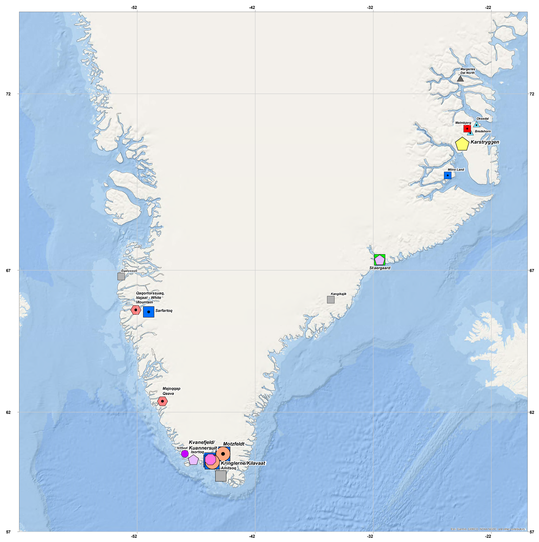
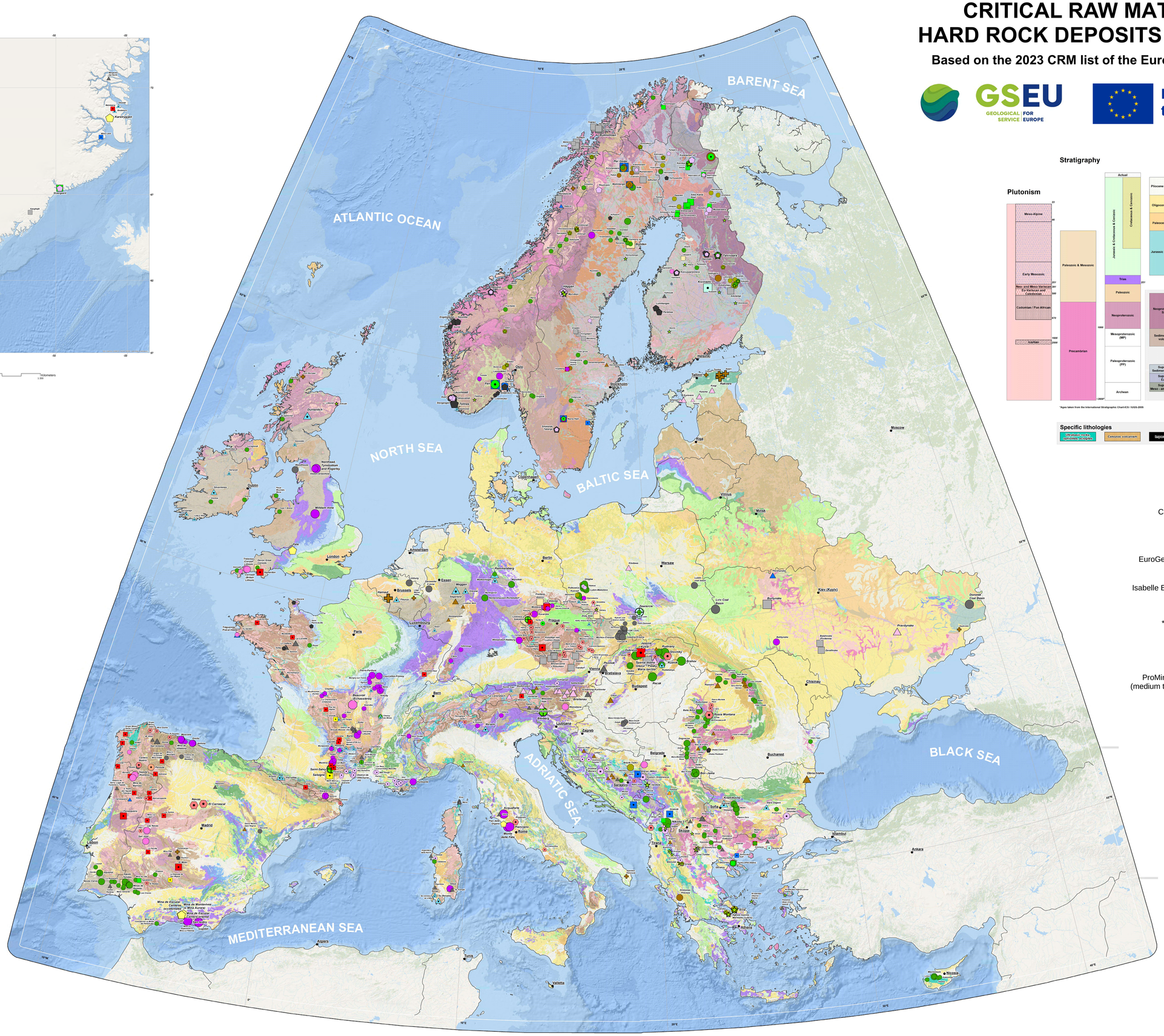
CRITICAL RAW MATERIALS
HARD ROCK DEPOSITS OF EUROPE

