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ASX Announcement

17 July 2025

GOVERNMENT ENDORSES IXR'S VIRIDION JV TO ESTABLISH SOUTH AMERICA'S FIRST RARE EARTH REFINING AND RECYCLING HUB

Viridion Secures Land from Municipality to Construct the Centre for Rare Earth Refining, Recycling and Innovation in Poços de Caldas

- **IonicRE's 50/50 Brazilian joint venture, Viridion, officially granted land within an Industrial District by the Municipality of Poços de Caldas, Minas Gerais for construction of the Centre for Rare Earths Innovation, Technology and Recycling (CRITR);**
- **CRITR to host South America's first pilot-scale refining and recycling unit for high-purity separated rare earth oxides (Nd, Pr, Dy, Tb), processing both Mixed Rare Earth Carbonate (MREC) from the Viridis Colossus Project and recycled magnets and alloys sourced from Brazil's growing industrial and e-waste streams, including partnerships with magnet manufacturers and local recyclers;**
- **Viridion seeking funding from Brazilian federal authorities to support CRITR's establishment and technical team, with definition of the funding package expected in coming weeks; and**
- **CRITR expected to commence operations in 2H 2026, enhancing Brazil's scientific and technological capabilities in alignment with the "New Industry Brazil" (Nova Indústria Brasil) policy, as Viridion progresses development of sustainable and sovereign rare earths supply chain for Brazil.**

Ionic Rare Earths Limited ("IonicRE" or the "Company") (ASX: IXR) has received significant government support for a Brazilian rare earths supply chain, with Viridion Rare Earth Technologies Ltda. ("Viridion"), the 50/50 Brazilian joint venture of IonicRE and Viridis Mining & Minerals Ltd (ASX: VMM), granted 2,071 square metres of land by the Municipality of Poços de Caldas, Minas Gerais, within an Industrial Zone for the construction of a Centre for Rare Earths Innovation, Technology and Recycling (CRITR). This is an important step in developing South America's first rare earth refining and recycling hub, aligning with Brazilian national industrial policy, with the CRITR expected to commence operations in the second half of 2026, subject to financing and regulatory approvals.

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Viridion received unanimous approval from the Poços de Caldas City Council for the official grant of land, a definitive endorsement by the local government and Mayor. This milestone reflects strong community and government support for Viridion, reinforcing its strategic upside for value addition within Brazil, the state of Minas Gerais, and the local Poços de Caldas economy.

Figure 1: Aerial photograph of the Poços de Caldas Industrial Zone highlighting the allocated Viridion site (outlined in green), surrounding industrial facilities, and main access roads.

Viridion was recently selected by the Brazilian National Bank for Economic and Social Development (BNDES) and the Federal Agency for Funding Authority for Studies and Projects in Brazil (FINEP) as one of the successful companies to receive significant funding as part of a first phase R$5 billion (~US$900 million) program to progress downstream rare earth refining and magnet recycling facilities in Brazil (refer ASX announcement 13 June 2025). Economic feasibility during commercial production was a key factor in the selection process.

As part of this funding package, Viridion submitted a proposal to support the establishment of the CRITR and Brazilian based technical team. The definition of the funding instruments is expected to be finalised in coming weeks.

IonicRE Managing Director, Mr Tim Harrison commented: *"We are extremely appreciative to the Municipality of Poços de Caldas, the state of Minas Gerais, the Brazilian federal authorities and all local stakeholders for their magnificent support as we build South America's first rare earth refining, recycling and innovation centre in Minas Gerais.*

"The award of this significant land parcel is an important first step in building the CRITR, which aligns with Brazilian national policy in developing a sovereign and sustainable rare earth supply chain.

"We look forward to working closely with our joint venture partner, Viridis and all stakeholders to advance development of this important hub for the future of Brazil's advanced manufacturing and renewables industries."

He added: "Viridion is also fortunate to have been selected as a recipient of federal funding and we look forward to finalising the structure of the funding package in coming weeks. This funding will facilitate the rapid delivery of this vital national project and ensure the future of our Brazilian downstream rare earth business, creating new jobs and investment for Minas Gerais and contributing to Brazil's clean energy future."

The combination of local and state government support, coupled with leading refining and recycling technology, and a strong potential feed source from Viridion JV partner, Viridis Mining and Minerals' Colossus Project, makes Viridion well placed to capitalise on the strong government support and significant funding opportunities being made available to leading strategic mineral projects in Brazil.

