

Increasing Knowledge on Raw Materials in Europe: The EC-JRC Raw Materials Information System

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SUSTAINABILITY OF MINERAL RESOURCES AND
THE ENVIRONMENT
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Main Topics

- 1. DG JRC Mandate and the EU Policy Context for Raw Materials**
- 2. JRC Activities supporting the EIP on Raw Materials**
- 3. A Circular Economy for Raw Materials**
- 4. Monitoring Raw Materials Sectors**
 - a. The EU Raw Materials Scoreboard
 - b. The JRC/EC Raw Materials Information System

JRC and the EU Policy Context for RM

JRC Mandate: To provide science-based support to EU policies

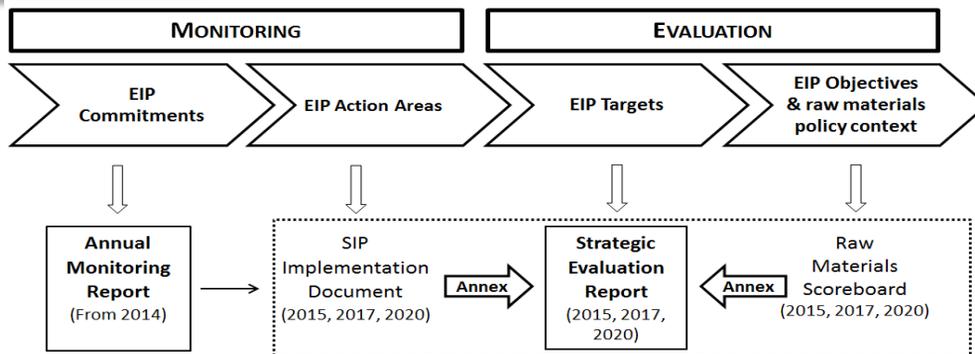
Policy Mandate on Raw Materials:

- Raw Materials Initiative (COM(2008)0699)
- European Innovation Partnership (EIP) on Raw Materials (COM(2012) 82) and its Strategic Implementation Plan
- Circular Economy Action Plan (that is related to the 3rd pillar of the EIP's implementation plan) (COM(2015) 614)
- For a European Industrial Renaissance (COM(2014) 014)

JRC Support to Raw Materials

EIP Raw Materials (since 2012)

- Methodology for List of Critical Raw Materials
- Support the EU Raw Materials Knowledge Base
- Support EU Raw Materials Scoreboard
- Support the Evaluation of EIP RM targets (3 pillars according to Strategic Implementation Plan)



