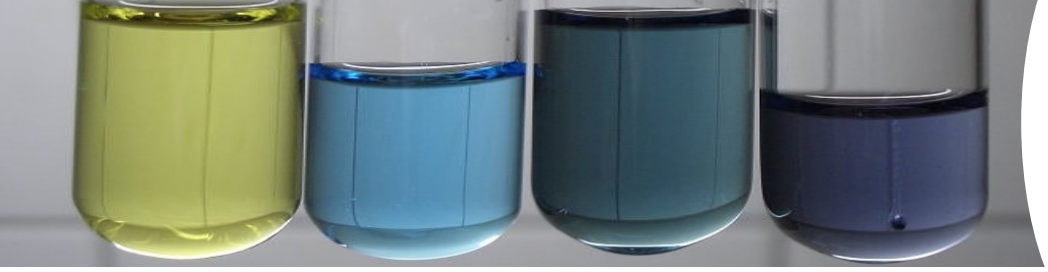

Australian VANADIUM LIMITED

ASX ANNOUNCEMENT **8 October 2026**

AVL AND TYFAST TO EVALUATE VANADIUM FOR HEAVY-DUTY BATTERIES

US-based Tyfast to evaluate Australian vanadium from AVL for fast-charging batteries

KEY POINTS

- **Non-binding MOU establishes a staged pathway to evaluate and qualify AVL's planned Australian vanadium oxide products for use in Tyfast's proprietary lithium vanadium oxide (LVO) anode technology and explore potential future supply and offtake arrangements.**
- **US-based Tyfast is developing LVO-based lithium-ion batteries to combine ultra-fast charging, long cycle life, broad-temperature performance and high energy density for mining, trucking, construction and defence applications.**
- **The collaboration has the potential to support increased Australian participation in the supply chain for heavy-duty batteries and AVL's broader strategy to develop diversified markets for vanadium across VFBs and lithium-ion chemistries.**

Australian Vanadium Limited (ASX: AVL, the Company or AVL) is pleased to announce that it has signed a non-binding Memorandum of Understanding (MOU) with Tyfast Energy Corp. (Tyfast), a United States-based advanced battery technology company, to evaluate and qualify AVL's planned Australian vanadium oxide products for use in Tyfast's lithium vanadium oxide (LVO) anode technology and pursue a potential future offtake relationship.

The collaboration provides AVL with an opportunity to participate in an emerging market for vanadium in heavy-duty lithium-ion batteries, complementary to AVL's established focus on vanadium flow batteries (VFBs). Tyfast is developing its technology for applications where charging speed, durability and performance in extreme conditions are critical, including mining, trucking, construction and defence. The MOU establishes a framework for technical qualification and evaluation of future demonstration and commercial opportunities.

AVL Chief Executive Officer Graham Arvidson commented, *"Vanadium is an exceptionally versatile critical mineral, and this collaboration with Tyfast provides an opportunity for AVL to evaluate participation in advanced battery technologies in addition to our established vanadium flow battery market.*

"For AVL, the opportunity is broader than a potential new source of vanadium demand. We see strategic alignment between Australian critical minerals, Tyfast's US-developed battery technology and the increasing focus on secure and resilient supply chains across Australia, the United States and other markets seeking supply chain diversification.

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"This collaboration could enable Australian vanadium to be used in advanced batteries serving mining and other heavy-duty markets, while also positioning AVL for potential defence-related applications and government funding opportunities.

"Emerging opportunities such as this reinforce the rationale for considering the potential production of higher-purity vanadium products as part of the Optimised Feasibility Study. As new markets for vanadium emerge, we want the Australian Vanadium Project to have the flexibility to respond to a broader range of customer requirements.

"We see compelling potential for Australian-made vanadium products to contribute to technologies being developed for strategically important applications in the United States. This is consistent with our strategy of developing diversified markets for vanadium as we advance the Australian Vanadium Project."

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Vanadium's important role in defence applications

Vanadium is already important to the defence and aerospace sectors through its use in high-performance alloys, including titanium alloys.[1] Tyfast is developing an additional application for vanadium through its proprietary LVO anode technology, targeting advanced lithium-ion batteries requiring high power, rapid charging, long cycle life and reliable operation across a wide temperature range.