IonicRE Executive Chairman, Mr Brett Lynch commented: *"This is another critical step forward in building IonicRE's leading global position in recycled magnet REOs, encompassing the UK/Europe, Asia and North and South America.*

"Brazil is a critical piece of this strategy, and we are delighted to help lead the development of a sovereign rare earths supply chain in Brazil, one of the world's major advanced manufacturers and an emerging leader in the renewables sector.

"Importantly it will be the second such magnet recycling plant for IonicRE, adding to our Belfast facility and demonstrating the potential of our global strategy as we hyperscale our magnet recycling business worldwide.

He added: *"Recent automotive plant shutdowns due to the lack of rare earths supplies highlights the urgency of the challenge, due to the current monopolistic industry structure. Our model shows the importance of magnet recycling as a near-term solution in developing a secure and sustainable ex-China rare earths supply chain, with relatively low capex, rapid development timeframes and lower emissions compared to conventional mining."*

Industrial Zone: Infrastructure and Strategic Location

The CRITR will be located on the Poços de Caldas Industrial Zone, near Viridis' Colossus Project Northern Concessions resource. The CRITR will be developed on a 2,071 sqm site granted by the municipal government under Law No. 6/2025 and will host South America's first demonstration-scale facility for primary rare earth separation and refining, together with magnet recycling. This industrial zone benefits from robust municipal infrastructure, including paved access roads, reliable utility connections and proximity to key logistics corridors supporting efficient supply chain integration.

The site allocation, appraised at R$1.04 million (~ US$0.17 million), is governed by a set of binding commitments designed to secure long-term economic benefits for the region. Viridion will deploy

R$51 million (~ US$8.5 million) in two phases of development, focused on rare earth magnet recycling and Colossus MREC refining.

In compliance with the legal framework, Viridion is required to maintain continuous operations for a minimum of 10 years, generate 48 direct jobs across production and engineering, contribute R$100,000 (~ US$16,667) to municipal programs, and provide annual compliance reports to the Economic Development Secretariat.

Figure 2: Satellite image of the Industrial Zone in Poços de Caldas, highlighting the area designated for developing technology centres in partnership with the private sector.

Demonstration Plant: Rare Earth Oxides (REOs)

The CRITR will be the first demonstration-scale facility in Brazil and Latin America dedicated to rare earth recycling and refining. Developed by Viridion Rare Earth Technologies Ltda., the CRITR will replicate the proven design and operating parameters of Ionic Technologies' demonstration facility, located in Belfast, Northern Ireland, with equivalent capacity and technical flowsheet.

The project introduces IonicRE's patented rare earth separation and magnet recycling technologies to Brazil, enabling the local production of separated, high-purity rare earth oxides (REOs) from both MREC and recycled NdFeB magnet and alloy feedstocks.

This strategic facility will process both:

- Mixed Rare Earth Carbonate (MREC) produced at Viridis' Colossus Project, and
- NdFeB magnets sourced from Brazil's growing base of end-of-life industrial and electronic waste — including partnerships with local recyclers and advanced manufacturing partners.

CRITR will be the first facility in South America capable of:

- Producing separated REOs with purity ≥99.5%, including oxides of Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), and Terbium (Tb);
- Recycling NdFeB permanent magnets from wind turbines, MRI machines, hard drives, and other end-of-life equipment, plus waste streams generated in the production of new NdFeB magnets including materials produced by CIT SENAI ITR facility in Lagoa Santa, Brazil; and
- Closing the rare earth loop in Latin America through a low-carbon, circular economy model, supplying REOs back to. CIT SENAI ITR to progress new metal, alloy and magnet capacity in Brazil.

Key features of the recycling demonstration plant include:

- Feed capacity: up to 30 tonnes per annum of magnet and alloy-rich feedstock;
- Processing steps;
- Mechanical dismantling and demagnetisation;
- Acid digestion and impurity removal;
- Selective leaching of REEs;
- Solvent extraction (SX) for separation and purification;
- Oxalate precipitation and calcination;
- Target outputs: High-purity separated REOs (Nd, Pr, Dy, Tb);
- Sustainability measures: Closed-loop reagent and water recovery systems, and environmentally compliant waste handling protocols.

Additionally, a refinery pilot plant will be developed to process MREC from the Colossus Project's MREC demonstration plant to separate and refine to high purity REOs, to support establishing refining capability in Brazil.

