

6 September 2021

New initiatives to advance the Platina Scandium Project

Platina Resources Limited (ASX: PGM) is implementing a number of initiatives to unlock the value in its wholly owned Platina Scandium Project (PSP) in New South Wales including completing a feasibility study assessment of developing an integrated master alloy production facility and finalising the project's permitting process.

Recently published, independent industry market research by the CM Group highlighted increasing opportunities in the global scandium market, which offer the potential for significantly higher commercial volumes over a more diverse range of applications if scandium oxide can be converted into value added, higher-margin and more readily saleable products, such as master alloy (*see Figure 4*).

Historically, the combination of high prices and concerns over supply security have prevented the large-scale adoption of aluminium-scandium alloys in the aluminium industry. Applications have been limited to a number of smaller niche markets where the cost is less sensitive (*see Figure 5*). This is despite strong evidence that aluminium-scandium alloys are lightweight and high strength with excellent weldability characteristics. They also provide opportunities to reduce the carbon footprint through weight reductions and improved fuel efficiencies.

While the solid oxide fuel cell industry has been the dominant consumer of scandium in recent years, the metal's greatest opportunity is as an aluminium alloy targeting aerospace, marine, military and automobile industries.

The recent entry into the scandium market by companies with significant aluminium business units provides a genuine opportunity for the aluminium-scandium alloy sector to expand rapidly. However, new pure play scandium projects like the PSP, which offer stable sources of non-by-product supply, will be needed to support and stimulate further demand growth in the future.

Platina Managing Director Mr Corey Nolan said the PSP, in combination with a master alloy production facility, was a world class opportunity to participate in this market growth.

"The key to unlocking the scandium market is having the ability to supply customers with master alloy at a small-scale and grow production as demand increases. We believe this can be achieved at relatively modest capital and operating costs and produce a premium value-added product directly into the market" Mr Nolan said.

"Our strategy is directed at moving the project forward and aim to become a stable western world supply source at competitive global prices that stimulate demand.

With these new initiatives, combined with the PSP's key strengths of high scandium grades, long-life and robust ore reserve and mineral resource positions, low capital and operating costs, and access to excellent infrastructure, we believe the project has significant, untapped value in comparison to our scandium, and scandium-nickel-cobalt peers, (*see Figure 6*). Our move to capture more of the downstream value chain provides a major point of differentiation to our peers," he said.

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PSP Development Strategy

PSP development activities have largely been on hold since the beginning of 2020 due to a combination of Covid restrictions, the challenges of securing scandium oxide offtake agreements and cash preservation.

The recent entry into the scandium market by global mining companies with aluminium business units provides a genuine opportunity for the aluminium scandium alloy sector to expand rapidly but capacity will be constrained given the scandium production comes as a by-product of other metal production capacity. However, new pure play scandium projects like the PSP, which offer stable sources of non-by-product supply, will be needed to support and stimulate further demand growth in the future. At this early stage it's not clear how quickly this demand pipeline will fill but given the infancy of scandium markets it could take some time.

The PSP is well placed to capture this opportunity given the robust nature of the resource but the scale of production required to justify investment is a significant development hurdle until the market grows significantly larger. Moreover, whilst scandium oxide provides some opportunities for offtake, development of a more saleable value added product, aluminium-scandium master alloy, will be critical to monetising the PSP.

Platina's new development strategy contemplates development of master alloy production intellectual property (IP) and a two-phase market entry strategy based on the development of a commercial scale master alloy production facility initially using third party purchased scandium oxide feedstock until such time that the market size or security of oxide supply warrants the PSP development. The expected capital and operating costs are expected to be modest and will be defined by a feasibility study once the IP and market development strategies are completed.

