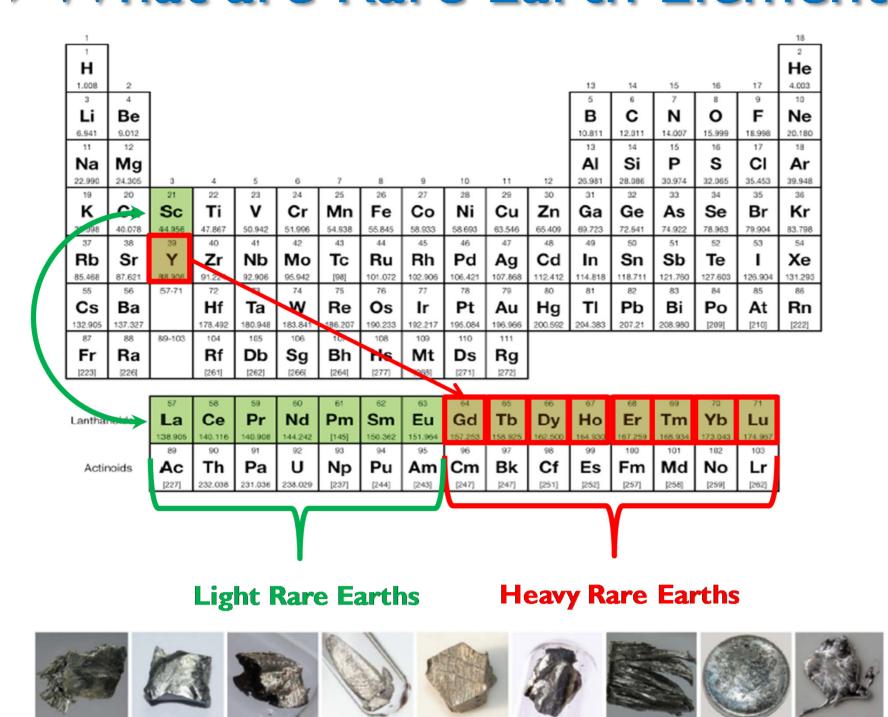


"Development of a sustainable exploitation scheme for Europe's REE ore deposits"

What are Rare Earth Elements?



The rare-earth metals or elements (REEs) are a unique group of chemical elements that exhibit a range of

