UNIT B2 – B2.4 Raw Materials Sector
European Commission - EASME
Policy background on raw materials

17 September 2019, Brussels

Peter HANDLEY
Head of Unit
Unit for Resource Efficiency and Raw Materials
Directorate General for Internal Market, Industry, Entrepreneurship and SMEs
1 **Impact** on all value chains and economy

2 **Transition** to a low carbon and circular economy

3 **Increase** of raw materials demand

4 **Increase** of export restrictions

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**Global material extraction by resource type**

Source: Raw materials Scoreboard 2018 in prep., UNEP, World Bank
Raw materials in policies

- Circular Economy Action Plan
- Batteries action plan
- Critical Raw Materials 2020
- European Innovation Partnership on Raw Materials
- Research and Innovation
- Emissions neutral Europe – vision 2050
- Trade
- Raw Materials Scoreboard 2020
- Framework conditions for primary raw materials
EU Raw Materials Strategy and Juncker priorities

Commission priorities 2015-19

1. Jobs, Growth and Investment
   - circular economy and green growth

2. Energy Union
   - transition to a low-carbon economy
     (renewables, electricity market, transport...)

3. Internal Market
   - unlock the full potential of the single market
   - a renewed EU Industrial Policy Strategy

4. Trade policy to harness globalisation
   - economic diplomacy
   - raw materials chapters in FTAs

5. A stronger global actor
   - international cooperation and development

EU policy context

Transition to a low carbon and circular economy

Sustainable Development Goals

Climate Paris agreement

1. Raw Materials Initiative
2. CRM list
3. EIP on Raw Materials
4. Strategic Implementation Plan
5. H2020 funding
**EU „Raw Materials Initiative“ = EU raw materials policy**

<table>
<thead>
<tr>
<th><strong>Aim</strong></th>
<th>to secure sustainable supplies of raw materials</th>
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<tbody>
<tr>
<td><strong>Launched</strong></td>
<td>in 2008, consolidated in 2011</td>
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<td><strong>Non-energy, non-agricultural raw materials</strong></td>
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<td><strong>Connecting</strong></td>
<td>EU external and internal policies</td>
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<tr>
<td><strong>Integrated</strong></td>
<td>strategy (3 pillars)</td>
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<tr>
<td><strong>Introduced</strong></td>
<td>a list of Critical Raw Materials (CRM) in 2011</td>
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<tr>
<td><strong>Policy</strong></td>
<td>strongly supported by EIP on Raw Materials</td>
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- **Ensure level playing field in access to resources in third countries**
- **Foster sustainable supply from European sources**
- **Boost resource efficiency and recycling**

A Clean Planet for all
A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy
‘the Commission is invited to present, by the end of 2019, a long-term vision for the EU’s industrial future, with concrete measures to implement it. It should address the challenges European industry faces, touching upon all relevant policy areas’

**European Green Deal**

‘To become world’s first climate-neutral continent’

‘We will be a world leader in circular economy and clean technologies. We will work to decarbonise energy-intensive industries’

‘I will propose a New Circular Economy Action Plan focusing on sustainable resource use, especially in resource-intensive and high-impact sector’
Thank you for your attention!

Warm welcome to
Raw Materials Week 2019
on 18-22 November
Horizon 2020
Work Programme
for Research & Innovation
2018-2020

Raw Materials Information System

#InvestEUresearch

Constantin Ciupagea & Simone Manfredi
Joint Research Centre (JRC), Land Resources unit
Strategic / Priority Sectors & Value Chains


- Clean Energy for all Europeans (COM/2016/860)

- Waste electrical and electronic equipment (WEEE) (Regulation 2017/699)

- E-mobility (linked to Mobility package and battery initiative)

- Secure and responsible supply of raw materials; strengthening the Custom Union and the EU Single Market
RMIS: Policy mandate & key timelines

2008: EU Raw Materials Initiative (RMI)

2013: Strategic Implementation Plan (SIP) of European Innovation Partnership (EIP) on RM highlights need for European Raw Materials Knowledge Base (EURMKB)

Q1/2015: JRC launches the RMIS 1.0 (limited scope/functionality)

Q4/2015: specific action in Circular Economy AP focuses on the key role of the RMIS and mandates its further development

Q4/2017: launch of RMIS 2.0 (as part of the 2017 Raw Materials Week)

Q4/2017: H2020 SC5 2018-2020 shall “contribute to the further development of the EC RMIS”
RMIS is the EC’s knowledge platform on non-fuel, non-agricultural raw material from primary (extraction/harvesting) to secondary (recycled/recovered) sources, along their entire value/supply chains.

RMIS’ scope includes both abiotic and biotic materials.