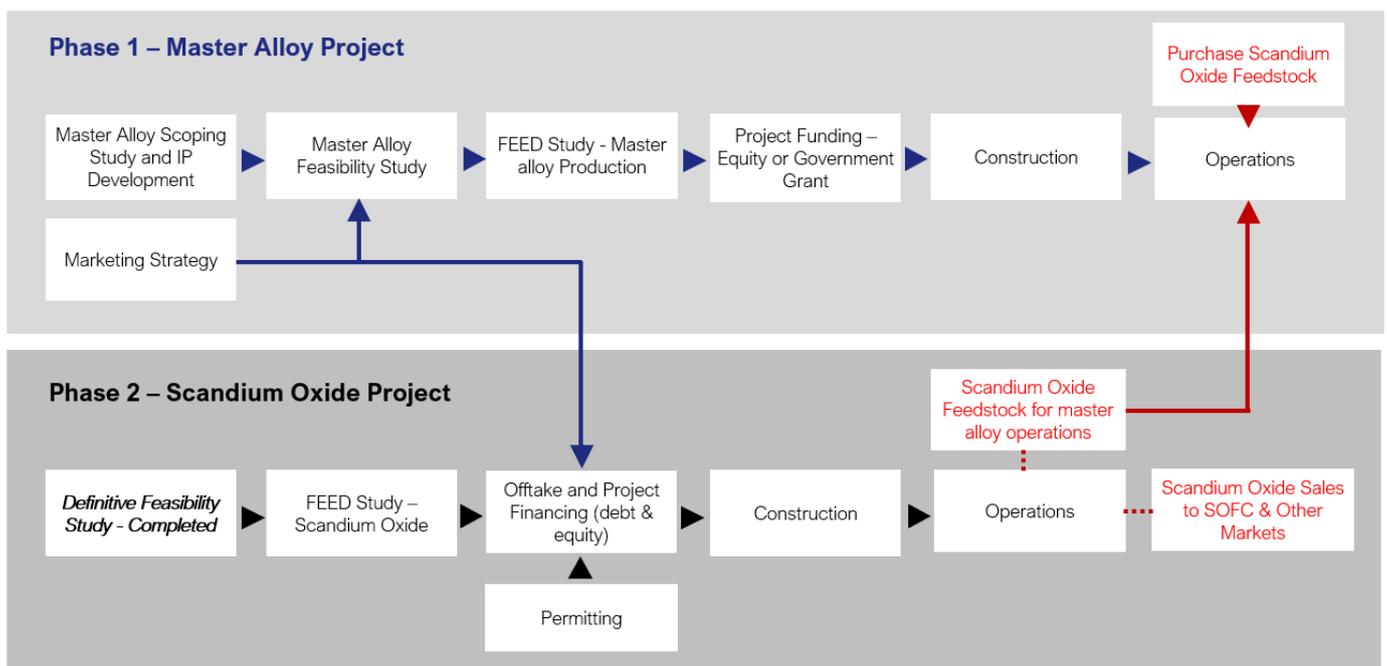


Figure 1: Platina's two-stage scandium development strategy. SOFC – Solid Oxide Fuel Cell



Master Alloy Development Program

The aluminium industry prefers scandium supply via a master alloy or “hardener” rather than scandium oxide, the planned product of the PSP operations in New South Wales. Following the completion of the PSP Definitive Feasibility Study (DFS) in 2018, Platina successfully completed a number of tests to develop proprietary master alloy production procedures¹.

The test work was conducted at a relatively small scale and focussed on producing master alloy from scandium oxide, but also from intermediate products from the PSP flowsheet developed for the DFS. The testing concluded and demonstrated that the procedures developed can reliably produce, market preferred, 2% scandium-aluminium master alloy from either scandium oxide or from intermediate products in the flowsheet developed in the DFS test work program.

The company is now planning to extend this test work program and refine its master alloy production processes and secure the intellectual property protection for the processes developed. It's expected the program will take two months to complete.

Once IP has been developed, a feasibility study will be undertaken to assess the capital and operating costs of the production process. Our internal studies demonstrate that the incremental capital and operating cost to construct a master alloy production facility will be relatively small but allow the production of a higher-value more readily saleable product to the market.



Figure 2: Master alloys produced from three different scandium chemicals from intermediate stages within the PSP scandium recovery flowsheet.

PSP Permitting Process

In parallel with the preparation of the PSP DFS during 2017 and 2018, a number of work programs including community consultation, Environmental Impact Assessments (EIA) and Mining Licence Application were progressed. In 2019, these were put hold pending further progress on scandium marketing initiatives and offtake agreements.