Tyfast reports that its LVO technology is being developed across a range of United States defence applications, including:

- US Army ground vehicles – development of LVO-based 6T batteries, a military battery format used in tactical and combat vehicles;
- US Army aviation – development of cylindrical LVO cells for aviation battery applications;
- US Air Force directed-energy systems – development of high-power battery technology for directed-energy applications;
- Defense Logistics Agency – support for the scale-up of domestic US battery manufacturing capability using Tyfast's technology; and
- US Navy expeditionary energy – development directed at demanding expeditionary and cold-environment applications, including zero-volt storage and operation at sub-zero temperatures.[2]

These programs are directed at some of the characteristics increasingly required of batteries for defence applications, including rapid recharge, high pulse power, operation in extreme temperatures, extended storage and reduced logistical requirements.

Tyfast's existing engagement with the US defence sector provides a potential pathway for AVL to participate in vanadium-containing battery technologies for defence and other strategically important applications. Under the MOU, AVL and Tyfast will also evaluate potential Australian, United States and allied government funding opportunities supporting critical minerals, battery manufacturing, defence technologies and heavy-duty electrification.

[1] See ASX announcement dated 2 February 2026 '*OFS Enhancement to Address Evolving High Purity Demand*'

[2] Source: Tyfast Energy Corp., '*LVO™ Anode*', Defense Power and Energy Conference 2026, June 2026

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Figure 1: Tyfast cylindrical lithium vanadium oxide LVO cells undergoing cycling

Heavy-duty electrification opportunities

Mining haul trucks and other heavy-duty equipment operate in demanding conditions and require batteries capable of delivering high power, rapid charging, long operating life and reliable performance across a wide range of temperatures. Fast charging is particularly important for applications where charging downtime can directly affect equipment utilisation and productivity.

Tyfast is developing its LVO anode technology to address the traditional trade-offs between fast charging, energy density and battery life in lithium-ion batteries. Tyfast has reported that its latest high-energy LVO technology has demonstrated, in 3 Ah pouch cells:

- charging to more than 80% state of charge in under six minutes at room temperature and under 11 minutes at -20°C; and
- core energy density of approximately 200–250 Wh/kg and 500–650 Wh/L.

Tyfast has also reported that its broader LVO development program has demonstrated continuous charge and discharge rates exceeding 10C, operation across a broad temperature range of -40°C to +70°C and cycle life exceeding 10,000 cycles in smaller-format test cells.[3]

[3] Source: Tyfast Energy Corp., '*Novel Vanadium-Oxide Anode Technology for High-Performance Lithium-ion Batteries*', 43rd International Battery Seminar & Exhibit, March 2026.

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These characteristics are relevant to the electrification of mining, trucking, construction and other heavy-duty applications where conventional lithium-ion batteries can face limitations associated with charging time, operating temperature, power requirements and intensive duty cycles.

Australian battery materials opportunity

The MOU provides a framework to evaluate the use of AVL's planned Australian vanadium products in Tyfast's LVO anode technology, with the potential for Australian vanadium to contribute to advanced lithium-ion batteries developed for heavy-duty applications.

For AVL, the collaboration provides an opportunity to qualify Australian vanadium for use in Tyfast's LVO technology and pursue an additional market for vanadium alongside the Company's existing steel and VFB markets. The technology is particularly relevant to Australia given its application to mining and other heavy-duty industries.

More broadly, the use of Australian-sourced vanadium and lithium, together with Australian cathode materials, cell manufacturing, battery integration and recycling, could support greater Australian participation across the battery value chain, serving markets including mining, haulage, construction and defence.

Pathway to potential future offtake and collaboration

Under the MOU, AVL and Tyfast intend to undertake technical and commercial evaluation of Australian vanadium oxide for Tyfast's battery-material requirements. The parties intend to define target product forms and specifications, including vanadium pentoxide (V_2O_5) or other mutually agreed oxide or intermediate forms, and assess indicative quantities and delivery schedules.

The work program includes:

- exchange of technical information on vanadium oxide chemistry, impurity profiles, processing routes and material optimisation;
- supply and evaluation of sample lots, followed by bench-scale and pilot-scale qualification testing;
- definition of target specifications, quantities, product forms and ramp-up requirements;
- assessment of demonstration projects, mine-site pilots, fleet trials and OEM partnerships in Australia and other agreed markets; and
- evaluation of Australian, United States and allied government funding opportunities supporting critical minerals, battery manufacturing, defence technologies and heavy-duty electrification.

AVL and Tyfast intend to establish a work plan covering sample delivery, testing and acceptance criteria, data sharing and requirements for subsequent stages. Subject to successful technical qualification and commercial evaluation, the parties may progress to demonstration projects, pre-commercial supply and negotiations for commercial supply or offtake arrangements.

