



EU R&I and Raw Materials

27 April 2023

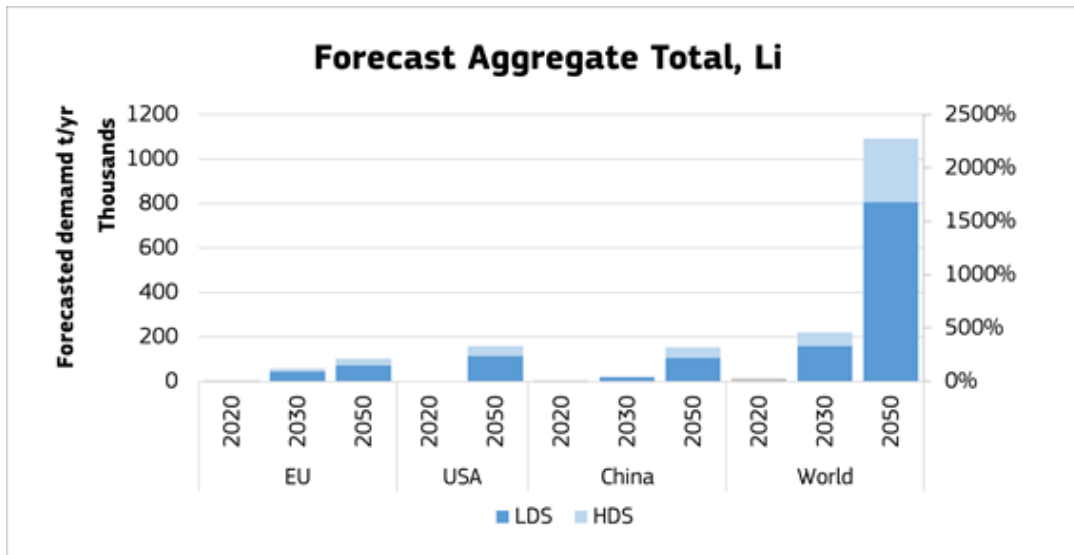
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Raw Materials and Hydrogen*

Critical raw materials (CRMs) and the EU economy

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



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**.

- EU is heavily dependent on third country supply for CRMs that are key for strategic technologies
- Strategic dependencies and risk of supply chain disruption

