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**ASX Announcement**

27 May 2025

# VIRIDION DELIVERS FIRST RECYCLED MAGNET REO FEED TO BRAZILIAN MAGNET MANUFACTURER

## First step towards demonstrating potential for Brazilian domestic rare earth permanent magnet supply chain

- **First delivery of recycled magnet Rare Earth Oxides (REOs), including neodymium ('Nd'), praseodymium ('Pr'), dysprosium ('Dy'), and terbium ('Tb'), to the CIT SENAI ITR facility in Lagoa Santa, Brazil to facilitate metal, alloy and magnet production at demonstration scale;**
- **End-of-life magnets were sourced from Brazil and recycled at Ionic Technologies' Belfast, UK facility; and**
- **Significant milestone comes amid China's recent rare earth export controls and growing necessity for a diversified supply chain, with Viridion well placed to capitalise on moves to boost financing and maximise rare earths value chain in South American giant.**

**Ionic Rare Earths Limited ("IonicRE" or the "Company") (ASX: IXR)** has marked a new milestone in its international expansion, with the delivery of the first recycled magnet rare earth oxides to the Company's Brazilian magnet manufacturing partners, CIT Senai, via the Viridion Joint Venture with Viridis Mining and Minerals Ltd (ASX: VMM). The delivery of high purity magnet REOs, including neodymium (Nd), praseodymium (Pr), dysprosium (Dy), and Terbium (Tb) oxides to the CIT SENAI - Lab Fab facility in Lagoa Santa, Minas Gerais, Brazil, constitutes the first locally soured range of REOs recycled in Brazil, sourced from Brazilian end-of-life (EOL) magnets.

The magnet feedstock was transported to Ionic Technologies' facility in Belfast, UK, where the feedstock was hydrometallurgically recycled using the Company's patented long-loop recycling technology to produce high purity separated REOs, representing another step towards IonicRE's ambition of developing a fully integrated, ex-China rare earth supply chain.

IonicRE Managing Director, Mr Tim Harrison commented: *"We welcome this development which represents a major milestone for both IonicRE and our Viridion JV, as we progress our global roll out, establishing domestic capability in Brazil and leveraging our technology to accelerate new rare earth supply chains based on recycling.*

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*"IonicRE is building a global industrial business and Brazil is an important piece of this puzzle, being a major advanced manufacturer at the heart of the South American economy. We look forward to advancing our partnership with Viridis, which has the potential to be a significant disruptor to current monopolised global supply."*

Brazil is an emerging wind energy powerhouse, currently the world's seventh largest wind energy market and growing at 29% CAGR over the past decade. The establishment of EV production capacity along with existing and growing advanced manufacturing will drive further demand for REO's in the world's 10th largest economy.

In December 2024, Viridion received support from the Minas Gerais investment promotion agency, Invest Minas, for IonicRE to replicate its UK magnet recycling technology in the Brazilian state. There is potential for substantially lower operating costs in converting alloy feedstock to REO product, compared to other markets.

Talks are continuing with the Minas Gerais authorities on the location of pilot plants for both a potential REO refinery and magnet recycling facilities, near existing Viridis Colossus Project operations in Minas Gerais.

The production of magnet REOs within Brazil will enable the ramp up of magnet production capability at CIT SENAI's Lab Fab facility, which is targeting a ramp up in NdFeB production to 100 tonnes per annum by the end of 2026.

The Company also plans to recycle waste streams produced in the ramp up of activities, enabling the development of a truly insulated and secure NdFeB supply chain in Brazil that can support significant advanced manufacturing activities.

IonicRE Executive Chairman, Brett Lynch commented: *"Brazil is a key part of our global expansion strategy, with the potential to replicate Ionic Technologies' magnet recycling technology in markets including the UK, Europe, Asia and both North and South America.*

*"We are pleased with the progress made by Viridion and look forward to securing facilities for planned pilot plants in Minas Gerais, working closely with our Brazilian partners."*

*He added: "With China's moves to restrict rare earth exports the rest of the world has a necessity to develop its own supply chains. IonicRE offers one of the fastest pathways to developing this supply, in a secure and sustainable manner with the lowest carbon emissions and low capex development model compared to mining."*

**Viridion: A Local Source of REOs to Brazil and Latin America**

Delivering high-purity REOs from IXR's proven recycling technology uniquely positions Viridion as the only local source of REOs in Brazil and Latin America.

