

ASX ANNOUNCEMENT

15 JANUARY 2020

## LETTER OF INTENT SIGNED WITH HEBEI VANADIUM TITANIUM INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE

*Subsidiary of HBIS Group Chengsteel Company in China and AVL initiate collaboration.*

### KEY POINTS

- AVL signs Letter of Intent with Hebei Yanshan Vanadium and Titanium Industry Technology Research Co Ltd, a subsidiary of HBIS Group Chengsteel
- Chengsteel is currently the world's third largest vanadium producer
- Potential purchase of AVL's vanadium products and Project investment opportunities
- Consideration of technical services for the Australian Vanadium Project
- Letter of Intent confirms interest from both parties to discuss a binding purchase and sale agreement
- Letter of Intent is non-binding and sets terms for discussion
- AVL Managing Director and COO to visit HBIS in January, a visit to Western Australia by HBIS Vanadium executive management being planned

Australian Vanadium Limited (ASX: AVL, "the Company" or "AVL") is pleased to announce that it has signed a Letter of Intent with Hebei Yanshan Vanadium and Titanium Industry Technology Research Co Ltd ("Yanshan Vanadium Titanium") to negotiate and sign a binding technical services and purchase agreement for AVL's vanadium products.

Yanshan Vanadium Titanium is a subsidiary of HBIS Group Chengsteel in China based in the Hebei province. It was set up to co-ordinate and commercialise research and development innovation in steel industry.

HBIS Group is one of the world's largest steelmakers, with approximately 120,000 employees.

HBIS Chengsteel is currently the world's third largest vanadium producer and has been involved in many ground-breaking projects, including the provision of more than 240,000 tons of vanadium-bearing anti-seismic rebars and fine steel plates for the Hong Kong-Zhuhai-Macao Bridge. The project included a 6.7km seabed tunnel which utilises HBIS Chengsteel's steel with anti-seismic properties and a non-rust project delivery requirement.

The group produces and utilises vanadium in a wide range of its products, including earthquake rated anchors and wire for skyscraper construction, vanadium aluminium alloys for aerospace applications, and electrolyte for vanadium redox flow batteries.

Yanshan Vanadium Titanium has developed a molten salt vanadium extraction process which demonstrates innovation in vanadium extraction technology with a reduction in waste produced.



