



ASX / MEDIA ANNOUNCEMENT

Tuesday 17 May 2022

\$20M AUSTRALIAN GOVERNMENT MODERN MANUFACTURING INITIATIVE GRANT AWARDED

KEY POINTS

- Pilbara Minerals, with its project partner Calix, has been awarded a \$20 million grant from the Australian Government under the Modern Manufacturing Initiative (**MMI**) - Manufacturing Translation Stream, supporting the further development and demonstration of the proposed “Mid-Stream Project”.
- Grant funding will be used as part of a joint venture (**Joint Venture**) to be entered into between Pilbara Minerals and Calix for the progression of a demonstration scale chemicals facility at the Pilgangoora Project - with the aim of producing lithium salts for global distribution via an innovative midstream “value added” refining process.
- The MMI grant will assist the Mid-Stream Project in its efforts to deliver significant benefits across the industry including:
 - increased downstream “value-add” realisation within the Australian economy,
 - significant sustainability benefits across the lithium industry via electrification of the “value-added” process (including spodumene calcining), thereby enabling a decarbonisation pathway, as well as rationalisation of the carbon footprint via reduced waste movements across transport and logistics supply chains from a near zero-waste final product,
 - maximising Australian hard-rock lithium resources via improved lithium recovery, as the innovative refining process should enable treatment of very fine spodumene concentrates at lower lithia grades, which have traditionally been problematic for calcination in conventional direct-fired horizontal rotary calciners.
- Pilbara Minerals and Calix are well progressed in negotiations in relation to the formation of a Joint Venture for the future development of a small-scale Demonstration Plant, with the Parties targeting to sign in early Q3 2022.

Pilbara Minerals (ASX: PLS) (**Pilbara Minerals**) and Calix (ASX: CXL) (**Calix**) (or the “**Parties**”) are pleased to announce the award of a \$20 million grant under the Australian Government’s Modern Manufacturing Initiative (**MMI**) - Manufacturing Translation Stream, towards the development of the Mid-Stream Project at the Pilgangoora Project.

The MMI grant represents a significant step forward in the progression of the Mid-Stream Project, which will be used as part of a proposed Joint Venture to be entered between the Parties to support the design, procurement, construction, and commissioning of the Mid-Stream Project Demonstration Plant (**Demonstration Plant**).



MID-STREAM PROJECT

Following execution of a Memorandum of Understanding (**MoU**) in May 2021 (refer ASX Announcement dated 11 May 2021) between Pilbara Minerals and Calix, a scoping study (**Scoping Study**) has recently been completed by Lycopodium Minerals in conjunction with the Pilbara Minerals and Calix teams (refer ASX Announcement dated 31 March 2022). The purpose of the Scoping Study was to assess the technical viability of developing a demonstration scale chemicals facility at the Pilgangoora Project to produce lithium salts from fines flotation spodumene concentrate produced at the Pilgangoora Project, thereby supporting a potential pathway towards future commercial production of “value-added” lithium products at the Pilgangoora Project and globally (refer ASX Announcement dated 21 December 2021).

The lithium-ion battery supply market is rapidly evolving with large scale development occurring through all segments of the supply chain. Several prominent themes are shaping the industry including product cost (per lithia unit), product quality (purity), carbon energy reduction and waste management (particularly for the European market).

The objective of the Mid-Stream Project is to deliver a superior “value-added” lithium raw material that outperforms across the key metrics of product cost, quality, carbon energy reduction and waste reduction/handling.

Works undertaken to date have explored alternative solutions to achieve these aims, including reviewing and testing alternate process paths, equipment selection and end-product types. The Scoping Study supported the technical viability of the Mid-Stream Project at a Scoping Study level to deploy an innovative calcination technology owned by Calix which is proposed to be integrated into a chemical concentration process at the Pilgangoora Project to produce a new end product, with the current focus being a lithium phosphate salt as a key “value-added” product for global distribution.

