

European  
**Mineral Raw Materials Industry**



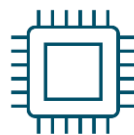
# Mineral Raw Materials in modern society – the lifeblood of the economy

Mineral Raw Materials in modern society are the lifeblood of the economy.

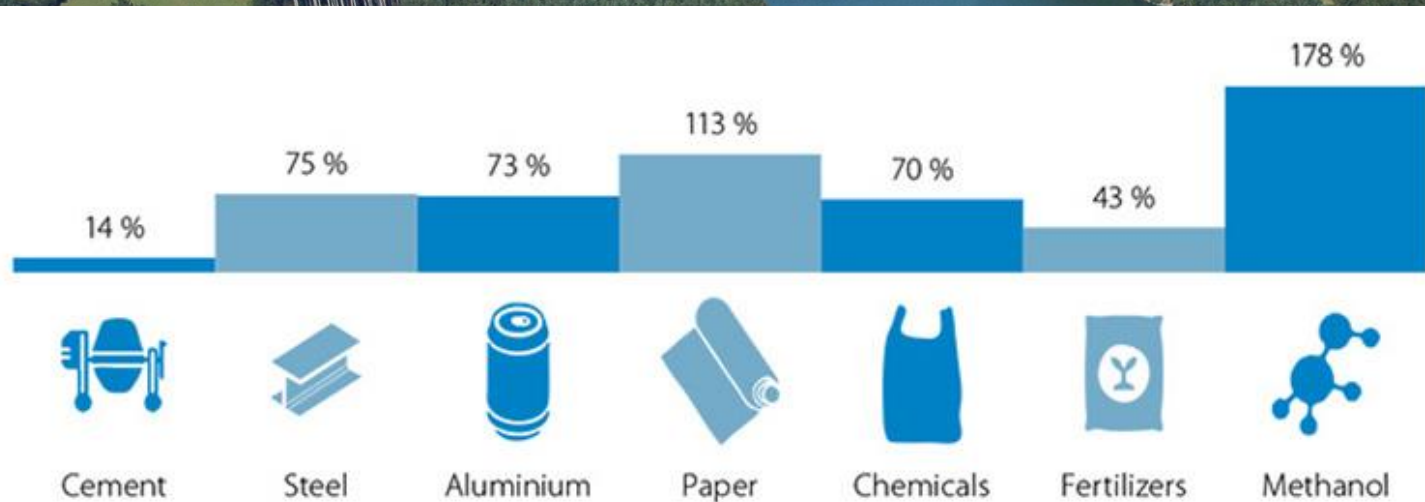
They are the basis for many sectors:

- = Agriculture, Construction, IT, Electronics, Energy, Chemistry, Manufacturing, Medicine
- ≡ Raw materials depending industries in the EU provided **206 billion EUR of added value**.
- ≡ The economic importance of the raw materials sector goes far beyond the sector's own economic activities.
- ≡ Whilst engaging about **350.000 jobs within the EU**, there are **more than 24.6 million jobs** in downstream manufacturing industries depend on the secure supply of raw materials.

