a leader in TiO₂ technology
- ▶ A sustainable and environmentally friendly process using TNG's own low iron feedstock and patented TIVAN® process
- ▶ First TiO₂ pigment grade targeting the Paint & Coatings industry with a high-durable grade for outdoor applications and industrial market will then be followed by a pigment for plastics application

OFFTAKE

Binding Offtake executed



- ▶ Binding LOM Off-take and Marketing Agreement signed with global leader DKSH (Switzerland)
- ▶ DKSH will provide full distribution services, including freight financing, technical support, logistics, marketing and sales for TNG's TiO₂ product(s)
- ▶ TNG will sell, and DKSH will purchase, up to 150,000 tons per year – or 100% of TNG's TiO₂ production – on an FOB basis to distribute globally, excluding the Iberian Peninsula and European Nordic countries and subject to the terms and conditions of the agreement



TNG PRODUCT & OFFTAKE AGREEMENT



- ▶ TNG's strategy is to be a fully integrated Fe₂O₃ fines producer from mine to finished product
- ▶ Global demand is estimated at 2btpa. TNG's production of 500,000tpa will represent less than 0.001% of the world's demand.
- ▶ High purity hematite with Fe content over 64.4% will command a strong premium over the benchmark 62% grade
- ▶ TNG's ability to pelletise its product also has the potential to further improve the margin for its iron product (current premium of US\$50+/t)

OFFTAKE

Binding Terms Agreed



- ▶ Binding Term Sheet for LOM Off-take Agreement with major global commodity trader Gunvor (Singapore) for iron products*
- ▶ Gunvor is one of the largest commodity trading companies worldwide with a turnover of US\$63bn in 2017
- ▶ Further negotiations for offtake underway with leading iron ore buyers and distributors

Mount Peake Project

STATUS OF APPROVALS

Mount Peake Mine Site

- ▶ Environmental approval received (State & Federal) ✓
- ▶ Native Title Agreement executed with traditional owners ✓
- ▶ Mineral Leases granted ✓
- ▶ Mining Management Plan being finalised (submission expected Q2 2019) **underway**

Mount Peake TIVAN Processing Plant

- ▶ Regulatory entities for processing plant environmental and operational approvals **underway**
- ▶ Consultant engaged to progress EIS and approvals process (submission expected Q2 2019) ✓

Mount Peake FEED

- ▶ Encompassing total plant equipment - mine and downstream processing **underway**

Mount Peake

PROJECT FINANCING

Debt

KfW IPEX-Bank mandated to raise up to US\$600 million (AU\$850M) as part of the total finance package for the Mount Peake Project*

Equity funding

A range of potential options are available to TNG to raise the required project equity funding:

- ▶ Strategic investors
- ▶ Offtake partners
- ▶ Development partners
- ▶ ASX investors & institutions
- ▶ International institutions

* See ASX Announcement – 13 December 2018, "TNG Mandates KfW Bank for Debt Finance for Mount Peake"

Mount Peake Project

KEY DEVELOPMENT MILESTONES AND ESTIMATED SCHEDULE

Mount Peake Development Pathway

Project Milestone	2014	2015	2016	2017	2018	2019	2020-2021	2022
✓ Major project status								
✓ TIVAN pilot study completion								
✓ Discovery of LoM water aquifer								
✓ DFS completion								
✓ Vanadium Off-take Agreement - Woojin Metal								
✓ Iron Off-take Agreement - Gunvor								
✓ Project delivery agreement - Downer								
✓ Titanium Pigment Off-take Agreement - DKSH								
✓ Mine Site EIS Completion (Australia)								
✓ Mine Site EIS Approval (Australia)								
✓ Mining Agreement - Traditional Owners								
✓ Mining Licence Approval								
✓ Processing Plant EIS (underway)								
✓ FEED - SMS group (underway)								
Equity & Debt Financing, FID								
EPC								
Production								

Mount Peake: The Path Ahead

EXPECTED NEXT STEPS

- ▶ Full permitting for TIVAN® processing site
- ▶ Appointment of equity advisors
- ▶ Completion of final mine design and FEED for all process plants, leading to EPC tender process
- ▶ Equipment tender process
- ▶ Appointment of EPC contractor
- ▶ Establish full Project Development team
- ▶ TNG Board FID
- ▶ Commencement of development



TNG

LIMITED

Paul Burton
Managing Director & CEO

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Western Australia
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APPENDIX