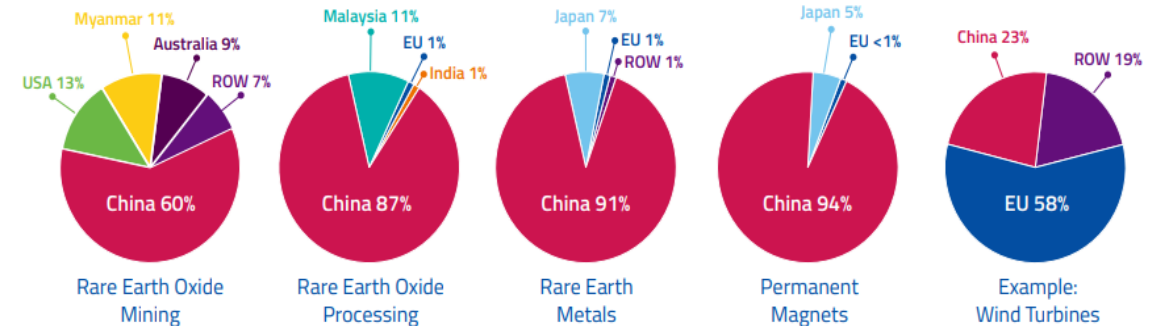
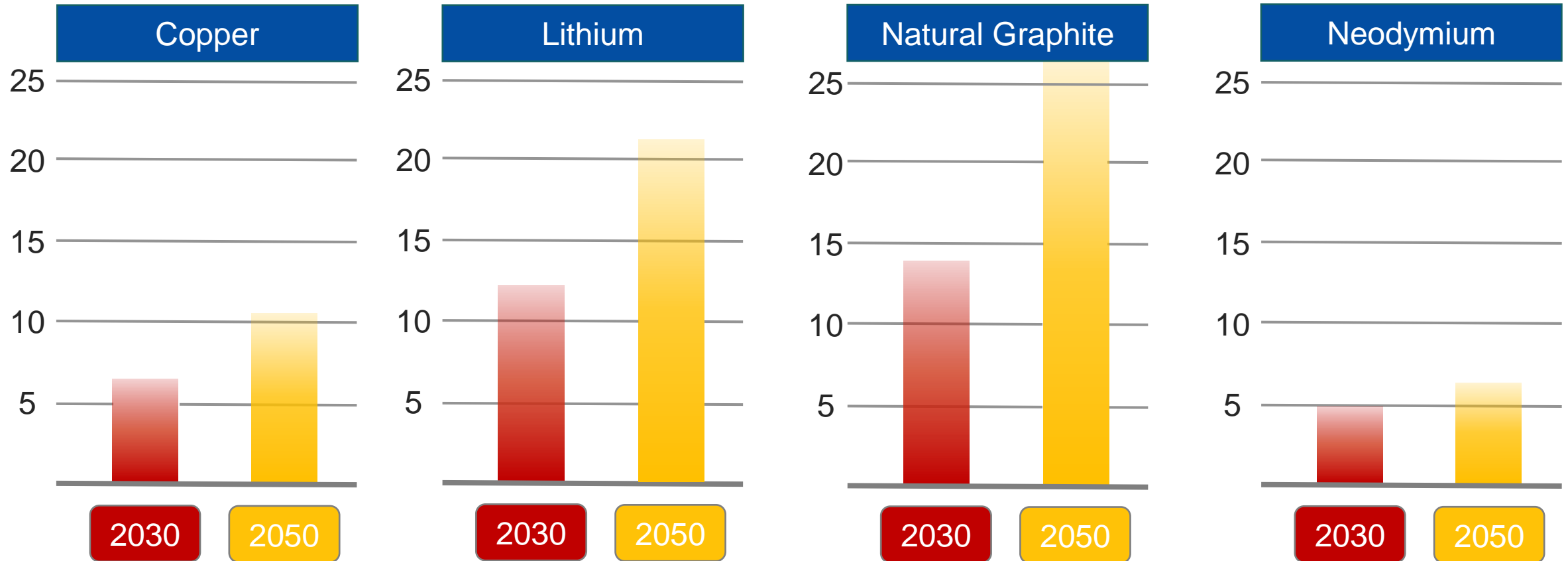


Fig. 3: From rare earths mining to wind turbine manufacturing: estimated market shares in 2019. Sources: Team analysis and Roskill 2018; Adamas Intelligence 2019; Peteves 2017; Carrara et al. 2020; IEA 2021; USGS 2021.

Source: European Raw Materials Alliance (ERMA)