Platina is now planning to recommence the permitting process and secure a Mining Licence for the project. To complete the permitting process for the PSP involves the following activities overleaf:

¹ (see ASX release, Successful Completion of Master Alloy Testwork, 4 December 2018).



- Red Heart – Completing the EIA process, lodging new Development Application (DA) and Mining Lease Applications (MLA) for the mine site, essentially for a small quarry, with development consent determined and managed by Lachlan Shire Council will be required; and
- Condobolin plant processing site – Completing the EIA, and a new DA for an industrial facility at the plant site for the processing and refining of scandium. The permitting process will be managed by the New South Wales Department of Planning, Industry & Environment.
- There are a number of other permits required to complete the process and secure the Mining Licence.

Subject to managing the permitting process around Covid restrictions in New South Wales, it is expected it will take between 12 and 18 months to complete and lodge the MLA.

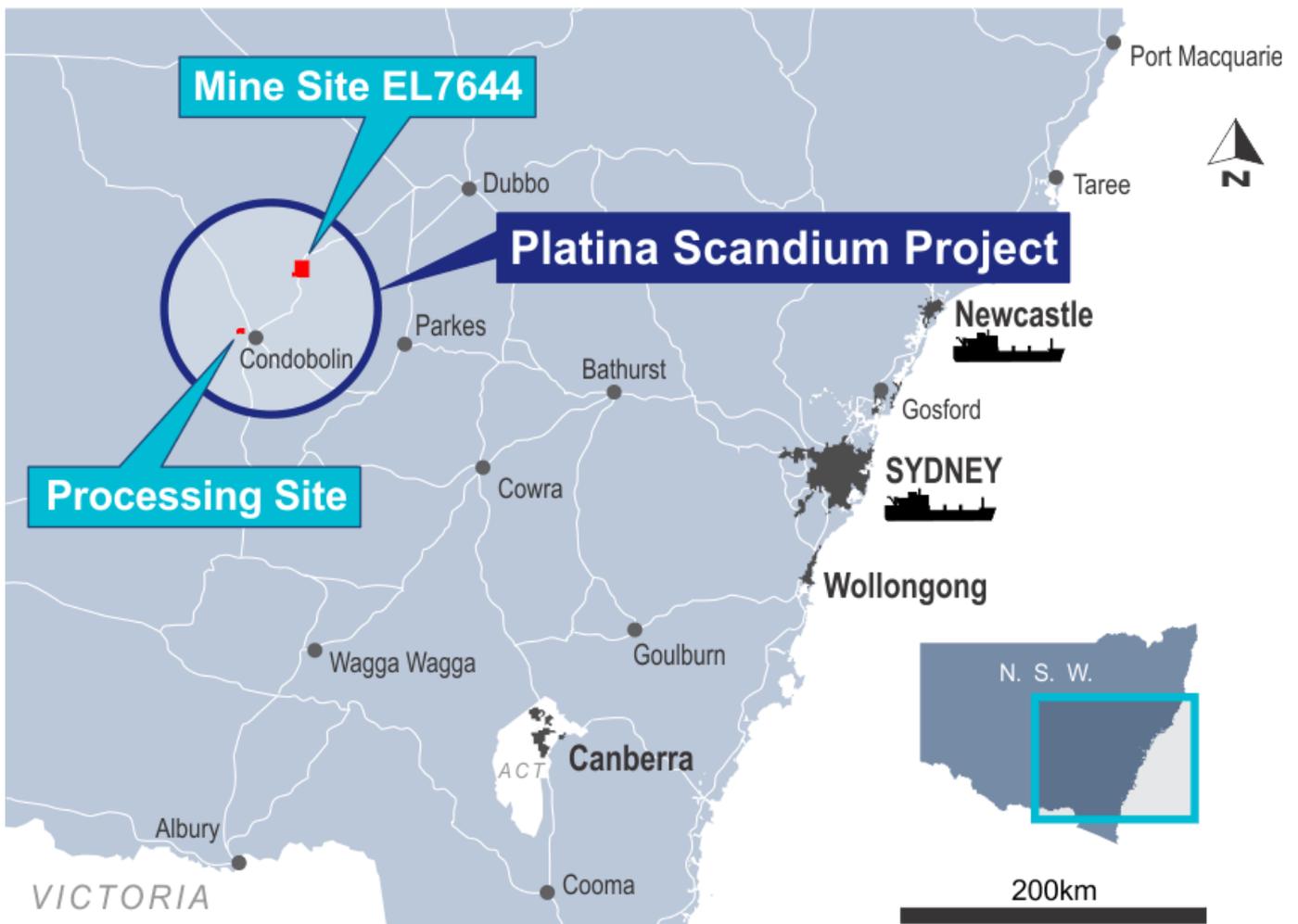


Figure 3: Location of the Red Heart mine site and Condobolin Processing Plant

This announcement was authorised by Mr Corey Nolan, Managing Director of Platina Resources Limited.

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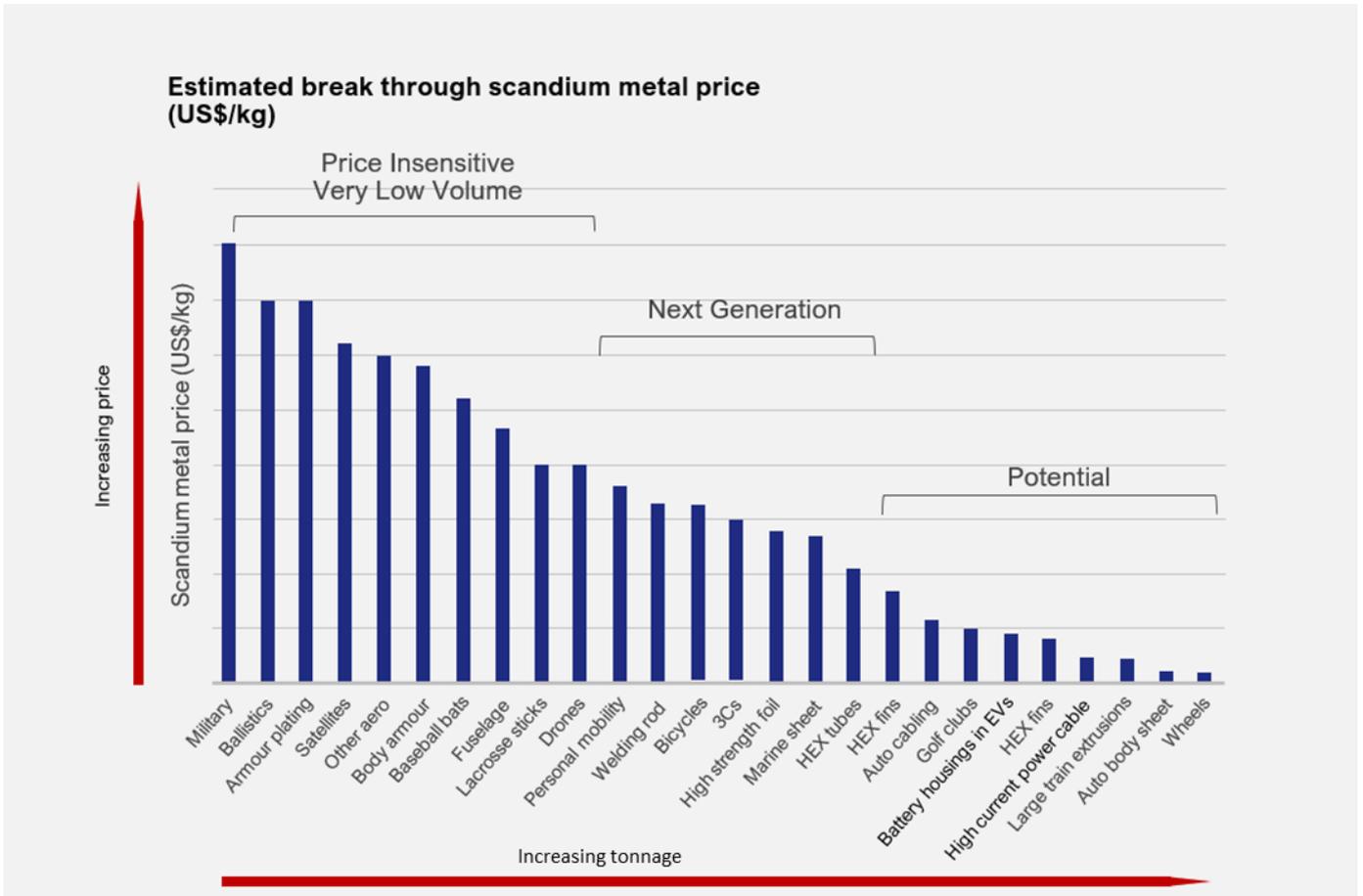