Titano-Magnetite Ore Bodies

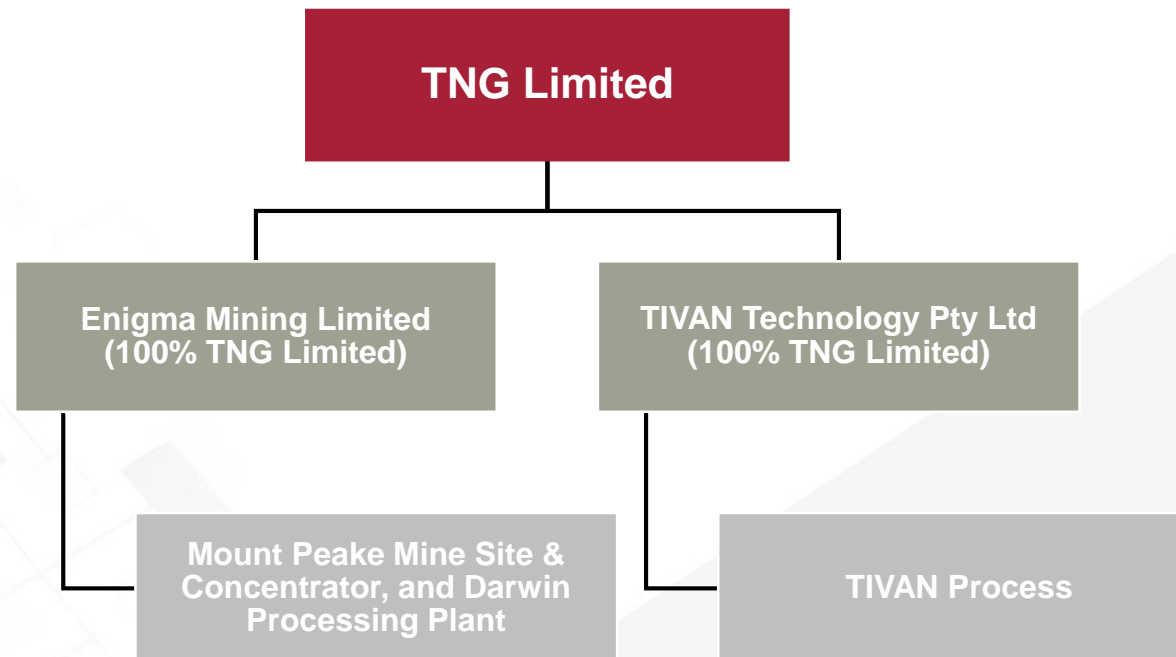
KEY STRATEGIC ADVANTAGES

- ▶ **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:** urbanisation 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 for the extraction of other valuable fractions, such as scandium, high-purity silicon and MgO



CURRENT OWNERSHIP STRUCTURE

- ▶ TNG owns all Mining, Exploration and ancillary licences 100%
- ▶ TNG owns TIVAN Process and Patents



Management profiles



Mr Paul Burton - Managing Director & CEO

Mr Burton holds a B.Sc Honours Geology and M.Sc from McGill University, Canada and has over 20 years' experience in the resources sector throughout Australia and overseas.

He has been involved in the discovery and development of the Company's main projects, including their Flagship project Mount Peake and all projects spun out into Todd River Resources Ltd. (ASX:TRT). Previous career appointments include senior and executive roles at Anglo American, De Beers, Normandy Mining Ltd and Minotaur Exploration Ltd.

Mr Burton was appointed to the Board in 2008. He is a Member of the Australian Institute of Company Directors (GAICD); the Institute of Directors, London; the Australian Institute of Mining and Metallurgy (AusIMM); the Canadian Institute of Mining, Metallurgy and Petroleum (CIM); and, Fellow of the Association of Applied Geochemists.



Mr Paul Volland - General Manager, Sales & Marketing

Mr Volland is highly experienced in the sales and marketing of metals and minerals in the commodity sector and has specialised in strategic metals, particularly vanadium and titanium.

Mr Volland is a business graduate of the ESDS Business School, in Lyon France, and was formerly with the Noble Group in London and Hong Kong. He is a founding Director of global commodity distribution company Element Commodities that's specialised in vanadium and titanium and a Director of the HLG Group. He is also a Non-Executive Director of Nairobi Securities Exchange.

Management profiles continued



Mr Philippe Guillemaille – General Manager, TiO₂

Mr Guillemaille is a highly experienced sales and marketing professional in the chemical industry. He gained experience in trading with companies like Fuji Film (Japan), Metallgesellschaft (Germany) and Monsanto/Exxon Chemicals (U.S.) among others.

He began his career in the TiO₂ industry 20 years ago with Kronos and Argex Titanium. His academic studies include a degree from the Lyon Institute of Technology, France.



Mr Jason Giltay – General Manager Commercial & Company Secretary

Mr Giltay is a senior financial manager with more than 17 years' experience specialising in the areas of corporate finance and commercial management. This includes 13 years' involvement in the resources industry in both consulting and in-house management roles, having worked for companies in the areas of exploration, project development, operations and mining services, and advised on corporate and fund raising transactions for a variety of companies.

His experience extends to investor relations, corporate communications, strategy development and corporate compliance. Mr Giltay previously held a senior commercial position for the redevelopment and restart of mining and processing operations at the Windimurra Vanadium Mine.



Mr Tony Arena – General Manager Processing

Mr Arena has over 20 years' experience across the Australian and global mining industry, including spending the last 10 years in managerial roles mentoring engineers, metallurgists, operators and supervisors. He has also had vast experience in the successful commissioning of mineral processing facilities within Australasia, including PNG and Laos. Mr Arena has held multiple roles within the processing discipline and has extensive experience in various commodity processing including Alumina, Gold, Copper, Lead, Vanadium, Iron Ore and Synthetic Rutile.

Mr Arena holds a Bachelor of Science (Extractive Metallurgy) from Murdoch University in WA, is an AUSIMM member and is currently undertaking a diploma in leadership.'

PATENT AND TRADE MARK STATUS

TIVAN® Patent Status

A Method for Extraction and Recovery of Vanadium	
Australia	REGISTERED
Russian Federation	REGISTERED
United States of America	REGISTERED
Canada	REGISTERED
Vietnam	REGISTERED
China	FILED - IN PROGRESS
European Patent Federation	FILED - IN PROGRESS
A Method for Preparing a Leach Feed Material	
Australia	FILED - IN PROGRESS
Titanium Dioxide Pigment Production Method	
Australia	IN PREPARATION

TIVAN® Trade Mark Status

Registered in the following regions:
Australia
Canada
China
European Union
Madrid Protocol
Russian Federation
South Africa
United States of America