



ASX Announcement

13 February 2025

## **IONICRE SIGNS MOU WITH KOREA'S DNA LINK TO SPUR INTERNATIONAL EXPANSION**

### **Collaboration on recycling and magnet REO supply in South Korea**

- **IonicRE signs non-binding Memorandum of Understanding (MOU) with South Korea's DNA Link (KOSDAQ: 127120), in collaboration on recycling of rare earth permanent magnets in world's 3<sup>rd</sup> largest magnet market;**
- **Potential to recycle swarf from DNA Link at Ionic Technologies facilities in Belfast, UK, together with magnet REO offtake to feed Korean magnet plant;**
- **Collaboration on magnet recycling and end-of-life (EOL) magnet sourcing in Korean market;**
- **In addition, co-operation on establishing U.S.-based permanent magnet capacity, including supply of recycled magnet rare earth oxides (REOs).**

**Ionic Rare Earths Limited ("IonicRE" or the "Company") (ASX: IXR)** has boosted its international expansion strategy, through the signing of a non-binding Memorandum of Understanding (MOU) with South Korea's DNA Link, Inc. (KOSDAQ: 127120), concerning collaboration on the recycling of rare earth permanent magnets and magnet REO (rare earth oxide) supply.

Under the agreement, the two companies including IonicRE's wholly owned subsidiary, Ionic Technologies will collaborate to help build a secure, sustainable and traceable ex-China rare earths supply chain in South Korea, the world's third-largest magnet market. The agreement includes potential collaboration with the South Korean government and other international entities to establish sovereign capability in rare earths supply.

South Korea trails only the United States and Germany as an importer of permanent magnets, importing more than 5,400 tonnes of permanent magnets from China in 2021. The automotive industry is a key driver of permanent magnet demand, with demand from electric vehicles set to continue rising as the shift from internal combustion engine vehicles to EVs picks up speed.

DNA Link aims to build an international permanent magnet production belt spanning South Korea and the United States, leveraging its world-class expertise in permanent magnet manufacturing technology. The Seoul-based company is establishing a permanent magnet manufacturing facility in



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Yesan, South Korea, with capacity for 1,000 tonnes per annum NdFeB production, targeting first production in late 2025. This aligns with production planning for Ionic Technologies' Belfast magnet recycling plant.

Welcoming the agreement, IonicRE's Managing Director, Tim Harrison, said it was a significant step forward in establishing the Company's presence in the Asian market.

*"IonicRE is delighted to collaborate with DNA Link, which has exciting plans to develop its own permanent magnet production plant in South Korea. This is an opportunity for IonicRE to both secure swarf feed materials from and supply our recycled separated magnet REOs to DNA Link's Korean facility, due to come online in 2026.*

*"Significantly, this will underwrite a portion of both the feed and product requirements for our Belfast commercial recycling plant, expected to commence operations in late 2026."*

He added: *"By applying the first mover capability offered by Ionic Technologies' patented magnet rare earth recycling technology, our Company can help build South Korea's sovereign capability in rare earths and other international markets, developing a truly global ex-China supply chain.*

*"As shown by our recent successful Feasibility Study on commercial REO manufacturing in Belfast, our technology has enormous potential internationally and we are focused on further global scale out via joint ventures and commercial partnerships such as this agreement."*

DNA Link CEO, Mr Jun Young Lee, commented: *"DNA Link is pleased to agree on this non-binding MOU with IonicRE, which like DNA Link is an emerging leader in the global rare earth value chain.*

*"This MOU marks a significant milestone in DNA Link's journey to become a global rare earth permanent magnet manufacturer. By combining our expertise in permanent magnet manufacturing with IonicRE's advanced recycling and refining technologies, we are laying the foundation for a more sustainable, resilient, and innovative supply chain.*

*"Together, we will not only enhance our capabilities in Korea, but also expand our global footprint, driving the future of clean technologies through responsible resource management. This partnership embodies our shared vision of establishing a full rare earth supply chain within Western countries and find alternative solutions to dependency on China."*

Adamas Intelligence predicts from 2024 through 2040 that the global forecast demand for NdFeB magnets will increase at a compound annual growth rate (CAGR) of 8.7%, bolstered by double-digit growth for robotics, advanced air mobility and electric vehicle sectors, translating to comparable demand growth for the magnet rare earth elements (neodymium, praseodymium, dysprosium and terbium) used in the production of NdFeB magnets.

Significant growth is anticipated in the United States, which has banned Chinese REOs in its defence industry from early 2027, while the European Union's Critical Raw Materials Act mandates that 25% of magnet REOs (strategic raw materials) used in the EU must be from recycling, and 40% processed and refined in the EU by the end of this decade.