JRC Support to Raw Materials

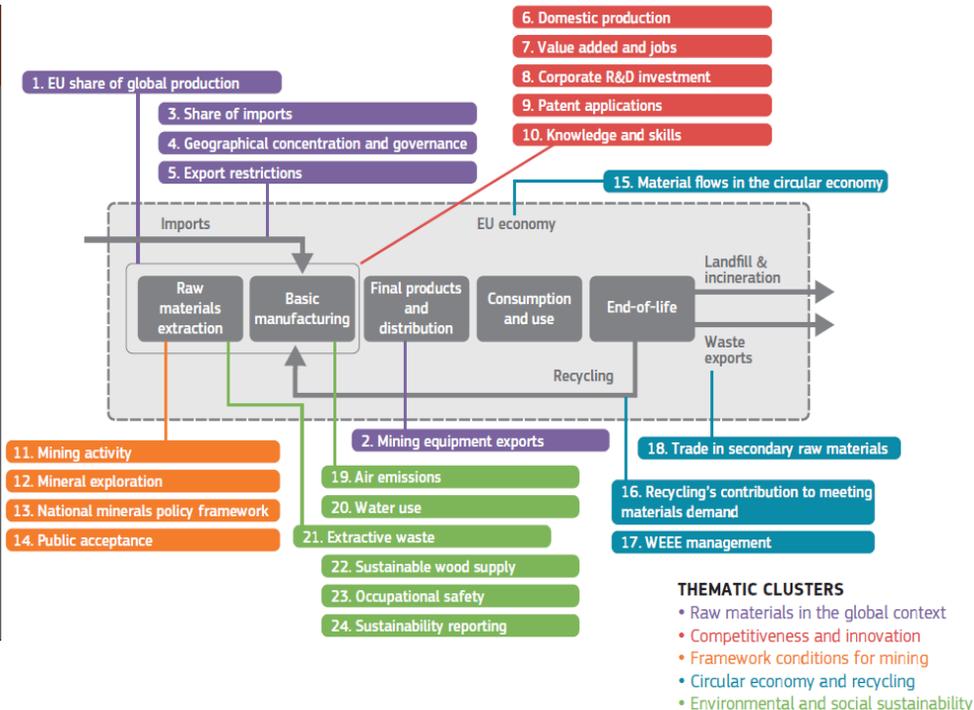
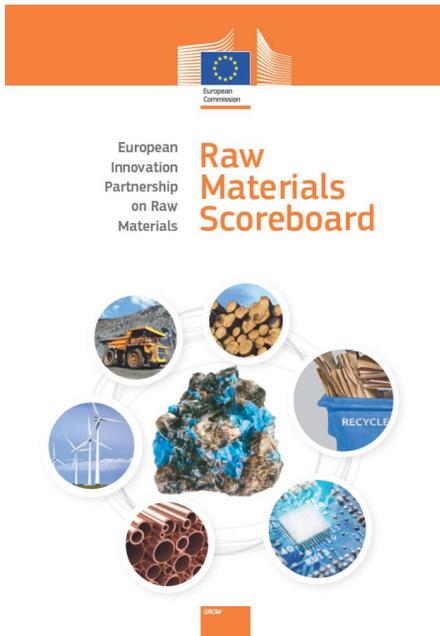
Circular Economy Action Plan (since 2015)

- Monitoring the Circular Economy
 - Co-author with DG GROW the EU Raw Materials Scoreboard
 - Produce indicators for the EU Resource Efficiency Scoreboard (Soil Indicators)
- Develop the **Raw Materials Information System** (replace the EU RM Knowledge Base) and analyze the evolutions of EU market for secondary raw materials
- Support **Report on Critical RMs** (2017)
- Support methodology & standards for Electronic and Electric Waste (**WEEE Directive**), focus on supply chains of CRMs

Commission is examining other barriers to the smooth circulation of waste in the EU. To improve the availability of data on secondary raw materials the Commission will further develop the recently initiated Raw Materials Information System and support EU-wide research on raw materials flows. It will also support the improvement of data reporting on

Monitoring Raw Materials: EU RM Scoreboard

(non-food, non-fossil fuel, primary/secondary, biotic/abiotic)



Monitoring Raw Materials: Towards (DG JRC) Raw Materials Information System 2.0

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European Commission > EU Science Hub > RMIS

JOINT RESEARCH CENTRE
Raw Materials Information System (RMIS)