The delivered separated REOs originate from end-of-life magnets recovered in Brazil. The magnets are primarily sourced from decommissioned MRI machines and wind turbine generators, containing high-performance permanent magnets rich in Nd, Pr, Dy and Tb.


**Figure 1: Recycled high-purity Nd, Pr, Dy, Tb oxides delivered to CIT SENAI ITR / FIEMG, originating from end-of-life magnets recovered in Brazil and processed at Ionic Technologies' facility in Belfast, UK.**

CIT SENAI ITR will use the recycled REOs delivered by Viridion for initial lab-scale experiments to evaluate if the REE oxides can be successfully transformed into alloys. Small quantities of magnets will then be produced, with the focus on assessing the quality of the magnet production specifications and verifying whether the rare earth properties meet the performance standards required for high-end applications.

Mr José Luciano Pereira, SENAI ITR's Innovation and Technology Manager, expects all tests with the recycled oxides to be completed during the second half of calendar 2025.

*"We will have a technical assessment of the viability of this process. It is an important step and, without a doubt, a milestone for all involved — FIEMG, SENAI, Viridion, and other partners — in building a national rare earths supply chain based on innovation and sustainability," he said.*

The initiative is part of the broader **MagBras Project**, recently approved under the MOVER program, which allocates R$73.3 million (~US $13 million) in funding to foster the development of a country's low-carbon, innovation-driven industrial ecosystem. As a key member of the MOVER program, the historic first delivery of recycled rare earth oxides by Viridion highlights its commitment to contributing to the supply of magnet REOs to support the operation of the permanent magnet production facility run by CIT SENAI ITR.

The project has received strong institutional support from the Brazilian Government through Invest Minas, CIT SENAI ITR, FIEMG, CODEMG and other stakeholders, reflecting a shared commitment to clean energy innovation, critical mineral sovereignty and circular economy. The REOs, sourced from end-of-life magnets used initially in Brazil, will now be tested for producing new permanent magnets,

demonstrating the technical and economic feasibility of rare earth recycling in the Southern Hemisphere.

**Figure 2: Delivery of high purity Nd, Pr, Dy, Tb oxides to Lab Fab Magnet Factory: from left to right, Ronaldo Barquette (Director at Invest Minas), Rafael Moreno (Viridis CEO), José Luciano (Manager of CIT SENAI), Klaus Peterson (Viridis Brazilian Country Manager).**

Mr Flávio Roscoe, President of FIEMG, said: *"This is a historic process highlighting the importance of recycling — these materials are not new but have been efficiently reused. The project led by Viridis / Viridion has the potential to meet up to 7% of magnetic rare earth oxides' (MREO) global demand, representing a strategic breakthrough that can significantly reduce dependence on international markets, especially China, for critical inputs essential to the energy transition."*

Highlighting its commitment to the sector, in January 2025 the Brazilian government announced US$815 million in financing for projects aimed at boosting the development of strategic minerals, including rare earths. The funding aims to promote Business Plans that include investments in production capacity and R&D for the transformation of strategic minerals, including rare earths, and obtaining transformed materials or manufactured products for energy transition and decarbonisation.

The recent decision by the Brazilian Development Bank ('BNDES') and the Financier of Studies and Projects ('FINEP'), to allocate a total of R$8 Billion (~US $1.4 Billion) to support mining companies

focused on the "transformation of strategic minerals," and more importantly maximising the value chain of rare earths from mining to magnets, has Viridion well placed with this first delivery of high purity REOs from Brazilian end-of-life magnets, with the potential to secure additional funding.

**Viridion Joint Venture**

IonicRE and Viridis executed a Binding Agreement in April 2024 (refer ASX announcement 3 April 2024), for the commercialisation of intellectual property developed by IonicRE's 100% owned UK subsidiary, Ionic Technologies, to separate and refine Rare Earth Oxides (REOs) from concentrates and carbonates feed from the Colossus Project, and magnet recycling in Brazil.