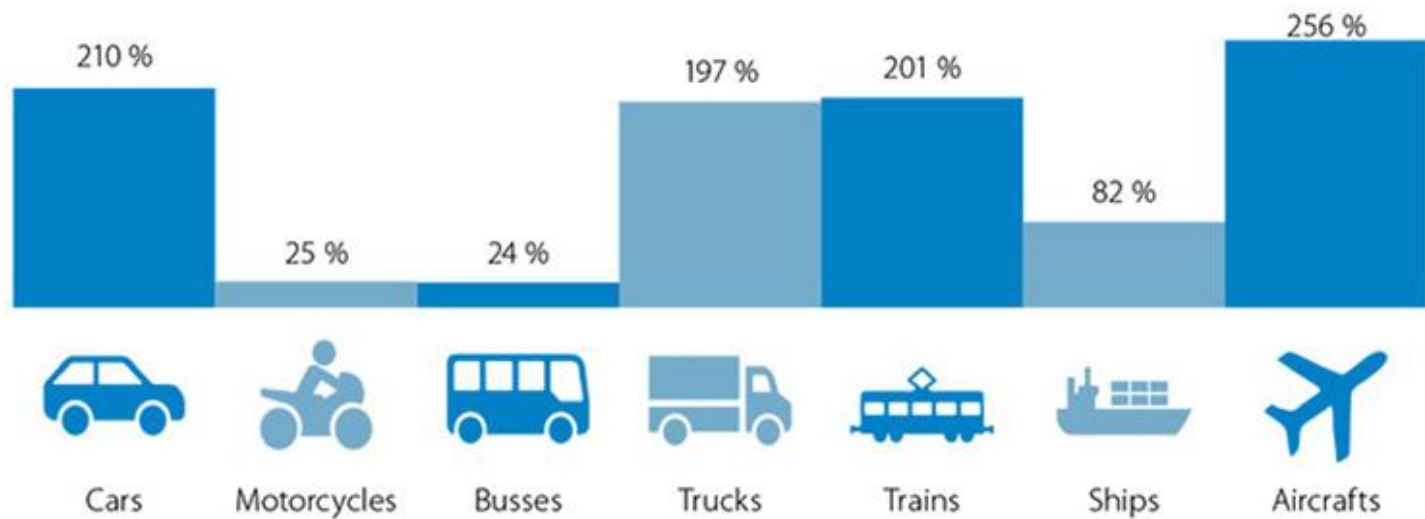
Data Source:  
Raw Materials  
Scoreboard,  
European  
Innovation  
Partnership on  
Raw Materials,  
European Union,  
2018







Expected demand development in the industry sector in our decarbonisation scenario



Expected demand development in the transport sector in our decarbonisation scenario

## Metal and mineral demand: Now and in the Future

With the decarbonisation scenarios developed by ECOFYS, individual materials and sectors are expecting considerable growth rates

Source: ECOFYS, Energy Transition within 1.5C, A disruptive approach to 100% decarbonisation of the global energy system by 2050 (2018)

