



ASX Announcement

3 April 2024

IONICRE AND VIRIDIS EXECUTE TRANSFORMATIONAL JOINT VENTURE FOR SEPARATION, REFINING AND RECYCLING OF RARE EARTHS IN BRAZIL

Brazilian Hub Accelerates IonicRE Integrated Supply Chain Strategy

- **Ionic Rare Earths Ltd and Viridis Mining and Minerals Ltd (ASX: VMM) to form 50:50 Joint Venture to advance rare earth separation business in one of the fastest developing rare earth regions in the world;**
- **Joint Venture Company (JV Co) aims to construct a refinery and magnet recycling facility in Brazil utilising Ionic Technologies' separation technology, demonstrated now at IonicRE's Belfast magnet recycling Demonstration Plant, where magnet Rare Earth Oxide (REO) production is successfully underway;**
- **Viridis' Colossus Rare Earth Project ("Colossus"), located in Poços de Caldas, Brazil, is potentially a major high grade IAC deposit, with maiden drilling boasting intercepts of 46.0m @ 3,285ppm TREO (27% MREO), 24.0m @ 4,573ppm TREO (38% MREO) and strong initial metallurgical extraction results ~ 80% NdPr and ~66% DyTb;**
- **Viridis agrees to supply mixed rare earth carbonate (MREC) processed from the Colossus Project on standard market terms. The Joint Venture arrangement does not constitute an offtake agreement and allows for Viridis to market 100% of the product developed from the Colossus Project to any future offtake agreements and/or partner(s);**
- **IonicRE will supply separation technology expertise to ensure successful commercial operation for the JV, ensuring a closed loop process for production and supply of RE product to market, within the supportive Brazilian jurisdiction;**
- **Ongoing constructive discussions continue with Brazilian government agencies for accelerated approvals process, eager to secure Brazil a leading role in global supply, and leveraging skills and assets of IonicRE and Viridis;**
- **The JV Co establishes IonicRE as a significant leader in global supply of ex-China REOs crucial to the ongoing energy transition in which permanent magnets are essential for electric motors, wind turbine energy generation and advanced manufacturing;**
- **The JV Co cements IonicRE as an industry first leader on a path to REE production and supply, with mining and refining operations now straddling two continents providing both a derisking advantage and broadening potential for global opportunity; and**
- **Scoping Study for the Refinery and Recycling project, targeted for completion by the end of 2024.**



The Board of Ionic Rare Earths Limited (“IonicRE” or the “Company”) (ASX: IXR) is very pleased to advise that it has entered into a Binding Agreement (**the Agreement**) with ASX listed Viridis Mining and Minerals Limited (ASX: VMM) (“Viridis”) to form a 50:50 joint venture company (**JV Co**) with the aim of establishing a significant leading role in the future global supply chain for Rare Earth Elements (REE) via the leveraging of intellectual property (IP) and skill set of IonicRE and the global assets of Viridis.

The Joint Venture Deal

The joint venture agreement is seen as an outstanding opportunity for IonicRE to advance the strategy of the Company to become a leading supplier to the western world, of high quality, secure and dependable magnet and heavy rare earths, critical to the multitude of dependent industries and energy transition affecting billions of people around the globe. Forming a 50:50 Joint Venture with Viridis, IonicRE secures strategic opportunity leveraging their technology and IP to do so ensuring a successful outcome for both companies and for all stakeholders. This joint combination advances the growth strategy for both companies by several years and draws on the support and alignment of several state agencies of Brazil, a nation that is both rich in rare earths and also aims to become a global leader in rare earth production and supply.

Both Companies will co-fund the JV Co and the proposed Brazilian production facility on a 50:50 basis and a Scoping Study is targeted for completion by the end of 2024. Pending a decision to proceed the JV Co would then aim to complete a preliminary feasibility study (PFS) within the following 18 months.

Integrating World-Class Geology with World-Leading Technology

Both Companies recognise that this opportunity brings a stronger sum-of-the-parts operation combining assets, skillsets, IP, technology, personnel, and enterprise, than by progressing independently. Thereby accelerating their respective business plans and aligning with the RE supply chain strategic ambitions of Brazil.