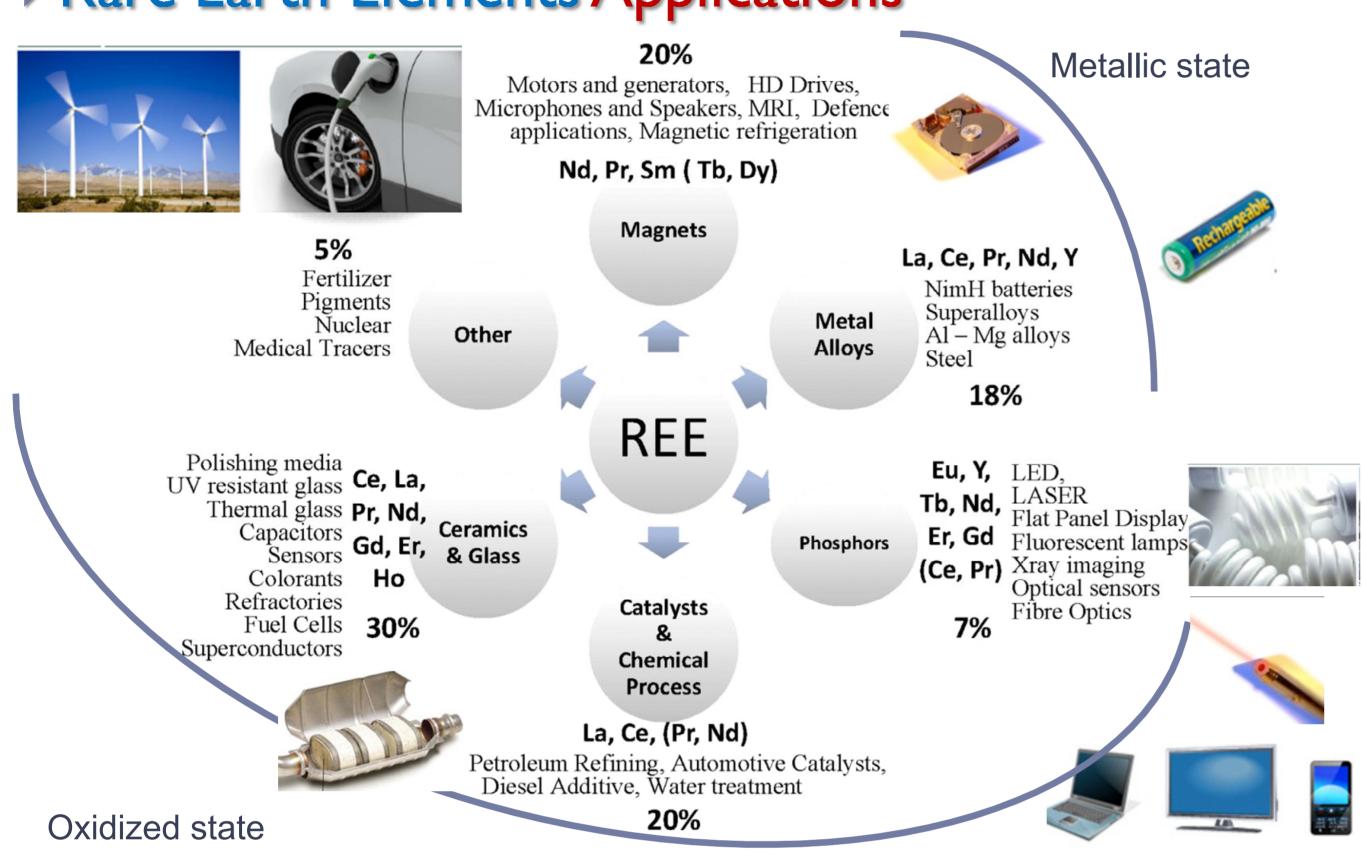
special electronic, magnetic, optical and catalytic properties

They have hundreds of applications. Their use in components manufactured from a wide range of alloys and compounds, can have a profound effect on the performance of complex engineered systems.

The International Union of Pure and Applied Chemistry defines the rare-earth metals as the 15 lanthanoid elements (with atomic numbers of 57 through to 71) in addition to scandium (Sc) and yttrium (Y)