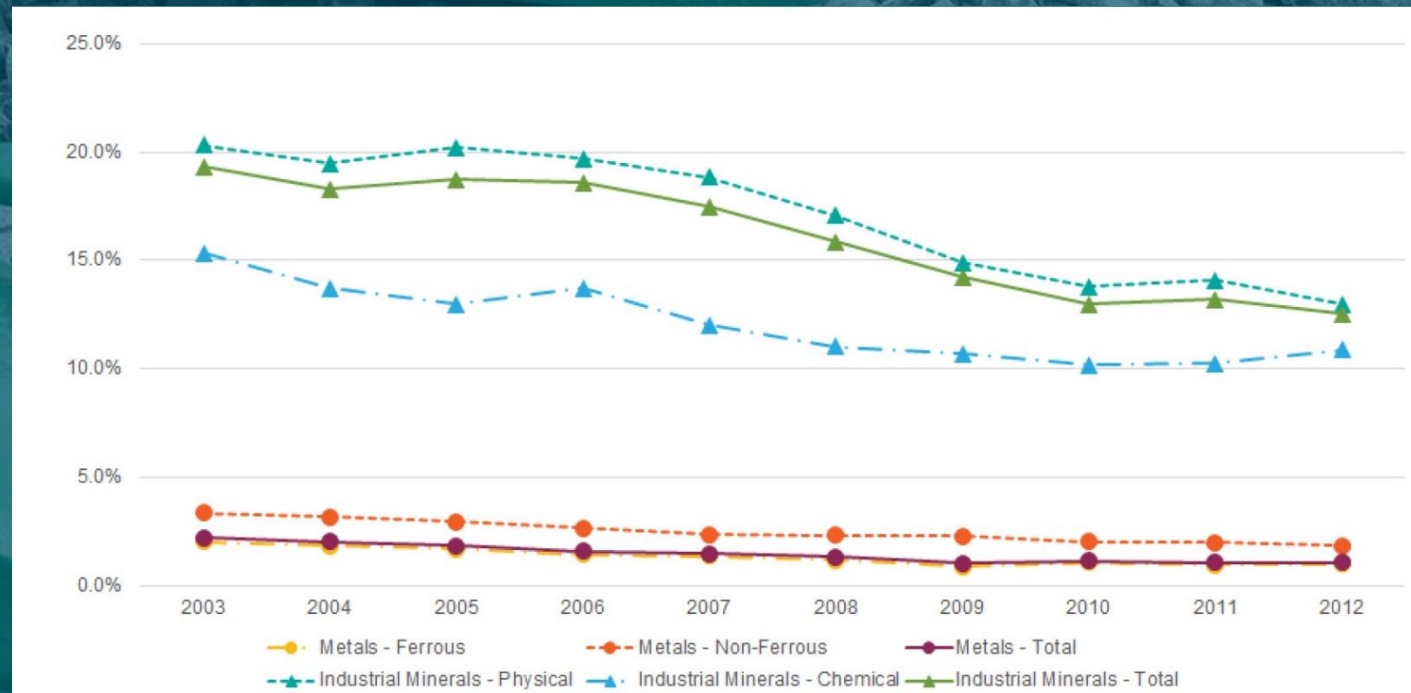


# European Production

The European Union

- ≡ **is self-sufficient in production of sand, gravel and aggregates** (25.000 sites in the EU),
- ≡ **is the world's third largest producer of industrial minerals** (about 700 sites in the EU),
- ≡ **provides about 40% of EU's metal ores and concentrates** (90 sites in the EU).