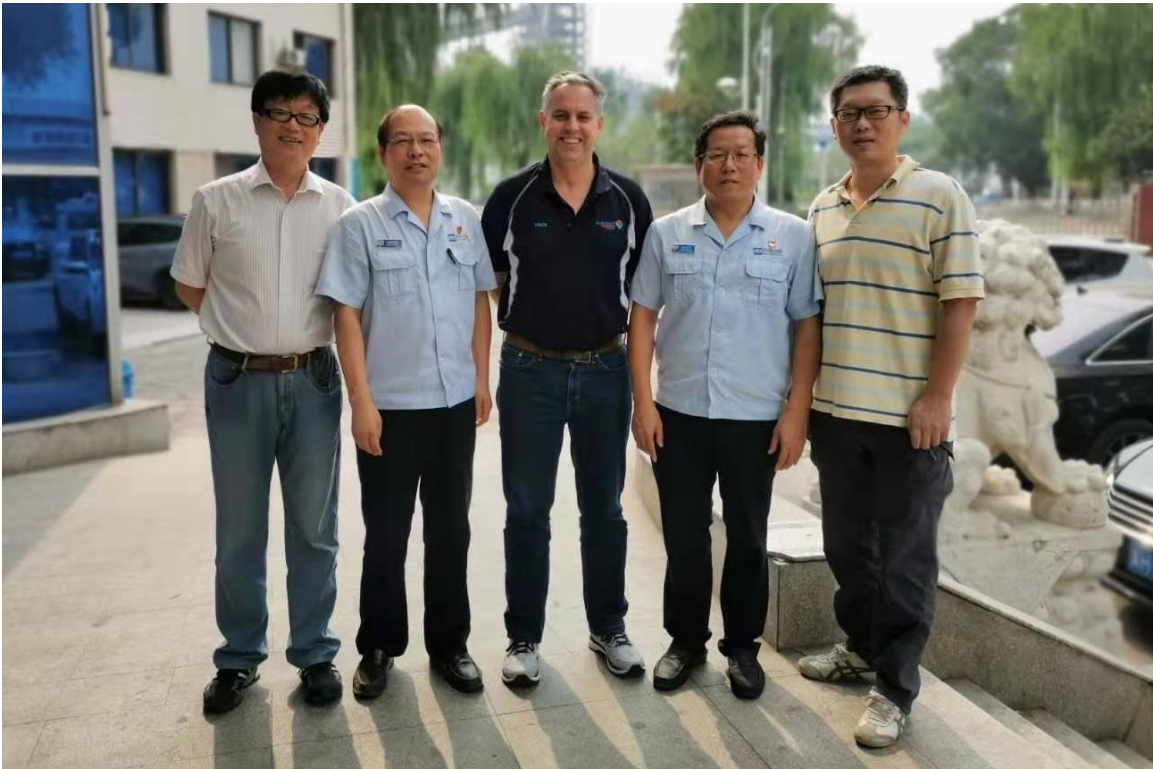
**Figure 1: HBIS Vanadium Plant**

The terms of the Letter of Intent include AVL providing a product sample to Yanshan Vanadium Titanium for testing. Product specifications, price and volume are to be determined through further discussion. The document is non-binding and sets out the structure for further discussions to be undertaken. Managing Director, Vincent Algar and Chief Operating Officer, Todd Richardson will travel to Chengde, Hebei this month to progress technical and offtake discussions.

Through AVL's online Data Room, Yanshan Vanadium Titanium has already started to undertake its due diligence of the Project and the Company.

AVL's Managing Director, Vincent Algar, commented, "We were invited by Yanshan Vanadium Titanium to attend a conference in Hebei last year and to meet with the company. Discussions were productive and highlighted a desire by Yanshan Vanadium Titanium to become more involved in

AVL's Project. We are now visiting Chengde this month to further these discussions and move towards a formal agreement."



**Figure 2: L-R Xiangxin Xue, Professor of Northern East University; Ruiguo Bai, Vice President of Chengsteel; Vincent Algar, Managing Director of Australian Vanadium Ltd; Chaoyang Liu, Vice President of Chengsteel and Professor Hao Du from the Institute of Process Engineering, Chinese Academy of Sciences**

Yanshan Vanadium Titanium is keen to assist with the processing design for the Australian Vanadium Project. The visit to Chengde will allow Mr Richardson to undertake technical discussions regarding potential improvements to the Project's process, which Yanshan Vanadium Titanium believes could result in cost improvements.

For further information, please contact:

**Vincent Algar, Managing Director**

+61 8 9321 5594

---

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



## ABOUT AUSTRALIAN VANADIUM

AVL is an Australian owned resource company which is advancing the development of its world-class Australian Vanadium Project (“the Project”) and intends to produce a value-added vanadium product for steel, battery and specialty chemical customers.

The Project is one of the highest-grade vanadium projects being advanced globally with 183.6Mt at 0.76% vanadium pentoxide ( $V_2O_5$ ), with a high-grade zone of 96.7Mt at 1%  $V_2O_5$  and an Ore Reserve of 18.24Mt at 1.04%  $V_2O_5$  comprised of a Proved Reserve of 9.82Mt at 1.07%  $V_2O_5$  and a Probable Reserve of 8.42Mt at 1.01%  $V_2O_5$ , reported in compliance with the JORC Code 2012.<sup>1</sup>

The Australian Federal Government awarded the Project ‘Major Project Status’ in September 2019.

AVL has developed a local production capability for high-purity vanadium electrolyte, which forms a key component of vanadium redox flow batteries (VRFB). AVL, through its 100% owned subsidiary VSUN Energy Pty Ltd, is actively marketing VRFB in Australia.

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, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant 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.

## ABOUT HEBEI YANSHAN VANADIUM AND TITANIUM INDUSTRY TECHNOLOGY RESEARCH CO LTD

Hebei Yanshan Vanadium and Titanium Industry Technology Research Co Ltd is a subsidiary of HBIS Group Chengsteel in China based in the Hebei province. It was set up to co-ordinate and commercialise research and development innovation in steel industry.

HBIS Group is one of the world’s largest steelmakers, with approximately 120,000 employees.

HBIS Chengsteel is currently the world’s third largest producer of vanadium. It produces 15,000 Metric Tonnes ( $V_2O_5$ ) per annum of vanadium at its plants in Chengde, Hebei Province. Vanadium is sourced from vanadium slag, produced during the production of iron from vanadium bearing titanomagnetite deposits in the Hebei province.

---

<sup>1</sup> See ASX announcement dated 19 December 2018 ‘*Gabanintha Pre-Feasibility Study and Maiden Ore Reserve*’.