



Sustainable Processing of Mineral Resources

Safety, sustainability and security for Europe's
mineral processing industry

Dependence on mineral resources is rooted in their use in a plethora of devices and everyday applications: mobile phones, flat screen televisions, automobiles, solar panels, space guidance systems, jet engines and pacemakers. Even a smart phone contains more than 50 metals, including rare earth elements that are in huge demand with limited supply.

*Research and
Innovation*

To achieve the objectives of the [European Green Deal](#), there is a need for the supply and use of raw materials to meet the needs of a growing population that stays within the sustainable limits of our planet's natural resources and ecosystems.

Raw materials, in particular critical raw materials (CRMs), are crucial to Europe's economy. A reliable, uninterrupted supply of CRMs is necessary to enable a strong industrial base to produce the goods and technologies we have come to rely on in daily life.

Highlights of EU Research

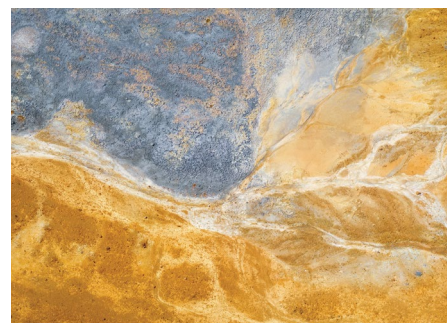
The seven projects in this pack address many challenges: CRMs can be rare and difficult to extract, exposure to them is often hazardous and toxic to the environment and their supply chains are vulnerable to competition from outside Europe.

NEMO

Near-zero-waste recycling of low-grade sulphidic mining waste for critical-metal, mineral and construction raw-material production in a circular economy

Coordinated in Finland

Contributing to the circular economy in the construction arena, NEMO has demonstrated the potential use of mine tailings in concrete products as well as recovering additional metals from sulfidic residues.



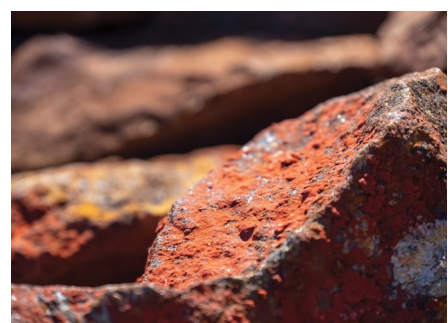
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RemovAL

Removing the waste streams from the primary Aluminium production and other metal sectors in Europe

Coordinated in Greece

Aluminium production yields a vast amount of bauxite residue and the RemovAL project converts this into new products including substrate for road construction and building aggregates.



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SecREEEts

Secure European Critical Rare Earth Elements
Coordinated in Norway

The SecREEEts project extracts rare earth elements from phosphate rocks used in fertiliser production. Exotic-sounding metals like praseodymium are extracted and used in permanent magnets for space exploration and healthcare.



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CHROMIC

efficient mineral processing and Hydrometallurgical Recovery of by-product Metals from low-grade metal containing secondary raw materials
Coordinated in Belgium

Making use of steel waste streams, CHROMIC removes chromium for use in the high-tech sector.



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FineFuture

Innovative technologies and concepts for fine particle flotation: unlocking future fine-grained deposits and Critical Raw Materials resources for the EU
Coordinated in Germany

New methods devised by the FineFuture project separate metal particles as small as 20 µm so that they are not discarded.



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PLATIRUS

PLATInum group metals Recovery Using Secondary raw materials
Coordinated in Spain

PLATIRUS may enable the recovery enough valuable platinum from mining and electronic waste to fill the supply gap up to 30 %, making Europe more competitive.



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SCALE

Production of Scandium compounds and Scandium Aluminum alloys from European metallurgical by-products
Coordinated in Greece

The SCALE project aims to establish a closed supply chain for the valuable metal used in high-intensity lighting and 3D printing applications.



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EU Research and Innovation is reducing waste and closing supply chain gaps

Covering a wide range of the critical raw materials necessary for high-tech industry, EU research and innovation funded under Horizon 2020 demonstrates that these raw materials and side streams that often end up as waste can be produced or reused sustainably through innovation.

Tapping the full potential of primary and secondary raw materials, these research projects boost the innovation capacity of the EU raw materials sector along the entire value chain.

Learn more about

Communication on The European Green Deal: europa.eu/!GK69JT
European Innovation Partnership on Raw Materials: europa.eu/!NfUd3v
Strategic Implementation Plan: europa.eu/!WBmtfd
Critical Raw Materials: europa.eu/!qXTJy4
Raw Materials Information System (RMIS): europa.eu/!xQNR6n

European Health and Digital Executive Agency: hadea.ec.europa.eu/index_en

Horizon Europe: europa.eu/!Xf47NRP

Horizon 2020: europa.eu/!bymQHX



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