Figure 4: The estimated trigger prices for a wide variety of potential applications. Source CM Group

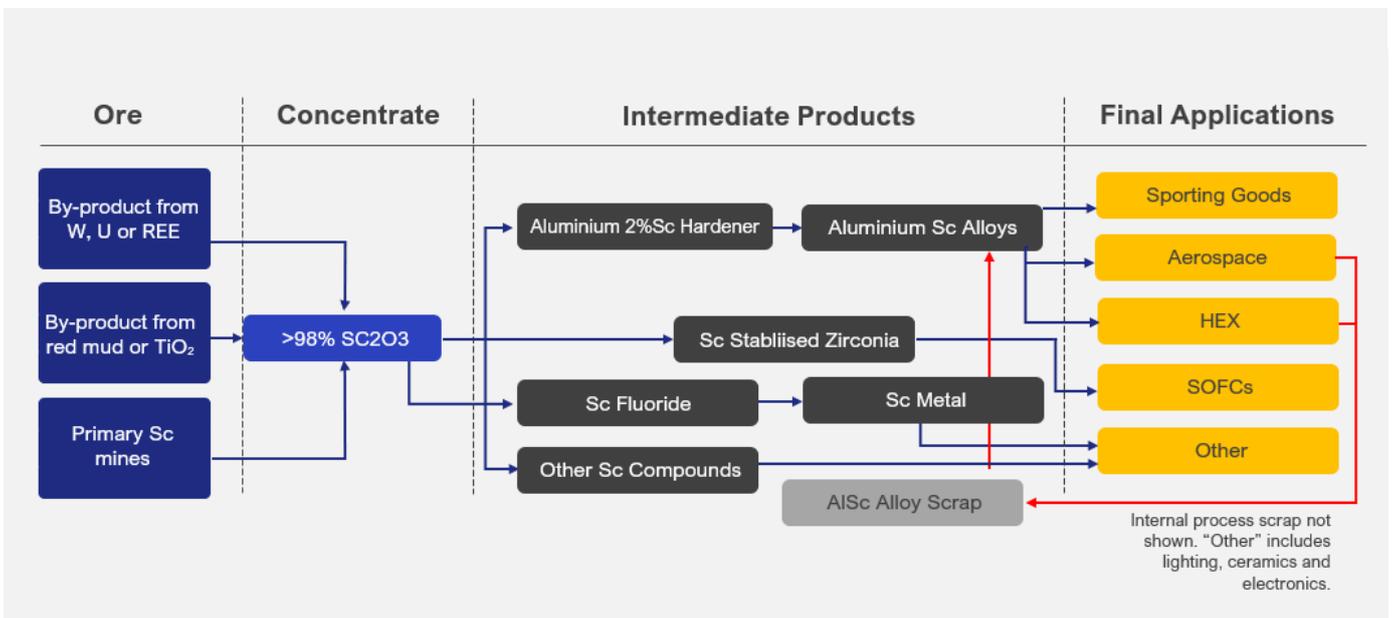


Figure 5: The simplified scandium value chain showing actual and potential supply routes. Source CM Group