## EU share of global production

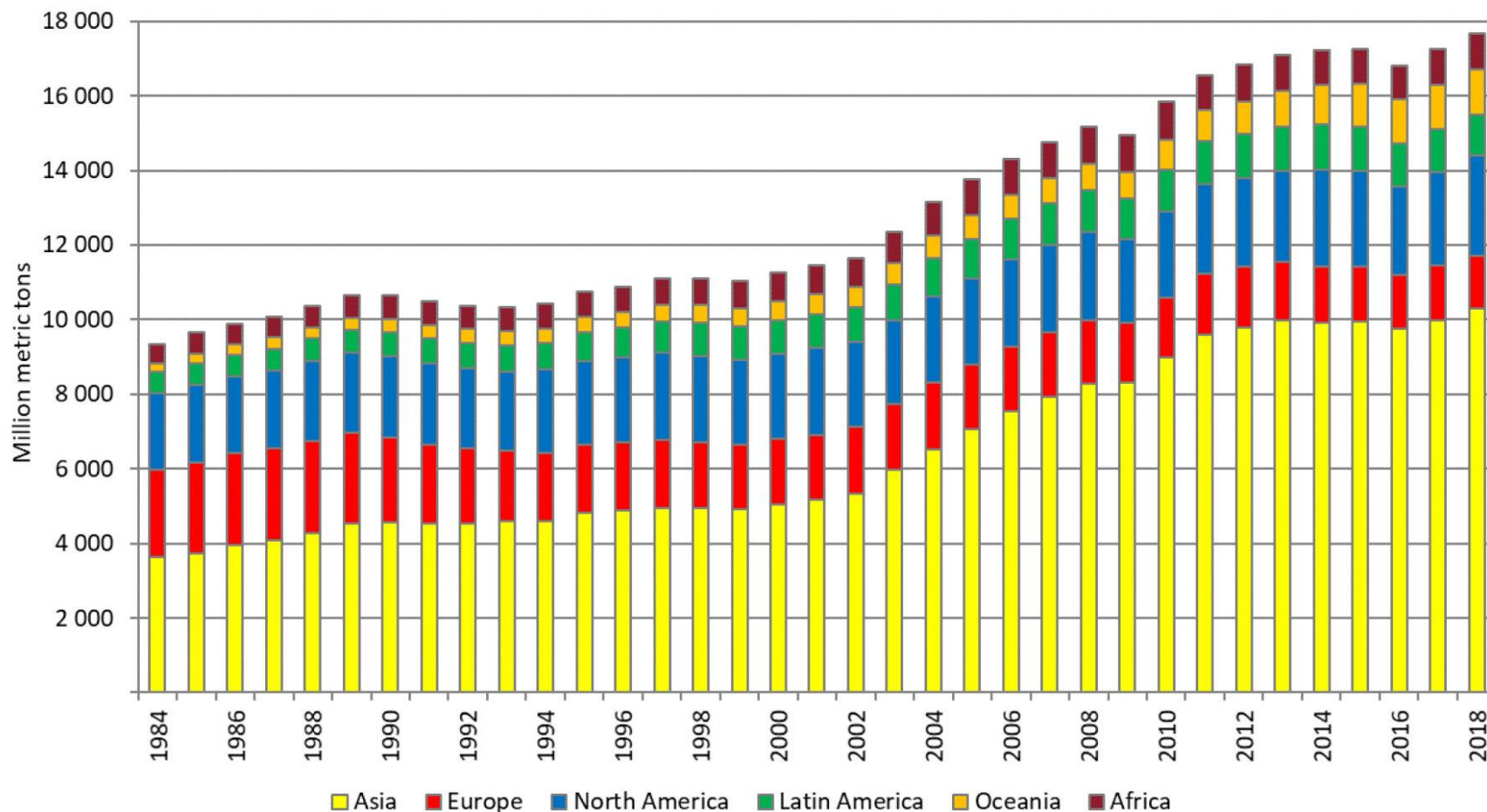


Source: Study on the Competitiveness of the EU Primary and Secondary Mineral Raw Materials Sectors, Final Report for DG Internal Market, Industry, Entrepreneurship and SMEs, 2015



