

ASX Announcement

12 December 2025

Metallium Secures Strategic Role in Program to Establish Domestic Gallium & Scandium Supply from Red Mud in Louisiana, USA

Up to U\$10M in non-dilutive funding supporting ElementUSA's red-mud processing programme using FJH technology

KEY HIGHLIGHTS:

- Metallium, through its 100%-owned subsidiary Flash Metals USA Inc., has executed a binding Letter of Intent (LoI) with ElementUSA to collaborate on the recovery of gallium & scandium from red mud in the United States.
- Metallium's Flash Joule Heating (FJH) technology will support ElementUSA's work to develop a demonstration facility in Gramercy, Louisiana to recover gallium, scandium and other critical metals from red mud (RM)¹.
- ElementUSA is a leading specialist in metal recovery from primary and secondary resources and operates the Critical Resource Accelerator in Texas, a premier R&D hub with world-class metallurgical expertise.
- Long-term processing potential: 30Mt red-mud feedstock located at the nationally significant Gramercy alumina refinery in Louisiana, the only operating of its kind in the U.S. and a designated critical infrastructure site².
- Metallium allocated up to U\$10.1M in non-dilutive funding for the installation, commissioning and operation of FJH units across Phase A (pilot) and Phase B (scale up at Gramercy), subject to performance milestones.
- Any future commercial plants will be covered by separate agreements and will generate additional licence fees, royalties and revenue share for Metallium.
- Long term commercial structure established covering technology licence fees per commercial plant, throughput based per tonne royalties and revenue share on sales of recovered gallium, scandium and associated metals.
- This agreement marks Metallium's evolution into a revenue generating, technology-led critical metals processor with significant scale up potential across urban mining and mineral processing.

Metallium Limited ("Metallium" or the "Company") (ASX: **MTM**; OTCQX: **MTMCF**) advises that its United States subsidiary Flash Metals USA Inc. has executed a binding LOI with [ElementUSA Inc](#) that includes up to U\$10.1 million in non-dilutive funding for initial deployment of Flash Joule Heating technology, and a commercial framework covering licence fees, royalties and revenue share. The collaboration will support ElementUSA's initiative to develop a demonstration facility in Gramercy, Louisiana to separate and purify gallium and scandium from industrial waste, including red mud (RM).

Metallium Managing Director & CEO Mr Walshe said: "This is a significant milestone for Metallium and a strong endorsement of our FJH technology within a major industry-supported effort to expand domestic critical-minerals capability. Gallium and scandium are critical for defence, semiconductors and advanced materials, yet domestic Western supply remains limited.

"Our partnership with ElementUSA positions Metallium at the centre of the U.S. effort to build sovereign capability in these metals. The commercial terms create long term value through technology licence fees, per tonne royalties and revenue share, while securing access to highly strategic sites with deep water port access. This programme is exactly the type of high-impact deployment we have been targeting and provides a scalable pathway to commercialise our technology across multiple strategic feedstocks. It also delivers immediate diversification for Metallium by establishing commercial opportunities in both urban mining and mineral processing, creating a unique competitive moat around our business. The broader U.S. effort to strengthen domestic processing capability for critical materials aligns closely with Metallium's technology positioning."

¹ <https://www.elementusaminerals.com>

² <https://www.elementusaminerals.com/howwedoit> Metallium has not independently verified the quantum of feedstock available for processing.

ELEMENTUSA

ElementUSA is a United States critical minerals company focused on recovering gallium, scandium and other strategic materials from industrial waste streams. Through its Critical Resource Accelerator in Cedar Park, Texas, ElementUSA conducts advanced process development, flowsheet modelling and scale up of mineral liberation and separation technologies. The company works across mechanical, thermal, chemical and hydrometallurgical processes to unlock value from complex feedstocks. To learn more, visit: <https://www.elementusaminerals.com>.



Figure 1: ElementUSA Chief Strategy Officer Chris Young at Red Mud tailings area. Source: ElementUSA

COMMERCIAL FRAMEWORK

The LOI agreed with ElementUSA establishes a robust and scalable, milestone-driven, long term commercialisation pathway for Metallium's FJH technology for red mud (RM) recycling. Metallium has been allocated up to US\$10.1 million for the initial deployment of Flash Joule Heating units across two stages and subject to milestones. Phase A covers installation and baseline demonstration and operation of the first units in Texas. Phase B covers relocation and scale-up in Gramercy. Progression between stages will be detailed in the forthcoming Development Agreement.

1. Programme Funding to Metallium

Metallium has been allocated **up to US\$10.1 million** from ElementUSA across two initial deployment stages:

- **Phase A:** Installation and operation of the first FJH units at Metallium's Anahuac, Texas facility to validate performance on RM and establish baseline demonstration.
- **Phase B:** Relocation and expansion to Gramercy, Louisiana for larger scale operation.