Recently IonicRE announced the successful production of rare earth oxides (REOs) from its magnet recycling facility in Belfast (ASX IXR 25 March 2024), producing 11.5 kg of 99.8% grade Didymium (NdPr) Oxide and demonstrated continuous production capability as part of a UK Government supported program in collaboration with Ford Motor Company and Less Common Metals.

Viridis’ Colossus Ionic Adsorption Clay REE Project in Brazil is located within the same alkaline complex as Meteoric Resources’ high grade Caldeira Project, and Viridis has recently announced two MoU’s (ASX VMM 4 March 2024) with the state government of Minas Gerais and the Municipality of Pocos De Caldas to fast-track regulatory approvals and infrastructure requirements to streamline the projects advancement. Colossus has the scope to be a world class Ionic Adsorption Clay (IAC) REE deposit where drilling programs are defining potential for a very large IAC resource and recent metallurgical testwork has delivered very strong results including: **11.9m @80% Nd-Pr** extraction, **11.0m @66% Dy-Tb** extraction and **17.9m @71% TREE-Ce** (total rare earth element less cerium) extraction, all from 3.3m (ASX VMM 20 March 2024).

Advancing Growth Strategy on Two Continents

With the successful production of magnet REOs at its Belfast facility, IonicRE has now very successfully proven its recycling technology and skillset. This announced joint venture with Viridis, a company with Southern hemisphere projects like the potentially significant Colossus Project, is a major step in IonicRE's commercial strategy. Viridis’ Colossus REE Project offers a high-grade IAC resource with excellent processing potential. This project complements IonicRE's own Makuutu Rare Earth Project in Uganda, providing mixed rare earth carbonate (MREC) feed for the JV and creating alternative sources for new rare earth supply chains.

The IonicRE Board sees this JV as a pivotal opportunity to leverage its intellectual property and accelerate growth for all stakeholders and offers Ionic Rare Earths an exceptional path to global success. The Board of IonicRE looks forward to delivering further details and developments to shareholders as the two companies progress this Joint Venture Agreement.

IonicRE's Executive Chairman, Mr Brett Lynch states, "This Joint Venture agreement cements IonicRE's advancement over the past 24 months in becoming a significant global participant in the crucial supply chain for rare earths for the western world and follows our successful continuous magnet REO production at Belfast and Demonstration Plant MREC product from Makuutu.

"Secure REO supply is critical for a broad range of modern technologies that we depend upon every day including the huge demand from the energy transition evolution underway, specifically electric motors, wind turbines, HVAC, robotics for advanced manufacturing and defence.

"With IonicRE joining forces with Viridis, we are able to share assets that allow us to leap forward in terms of global footprint and operation. We can combine the significant scale and high-grade IAC from Colossus, with skilled staff, equipment, technology, and also leverage support from Brazilian authorities, and position IonicRE right at the forefront of this alternative global rare earth chain supply dominated by China.

"It is critical that the western world established long term, secure, resilient supply and IonicRE will be a leading player in that critical supply chain."

Key Terms

The key terms of the binding terms sheet are as follows:

- Viridis and IonicRE (the 'Parties') intend, either directly or through wholly owned subsidiaries, to incorporate a joint venture company that will operate as the vehicle for the Joint Venture (JV Co).
- The Parties agree that the JV Co is a global arrangement between the Parties for MREC, or equivalent agreed intermediate feed streams, for rare earth separation and refining into individual REOs at target specification to be agreed.
- JV Co shall be a profit-sharing vehicle based on the equal equity stakes in the proportions of 50:50 held by each party in JV Co (Equity Proportion).
- The Parties acknowledge and agree that on and from the Commencement Date (being the date the JV Co is incorporated), each Venturer (being a Party but not including a Party in its capacity as JV Manager) will contribute to the funding of the Joint Venture on a 50:50 basis. Budgets and work programs will be developed to inform future funding requirements, which must be agreed by both Parties.
- The Parties agree to form the Joint Venture for the purposes of constructing a refinery facility and implementing Ionic Rare Earth's extraction technology or alternative based upon optimal financial metrics.
- Viridis undertakes to sell rare earth carbonates or rare earth chemical precipitates recovered from the Colossus Project to the JV Co on terms considered standard with regard to market prices at the time of sale. This undertaking does not constitute an offtake agreement for the Colossus REE Project.
- IonicRE undertakes to provide access to separation technology and know-how to define the optimal process to separate rare earth chemical precipitates using its 100% owned UK subsidiary, Ionic Technologies International Limited (Ionic Technologies) or alternative should it be identified.
- New IP and process design package developed through investment in the JV Co vehicle will be wholly owned by the JV Co and, for the avoidance of doubt, will be for the exclusive use of JV Co worldwide. This exclusive use does not extend to intellectual property developed by a Party outside of the JV Co in relation

to downstream rare earth refining. For the avoidance of doubt, the process design package shall include process design criteria, process flowsheet and supporting test work data, process models, capital and operating cost estimates and location analysis reports.