Civil works are scheduled to begin at the end of 2025, with operations expected to commence during the second half of 2026, subject to the necessary financing and regulatory approvals.

Technology and Sustainability: Circular Economy and Low-Impact Refining

The CRITR is designed to integrate advanced refining and recycling technologies with sustainability practices across all operations. The facility will process both primary sourced rare earths from (MREC), and secondary sourced (end of life magnets and swarf) to deliver high-purity REOs, supporting Brazil's energy transition and technological independence.

Key sustainability and innovation features include:

- Closed-loop water and reagent systems: The CRITR will implement advanced solvent extraction processes and closed-circuit water management to maximise resource efficiency and minimise consumption, reducing the environmental footprint of refining and recycling operations.
- Circular economy model: The facility will integrate magnet recycling streams, recovering neodymium, praseodymium, dysprosium and terbium, and other critical elements from end-of-life products. This approach supports the development of a permanent magnet value chain in Brazil while reducing dependency on imported raw materials.
- Non-radioactive and low-impact processing: All refining steps are designed to operate without radioactive residues or tailings dams, significantly lowering environmental and social risks compared to conventional processes.
- High-purity output: The refining circuit targets over 99.5% rare earth oxide purity, enabling downstream metallisation and magnet manufacturing for electric vehicles, renewable energy systems, and high-efficiency industrial motors.
- Continuous innovation: Ongoing R&D activities will focus on optimising solvent extraction parameters, developing process automation, and advancing the reuse of reagents and secondary raw materials in line with Brazil's Nova Indústria Brasil policy objectives.

Pioneering Brazil's Green Industrial Future

The CRITR project is a flagship of Brazil's Neo-industrialisation Agenda, integrating:

- In-house REO separation, refining and recycling expertise;
- Advanced materials prototyping (in partnership with SENAI LabFab, industrial partners); and
- Circular economy strategies and ESG-aligned operations.

Backed by leading academic and technical institutions, the Viridion platform will enable:

- Domestic production of critical materials for green industries;
- A new generation of high-skilled jobs in rare earth metallurgy and clean tech; and
- Enhanced technological sovereignty and export capabilities in a global market under supply-chain pressure.

FINEP/BNDES Public Calls: Funding for Critical Mineral Projects in Brazil

The FINEP/BNDES first Public Call (Notice Nº 001/2025), launched in January 2025, will allocate a total of R$5 billion (~US$900 million) to support business plans aimed at transforming strategic minerals in Brazil. The program seeks to establish sustainable domestic supply chains for critical minerals such as rare earth elements, which are essential for global energy transition and decarbonization targets. This funding encompasses multiple financial mechanisms to support a wide range of projects, including industrial-scale plants, pilot facilities, demonstration units, and the necessary feasibility studies, depending on each project's technological maturity.

In addition to the R$5 billion strategic minerals initiative, FINEP and BNDES launched a second Public Call in February 2025, allocating a further R$3 billion (~US$530 million) specifically to attract,

implement, and expand Research, Development, and Innovation (R&D&I) Centres across Brazil. This program, launched under the New Industry Brazil (Nova Indústria Brasil) policy, focuses on vertical integration, technological sovereignty, and downstream value creation. The funding is directed to the construction of laboratories, demonstration plants, and other dedicated R&D&I infrastructure, reinforcing Brazil's scientific and industrial capabilities.

Viridion's CRITR is designed to align directly with these objectives. The facility will host Brazil's first rare earth refinery and advanced recycling demonstration unit, integrating proprietary magnet recycling and solvent extraction processes successfully demonstrated at Ionic Technologies' UK demonstration plant.

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 mixed rare earth carbonate 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 initially in Brazil, with scope to expand operations to the USA. 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 for primary (mined concentrates) 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 only 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.

In May 2025, Viridion delivered the first recycled magnet REOs to the Company's Brazilian partners, constituting the first locally sourced range of REOs recycled in Brazil, sourced from end-of-life magnets.

Viridion has also announced plans to potentially develop a US-based rare earth refinery, applying technologies developed in Belfast by Ionic Technologies (refer ASX announcement 18 June 2025).

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.

Figure 3: Recycled high-purity Nd, Pr, Dy, Tb oxides delivered to CIT SENAI ITR / FIEMG in May 2025, originating from end-of-life magnets recovered in Brazil and processed at Ionic Technologies' facility in Belfast, UK.