Diversified vanadium and battery-materials strategy

AVL's strategy is to develop a diversified customer base across established and emerging vanadium markets. In addition to steel, specialty products and vanadium flow batteries, Tyfast's LVO

technology represents further prospective applications for AVL's vanadium products in the lithium-ion battery market.

The Tyfast collaboration complements AVL's established VFB strategy. AVL will continue to advance vanadium electrolyte manufacturing and VFB project development through VSUN Energy, while evaluating other high-value applications for vanadium, including emerging lithium-ion anode and cathode battery technologies.

Figure 2 illustrates AVL's strategy to develop complementary markets for its future vanadium production across VFBs and emerging lithium-ion battery applications.

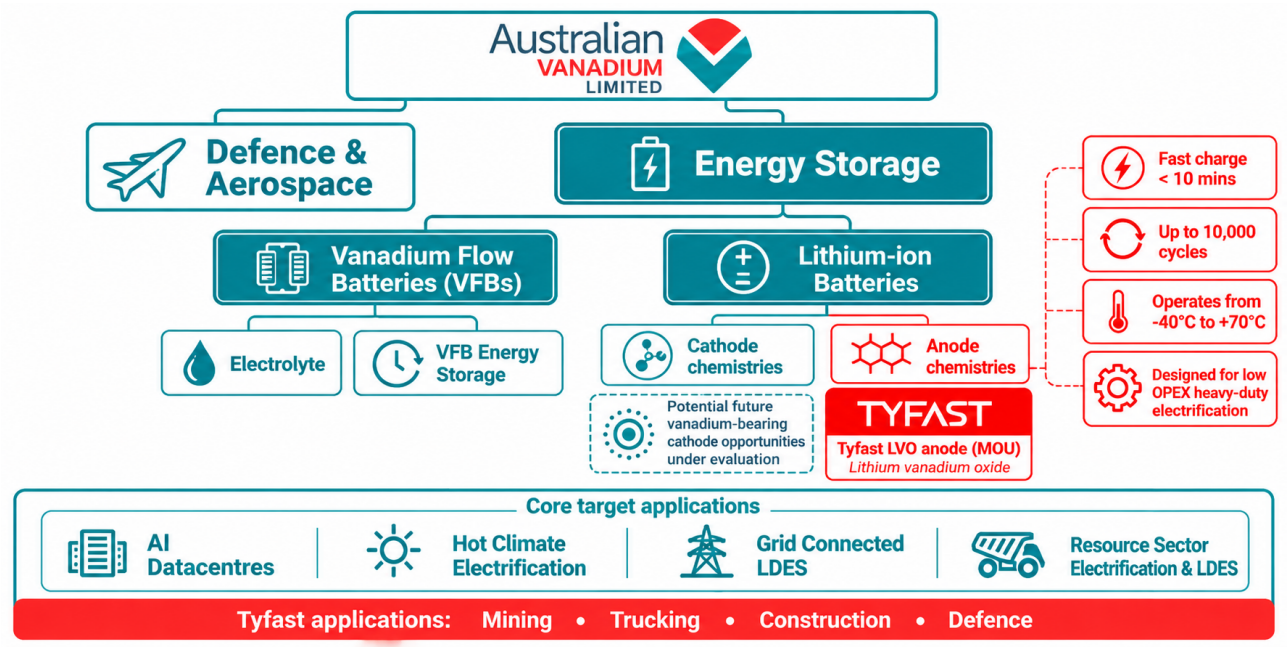

Figure 2: Illustrative Australian Vanadium battery markets and potential end-use applications

Tyfast Chief Executive Officer and Cofounder, GJ la O' PhD, said "*Heavy-duty electrification requires a fundamentally different battery performance profile - fast charging, long life and reliable operation in demanding environments. Working with AVL gives us a pathway to evaluate Australian vanadium as we move our LVO technology toward larger-scale validation, pilot programs and commercial applications.*"

About Tyfast Energy Corp.

Founded in 2021 in San Diego, California, Tyfast is commercialising proprietary lithium vanadium oxide ($Li_3V_2O_5$) anode technology for fast-charging lithium-ion batteries. Its technology targets heavy-duty applications including mining, trucking, construction and defence, where rapid charging, long cycle life and broad-temperature performance are critical.

Tyfast holds four granted patents relating to its anode technology portfolio, including its LVO technology. The company has received development support and R&D contracts from the United States Army, United States Air Force, United States Navy, Defense Logistics Agency, United States Department of Energy and ARPA-E, the National Science Foundation and the California Energy Commission, and has announced collaborations with battery manufacturers GUS Technology, ADA

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Technologies LLC and United States vanadium producer U.S. Vanadium to support cell development and industrial scale-up.[4]

Material terms of the MOU

The MOU has a term of 18 months and the collaboration is non-exclusive.