The 50/50 JV between Viridis and Ionic Rare Earths aims to commercialise and implement the Separation and Recycling Technology within a separation plant in Brazil and is positioned to become the first major producer of the full suite of refined magnet REOs in South America.

The JV has formed Viridion Pty Ltd ("**Viridion**") in Australia and Viridion Rare Earth Technologies Ltda in Brazil, which holds exclusive global rights (excluding Asia and Uganda) to Ionic Technologies' separation IP to produce REOs from Mixed Rare Earth Carbonate ('MREC') or equivalent intermediate feed streams, and own any new IP developed from the commercialisation process.

Viridion also holds exclusive rights in Brazil to monetise, implement and commercialise Ionic Technologies' magnet recycling. This grants Viridion rights to exclusively commercialise separation technology for other REE producers, with an initial focus on partnering with existing Brazilian rare earth projects before expanding the technology globally.

Ionic Technologies is a global first mover in the recycling of Neodymium-Iron-Boron (NdFeB) permanent magnets to high purity separated magnet REOs – enabling the creation of sustainable, traceable, and sovereign rare earth supply chains.

**Technology Overview**

Since its founding in 2015, as a spinout from Queens University Belfast (QUB), Ionic Technologies has developed processes for the separation and recovery of REEs from mining ore concentrates and waste permanent magnets.

The technology developed is a step up in efficient, non-hazardous, and economically viable processing with minimal environmental footprint.

Ionic Technologies has demonstrated capability for REEs to achieve near complete extraction of REO's from lower quality spent magnets and waste (swarf) to a recovery of high value magnet REO product quality exceeding 99.9% REO.

Ionic Technologies now has "first mover" advantage in the industrial elemental extraction of separated REOs from spent magnets and waste, enabling near term magnet REO production capability to satisfy growing demand from the energy transition, advanced manufacturing, and defence.

Ionic Technologies' proprietary technology provides a universal method for the recovery of high purity REEs from lower quality and variable grade magnets, to be used in the manufacture of modern, high-performance and high specification REPMs required to support substantial growth in both electric vehicle (EV) and wind turbine deployment.