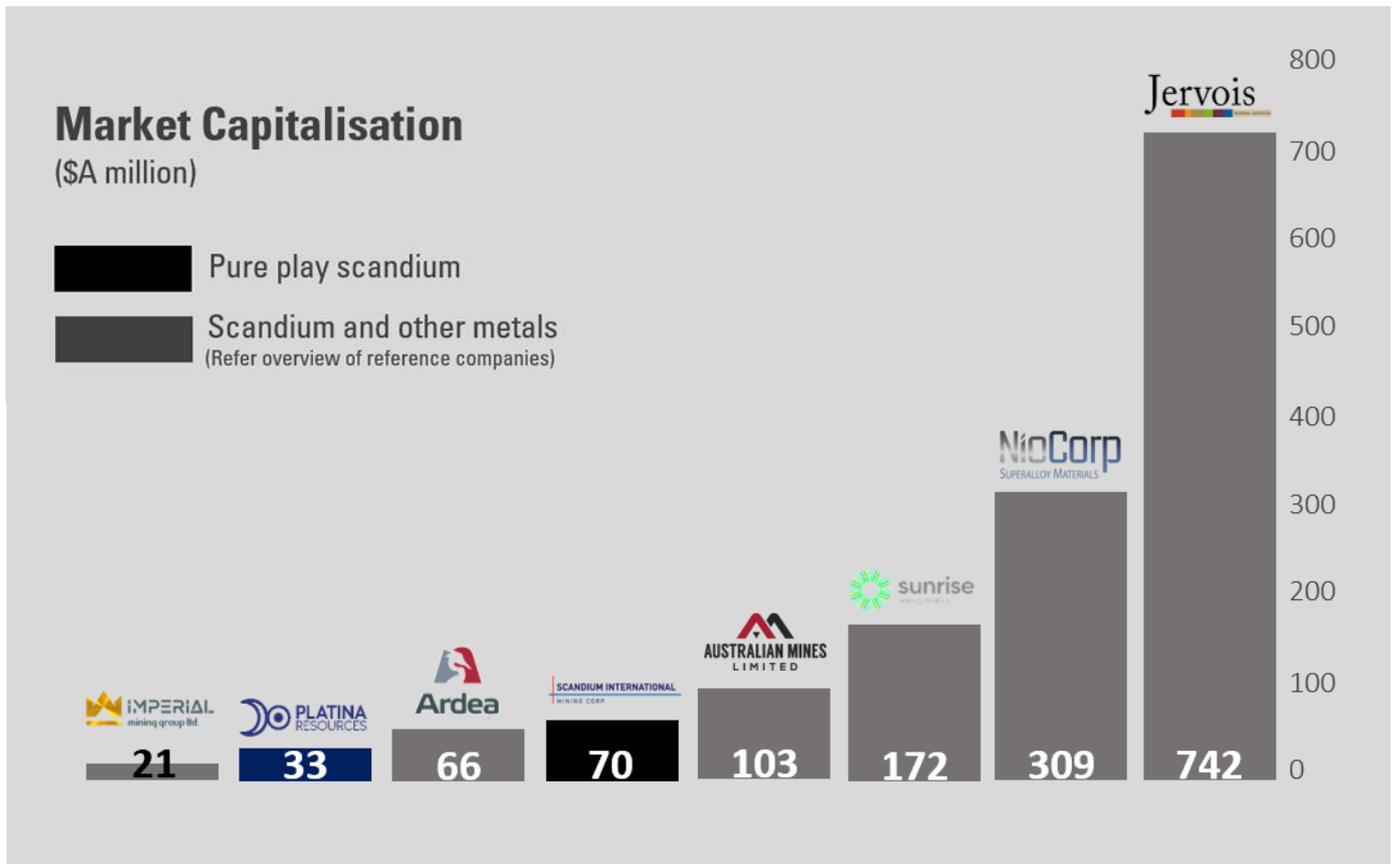


Figure 6: The market value of global pure play scandium and scandium-other metals companies, demonstrating the PSP's potential for value growth. There is no guarantee that Platina will achieve any of the valuation increases shown by the peer group companies. A detailed summary of the comparative companies is outlined at the end of this ASX release. Prices 3/09/2021



Platina Scandium Project Overview

The 100% owned PSP is located in central New South Wales, 350km west of Sydney. PSP is one of the world's highest-grade scandium deposits and has potential to be Australia's first scandium producer with platinum, cobalt and nickel credits. New South Wales is a well-established mining district with a number of world-class mining operations. The PSP has excellent infrastructure including access to labour, water, rail, sealed roads and water.