POLICY DRIVERS

THE VALUE CHAIN

THE SCOREBOARD

CRITICAL RAW MATERIALS

VALUE CHAIN VIEWER

ANALYTICAL TOOLS

INNOVATION

INVESTORS CORNER

DEFINITIONS & LEGISLATION

TRADE

CIRCULAR ECONOMY

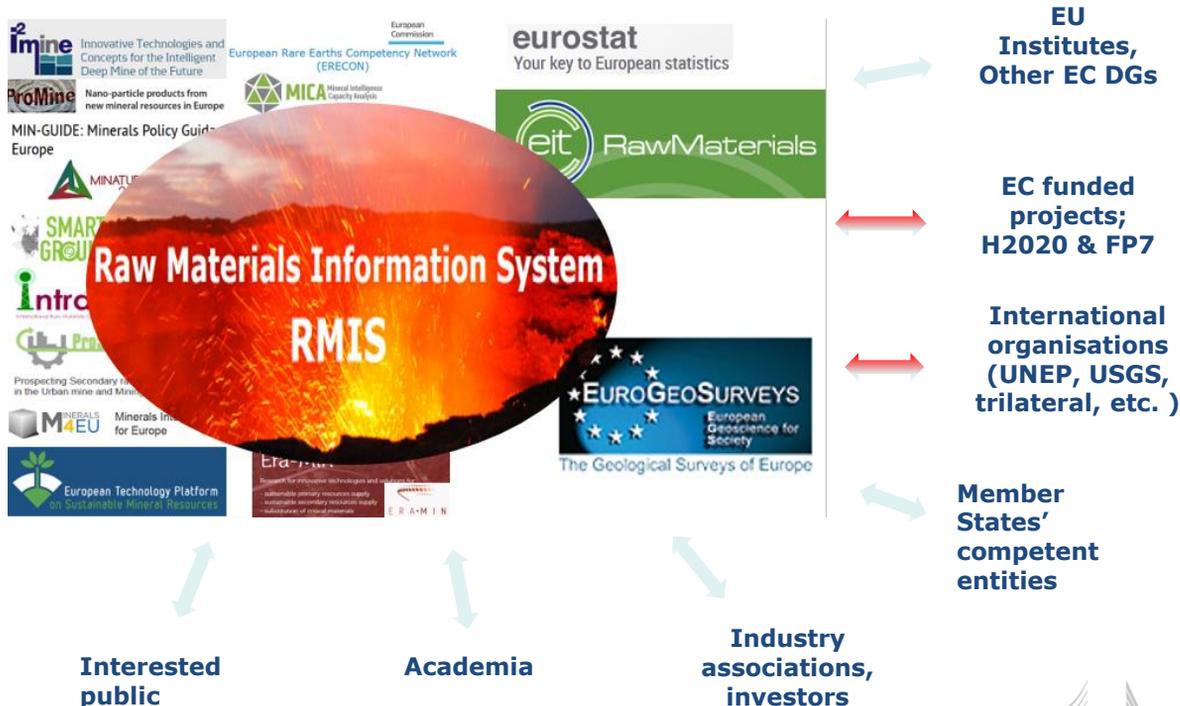
SUSTAINABILITY

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RMIS 2.0 will provide structured information with the aim of achieving:

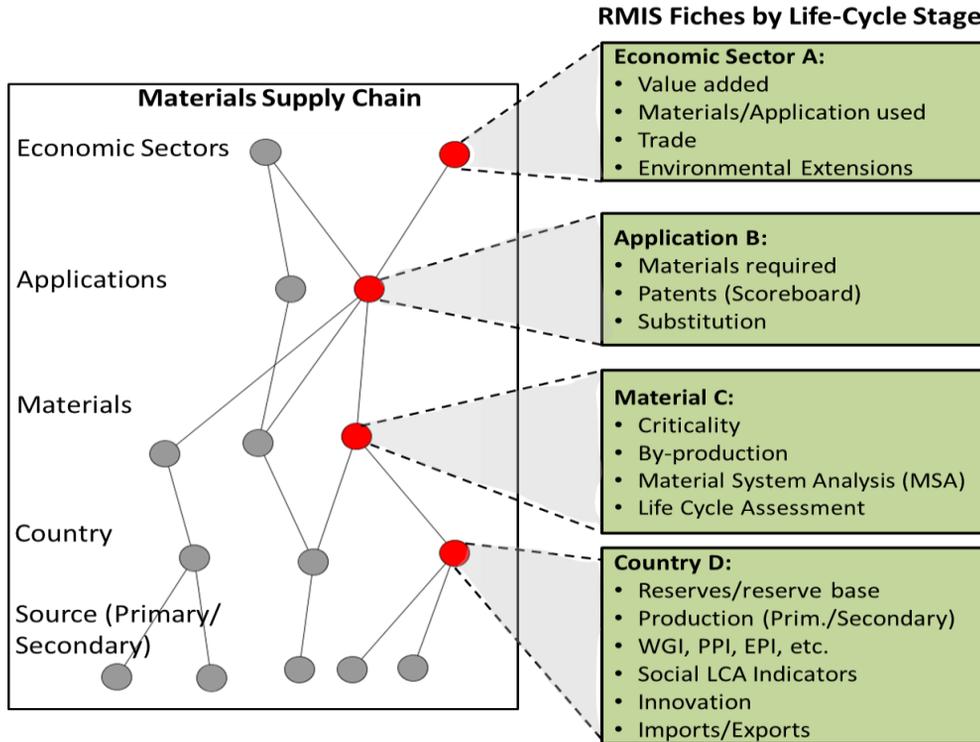
- Higher availability of data on secondary RM (market)
- Better understanding and mapping of RM flows along their value chains
- Deeper consideration of RM criticality and security of supply
- Improved data collection and information service at Member States level