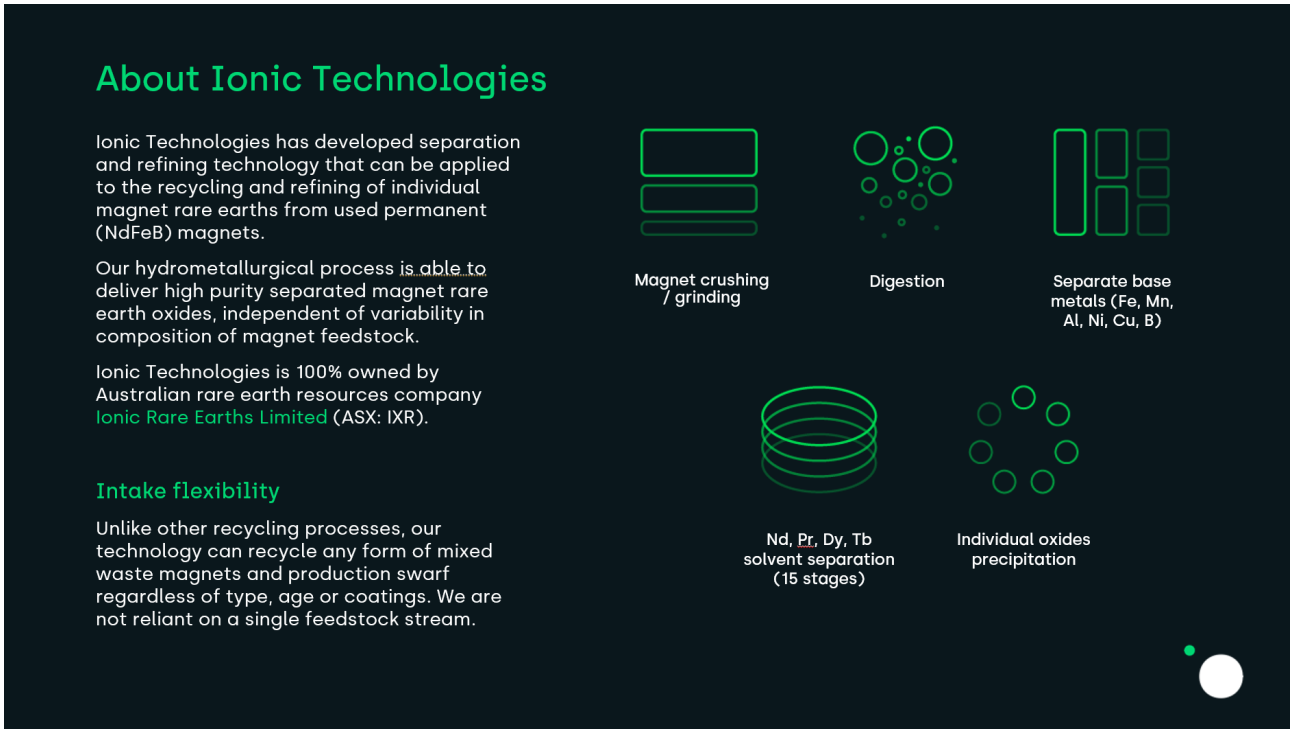


**Figure 3: Ionic Technologies technology overview.**

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 an emerging miner, refiner and recycler of sustainable and traceable magnet and heavy rare earths needed to develop net-zero carbon technologies.

Ionic Technologies International Limited ("Ionic Technologies"), a 100% owned UK subsidiary, 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 99.5% rare earth oxide (REO).

In June 2023, Ionic Technologies announced initial production of high purity magnet REOs from its newly commissioned Demonstration Plant and moved to continuous production in March 2024, providing a first mover advantage in the industrial elemental extraction of REEs from recycling. In September 2023, Ionic Technologies announced collaboration partnerships with Ford Technologies, Less Common Metals (LCM) and the British Geological Survey (BGS) 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. Ionic Technologies gained further UK Government support in September 2024, via its CLIMATES funding programme to demonstrate a circular supply chain for pre-consumer NdFeB magnet scrap (swarf) in partnership with LCM and Vacuumschmelze. The business also benefited from support from the UK Government to develop magnet demagnetisation and comminution processes in partnership with Materials Processing Institute (MPI) and Swansea University.

In November 2024, IonicRE released a Feasibility Study showing the strong potential for a profitable and unique commercial REO manufacturing facility in Belfast, UK, recycling pre-consumer rare earth magnet scrap and end-of-life magnets, delivering sovereign capability to the UK and supporting regional investment in Northern Ireland.

The Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, moving to 94% ownership) 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 REO. In March 2023, IonicRE announced a positive stage 1 Definitive Feasibility Study (DFS) for the first of six tenements to progress to a mining licence, which was awarded in January 2024. Makuutu is now producing mixed rare earth carbonate (MREC) from a Demonstration Plant on site to advance offtake negotiations.

IonicRE has also executed a transformational 50/50 joint venture refinery and magnet recycling facility in Brazil with Viridis Mining and Minerals Limited (ASX: VMM) to separate high value magnet and heavy rare earths from the Colossus Project's full spectrum of REOs.

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.

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

**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.*

**References to Previous ASX Releases**

- *IonicRE inks MOU with EMR to create game-changing circular supply chain for rare earth magnets – 26 May 2025*
- *March Quarterly Activities Report – 30 April 2025*
- *China export controls put spotlight on Makuutu heavy rare earths – 9 April 2025*
- *Peer review confirms up to 61% lower $CO_2$ emissions from Ionic Technologies' magnet recycling process – 13 March 2025*
- *Magnet recycling life cycle assessment indicates revolutionary 30-50% lower $CO_2$ footprint compared with existing global primary REO producers – 18 February 2025*
- *IonicRE signs MOU with Korea's DNA Link to spur international expansion – 13 February 2025*
- *LCA to show Ionic Technologies CO2 footprint benefit – 5 February 2025*
- *Viridion backed to build Brazilian magnet supply chain – 9 December 2024*
- *UK government grant application lodged for magnet recycling plant – 5 December 2024*
- *FS demonstrates profitable magnet REO business case – 18 November 2024*

*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 all material assumptions and technical parameters continue to apply and have not materially changed.*