# World Mining Production 1984 – 2018

## by continents

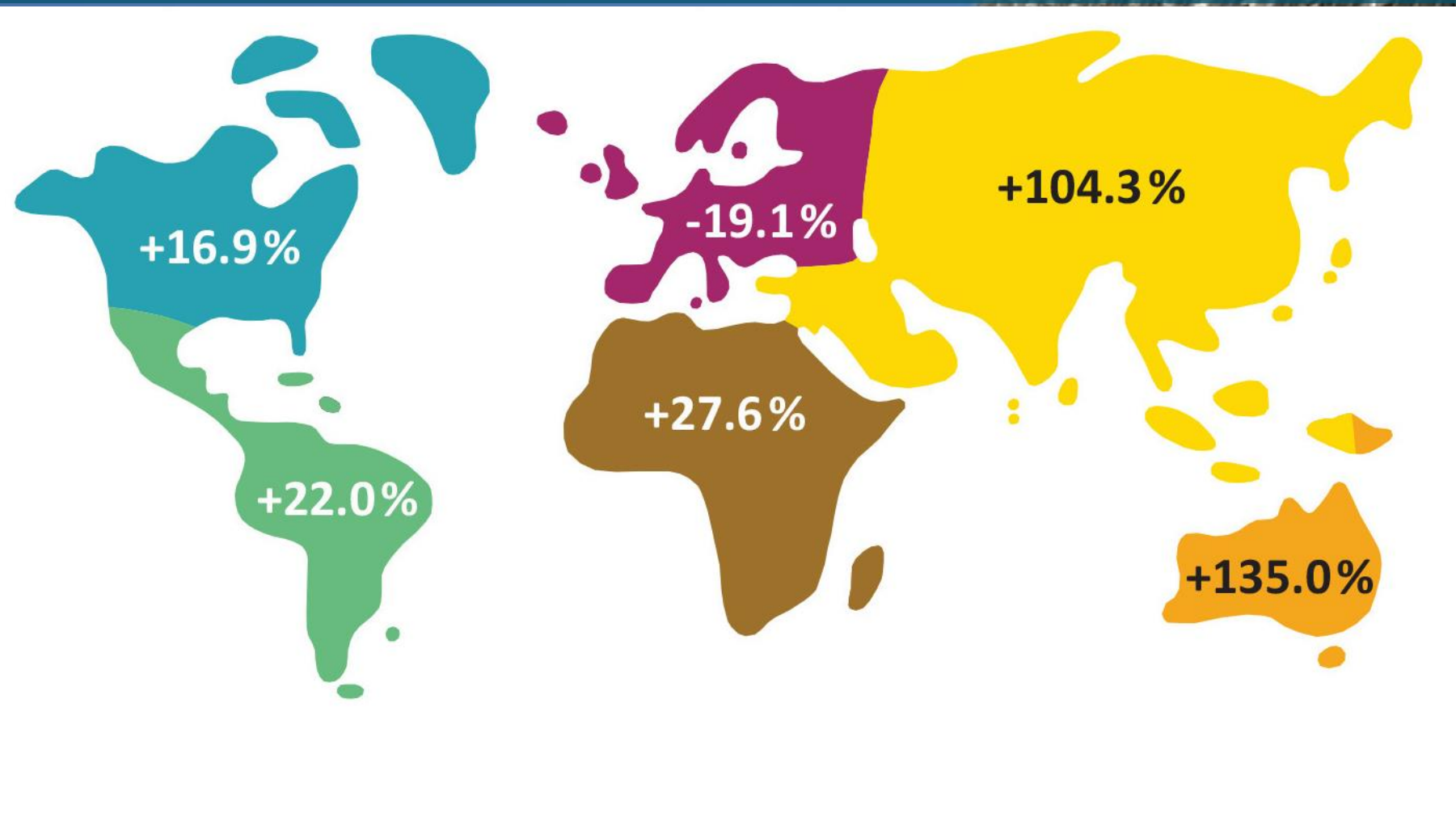


Without construction minerals,  
(in Million metr. t)

Source:  
World Mining Data 2020,  
Federal Ministry Republic of  
Austria, Vienna 2020



# Declining production rates since 2000 only in Europe – $\Delta$ 2000 / 2018



Source:  
World Mining Data 2020, Federal  
Ministry Republic of Austria, Vienna  
2020