These funds apply only to the above scope. Any plants built after this will be subject to new agreements and terms. Under the LOI, funding for Phase A and Phase B will be confirmed upon execution of the Definitive Agreements. Indicative budgets are approximately US\$3.7M for Phase A and US\$6.4M for Phase B, with progression between phases subject to performance milestones and site readiness. The LOI includes an initial US\$50,000 Project Initiation Fee, which is linked to achievement of Phase A milestones.

2. Technology Licence Fees

For every future commercial plant constructed beyond the initial stages, ElementUSA and/or its affiliates will pay Metallium a **licence fee**. Future commercial plants constructed beyond the initial deployment will include a technology licence fee payable to Metallium. Based on the LOI, such fees are expected to fall within a typical commercial range for advanced metallurgical process technologies, generally in the order of **low-to-mid six figures per plant per annum**.

3. Throughput Based Processing Fees

Metallium will receive a **processing fee on every tonne of RM processed using its FJH technology**. The processing fee is structured on a volume-dependent per-tonne basis and is expected to fall within a **typical commercial range of USD 15–40 per tonne**, depending on annual throughput.

The Gramercy red mud feedstock **exceeds 30 million tonnes³**. Under the LOI, there is no minimum quota of feedstock that must be provided for processing. However, ElementUSA's allocation of funding across the two initial deployment stages is based on Metallium presenting a long-term processing solution for Element USA at the Gramercy site.

4. Revenue Share on Metal Sales

Metallium will receive a percentage of revenue generated from the sale of gallium, scandium and other recovered metals produced using its technology. The revenue share is a low single-digit percentage, **typically between 2% and 3% of gross metal sales**, scaling with plant volume. Investors are cautioned that the RM Feedstock has not been disclosed as a mineral resource estimate, and so the Company makes no representations to investors that there is any gallium, scandium or other commercial metals present in the feedstock.

The fee, royalty and revenue-share ranges are indicative only, based on typical commercial terms for advanced metallurgical technologies, and will be finalised in the Definitive Agreements. They should not be construed as guidance.



Figure 2: Illustrative operating model

Programme Structure

The Letter of Intent provides the framework for completing a detailed Development Agreement and Licensing Agreement between Metallium and ElementUSA. These Definitive Agreements will formalise the scope of work, performance milestones and conditions for progressing through the Lab Phase, Phase A and Phase B work programmes. Progression between stages will be confirmed jointly as part of the Definitive Agreements, consistent with standard staged technology deployment practices.

The LOI confirms that Metallium retains full ownership of FJH intellectual property, including any enhancements or derivative works developed through the collaboration, while ElementUSA retains ownership of its separation and refining technologies.

The LOI also contemplates evaluating supplemental work programmes that may include recovery of additional materials such as aluminium, titanium and sodium, and assessing potential residual products suitable for sale as clinker substitutes. These items would be considered under separate scope discussions.

The LOI includes a short exclusivity period to finalise the Definitive Agreements and allows both parties to continue advancing preparatory work for the initial installation and testing. The LOI is non-binding except for confidentiality, governing law, dispute resolution, termination, and the Project Initiation Fee. No obligation exists to proceed beyond initial testing unless Definitive Agreements are signed. The LOI may be terminated by either party on written notice, and if the Definitive Agreements are not executed within the LOI term, neither party is obliged to proceed.

³ <https://www.elementusaminerals.com/howwedoit> NOTE: Metallium has not independently verified the quantum of feedstock available for processing.

NEXT STEPS

- Metallium and ElementUSA will now advance detailed documentation and preparatory work for initial installation and testing. Further updates will be provided as appropriate.
- Under the LOI, Metallium and ElementUSA intend to negotiate and execute a Development Agreement and Licensing Agreement within the LOI term, which runs for 180 days unless extended by mutual agreement.
- Progression from the Lab Phase to Phase A and Phase B will be subject to mutually agreed technical performance milestones and completion of the Definitive Agreements.

This announcement has been authorised for release by the Board of Directors.

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ABOUT METALLIUM LIMITED

Metallium Ltd (ABN 27 645 885 463), is pioneering a low-carbon, high-efficiency approach to recovering critical and precious metals from mineral concentrates and high-grade waste streams. The company's patented **Flash Joule Heating (FJH)** technology enables the extraction of high-value materials, including **gallium, germanium, antimony, rare earth elements, and gold**, from feedstocks such as refinery scrap, e-waste, and monazite.

Aligned with U.S. strategic supply chain objectives, Metallium has recently secured its first commercial site in Texas via its wholly owned subsidiary, **Flash Metals USA Inc.**, marking a major step toward near-term production and revenue generation.

To learn more, visit:

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