

## PROBLEM/ISSUE ADDRESSED

At present, European manufacturers of electromagnetic equipment have to import NdFeB magnets from China, which has a dominant position in the market. China is the only country that participates at an industrial level in the complete value chain, from mining to magnet sale. This dominant situation has led in recent years to several price crisis and a steady situation of supply risk.

## SOLUTION

There is currently no commercial activity in Europe related to the recycling of NdFeB magnets. An efficient usage of End of Life (EoL) sintered NdFeB magnets is a feasible alternative to the Chinese raw materials. This project proposes a direct metallurgical route for the recycling of EoL sintered NdFeB magnets. New plastic bonded NdFeB magnets with competitive magnetic and mechanical properties will be produced.

## WHY IT IS IMPORTANT FOR SOCIETY

The use of recycled magnets could reduce the magnetic material cost of End Users by a factor of 3 to 6.

The European Union (EU) imports about 30 kTn/year of NdFeB magnets. The project may contribute to reduce the EU imports in about 0.48 to 0.9 Tn/year (36 to 67.5 m€/year) by 2027.

“ Thanks to EIT we were able to implement a new recycling route to produce low-cost, recycled bonded NdFeB magnets and test these magnets in two real applications ”



## MAIN RESULTS & INSIGHTS



- Production of a new NdFeB recycled powder to manufacture bonded magnets.



- Production of new recycled NdFeB bonded magnets by two complementary technologies, compression and injection moulding.



- Testing of demonstrators in two real applications.