Bernd Schäfer
CEO, Managing Director of EIT RawMaterials

Updating the new industrial strategy - EESC meeting

7 June 2021
EIT RAW MATERIALS

EIT RawMaterials, initiated and funded by the European Institute of Innovation and Technology (EIT) a body of the European Union is the world’s largest innovation community in the raw materials sector.

SECURING RAW MATERIALS SUPPLY
collaborating across the entire industrial value chain

DESIGNING SOLUTIONS
for materials innovation, products and processes

CLOSING MATERIAL LOOPS
a radical shift from linear to circular thinking
EIT RAWMATERIALS - A PAN-EUROPEAN PARTNER NETWORK

- Part of Horizon Europe (ca. € 95 billion for 2021-2027)
- World’s largest community in the raw materials sector
- Coverage of the entire raw materials value chain
- 317 renowned partners
- 16 locations across Europe
- 500+ projects supported with EUR 350 million budget
- 1000+ jobs created for Europe
- EUR 74 million dedicated to boost innovation in the RIS region
ERMA WILL CONTRIBUTE TO THE TRANSITION FROM LINEAR BROWN TO CIRCULAR GREEN ECONOMY

Brown Economy
Fossil Fuels for combustion engines, generators and power stations: oil, gas, coal

Green Economy
Functional Materials in e-motors, energy storage, energy conversion containing, for example, Co, Li, Pt, REE, Ge, Ga, Si, V

Fundamental shift in the resource basis of a society
THE DEMAND FOR MINERALS AND METALS WILL INCREASE IMMENSELY IN THE NEXT 30 YEARS

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2030</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric passenger cars</td>
<td>1.2 million</td>
<td>200 million</td>
<td>965 million</td>
</tr>
<tr>
<td>Battery storage capacity</td>
<td>0.5 GW</td>
<td>175 GW</td>
<td>12 380 GW</td>
</tr>
<tr>
<td>Solar photovoltaic capacity</td>
<td>223 GW</td>
<td>2840 GW</td>
<td>8519 GW</td>
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Data from IRENA (International Renewable Energy Agency) 2018
**EUROPEAN INDUSTRIAL ECOSYSTEMS RELY ON SECURE RAW MATERIALS SUPPLY**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Examples</th>
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<tbody>
<tr>
<td><strong>Tourism</strong></td>
<td>Passenger travel, hotels, restaurants, events, theme parks</td>
</tr>
<tr>
<td><strong>Creative &amp; Cultural Industries</strong></td>
<td>Newspapers, books, video and television, radio and music</td>
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<tr>
<td><strong>Aerospace &amp; Defense</strong></td>
<td>Aircrafts, spacecrafts, military, weapons, satellites</td>
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<tr>
<td><strong>Textiles</strong></td>
<td>Production of textiles, apparel, footwear, leather, jewellery</td>
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<tr>
<td><strong>Electronics</strong></td>
<td>Production of electronics</td>
</tr>
<tr>
<td><strong>Mobility - Automotive</strong></td>
<td>Production, repair, maintenance of vehicles, boats, trains</td>
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<tr>
<td><strong>Low carbon energy intensive</strong></td>
<td>Extraction of fossil fuels, refining, manufacturing of products with high environmental impact</td>
</tr>
<tr>
<td><strong>Renewable energy</strong></td>
<td>Electrical motors, engines, turbines, power generation, as well as gas distribution</td>
</tr>
<tr>
<td><strong>Agri-food</strong></td>
<td>Plant and animal production</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td>Pharmaceuticals, hospitals, nursing homes, residential care</td>
</tr>
<tr>
<td><strong>Digital</strong></td>
<td>Telecommunication, software, programming, web portals, computer manufacturing</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Building of residential housing, non residential housing, roads, railways, civil engineering</td>
</tr>
<tr>
<td><strong>Retail</strong></td>
<td>Retail sales, wholesales connected to consumers</td>
</tr>
<tr>
<td><strong>Proximity &amp; Social Exonomy</strong></td>
<td>Social enterprises and associations aiming at generating social impact</td>
</tr>
</tbody>
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**EUROPEAN RAW MATERIALS ALLIANCE**

**ERMA**

**Co-funded by the European Union**
RAW MATERIALS ARE ESSENTIAL TO FEED THE DIGITAL GREEN TRANSITION

- Raw materials are essential for the twin transition towards a digital green economy

- Raw and advanced materials are key *drivers of change* for modern technologies and EU’s Industrial ecosystems.

- Investments in raw materials are **CAPEX intensive** and thus require a **long-term strategy** and multi country support

*Source: European Commission, Critical Raw Materials for Strategic Technologies and Sectors in the EU, A Foresight Study*
DEMAND FOR RAW MATERIALS WILL INCREASE BY UP TO SIXTY TIMES IN THE NEXT DECADES

Moving to net zero ‘inevitably means more mining’ – BBC News 24 May 2021

Source: European Commission, Critical Raw Materials for Strategic Technologies and Sectors in the EU, A Foresight Study (2020)

The bars show the additional material consumption in batteries, fuel cells, wind turbines and photovoltaics in renewables and e-mobility only in 2030 (red bars) and 2050 (orange bars) compared to current EU consumption of the material in all applications.
EUROPEAN RAW MATERIALS ALLIANCE (ERMA)

- Launched on 29 September 2020 in Brussels by Commissioner Breton and VP Šefčovič (Action 1 of the EU Critical Raw Materials Action Plan)
- Supported by 62 MEP’s under the leadership of Anna-Michelle Asimakopoulou
- Coordinated by EIT RawMaterials
- > 500 partners have joined ERMA to date
- > 40 investment projects identified to date, evaluation is ongoing

A game-changer for the secure and sustainable supply of raw materials for EU’s industrial ecosystems
Vision
ERMA will secure a sustainable supply of raw materials, advanced materials and processing know how for the EU’s industrial ecosystems.

ERMA has four interconnected goals:

• Bolster the creation of environmentally sustainable and socially equitable innovations and infrastructure
• Implement a Circular Economy of complex products
• Support Europe’s raw materials industry capability, to extract, design, manufacture and recycle materials
• Promote innovation, strategic investment, and industrial production across specific value chains
ERMA PROVIDES SUPPORT TO ACCESS GRANTS AND LOANS FROM A RANGE OF FUNDING SCHEMES AND INVESTORS

**European Commission (mostly grants)**
- Research and innovation Program Horizon Europe € 94 bn over 7 years
- Innovation Fund (€ 10 bn)
- EIC
- LIFE Programme
- SPIRE
- Etc...

**European Commission and Member States (grants and loans)**
- Next Generation EU (Recovery Fund)
- Just Transition Mechanism
- National Research and Innovation Funds

**Investment agencies (loans)**
- European Investment Bank (EIB)
- European Bank for Reconstruction and Development (EBRD)
- National investment funds
- Investment banks
- Investment funds
- Private investors

Blended case-specific solutions
DE-RISKING PROJECTS TO MAKE THEM INVESTABLE AND BANKABLE

- Ideal ‘market place’
  - EIT RawMaterials support

- Policy alignment
  - Civil society

- Market intelligence
  - Promoting raw materials

- Investment quality seal
  - Financing

**Unique network**
**Consultation process**
**Intelligence**
**Investment**