

MagREEsources, an industrial deep tech for critical metals and permanent magnets, secures €5 million in financing and announces the opening of its first pilot site Grenoble

Tangent Line (PFR Poland), Finindus (ArcelorMittal and the Flemish Region), EIT RawMaterials, and private investors are participating in this fundraising that will allow the installation of a magnet recycling and production unit in Grenoble, with a capacity of 50 tons by 2023.

Grenoble, 10 January – Founded in 2020, MagREEsources, a spin-off of the CNRS-Institut Néel, aims to reindustrialise a sovereign permanent magnet industry thanks to its hydrogen recycling process and innovative technologies for manufacturing new magnets. Already awarded with BPI France Recovery Plan in 2020, the company has announced that it will raise funds from European national funds and the private sector: Finindus, Tangent Line, EIT RawMaterials, Ciech Ventures, SATT Linksium, BAdGE et Grenoble Angels.

Rare earth permanent magnets are a strategic and essential component for many applications such as electric cars, wind turbines, robotics, aeronautics or electronics and play a crucial role in the electrification of our society, necessary to achieve carbon neutrality.

This first 50-ton-per-year industrial pilot will be operational in the second half of 2023 and will manufacture high-performance sintered magnets from recycled material using MagREEsources's patented hydrogen technology. The R&D team next to the production site will keep developing 4D magnets printed by additive manufacturing.

“With the ambition to open a MagFactory in 2027 with a capacity of 500 tons, we demonstrate that reindustrialisation and circular economy can solve a problem of sovereignty,” says Erick Petit, CEO and co-founder of MagREEsources.

“MagREEsources is a forerunner in recycling rare earth magnets, an essential component for the electrification of our society. The company's technology and vision fit perfectly into the framework defined by the European Green Deal. They provide a clear response to the call-to-action launched by ERMA - the European Raw Materials Alliance - to ensure Europe's access to the critical raw materials needed to achieve carbon neutrality,” says Hans Maenhout, Investment Director at FININDUS.

Sovereignty and Sustainable Development

The permanent magnet market is at the heart of several strategic issues. China has a monopoly on production, accounting for 95% of neodymium production and 85% of permanent magnet production based on rare earths. Yet demand is exploding: the first agreement resulting from the European Commission's Fit for 55 programme requires 100% electric cars in Europe by 2035, and the REPowerEU plan, in line with the EU Green Deal, is further accelerating the deployment of renewable energies, particularly wind power, with additional investments of EUR 210 billion by 2027. Faced with such growth, mining rare earths worldwide will not be sufficient, leading to increased production costs or even a shortage of magnets before 2030.

In order to guarantee its domestic supply and the strategic autonomy of European manufacturers, MagREEsources has developed an innovative and clean technology for recycling end-of-life magnets with hydrogen to recover a powder that can be directly reused for the manufacture of new magnets with a carbon footprint reduced by 91% compared to those produced by Chinese mining extraction.

“MagREEsources provides a disruptive solution for the recycling and manufacturing of Rare Earth magnets needed for Europe's green transition, and we are delighted to continue to support them to accelerate the diversification of raw material supply for a greener, more sustainable and resilient Europe,” says Michel Vanavermaete, Innovation Hub Director at EIT RawMaterials.

Industrial deep tech

European contractors face a challenge to electrify and decarbonise their technological offer for green energy transition. To help these manufacturers differentiate themselves from Chinese standards, MagREEsources brings a triple competence, metallurgy, magnetics and deep tech. This has resulted in the first patent on the hydrogen recycling process and another patent on 4D magnets by additive manufacturing. A step further than Near Net Shape sintering, Additive manufacturing reduces the amount of material required to produce a magnet, improves reactivity and allows for complex shapes with an optimised magnetic architecture.

“We are delighted to participate in the fundraising of MagREEsources, which will allow the development of an industrial company with a European vocation, at the heart of multiple challenges to face the energy transition in Europe by strengthening its strategic autonomy,” says Piotr Pietrzak for Tangent Line Ventures.

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For more information, please contact:

Nathalie Riera

M: 06 82 83 34 20

E: nathalie.riera.presse@gmail.com

Erika Nardeux

M: 06 50 96 37 74

E: erika.nardeux@orange.fr

About MagREEsourcE

Born from 25 years of research projects at the CNRS/Institut Néel in Grenoble, MagREEsourcE was created in 2020 by Sophie Rivoirard and Erick Petit. At the crossroads of metallurgy, magnetism and innovative technologies for manufacturing custom magnets from recycled materials, MagREEsourcE meets the needs of premium manufacturers in the wind energy, aeronautics, robotics and automotive industries, concerned with their sovereignty, their sustainable development strategy and the aspiration for technical expertise in permanent magnets in Europe.

- <https://tangentline.ventures> & <https://pfrventures.pl/en/>
- <https://www.finindus.be/>
- <https://ciechgroup.com/en/>
- <https://www.business-angels.info/> & <https://www.grenoble-angels.com/>
- <https://eitrawmaterials.eu/>
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