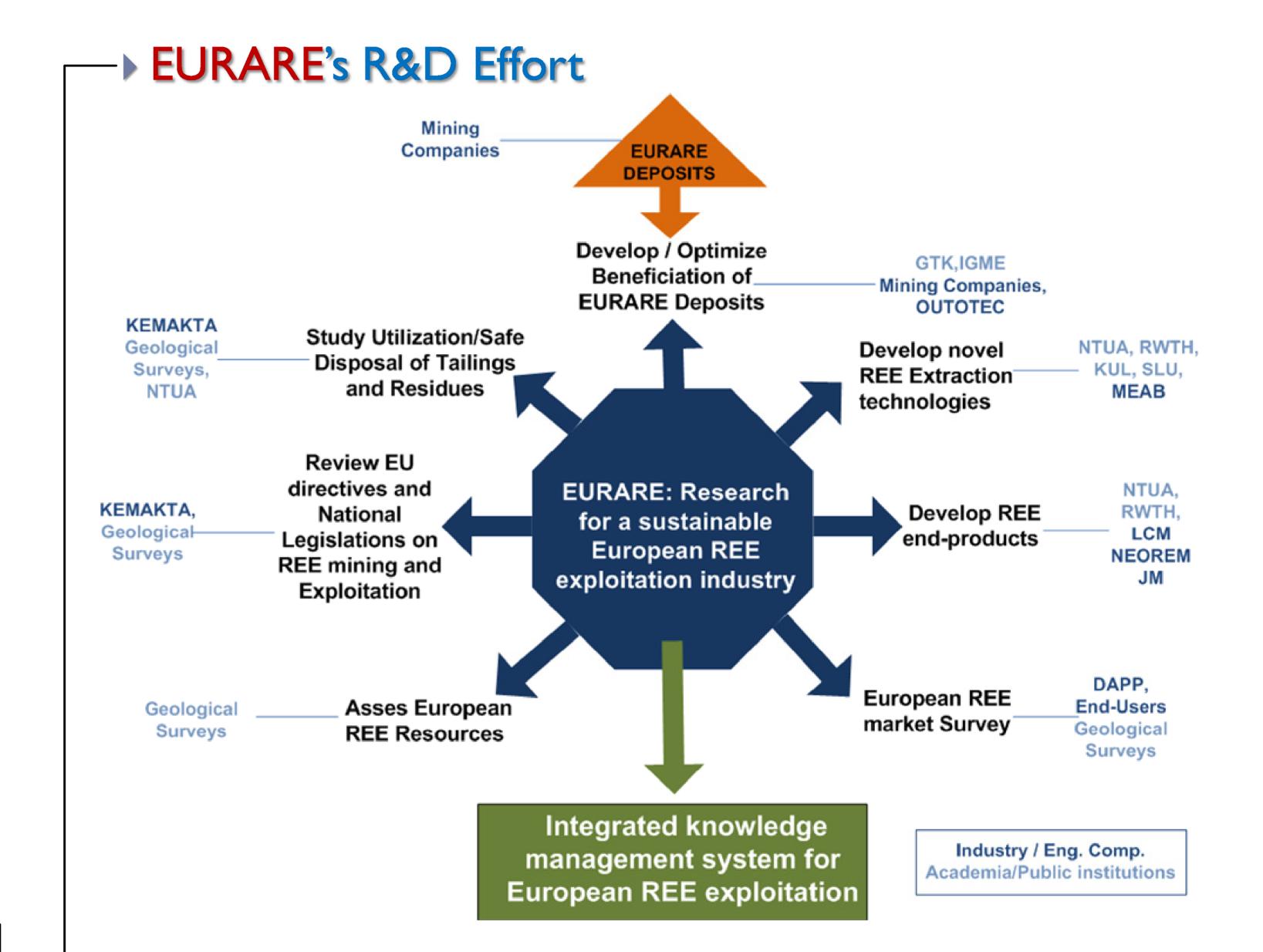
the main goal of the EURARE project is to set the basis for the development of a European REE industry that will safeguard the uninterrupted supply of REE raw materials and products to crucial for the EU economy industrial sectors, such as automotive, electronics, machinery and chemicals, in a sustainable, economically environmentally friendly way.