Pilbara Minerals’ Managing Director and CEO, Ken Brinsden, said:

“Pilbara Minerals is very pleased to be able to access the Australian Government’s MMI grant funding, representing key backing for technology that we believe represents a giant leap forward for the hard-rock lithium raw materials supply chain.

“The Mid-Stream Project is expected to facilitate waste minimisation in key end-use markets, which decarbonises the hard-rock lithium supply chain and creates competitive “value-added” products that can serve global markets directly. We are pleased to be partnered with Calix and their fantastic team, to build-on the technology and ultimately market it around the world.”

Calix’s Managing Director, Phil Hodgson, said:

“We are very grateful for this \$20 million grant to assist our lithium salt Demonstration Project with Pilbara Minerals under the Federal Government’s Manufacturing Modernisation Initiative.

“This world-first project aims to develop a low carbon process for lithium salt production into a rapidly growing market that is increasingly demanding more sustainable practices. The Calix and Pilbara Minerals teams are working very well together on this joint development and we look forward to progressing this important technology.”

NEXT STEPS

Parties are targeting to finalise and execute the formal Joint Venture Agreement by early Q3 2022, with a final investment decision on the project to be decided late 2022 / early 2023. The Parties will liaise with the Australian Government to finalise the execution of the MMI grant funding.



Release authorised by Ken Brinsden, Pilbara Minerals Limited's Managing Director and Phil Hodgson, Managing Director and CEO of Calix Limited.

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ABOUT PILBARA MINERALS

Pilbara Minerals is the leading ASX-listed pure-play lithium company, owning 100% of the world's largest, independent hard-rock lithium operation. Located in Western Australia's resource-rich Pilbara region, the Pilgangoora Project produces a spodumene and tantalite concentrate. The significant scale and quality of the operation has attracted a consortium of high quality, global partners including Ganfeng Lithium, General Lithium, Great Wall Motor Company, POSCO, CATL and Yibin Tianyi.

While it continues to deliver a low-cost, quality spodumene to market, Pilbara Minerals is pursuing a growth and diversification strategy to become a sustainable, low-cost lithium producer and fully integrated lithium raw materials and chemicals supplier in the years to come.

Through execution of this strategy, Pilbara Minerals is positioned to become a major player in the rapidly growing lithium supply chain, underpinned by increasing demand for clean energy technologies such as electric vehicles and energy storage as the world pursues a sustainable energy future.

ABOUT CALIX

Calix is a team of dedicated people who are urgently developing great businesses, leveraging our patented technology, that deliver positive global impact.

The core technology is being used to develop more environmentally friendly solutions for water treatment, CO₂ mitigation, biotechnology, advanced batteries, and more sustainable mineral and chemical processing.

Calix develops its technology via a global network of research and development collaborations, including governments, research institutes and universities, some of world's largest companies, and a growing customer base and distributor network for its commercialised products and processes.

Because there's only one Earth – Mars is for Quitters.

Website: <https://www.calix.global/>

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FORWARD LOOKING STATEMENTS AND IMPORTANT NOTICE

This announcement may contain some references to forecasts, estimates, assumptions, and other forward-looking statements. Although the Company believes that its expectations, estimates, and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the



nature of the business, which could cause actual results to differ materially from those expressed herein.

All references to dollars (\$) and cents in this announcement are to Australian currency, unless otherwise stated.

Scoping and other technical studies in respect of the Mid-Stream Project have been undertaken to determine the potential viability of the demonstration plant and to reach a decision to proceed with more definitive studies and enter into a joint venture agreement. Each scoping study has been prepared to an accuracy level of +/-40% (for Capital costs) and +/-30% (for Operating costs). Each scoping and technical study is based on low-level technical and economic assessments and is insufficient to provide assurance of an economic development case at this stage or provide certainty that the conclusions of the studies will be realised. The results of the studies should not be considered a profit forecast or production forecast.