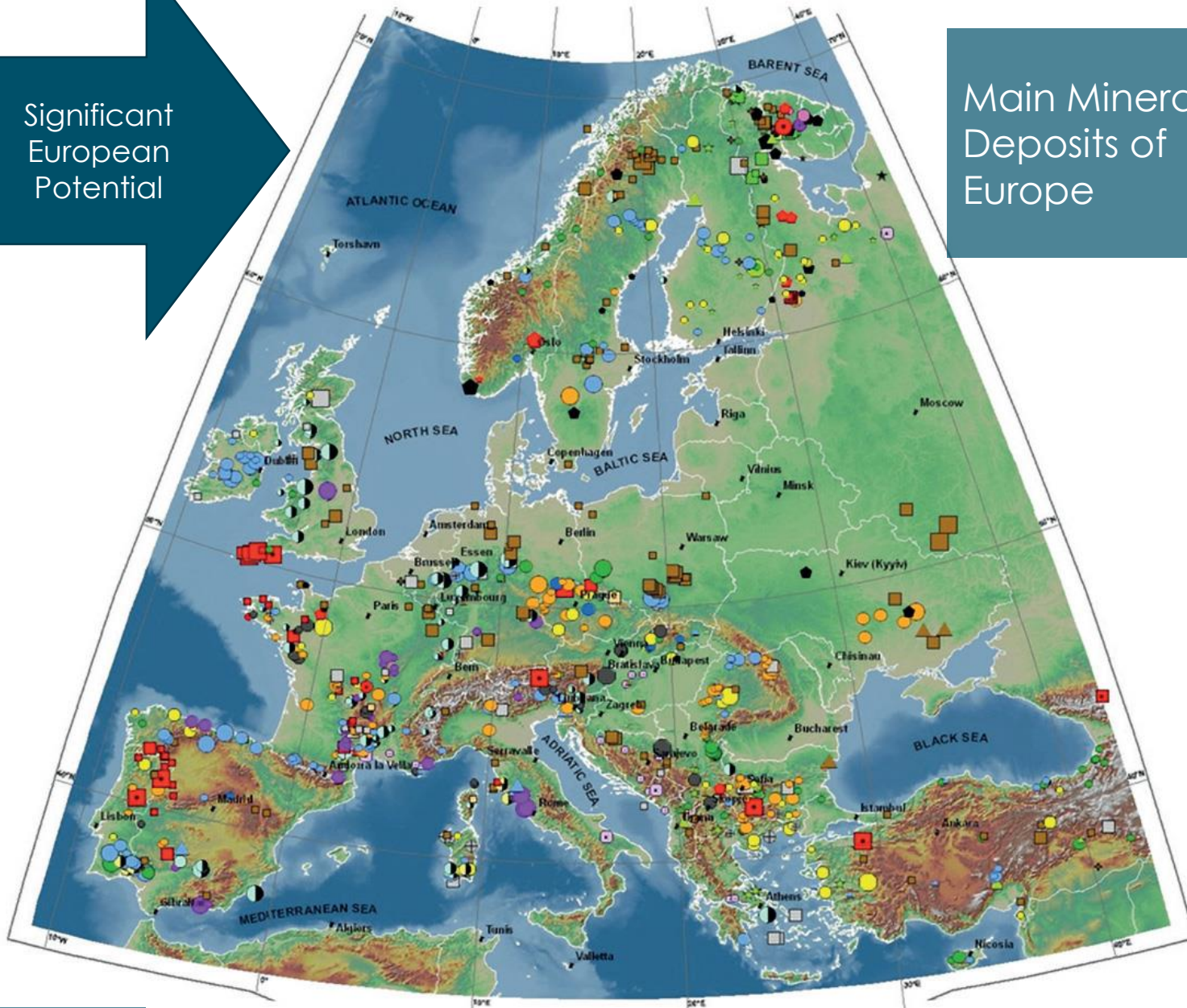
Significant European Potential

## Main Mineral Deposits of Europe

Europe has rich mineral resources which can be mined sustainably



- ≡ Europe has its own natural resources, world-class deposits and still major potential. Today, the European mineral raw materials industry occupies no more than a fraction of 1% of the land surface on a temporary basis.
- ≡ Mineral exploration is a key factor for developing and maintaining a healthy industry and sustainable access to resources.
- ≡ Innovative exploration technologies have allowed to discover more deposits in Europe and to add more reserves to our nations' assets.

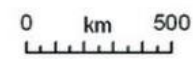


### Main commodity

- ◻ Aluminium
- Antimony
- ◻ Arsenic
- ◻ Baryte
- Bismuth
- ▲ Chromium
- Cobalt
- Copper
- ★ Diamond
- Fluorite
- ⊕ Germanium, Gallium
- Gold
- ◻ Iron
- Lithium
- Lead
- ▲ Manganese
- ▲ Mercury
- Molybdenum
- ☆ Nickel
- ⊕ Phosphate
- PGE Platinum Gr. Elements
- Pyrite
- Silver
- Tantalum
- Tin
- Titanium
- Uranium
- Vanadium
- Tungsten
- Zinc
- Zirconium