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

European Critical Raw Materials Act

**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.

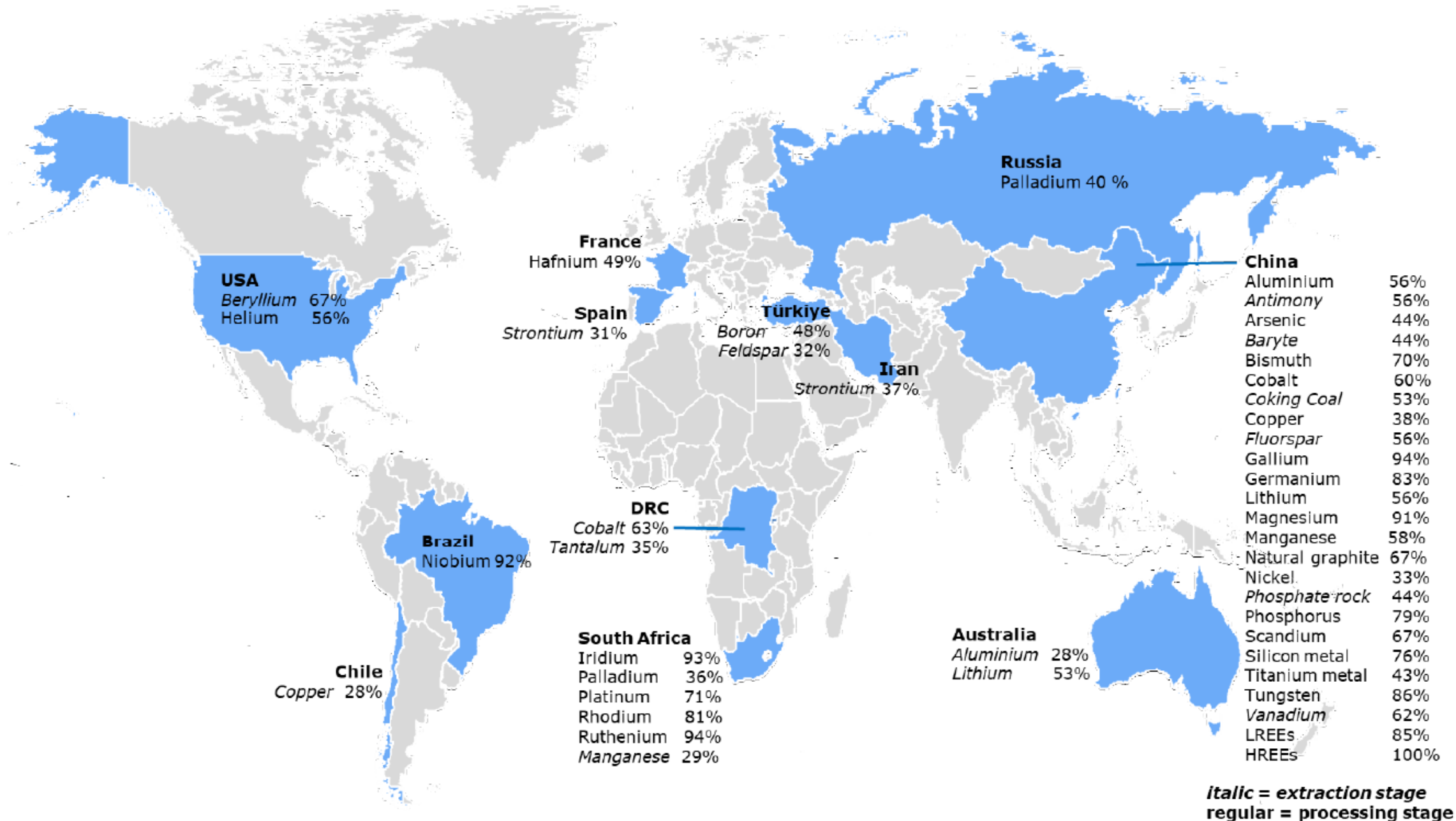
List of Critical Raw Materials for the EU 2023

Aluminium/Bauxite	Germanium	Platinum Group Metals	Arsenic
Antimony	Hafnium	Scandium	Copper
Baryte	Heavy Rare Earths	Silicon metal	Feldspar
Beryllium	Light Rare Earths	Strontium	Helium
Bismuth	Lithium	Tantalum	Manganese
Boron	Magnesium	Titanium	Nickel
Cobalt	Natural Graphite	Tungsten	Indium
Coking Coal	Niobium	Vanadium	Natural Rubber
Fluorspar	Phosphate Rock		
Gallium	Phosphorus		

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Figure B: Countries accounting for largest share of global supply of CRMs



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

IV. Ensuring the free movement of CRMs with a high level of environmental protection

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

Governance

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

EUR 159.5 mln

7 topics in 2022

EUR 130.2 mln

**2nd Work Programme
2023-2024**

~ EUR 250 mln budget*

6 topics in 2023

EUR 118 mln

**Opening: 1 Dec 2022
Deadline: 20 Apr 2023**

5 topics in 2024

EUR 91,2 mln

**Opening: 19 Sep 2023
Deadline: 7 Feb 2024**

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)**