Technology Platform

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.

Ionic Technologies is working with several partners in the 'CirculaREEconomy' consortium in the UK, backed by the Advanced Propulsion Centre UK and the UK Government, to develop a UK-based rare earth permanent magnet supply chain (refer ASX release 14 July 2025).

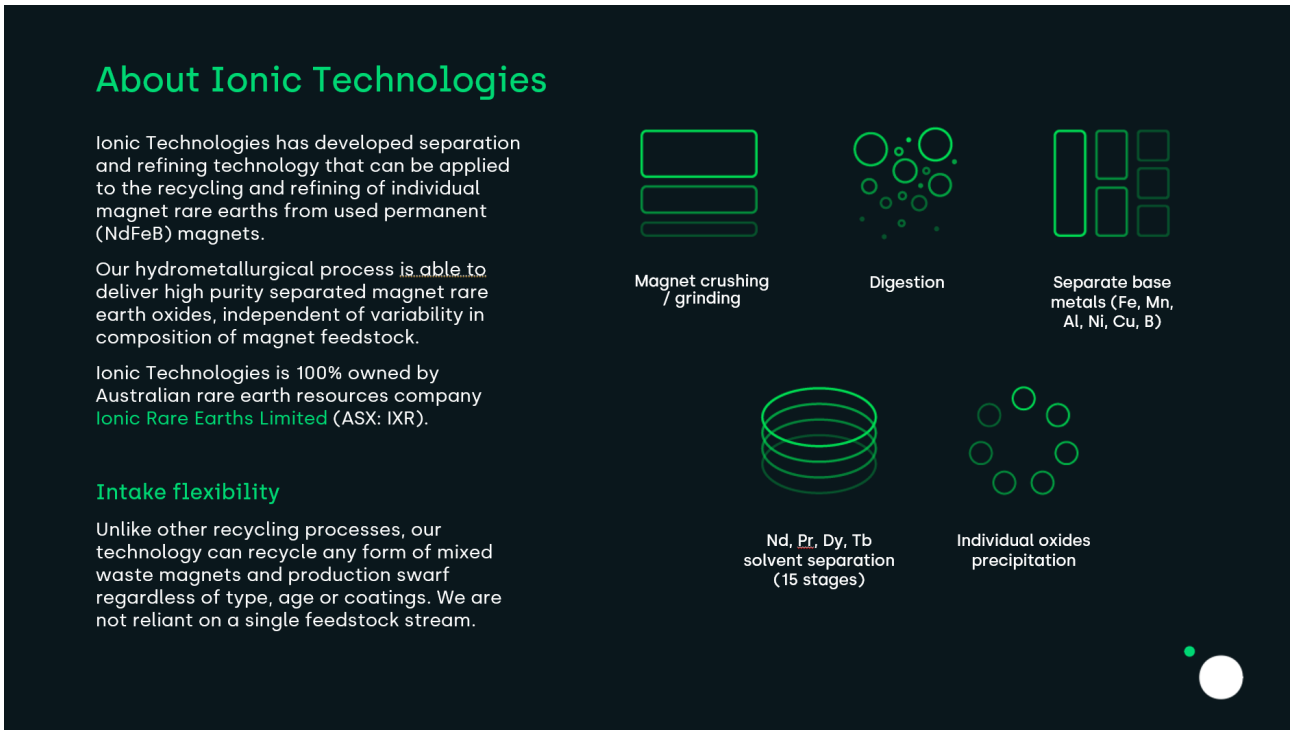

Figure 4: Ionic Technologies technology overview.

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).

The Makuutu Rare Earths Project in Uganda, 60% owned by IonicRE, 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.

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

- *Ionic Technologies secures UK Government backing with £11M 'CirculaREEconomy" partnership – 14 July 2025*
- *IXR eyeing multiple magnet recycling plants in USA – 23 June 2025*
- *IXR'S Viridion JV Target expansion into USA with rare earth refinery – 18 June 2025*
- *IXR's Brazilian subsidiary Viridion selected for funding to accelerate rare earth recycling and refinery – 13 June 2025*
- *Viridion delivers first recycled magnet REO feed to Brazilian magnet manufacturer – 27 May 2025*
- *Viridion backed to build Brazilian magnet supply chain – 9 December 2024*
- *IonicRE and Viridis execute transformational joint venture for separation, refining and recycling of rare earths in Brazil – 3 April 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.