### Deposit size

- ◻ Class A
  - ◻ Class B
  - ◻ Class C
- Total deposits : 943

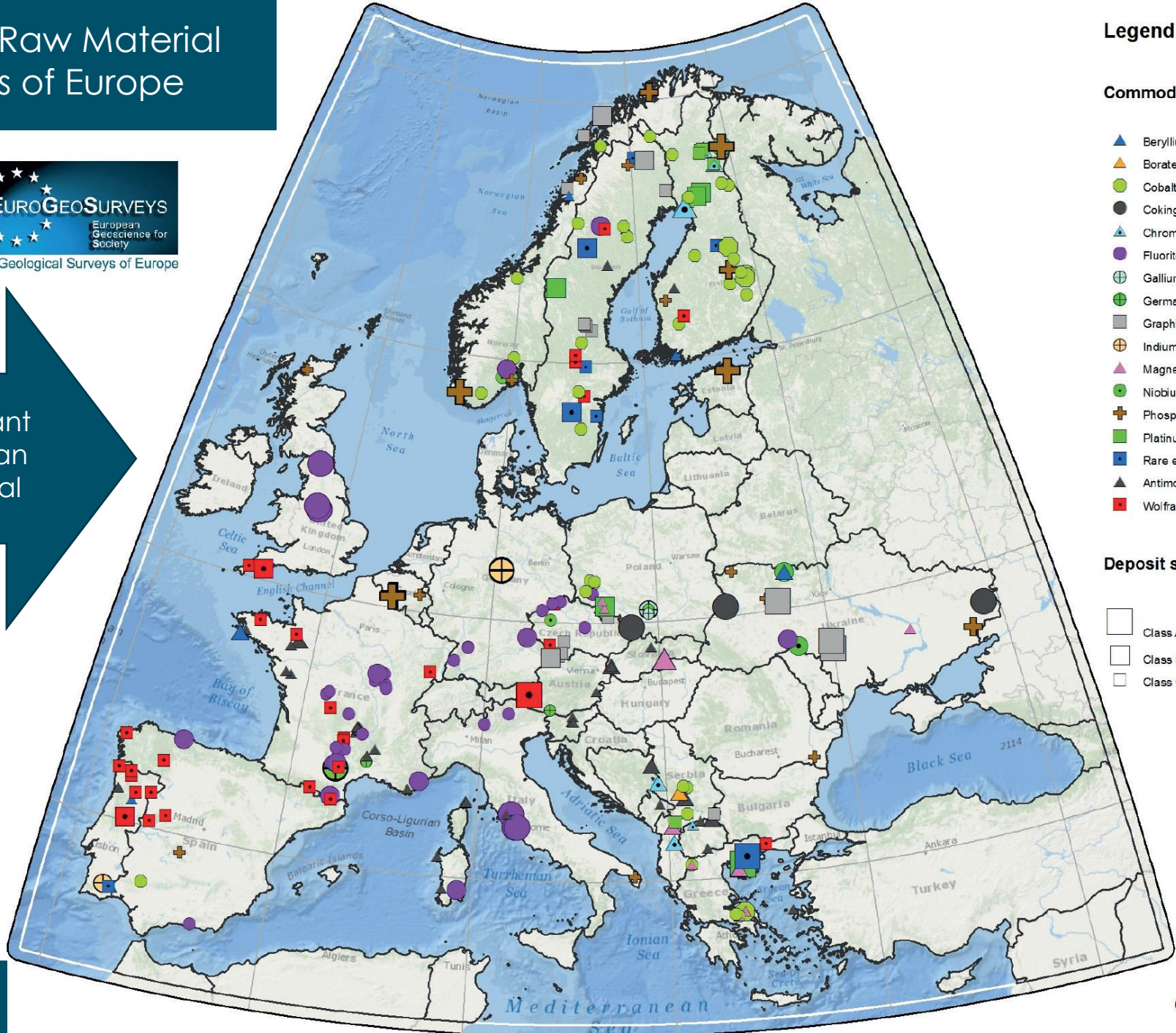




# Critical Raw Material Deposits of Europe



Significant European Potential



## Legend

### Commodity

- ▲ Beryllium
- ▲ Borates
- Cobalt
- Coking coal
- ▲ Chromium
- Fluorite
- ⊕ Gallium
- Germanium
- Graphite
- ⊕ Indium
- ▲ Magnesite, magnesium
- Niobium
- ⊕ Phosphate
- Platinum, platinum group metals
- Rare earths elements
- ▲ Antimony
- Wolfram

### Deposit size

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



- As global demand for critical raw material grows, primary raw materials will continue to play a key role.
- Mobilising Europe's domestic potential better is an essential part of the EU becoming more resilient and developing open strategic autonomy.