The EU Knowledge Base on Raw Materials and the RMIS



Towards RMIS 2.0

Material-specific part: visualisation options



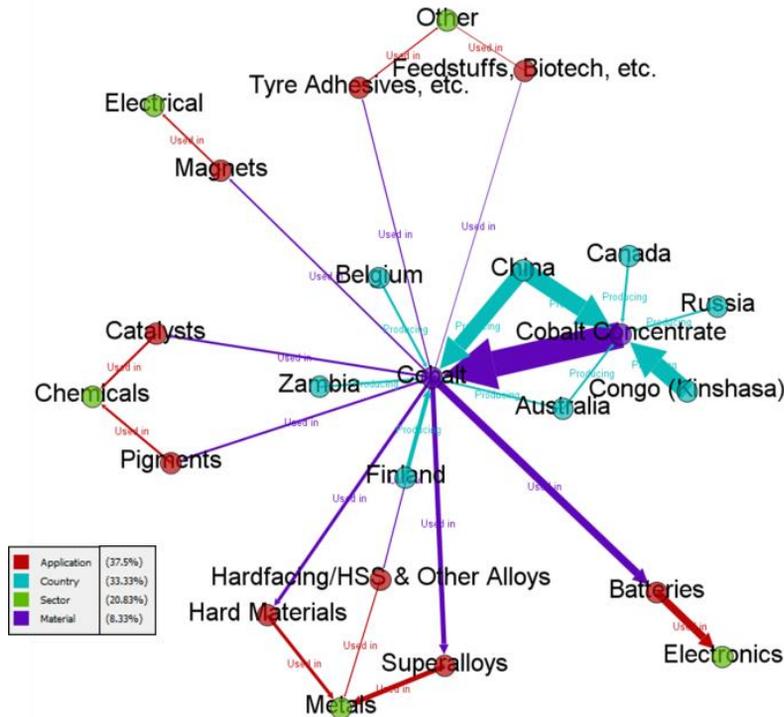
Towards RMIS 2.0

Selection of the material(s) of interest for development of factsheets



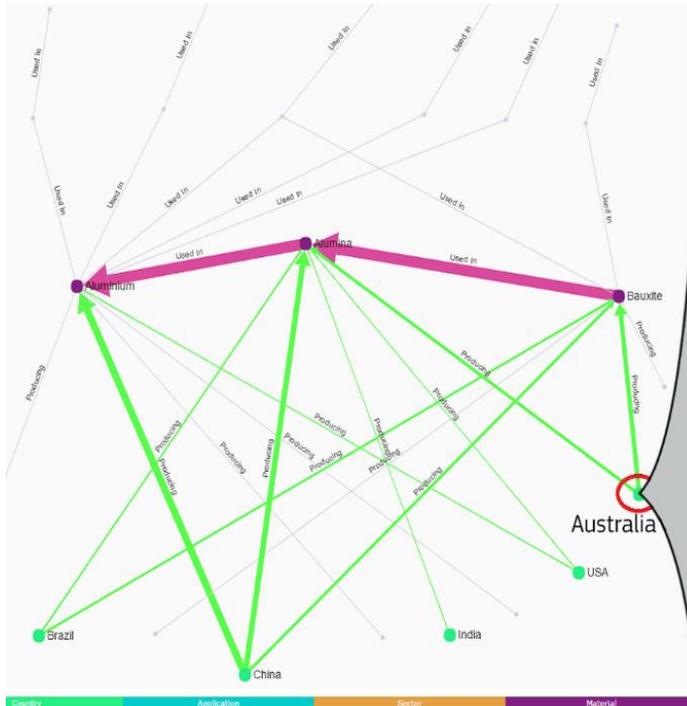
Towards RMIS 2.0

Example: Cobalt material supply chain



Towards RMIS 2.0

Example of Country-specific factsheet: Australia



Country Fiche: Australia

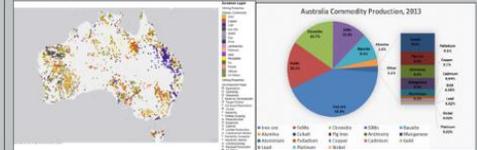
Introduction

Australia is one of the world's leading mineral resource nations. It is the world's largest exporter of iron ore and the fourth largest producer of mining equipment. It is the largest producer of gas and industrial diamonds, steel and diamonds and the number one coal, uranium, nickel and silver. It is the fifth largest producer and largest exporter of wheat. It is the largest producer of gold. It is the largest producer of pig iron and the fourth largest producer of nickel. It is the fifth largest producer of copper and steel. It is the world's largest producer of mineral resources. Australia is also the world's largest exporter of iron ore, leading resource nation. The mineral industry is one of the largest contributors to Australia's export trade.



Commodity Production & Resource Wealth

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Country Risk



Material Flow Analysis / Trade



Links

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Other JRC activities related to Raw Materials

Monitoring the results of the Horizon 2020 Calls under Societal Challenge 5, Raw Materials (calls 13-15) – explicit addition to 2016 revision

Production of knowledge on raw materials and sustainability (social, economic, environmental) assessments of activities along the RM supply chains

- Internal studies (ex. Foresight study on non-ferrous metals industry/sector; energy-intensive raw materials database – SETIS; conflict minerals; security of supply; fertilizers; mining waste)
- Co-operation with Consortia, academia, associations, NGOs and other stakeholders