- The Joint Venture will have exclusive rights to use IonicRE's magnet recycling technology in Brazil. IonicRE will retain the IP for magnet recycling which is not included in the JV excluding Brazil.
- On and from incorporation of JV Co, each Venturer is entitled to appoint two directors to the Board with equal voting rights and with neither Party having a casting vote.

For more information about IonicRE and its operations, please visit www.ionicre.com.

Authorised for release by the Board.

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About Ionic Rare Earths Ltd

Ionic Rare Earths Limited (ASX: IXR or IonicRE) is set to become a miner, refiner and recycler of sustainable and traceable magnet and heavy rare earths needed to develop net-zero carbon technologies.

The Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, moving to 94% ownership in Q2 2024, is well-supported by existing tier-one infrastructure and is on track to become a long-life, low Capex, scalable and sustainable supplier of high-value magnet and heavy rare earths oxides (REO). In March 2023, IonicRE announced a positive stage 1 Definitive Feasibility Study (DFS) for the first of six (6) tenements to progress to a mining licence which was awarded in January 2024. The Makuutu Stage 1 DFS defined a 35-year life initial project producing a 71% rich magnet and heavy rare earth carbonate (MREC) product basket and the potential for significant potential and scale up through additional tenements.

Ionic Technologies International Limited ("Ionic Technologies"), a 100% owned UK subsidiary acquired in 2022, has developed processes for the separation and recovery of rare earth elements (REE) from mining ore concentrates and recycled permanent magnets. Ionic Technologies is focusing on the commercialisation of the technology to achieve near complete extraction from end of life / spent magnets and waste (swarf) to high value, separated and traceable magnet rare earth products with grades exceeding 99.9% rare earth oxide (REO). In June 2023, Ionic Technologies announced initial production of high purity magnet REOs from its newly commissioned Demonstration Plant. This technology and operating Demonstration Plant provides first mover advantage in the industrial elemental extraction of REEs from recycling, enabling near term magnet REO

production capability to support demand for early-stage alternative supply chains. In September 2023, Ionic Technologies announced with the support of the UK government, collaboration partnerships to build a domestic UK supply chain, from recycled REOs to metals, alloys and magnets and supplying UK based electric vehicles (EV) manufacturing, with potential to replicate across other key markets.

As part of an integrated strategy to create downstream supply chain value, IonicRE is also evaluating the development of its own magnet and heavy rare earth refinery, or hub, to separate the unique and high value magnet and heavy rare earths dominant Makuutu basket into the full spectrum of REOs plus scandium.

This integrated strategy completes the circular economy of sustainable and traceable magnet and heavy rare earth products needed to supply applications critical to EVs, offshore wind turbines, communication, and key defence initiatives.

IonicRE is a Participant of the UN Global Compact and adheres to its principles-based approach to responsible business.

About Viridis Metals and Mining Limited

Viridis Mining and Minerals Limited (ACN 121 969 819) (VMM) is an Australian resource exploration and development company with assets in Brazil, Canada, and Australia. VMM's flagship Colossus Project located in the Pocos De Caldas Alkaline Complex in Brazil comprises of exploration licences covering a total landholding of 228.63km², considered highly prospective for rare earth elements (REE) (Colossus Project).

Forward Looking Statements

This announcement has been prepared by Ionic Rare Earths Limited and may include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Ionic Rare Earths Limited. Actual values, results or events may be materially different to those expressed or implied in this document. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this document speak only at the date of issue of this document. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Ionic Rare Earths Limited does not undertake any obligation to update or revise any information or any of the forward-looking statements in this document or any changes in events, conditions, or circumstances on which any such forward looking statement is based.