Driven by the twin transition and defence needs, significant growth in CRM demand, with risk of global supply/demand imbalance

EU is heavily dependent on third country supply for CRMs that are key for strategic technologies

Strategic dependencies and risk of supply chain disruption

Source: European Raw Materials Alliance (ERMA)

Demand forecasts aggregated for lithium (2023 Foresight Report)

Lithium demand for batteries in the EU is expected to grow by 12 times by 2030 and by 21 times by 2050.
The demand for raw materials will increase

Source:
Supply chain analysis and material demand forecast in strategic technologies and sectors in the EU – A foresight study, Joint Research Centre, European Commission, 2023
Ensuring a secure and sustainable supply of critical raw materials for the Union

- Strengthen all stages of the European CRM value chain
- Improve EU capacity to monitor and mitigate risks of disruption to CRM supply
- Diversify EU CRM imports to reduce strategic dependencies
- Improve CRM circularity and sustainability
I. Setting priorities

Defining critical and strategic raw materials

CRM

Whole EU economy, based on:
- supply risk
- economic importance

SRM

SRM are a subset of CRM:
- Key for strategic technologies (twin transition, defence and space)
- Forecast demand risks outstripping supply

2030 benchmarks

Towards more SRM supply security

- EU’s **extraction** capacity cover at least 10% of the EU’s SRM consumption
- EU’s **processing** capacity cover at least 40% of the EU’s SRM consumption
- EU’s **recycling** capacity cover at least 15% of the EU’s SRM consumption

Towards more diversification of supply

- Not more than 65% of EU consumption of each SRM should come from a single third country.
<table>
<thead>
<tr>
<th>Critical Raw Materials</th>
<th>List of Critical Raw Materials for the EU 2023</th>
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<tbody>
<tr>
<td>Aluminium/Bauxite</td>
<td>Germanium</td>
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<td>Heavy Rare Earths</td>
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<td>Phosphate Rock</td>
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<td>Phosphorus</td>
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<td>Platinum Group Metals</td>
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<td>Scandium</td>
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<td>Silicon metal</td>
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<td>Strontium</td>
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<td>Titanium</td>
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<td>Tungsten</td>
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<td>Feldspar</td>
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<td>Helium</td>
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<td>Manganese</td>
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<td>Nickel</td>
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</table>
Figure B: Countries accounting for largest share of global supply of CRMs

Map showing countries with the highest percentage of global supply for various CRMs. Key countries and their respective CRMs include:

- **USA**
  - Barium
  - Bellum
  - Helium 67%
  - Palladium 56%

- **France**
  - Hafnium 49%

- **Spain**
  - Strontium 31%
  - Boron 48%
  - Feldspar 32%

- **Turkey**
  - Strontium 37%

- **Iran**
  - Strontium 37%

- **DRC**
  - Cobalt 63%
  - Tantalum 35%

- **South Africa**
  - Iridium 93%
  - Palladium 36%
  - Platinum 71%
  - Rhodium 81%
  - Ruthenium 94%
  - Manganese 29%

- **Brazil**
  - Niobium 92%

- **Chile**
  - Copper 28%

- **Australia**
  - Aluminium 28%
  - Lithium 53%

- **China**
  - Aluminium 56%
  - Antimony 56%
  - Arsenic 43%
  - Baryte 44%
  - Bismuth 70%
  - Cobalt 50%
  - Cokeing Coal 53%
  - Copper 38%
  - Fluorspar 56%
  - Gallium 94%
  - Germanium 83%
  - Lithium 56%
  - Magnesium 91%
  - Manganese 58%
  - Natural graphite 67%
  - Nickel 33%
  - Phosphate rock 44%
  - Phosphorus 79%
  - Scandium 67%
  - Silicon metal 76%
  - Titanium metal 43%
  - Tungsten 86%
  - Vanadium 62%
  - LREEs 85%
  - HREEs 100%

*Italic = extraction stage*  
*Regular = processing stage*
II. Strengthening the value chain

Strategic Projects

Across the whole SRM value chain: extraction – processing - recycling

Selected by the Commission with advice from the Board based on

- Contribution to security of supply
- Sustainability
- Technical feasibility
- Cross-border benefits in EU/
- Economic and social benefits in third countries

Benefits

- **Priority Status** in national and EU law: for administrative and judicial procedures
- **One-stop-shop approach**
- **Permitting - Legal time-frames**
  - Extraction: 24 months
  - Processing & Recycling: 12 months
- Provisions to facilitate and timely deliver environmental assessments and authorisations without weakening environmental and social protection
- **Enabling conditions to implement Strategic Projects**
  - The Critical Raw Materials Board provides coordination and advice to secure remaining financing
  - Provisions to facilitate the conclusion of off-take agreements

One-stop-shops

Member States shall designate one national authority to facilitate and coordinate the permit-granting process
III. Risk monitoring and mitigation

- Monitor **supply risks** of CRM
- **Stress tests** by the Commission with Member States
- Alerts to MS/relevant authorities in case of risk
- **Company risk preparedness**
- **Strategic stockpiling**: information gathering and coordination
- Voluntary joint purchasing
### CIRCULARITY

- National measures on CRMs circularity
- Maximising potential from (closed) extractive waste facilities
- Preparing the ground for massive recycling of permanent magnets

### SUSTAINABLE CHOICES

- Recognition of certification schemes on the sustainability of CRMs
- Empowerment to set, at a later stage, information requirements on the environmental footprint of CRMs placed in the EU market

**IV. Ensuring the free movement of CRMs with a high level of environmental protection**
CRITICAL RAW MATERIALS BOARD

The Board has an **advisory role** supporting the Commission in the implementation of the different actions proposed in the Act.

**COMPOSITION**

- Chaired by the European Commission
- Composed by Member States and the Commission
- Representatives from the EP as observers

**STRATEGIC PARTNERSHIPS**

The Board also discusses **Strategic Partnerships** of the Union with third countries that cover raw materials and ensures their coordination with other international fora and initiatives.
Links

• CRM Act Press Release
• CRM Act (Draft Regulation)
• CRM Act (Communication)
• 2023 JRC Foresight Study
• 2023 Study on CRMs for the EU
• CRM Factsheets
# Raw Materials in Horizon Europe (2021-2027)

## 1st Work Programme 2021-2022
- ~ EUR 300 mln budget
- 6 topics in 2021
- 7 topics in 2022
- EUR 159.5 mln
- EUR 130.2 mln

## 2nd Work Programme 2023-2024
- ~ EUR 250 mln budget*
- 6 topics in 2023
- Opening: 1 Dec 2022
- Deadline: 20 Apr 2023
- EUR 118 mln
- 5 topics in 2024
- Opening: 19 Sep 2023
- Deadline: 7 Feb 2024
- EUR 91.2 mln
Raw Materials calls for 2024 in Cluster 4

5 topics in 2024

EUR 92 mln
Opening: 19 Sep 2023
Deadline: 7 Feb 2024

- HORIZON-CL4-2024-RESILIENCE-01-01: Exploration of critical raw materials in deep land deposits (RIA)
- HORIZON-CL4-2024-RESILIENCE-01-04: Technologies for processing and refining of critical raw materials (IA)
- HORIZON-CL4-2024-RESILIENCE-01-08: Rare Earth and magnets innovation hubs (IA)
- HORIZON-CL4-2024-RESILIENCE-01-10: Addressing due diligence requirements in raw materials supply chains (CSA)
- HORIZON-CL4-2024-RESILIENCE-01-11: Technologies for extraction and processing of critical raw materials (IA)