The MOU is principally non-binding and does not oblige either party to purchase, sell or supply product or enter into any transaction. No minimum supply volume, price, purchase commitment or other financial consideration has been agreed. Any future pilot, development, supply or offtake arrangement will be subject to successful technical and commercial evaluation and the parties entering into definitive agreements.

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This announcement has been approved in accordance with the Company's published continuous disclosure policy and has been approved by the Board.

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[4] Tyfast Energy Corp. website at www.tyfast.energy.

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ABOUT AUSTRALIAN VANADIUM LTD

AVL is a resource company focused on vanadium, seeking to offer investors a unique exposure to all aspects of the vanadium value chain – from resource through to steel and energy storage opportunities. AVL is advancing the development of its world-class Australian Vanadium Project at Gabanintha. The Australian Vanadium Project is one of the most advanced vanadium projects being developed globally, with 395.4Mt at 0.77% vanadium pentoxide (V_2O_5), containing a high-grade zone of 173.2Mt at 1.09% V_2O_5, reported in compliance with the JORC Code 2012 (see ASX announcement dated 7 May 2024 *'39% Increase in High Grade Measured and Indicated Mineral Resource'*).

VSUN Energy is AVL's 100% owned renewable energy and energy storage subsidiary which is focused on developing the Australian market for VFBs for long duration energy storage. VSUN Energy was set up in 2016 and is widely respected for its VFB expertise. AVL's vertical integration strategy incorporates processing vanadium to high purity, manufacturing vanadium electrolyte and working with VSUN Energy as it develops projects based on renewable energy generation and VFB energy storage.

MINERAL RESOURCE ESTIMATE

The Australian Vanadium Project – Mineral Resource estimate by domain and resource classification using a nominal 0.4% V_2O_5 wireframed cut-off for low-grade and nominal 0.7% V_2O_5 wireframed cut-off for high-grade (total numbers may not add up due to rounding).

Zone	Category	Mt	V_2O_5 %	Fe %	TiO_2 %	SiO_2 %	Al_2O_3 %
HG	Measured	30.6	1.14	46.3	12.9	7.4	6.2
	Indicated	74.8	1.11	47.5	12.6	7.0	5.7
	Inferred	67.9	1.06	45.3	12.1	9.0	6.6
	Subtotal	**173.2**	**1.09**	**46.5**	**12.5**	**7.8**	**6.1**
LG	Indicated	61.8	0.55	26.1	7.1	26.6	16.3
	Inferred	142.5	0.48	24.9	6.6	28.9	15.2
	Subtotal	**204.3**	**0.50**	**25.3**	**6.8**	**28.2**	**15.5**
Transported	Inferred	17.9	0.65	31.0	7.3	24.1	14.4
	Subtotal	**17.9**	**0.65**	**31.0**	**7.3**	**24.1**	**14.4**
Total	Measured	30.6	1.13	46.3	12.9	7.4	6.2
	Indicated	136.6	0.85	37.8	10.1	15.8	10.5
	Inferred	228.2	0.66	31.4	8.3	22.6	12.6
	Subtotal	**395.4**	**0.77**	**34.8**	**9.3**	**19.1**	**11.4**

Note: Totals may not add up due to rounding

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ASX CHAPTER 5 COMPLIANCE AND CAUTIONARY AND FORWARD-LOOKING STATEMENTS

ASX Listing Rule 5.23

The information in this announcement relating to mineral resource estimates for the Australian Vanadium Project is extracted from the announcement entitled '39% Increase in High Grade Measured and Indicated Mineral Resource' released to the ASX on 7 May 2024 which is available on the Company's website www.avl.au.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement, and that all material assumptions and technical parameters underpinning the estimates in the original market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the competent person's findings are presented have not been materially modified from the original market announcement.

Forward-Looking Statements

Some statements in this announcement regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future matters. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions.

Forward-looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results and may cause AVL's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. These risks and uncertainties include but are not limited to liabilities inherent in technology development, mine development and production, technology advancement, battery development, geological, mining and processing technical problems, skilled personnel, incorrect assessments of the value of acquisitions, changes in commodity prices and exchange rate, currency and interest fluctuations, various events which could disrupt operations including labour stoppages, the ability to secure adequate financing and management's ability to anticipate and manage the foregoing factors and risks. These and other factors should be considered carefully and readers should not place undue reliance on such forward-looking information. There can be no assurance that forward-looking statements will prove to be correct.