

TNG SIGNS BINDING HEADS OF AGREEMENT WITH LEADING GERMAN TECHNOLOGY PROVIDER, TI-CONS, FOR THE SUPPLY OF TiO₂ PIGMENT PRODUCTION TECHNOLOGY

Heads of Agreement (HoA) covers all key aspects of TiO₂ pigment production, from the feedstock produced at TNG's TIVAN™ plant to a finished, high-durable TiO₂ pigment suitable for outdoor coatings applications

Key Points

- Ti-Cons will supply TNG with a full technology package for a TiO₂ pigment plant including engineering, construction support, procurement support, training and commissioning.
- Ti-Cons will provide TNG with process and product guarantees for the production of a high-durable TiO₂ pigment suitable for outdoor coatings applications.
- TiCons will act as a sub-contractor to TNG's EPC contractor for the Mount Peake Project, with TNG agreeing to grant Ti-Cons the status of preferred partner for the development of the tailored process.
- All and any Intellectual Property developed as a result of, or in connection with, the Consultancy Services provided by Ti-Cons to TNG will, from their creation, be owned and vest exclusively in TNG.
- Ti-Cons shall provide TNG with a full commercial contract for the delivery of the TiO₂ pigment production process.

Australian strategic metals company TNG Limited (ASX: TNG) is pleased to announce that it has signed a Binding Heads of Agreement with the industry-leading German technology provider, **Ti-Cons**, for the supply of a technology package for titanium pigment production from its flagship 100%-owned **Mount Peake Vanadium-Titanium-Iron Project** in the Northern Territory.

The technology package to be supplied by Ti-Cons under this HoA encompasses all of the TiO₂ pigment products that will be produced by TNG's proprietary TIVAN™ hydrometallurgical process, incorporating the innovative new TiO₂ pigment production process announced earlier this year (see ASX announcement, 26 February 2018).

The successful development of this new process, which is based on the conventional TiO₂ sulphate route, confirmed the potential for TNG to directly use its TIVAN™ titanium feedstock to produce a high-grade TiO₂ pigment without the need for any further upgrading treatment process, significantly reducing the cost and complexity of the process.

The TIVAN® titanium feedstock's low iron content is a significant advantage over standard TiO₂ feedstocks. Low-iron feedstock has the potential to minimise the environmental impact compared to a standard sulphate titanium pigment production process – an important competitive and strategic advantage for TNG.

Under the agreement, Ti-Cons will provide TNG with a full commercial design contract for the delivery of the TiO₂ pigment production process which will be incorporated into the final engineering process design for the Mount Peake Project.

The TiO₂ pigment production process will incorporate the titanium pigment recipe(s) for TNG's pigment type, which is expected to be a highly-durable TiO₂ pigment for outdoor coatings applications, plus the full design for the pigment plant including engineering, construction support, procurement support, training and commissioning, plus process and product guarantee.

Ti-Cons was founded in 2005 by TiO₂ experts with combined decades of industry experience with global players. Since then, Ti-Cons has grown into an industry leader and supplied TiO₂ production facilities on a global basis. From feedstock to post treatment, Ti-Cons can deliver a turn-key TiO₂ plant with both process and product guarantees. For more information please see www.ti-cons.com

Commenting on the signing of the HoA with Ti-Cons, TNG's Managing Director, Mr Paul Burton, said: *"This is a significant agreement for the Company to achieve with such a highly-credentialed and respected specialist titanium engineering group. It was imperative that we engage with the correct supplier for our titanium business so that we can deliver the right products, so I am very pleased to have secured this agreement with Ti-Cons, a leader in the titanium pigment technology field."*

"This agreement paves the way for us to commercialise the breakthrough TiO₂ pigment production process announced earlier this year as part of the overall development of the Mount Peake Project, ensuring that we maximise the returns from the extraction of all three high-value metals that make up the Mount Peake resource."

Commenting on the signing of the HoA with TNG, Ti-Cons's Managing Partner, Mr Weiland, said: *"We are pleased to be part of this central project for the TiO₂ pigment industry. By combining the technology and expertise of both companies, a new source of raw material for the TiO₂ market will be developed. We are looking forward to have a long term cooperation between our esteemed companies."*

Paul E Burton
Managing Director

26 September 2018

Additional Information

TNG updated the economics of its Definitive Feasibility Study (DFS) for the Mount Peake Project in November 2017, confirming a world-class project capable of generating outstanding returns (ASX Release, 20 November 2017). The recent technical breakthrough should further improve the economics of TNG's Mount Peake project while at the same time reducing some technical complexity and environmental impact.

Key findings of the updated DFS included life-of-mine net cash flow of \$11.7 billion, a pre-tax IRR of 44% and an NPV₈ of \$4.7 billion (see ASX Announcement – 20 November 2017).

TNG intends to produce three commercial products, as outlined below:

Vanadium Pentoxide and Vanadium Electrolyte:

TNG has previously confirmed the ability to produce high-purity vanadium pentoxide at +99% purity from its TIVAN[®] plant following an extensive pilot plant testwork program in 2015 (ASX release, 8 July 2015). Subsequently, the Company successfully produced commercial-grade high-purity vanadium electrolyte from this vanadium pentoxide (see ASX release, 10 October 2016) to the exacting and detailed specification required by Sumitomo Electric (SEI). TNG has a binding life of mine off-take agreement for its vanadium pentoxide in place with Korea's WOOJIN Group.

Titanium Dioxide – Titanium Pigment

TNG has previously confirmed its ability to produce a high-grade titanium dioxide (TiO₂) feedstock from its TIVAN[®] process, grading approximately 80% TiO₂ (see ASX release, 8 July 2015). This feedstock is a direct residue from the initial leaching phase of the TIVAN[®] process, where the vanadium and iron have been dissolved into solution. With this current breakthrough, TNG has now confirmed that this feedstock can be taken to a pre-coating pigment phase directly.

Iron Oxide: As part of the acid digestion process, the Fe component of the magnetite is removed and then captured once the vanadium is extracted from solution, producing a 99.9% pure Fe₂O₃ product. TNG has a binding off-take agreement in place with Gunvor.

Inquiries:

Paul E Burton
Managing Director + 61 (0) 8 9327 0900

Nicholas Read
Read Corporate + 61 (0) 8 9388 1474

About TNG

TNG is building a world-scale strategic metals business based on its flagship 100%-owned Mount Peake Vanadium-Titanium-Iron Project in the Northern Territory. Located 235 km north of Alice Springs, Mount Peake will be a long-life project producing a suite of high-quality, high-purity strategic metals products for global markets including vanadium pentoxide, titanium dioxide and pig iron. The project, which will be a top-10 global producer, has received Major Project Facilitation status from the NT Government.

Vanadium is a highly strategic metal which is used as an alloy in steel. It is also in strong demand for use in energy storage, with vanadium redox batteries used to store electricity generated by solar and wind power, and lithium-vanadium ion batteries used to power hybrid cars.

Forward-Looking Statements

This announcement has been prepared by TNG Ltd. This announcement is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained.

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