A DFS completed in December 2018 demonstrates a very robust financial case. Based on a mine life of 30- years, the project generates an after-tax net present value in real terms (8% discount rate) of USD 166 million (AUD 234 million), post-tax IRR of 29% and payback period of 5.3 years at an average scandium oxide price of USD 1550/kg.

The DFS is based on a processing plant designed to initially produce 20 t/y of scandium oxide at a capital cost of USD 48.1 million (AUD 67.8 million), expandable to 40 t/y of scandium oxide for a very low incremental capital cost of USD 11.7 million (AUD 15.6 million), as market demand for lightweight aluminium-scandium grows.

Stage 1 Annual Production		20 tonnes
Stage 2 Annual Production (from Year 5)		40 tonnes
Life-of-mine for financial model		30 years
Net Present Value (8%), real, after-tax	US\$166 million	AU\$234 million
Internal Rate of Return, post-tax		29%
Payback Period (undiscounted)		5.3 years
Stage 1 Capital Expenditure	US\$48.1 million	AU\$67.8 million
Stage 2 Capital Expenditure	US\$11.1 million	AU\$15.6 million
Total Life-of-Project Capital Expenditure*	US\$104.1 million	AU\$146.5 million
Life-of-Mine Average Cash Operating Costs [#]	US\$525/kg	AU\$739/kg
Life-of-Mine Scandium Oxide Price	US\$1,550/kg	AU\$2,183/kg
USD to AUD Exchange Rate		0.71

Table 1: Summary Economics from the 2018 Definitive Feasibility Study[^] *Includes sustaining capital costs. [#]Mining, processing, general and administration costs. Excludes royalties. [^] Value outcomes subject to securing offtake agreements and financing for construction

The Ore Reserves and Mineral Resources are extremely well defined with more than 48,000 metres of drilling. The laterite hosted deposit is amenable to simple, low-cost, open-cut mining techniques at a low waste to ore ratio.

Classification	Tonnage (Dry Kt)	Scandium ppm	Nickel (%)	Cobalt %	Scandia (tonnes)*	Cobalt (tonnes)	Nickel (tonnes)
Proven	3,054	575	0.13	0.10	2,696	2,945	4,054
Probable	972	550	0.08	0.07	816	654	767
TOTAL	4,027	570	0.12	0.09	3,512	3,599	4,821

Table 2: Ore Reserves – at a 450ppm scandium cut-off

Ore will be processed through a conventional high pressure acid leach circuit to produce 99.99% high-purity scandium oxide. The process methodology has been extremely well tested through bench and pilot scale test work to confirm operating and capital estimates for the DFS.



ABOUT PLATINA RESOURCES

Platina is an Australian-based company focused on returning shareholder value by advancing early-stage metals projects through exploration, feasibility, permitting and into development.

The company has interests in the following projects:

- Xanadu Gold Project (100% interest) – located in the Ashburton Basin in Western Australia in close proximity to the Mt Olympus gold project;
- Challa Gold Project (100% interest) – located in-between the prolific Mt Magnet and Sandstone gold districts in Western Australia, 500km north-east of Perth.
- Platina Scandium Project (100%) – located in central New South Wales, the project is one of the largest and highest-grade scandium deposits in the world, which has the potential to become Australia’s first scandium producer with cobalt, platinum and nickel credits.
- Munni Munni (30% interest) – Situated in the Pilbara region of Western Australia, the project is one of Australia’s most significant Platinum Group Metal occurrences. Munni Munni also has potential for conglomerate hosted gold and is a joint venture with Artemis Resources Limited.
- Investment in Blue Moon Zinc Corporation (6 million shares in TSXV listed MOON) – the Blue Moon Zinc Project has a NI43-101 resource which is open at depth and along strike and has favorable metallurgy.
- Investment in Major Precious Metals (49 million shares in CSE listed SIZE) – Major is a Canadian junior mining and exploration company whose flagship Skaergaard Project hosts one of the world’s largest undeveloped gold deposits and one of the largest palladium resources outside of South Africa and Russia.

