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# REEPRO



#### **WELCOME ADDRESS**

Welcome to our first newsletter. One of the many more to come!

**Europe aims to become the first climate-neutral continent by 2050.** In this context, **rare earth elements** (REEs) are essential materials for Europe's economy and green political agenda. In fact, 80% of the REEs demand, in value, is driven by the production of powerful permanent magnets containing neodymium (Nd), praseodymium (<u>Pr</u>), terbium (Tb) and dysprosium (Dy) used in high-energy efficient electric motors. Such devices are vital for electric vehicles, renewable energy technologies, robotics, as well as aerospace and defense applications.

According to the <u>Rare Earth Magnets and Motors: A European Call for Action</u> report released by the European Raw Materials Alliance (<u>ERMA</u>), "while REEs used for magnets (Nd, <u>Pr</u>, Tb, Dy) constitute only 25% of the total rare earths production volume, they represent 80% to 90% of the total rare earths market value". However, the major challenge nowadays in the REEs European value chain is the heavy reliance on imports, *i.e.*, more than 90%. This is translated into a high supply risk for these materials to Europe and so to a vulnerable transition towards a green economy.



Ready to learn how the REEPRODUCE project will solve this issue? Keep reading!



#### About

The innovative solutions to be developed in the REEPRODUCE project will set the foundations for a more resilient and secure raw materials value chain in Europe.



#### Concept

A complete EU rare-earth elementsrecycling value chain at industrial scale for the recovery of REEs in a most efficient, economical and sustainable way.

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#### **Objectives**

REEPRODUCE's ambition is to establish the first sustainable and complete EU REE-magnets recycling value chain at industrial scale, able to produce REEs from EoL products at competitive cost and with environmentally friendly technologies.

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#### Impact

The REEPRODUCE project will capitalise knowledge generated by previous R&D projects - such as <u>REE4EU</u> - and will tackle all the remaining technical challenges along the entire value chain. Find the outcomes and impacts.



# **PROJECT PROGRESS SO FAR**

#### **REEPRODUCE's automated dismantling Pilot**



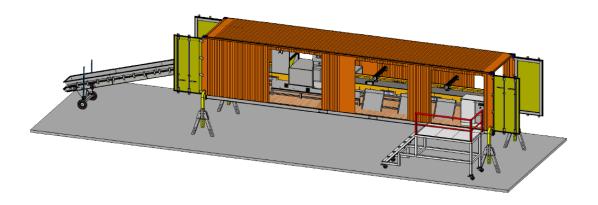
Diego Borro (CEIT) presenting the new robot (Source: CEIT).

During the first six months of the REEPRODUCE project, <u>CEIT</u> and <u>Indumetal</u> <u>Recycling</u> have explored different options that can be adapted to the REEPRODUCE goals.

Indumetal Recycling has recently acquired the new <u>TX2-140 industrial</u> <u>robot</u> from <u>Stäubli</u>. This is a high-performance robot that can exert the forces and/or torques necessary for the tasks that the consortium will perform in the disassembling processes.

Some of these tasks require high forces and torques to unscrew as well as to separate elements bounded by magnetic fields. With the acquired robot, CEIT will be able to start designing the strategies for dismantling of components from the EoL products.

#### **REEPRODUCE's intelligent sorting Pilot**



3D design of the compact and mobile sorting Pilot (Source: Sense2Sort).

## Sense2Sort has completed the 3D design of the compact and mobile sorting Pilot.

During the first six months of the project, <u>Sense2Sort</u> has made good progress in the development of the intelligent sorting Pilot. The 3D design of the sorting installation is completed, and several parts have been ordered and received.

The aim is to build the sorting installation compact and mobile to be easily adapted at the recycler's facilities. Within the frame of the REEPRODUCE project, the intelligent sorting Pilot will be validated in three different sites in Europe: Spain (Indumetal Recycling), Norway (REVAC AS) and Belgium (EUREGIO Recycling). The efficiency of the system in sorting EoL products containing REE-magnets will then be demonstrated.

# **REEPRODUCE HIGHLIGHTS**



# **REEPRODUCE** at the Circular Wallonia Days

Within the 1st edition of the <u>Circular Wallonia</u> <u>Days</u>, <u>Hydrometal</u> presented the REEPRODUCE project to a delegation of European stakeholders from the metal value chain.



# **REEPRODUCE** at the SecREEts Final Conference

<u>PNO Innovation Belgium</u> represented the REEPRODUCE project at the <u>SecREEts</u> project Final Conference. Summary and proceedings of the discussions are now available.

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#### Six months progress meeting

On 23-24 November 2022, the REEPRODUCE consortium gathered in San Sebastian to discuss the project progress.





#### **REEPRODUCE** officially launched

On 1-2 June 2022, the REEPRODUCE consortium met for the first time in person to kick-off the collaborative work.



# **REEPRODUCE PRESS RELEASE**



# **MEET THE CONSORTIUM**



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