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Australian Mines enters international research partnership to develop next-generation scandium alloy

Australian Mines Limited (“Australian Mines” or “the Company”) (Australia ASX: AUZ; USA OTCQB: AMSLF; Frankfurt Stock Exchange: MJH) remains committed to maximising revenue and shareholder value from the Company’s Sconi Project in Queensland, Australia through the commercialisation of the high-purity scandium oxide which is scheduled to be produced alongside the Project’s cobalt sulphate and nickel sulphate output.

Australian Mines is, therefore, pleased to announce that it has entered into a partnership with United Kingdom-based technology company Metalysis, to support their continued research and development program around a solid-state process to produce a low-cost yet superior aluminium - scandium alloy for potential use by the automotive and aerospace industries.

The innovative solid-state process, originally invented by the University of Cambridge (UK) before being commercialised by Metalysis, has already demonstrated an ability to produce an aluminium - scandium master alloy containing 15 times the amount of scandium compared to conventional industry processes.

A master alloy is a pre-alloyed concentrate of, in this case, scandium metal that is added to an aluminium melt to produce the desired final product (being the aluminium-scandium alloy used by automotive and aerospace manufacturers, which generally contains only 0.2% scandium metal).

The ability for Australian Mines to produce a scandium-rich master alloy via Metalysis’ solid-state process that contains up to 30% scandium metal (compared to the industry’s current 2% scandium metal), could result in up to a 93% reduction in the amount of scandium master alloy required to produce the final aluminium – scandium metal requested by end-users.

This could equate to a significant reduction in the cost of producing the final aluminium – scandium metal to a level that the contract price offered by Australian Mines for these light-weight aluminium products are materially lower than most other specialty metals currently available on the market.



The ability to provide such a vastly superior aluminium-scandium master alloy to the automotive and aerospace industries at a substantially lower price may enable Australian Mines via Metalysis to deliver a highly cost-competitive scandium alloy that could position the Company as a global leader in the emerging light-weight alloy sector.

Australian Mines is utilising its demonstration plant in Perth to deliver the high-purity scandium oxide to Metalysis, under this R&D partnership.

*****ENDS*****

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Metalysis provides aluminium-scandium alloy R&D programme update

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PROGRAMME HIGHLIGHTS

- 12 month R&D overview of activities successfully addressing cost and supply challenges historically limiting scandium use;
- New partner, Australian Mines, to provide scandium oxide for qualification in H2, 2018; and
- High value AlSc alloy continues to pose excellent launch product potential for Metalysis' Generation 4 industrial plant.

Metalysis (or "the Company"), the UK technology company with a solid-state process to produce valuable metal alloy powders, today provides an update on its high value aluminium-scandium (AlSc) alloy research and development ("R&D") programme.

The R&D programme has affirmed the view that Metalysis' process could address challenges that have historically restricted the industrial use of scandium despite its excellent properties.

Scandium has strength and light-weighting characteristics that make it ideal for alloys of great interest to advanced manufacturing applications including in the aerospace and automotive industries. Although there are primary production scenarios under development, it is largely mined as a by-product with little surety of supply. As an alloy addition, scandium can as much as triple manufacturing costs at current pricing. Cost and supply constraints are two challenges Metalysis has focused on.

As announced on 17 May 2017, Metalysis is using its modular, electrochemical technology to produce a scandium-rich feedstock addition, supporting master alloy production. The process can produce a wide range of powder alloys at lower costs and environmental footprints than traditional melting processes.

In H2 2017, Phase I proof-of-principle activities using Metalysis' 'Generation 1' technology successfully produced the AlSc alloy feedstock addition. It is more than 15X higher in scandium content than the commonly available 2wt% scandium master alloy and was produced at materially lower comparable costs.

In H1 2018, during Phase II, the Company began qualifying scandium oxide to produce the high value AlSc alloy feedstock from new sources. This is part of efforts to address global production and supply concerns.

To continue to do this in H2 2018, Metalysis is pleased to welcome a new partner. Australian Mines [ASX: AUZ] is focused on production and supply of battery and technology metals to global markets and developing cobalt-scandium-nickel projects in Australia. Scandium oxide from Australian Mines' Sconi project, in northern Queensland, will be evaluated and used for further AlSc alloy production.

The R&D programme has now benefitted from global partners leading scandium oxide technology, trading, supply and mine development/production. It is underway at Metalysis' Materials Discovery Centre in South Yorkshire, UK, where the Company conducts commercial projects with corporate partners and academia to produce advanced materials of growing demand among automotive, advanced manufacturing and additive manufacturing applications.

The R&D programme is also destined to benefit Metalysis' Materials Manufacturing Centre in South Yorkshire, UK, which houses its 'Generation 4' industrial scale production facility. Being modular, Gen4 builds on Generations 1-3 of Metalysis' technology and is capable of producing hundreds of tonnes of speciality powder alloys. A high value AlSc alloy continues to prove compelling as a potential launch product when Gen4 commercial production commences later in 2018.

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Notes to Editors

Metalysis is a UK technology company, headquartered in Rotherham, South Yorkshire, with a solid-state process to produce valuable metal alloy powders primarily used in aerospace, automotive and additive manufacturing applications.

The process, originally invented at The University of Cambridge and commercialised by Metalysis, is more environmentally friendly and energy efficient than traditional melting technologies.

With commercial partners in industry and academia, Metalysis uses its process to produce titanium alloys and niche, high performance alloys of major interest in advanced manufacturing industries.

The Company's Generation 4 ("Gen 4") technological expansion takes production to industrial scale.