REFERENCES TO PREVIOUS ASX RELEASES

The information in this report that relates to Exploration Results were last reported by the company in compliance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves in market releases dated as follows:

- Platina Scandium Project - Positive Definitive Feasibility Study, 13 December 2018;
- Owendale Measured, Indicated and Inferred Mineral Resource – 16 August 2018; and
- Platina Scandium Project Ore Reserve, 13 December 2018.

The company confirms that it is not aware of any new information or data that materially affects the information included in the market announcements referred above and further confirms that all material assumptions underpinning the exploration results contained in those market releases continue to apply and have not materially changed.

DISCLAIMER

Statements regarding Platina Resources’ plans with respect to its mineral properties are forward-looking statements. There can be no assurance that Platina Resources’ plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that Platina Resources will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of Platina Resources’ mineral properties or that Platina will achieve any of the valuation increases shown by the peer group companies.



SUMMARY OVERVIEW OF COMPARATIVE COMPANIES

Company & Website	Ticker	Status	Description
Imperial Mining Group Company Limited www.imperialmpg.com	TSXV:IPG	Explorer	Exploration company targeting scandium / niobium / tantalum / rare earths at the Crater Lake project in Quebec, Canada. IPG has been undertaking drilling and metallurgical studies but is yet to complete a resource or economic study.
Ardea Resources Limited www.ardearesources.com.au	ASX:ARL	Explorer	Ardea is an Australia-focused multi-commodity explorer and developer advancing its undeveloped 100%-owned Goongarrie Nickel Project ("Goongarrie" or "GNCP"). Goongarrie forms part of the broader Kalgoorlie Nickel-Cobalt project, and is located 80km north of Kalgoorlie, Western Australia. Goongarrie is a potential multi-generational mine offering outstanding multi-commodity exposure which includes nickel, cobalt, scandium, vanadium, chromium, aluminium and gold. Goongarrie has a defined mineral resource and been the subject of many studies including metallurgical testing which has defined the high pressure acid leach process route as most appropriate for a laterite orebody.
Scandium International www.scandiuminternational.com	TSE:SCY	Developer	SCY owns a 100% interest in the undeveloped Nyngan Scandium Project, located in New South Wales, Australia, approximately 500 kilometres northwest of Sydney. The Company completed a definitive feasibility study in May 2016 and has granted Mining Licences. SCY is seeking offtake for project funding and development.
Australian Mines Limited www.australianmines.com.au	ASX:AUZ	Explorer / Developer	AUZ is an explorer and future developer of nickel-cobalt-scandium projects in Australia. AUZ has completed a feasibility study on developing the Sconi laterite hosted deposit in Queensland, Australia using the high pressure acid leach process route. AUZ also owns the Flemington laterite deposit in New South Wales which has a small resource.
Niocorp Developments Ltd www.niocorp.com	TSX:NB	Developer	NB owns the undeveloped Elk Creek Superalloy Materials Project in the U.S. which has a definitive feasibility study completed and key U.S. federal permits obtained. It is the highest grade niobium project in North America as well as one of the world's largest prospective scandium producers.
Sunrise Metals Limited www.sunriseem.com	ASX:CLQ	Developer	Sunrise is progressing its world-class Sunrise nickel, cobalt, scandium project in New South Wales, utilising its Clean-ix® technology. The Sunrise Project is one of the largest and most cobalt-rich nickel laterite deposits in the world and is development-ready, with all key permits and approvals in place. Sunrise is also one of the largest undeveloped scandium deposits globally.
Jervois Mining Limited www.jervoismining.com.au	ASX:JRV	Developer	JRV hold a portfolio of nickel-cobalt exploration and development assets including the undeveloped Nico Young nickel-cobalt laterite project in New South Wales. A feasibility study has been completed. In addition, JRV owns the undeveloped Idaho Cobalt project (feasibility study completed) and several exploration projects in Uganda. More recently, JRV has announced the acquisition of an operating Brazilian cobalt refinery.