Recent focus on end-of-life (LC approach), increasing resilience & ensuring security of supply, preserving social and environmental European (citizen/consumers) values

Giving (secondary) raw materials knowledge a product-centric approach...

Why?

- End-of-life products are homogeneous waste streams containing similar mixes of materials
- Product approach can be deployed at **production** (e.g. Ecodesign, REACh), **consumption** (e.g. Labelling) and **waste management** stages

How? - JRC proposal

- By deploying the REAPro (Resource Efficiency Assessment of Products) method, developed by JRC
- Criteria: recyclability; recycled content; presence of precious / critical materials, hazardous substances; durability/reparability/re-usability

Key development: CEN/CENELEC standardisation efforts on material efficiency of products, WEEE, etc.

- Aim: define appropriate parameters and methods to assess material efficiency (for it to be verifiable, comparable)



Wrap up – Way Forward

Why EC-JRC RMIS?

- DG JRC is a permanent EC body, the EC's in-house science service; should ensure continuity with a web-based platform providing comprehensive info/data/knowledge on RM
- RMIS has got recently strong, formal political mandate
- RMIS intends to become the reference one-stop platform for primary/secondary info on RM, collecting and organising extended data/info/knowledge, covering widest users' needs

Synergies with other Horizon 2020 commitments/projects

H2020 projects are in focus due to their unique capability of generating relevant knowledge on RM

- RMIS can help to highlight policy/business knowledge needs and how (H2020) projects then fit into fulfilling these needs
- RMIS can facilitate further dissemination of their results, while supporting coherence and linkages between knowledge
- RMIS can help make their results more visible and available beyond the duration of individual projects, while also enabling updates and follow-ups



Thank you for your attention!



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