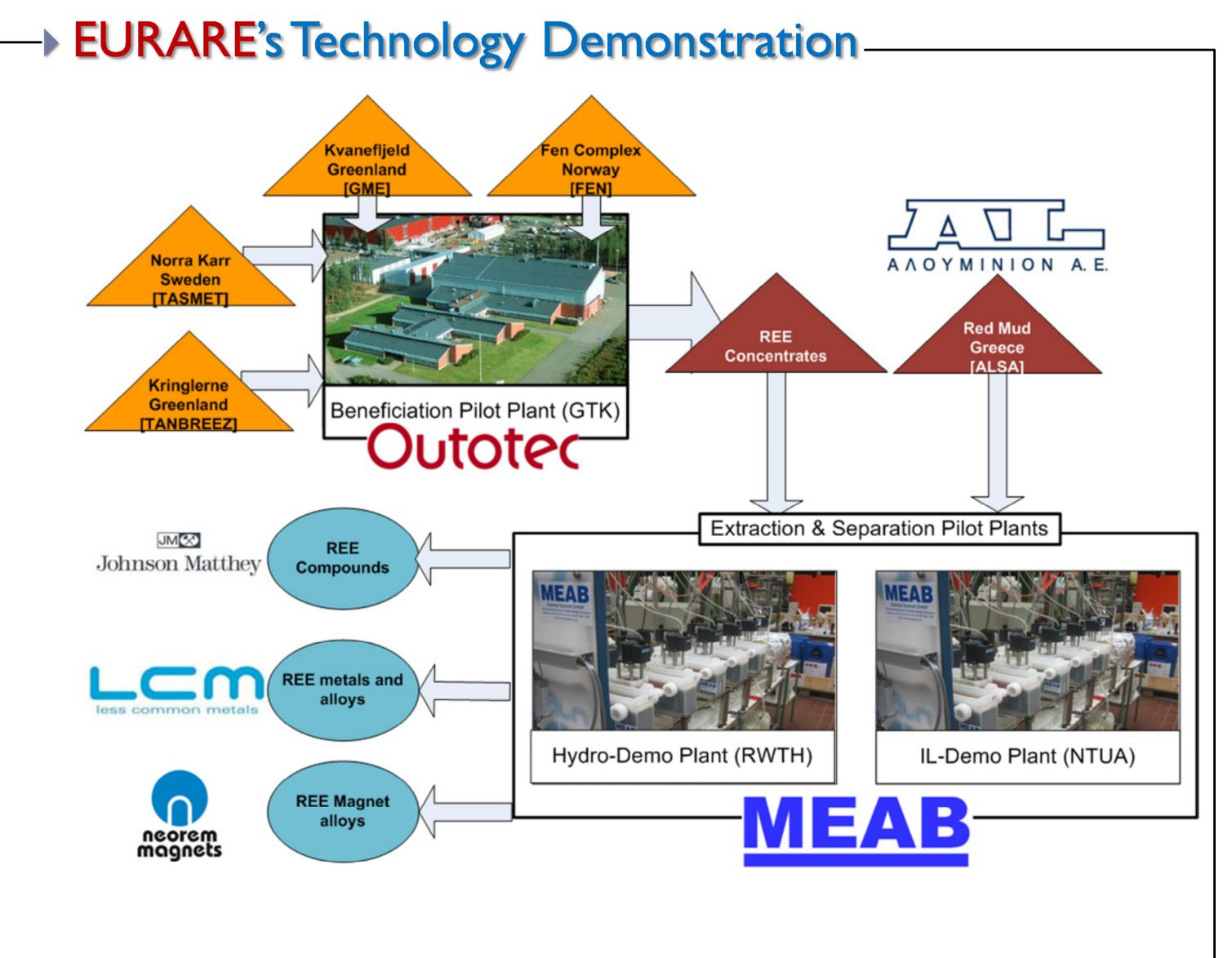
Rare Earth Elements Applications



App. 300 kg of Nd, Pr, Dy are needed for a 3.5 MW wind turbine App. I kg of Nd, Pr, Dy are needed for I hybird car App. 2.4 g of REEs are needed for one laptop computer

Rare Earth Elements Deposits Australia Reserves (tons) Country 55.000.000 22.000.000 Unspecified 19.078.000 66 Xunwu/Longnan 13.000.000 3.100.000 1.600.000 Australia **Total** 113.778.000 61 Maoniuping/Dalue 77 Fraser Island 78 North Stradbroke Island 63 Dong Pao BGS@NERC 2011 Production E.:- Europe is 100% import dependent on REE 97,6% Europe has no active **REE** mines India 0,02% Europe is NOT







In 2010 China monopolized

global REE production





without REE resources

















The EURARE project has received funding from the European

view, exempting the Community from any liability".

Project web site: www.eurare.eu

Community's Seventh Framework Programme ([FP7/2007-2013]) under grant agreement n° 309373. This publication reflects only the author's



SEVENTH FRAMEWORK PROGRAMME



0,2%