Based on the 2023 CRM list of the European Commission

GSEU GEOLOGICAL SERVICE FOR EUROPE

Funded by the European Union





Structural features

- Undifferentiated fault
- Dextral strike-slip fault
- Sinistral strike-slip fault
- Normal fault
- Thrust

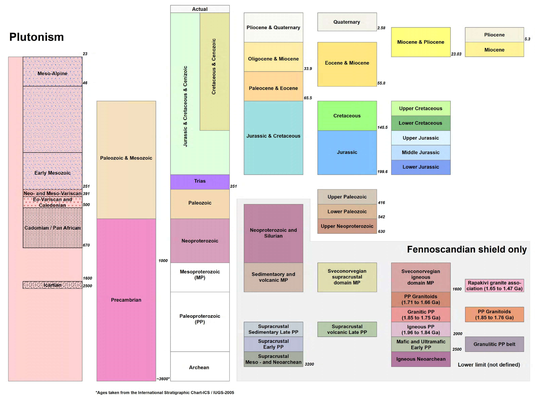
Commodity

- Aluminium (metal)
- Antimony (metal)
- Arsenic
- Barite ($BaSO_4$)
- Beryllium (BeO)
- Bismuth (metal)
- Borate (B_2O_3)
- Cobalt (metal)
- Coking coal
- Copper (metal)
- Feldspar
- Fluorite (CaF_2)
- Gallium (metal)
- Germanium (metal)
- Graphite
- Hafnium (metal)
- Lithium (metal)
- Magnesite, Magnesium ($MgCO_3$)
- Manganese (metal)
- Nickel (metal)
- Niobium (Nb_2O_5)
- Phosphorous
- Phosphate (P_2O_5)
- Platinum, platinoids group metals
- Rare Earth Elements (REE_2O_3)
- Scandium (metal)
- Strontium
- Tantalum (Ta_2O_5)
- Titanium (metal)
- Vanadium (metal)
- Tungsten (WO_3)

Deposit size

- Class A (super-large)
- Class B (large)
- Class C (medium)

Stratigraphy



Specific lithologies

- Ultrabasic rocks / Ophiolites / Kimberlites
- Cenozoic volcanism
- Igneous intrusions
- Volcanism other than Cenozoic

Scientific coordination

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Authors

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Cartographic layout

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Source of data (mineral deposits)

ProMine & MIN4EU Mineral Deposits Databases
(medium to super large deposits), improved and updated

Géosciences pour une Terre durable brgm

EuroGeoSurveys The Geological Surveys of Europe

MREG

EGDI

Polyconic Projection, Central Meridian : 16°E, FE = 0, Latitude of origin : 0, DATUM WGS84

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WARNING:
The geological synthesis used for this Mineral Deposit map of Europe was compiled by Billa et al. (2008) using (i) existing national geological maps (paper version, excepted for France) at various scales, generally ranging between 1:0.5M and 1:1M, (ii) the International Geological Map of Europe and the Mediterranean Regions, scale 1:1.5M, BGR & UNESCO, Hannover, 2nd/3rd edition, 1964-2000, and (iii) digital syntheses such as "GIS Central & Southeastern Europe" at 1:1.5M scale from BRGM and the "Geological map of the Fennoscandian Shield" at 1:1M scale, available from the Russian, Finnish, Swedish and Norwegian Geological Surveys. The problems of continuity between the different maps, moreover with various – not always perfectly known - projection systems, and the homogenization of the legends required the complete redrawing of some (key) areas – e.g. the Alps - using the most recent publications (too numerous to be cited here). The paper by P. Weihed et al. (Ore Geology Reviews 27 [2005] 273-332) dealing with the Precambrian geodynamics of the Fennoscandian Shield was of particular interest to this work.

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