## MOU Terms

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The MOU outlines the following preliminary terms and intentions between the parties for the following agreements:

1. Potential to recycle swarf from DNA Link's Korean plant back through Ionic Technologies facilities.
2. Potential magnet REO offtake from Ionic Technologies' Belfast magnet recycling facility to feed into DNA Link's new NdFeB permanent magnet capacity in South Korea.
3. Collaboration on further value addition and supply chain initiatives, including the conversion of REOs to metal, as per specifications provided by DNA Link.
4. Co-operation on establishing U.S.-based NdFeB permanent magnet capacity, including the supply of recycled magnet REOs.
5. Potential to integrate magnet recycling via a joint venture with DNA Link in the Korean market.
6. Collaboration with DNA Link on Korean end-of-life (EOL) magnet sourcing to build scale for potential domestic Korean magnet REO capability, including securing government support.
7. Work together to develop a transparent pricing basis for customer engagement on new, alternative supply chains.

The parties aim to formalise definitive agreements concerning collaborative engagement on the supply of swarf and magnets for recycling, offtake for magnet REOs, establishing joint ventures in target markets and collaborating on building US permanent magnet capacity. The MOU also encompasses collaboration with the government of South Korea and other international entities to pursue mutual incentives and engagement aimed at establishing in-country supply chains.

IonicRE's wholly owned subsidiary, Ionic Technologies has developed rare earth element (REE) separation and refining technology and applied this to the recovery and separation of individual magnet REEs from spent permanent magnets. Magnet rare earths make up approximately 90% of the value of the rare earth industry at present. Ionic Technologies' patented 'made in Belfast' technology, developed at Queens University Belfast (QUB) offers first mover capability for individual magnet rare earth recycling, separating magnet REOs, specifically Nd, Pr, Dy and Tb, to grades exceeding 99.5% purity.

IonicRE Executive Chairman, Brett Lynch added: *"IonicRE is building a global industrial technology business based on our patented magnet recycling technology and this latest agreement is another important piece in our world expansion, from the UK to Brazil and now Korea and the United States.*

*"Importantly, this agreement is perfectly aligned with planning for the commencement of magnet recycling at Ionic Technologies' proposed commercial operation in Belfast, UK, underpinning the supply chain for our new plant.*

*"Our de-risked, de-mined strategy is the fastest pathway to delivering shareholder value, replicating our Belfast model in new international markets to swiftly create a secure and sustainable ex-China rare earths supply chain."*

## About Ionic Technologies

Ionic Technologies has developed separation and refining technology that can be applied to the recycling and refining of individual magnet rare earths from used permanent (NdFeB) magnets.

Our hydrometallurgical process is able to deliver high purity separated magnet rare earth oxides, independent of variability in composition of magnet feedstock.

Ionic Technologies is 100% owned by Australian rare earth resources company **Ionic Rare Earths Limited** (ASX: IXR).

### Intake flexibility

Unlike other recycling processes, our technology can recycle any form of mixed waste magnets and production swarf regardless of type, age or coatings. We are not reliant on a single feedstock stream.



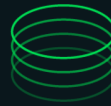
Magnet crushing / grinding



Digestion



Separate base metals (Fe, Mn, Al, Ni, Cu, B)



Nd, Pr, Dy, Tb solvent separation (15 stages)



Individual oxides precipitation

Figure 1: Ionic Technologies technology overview.

For more information about IonicRE and its operations, please visit [www.ionicre.com](http://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

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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 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, 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](http://www.ionicre.com).

## About DNA Link

DNA Link aims to be a pioneer in the evolving global rare earth value chain, leveraging our world-class expertise in permanent magnet manufacturing technology. DNA Link is a manufacturer of high-performance sintered permanent magnets, utilising rare earth materials sourced and processed from trusted partners in Western and allied countries, including the United States, Australia, and the United Kingdom. DNA Link is in the process of establishing a permanent magnet production plant in Yesan, Chungnam, with a projected annual capacity of 1,000 tonnes.

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To drive this ambitious endeavour, DNA Link has assembled a world-class team of seasoned permanent magnet manufacturing engineers from around the globe, alongside domestic PhD-level experts, to lay a robust foundation for innovation and excellence in production. Through relentless research and development, DNA Link is dedicated to becoming a global leader in the rare earth permanent magnet manufacturing sector.

For more information, please visit <https://en.dnalink.com/magnet>

## 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

- *Life Cycle Assessment to show Ionic Technologies' carbon footprint benefits – 5 February 2025*
- *December Quarterly Activities & Cash Flow Report – 31 January 2025*
- *Viridion backed to build Brazilian magnet supply chain – 9 December 2024*
- *UK government grant application lodged for magnet recycling plant – 5 December 2024*
- *IonicRE AGM presentation – 27 November 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.*