RMIS acts as the reference access point to the EU Raw Materials Knowledge Base (EURMKB) and facilitates the availability, coherence, and quality of knowledge required by specific EU raw materials policies and EC services.
### Channelling knowledge from H2020: *Overview of synergies*

<table>
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<tr>
<th><strong>H2020 projects of interest to RMIS</strong></th>
<th><strong>Projects</strong></th>
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<tr>
<td>MIN-GUIDE, ProSUM, BATRe ARES, COLLECTORS, INTRAW, MinLAND, MIREU, ROSEWOOD, STRADE, SCALE, SMART GROUND, VERAM, SCRREEN, ORAMA, REPAIR, PANORAMA, CHROMIC, HISER, LEAFAPO, MINATURA2020, Plaltirus, ReCreew, REE Value Chain, REMAGHIC, ROBUST, Smart Exploration, VAMOS, INTERIM, MSP-REFRAM, ImpactPaperRec, CEWASTE, WoodCirus</td>
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<tr>
<th><strong>JRC is partner of</strong></th>
<th><strong>Projects</strong></th>
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<tr>
<td>SCRREEN, ORAMA, REPAIR</td>
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<tr>
<th><strong>Projects (partly) integrated in RMIS and/or visible through its <em>Raw Materials Knowledge Gateway</em> (RMKG)</strong></th>
<th><strong>Projects</strong></th>
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<tr>
<td>MIN-GUIDE, ProSUM, MICA, ORAMA, MINLAND, INTERIM</td>
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Forthcoming: FORAM, MinFuture
• Raw Materials’ Profiles
  – 15 new profiles (Aggregates, Aluminium, Borates, Chromium, Cobalt, Cooking coal, Iridium, Iron, Lithium, Natural graphite, Natural rubber, Palladium, Platinum, Rhodium, Ruthenium)

• Country Profiles
  – 11 new profiles (Austria, Belgium, Czech Republic, Finland, France, Germany, Italy, Poland, Portugal, Spain, Sweden)

• Environmental & Social sustainability
  – Environmental/Social sections expanded and improved, SDGs application (and JRC technical report)

• Supply Chain Viewer
  – Provides dynamic overview of the RM supply chain network consisting of countries, materials, applications and sectors
RMIS: 2018/2019 achievements (2/3)

• Reorganisation of RMIS home page and positioning of sub-tiles
  – E.g. new tile “Industrial Value Chains & Material Flows”, which includes info/work on MFA/MSA, Supply Chain Viewer, MDU, Batteries value chains
  – Extended / improved structure of “Environmental & Social Sustainability” tile
  – Extended / improved structure of “Overview” and “Policy & Legislation” tiles
The RMIS supply chain viewer provides a dynamic/interactive overview of the raw materials’ supply chain network consisting of countries, materials, applications, and sectors (and chain data) of raw materials depending on user needs.
RMIS - Supply Chain Viewer
Trade & Economics
- Raw materials trade flows for 200+ countries

RM Scoreboard & Monitoring
- Inclusion + Dynamic visualisation of RM Scoreboard 2018; New page on CE monitoring

Secondary Raw Materials & Circular Economy
- New content: SRMs in specific industry sectors (e.g. EEE, mobility), SRMs in CE priority areas, etc.

Strengthening synergies with knowledge providers
- Integration of key outputs from selected H2020 projects (e.g. ProSUM, MinGuide)

Upgraded/improved “Search” function

RMIS Library – brand new! Dynamic library with 200+ selected reports/documents
Trade-related profiles of priority non-EU countries

- Trade-related country profiles of 4 non-EU priority trading partners - Australia, Chile, Indonesia, New Zealand – with focus on NFNERM
- Profile’ sections:
  - Country’s trade in NFNERM and its leading trading partners
  - Trade measures: export restrictions and import tariffs
  - Overview of trade agreements in place
  - Flows and stocks of foreign direct investments
  - Trade performance indicators
- Publication of the trade-related country profiles in RMIS, provisional section Pilot country fiches, and in a JRC Technical Report, detailing the methodology employed, data used and main findings
Raw materials for batteries is a key topic under pillars 1 & 5 of the 2018 EC’s **Strategic Action Plan on Batteries**. RMIS will include info on:

- Supply of RM such as cobalt, lithium, natural graphite, nickel, etc.
- Past & forecasted demand for battery RMs in electronics, e-mobility and selected industrial applications
- Reuse, remanufacturing and repurposing of batteries
- Recycling of battery raw materials, incl. stocks & flows.
Material Stocks & flows

1. Results from the work on MSA will be published in the MSA section of the “MFA Inventory” tile, complementing the 31 materials already on-line.

   – **11 new materials**, 3 used in batteries;
   – 2 updates of the existing MSAs (lithium and cobalt);

2. Interactive menus will show the MSA results

   – New: include also the detailed Sankey diagram, if possible with more detail information on sectors shares.

NEW future additions
2019 RMIS Roadmap & Progress report:

- Provides an overview of RMIS in its current shape & content
- Highlights progresses made since the release of the 2017 Roadmap report
- Illustrates development priorities and milestones
- Gives a chance to discuss needs & priorities with policy DGs and key stakeholders

We are also working on the “RMIS Newsletter” (bi-annual) to better inform stakeholders (within / beyond the EC) on new releases related to RMIS, upcoming events, ongoing work, etc.
Thank you!

#InvestEUresearch
www.ec.europa.eu/research
rmis.jrc.ec.europa.eu
Horizon 2020
Work Programme
for Research & Innovation
2018-2020

Societal Challenge 5
Greening the economy in
line with the SDGs

Raw Materials

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UNIT B2 – B2.4 Raw Materials Sector
European Commission - EASME
Agenda

- **Sli.do** – asking questions online
- **Raw Materials in the 2020 call**
  - Innovation actions (2 topics / 7 subtopics)
  - Coordination and support actions (2 topics)
  - ERA-NET Co-fund action (1 topic)
- **ERA-MIN Joint Call 2019** – (Dina Carrilho, FCT)
- Questions
Sli.do – asking questions online

- Questions session at the end
- You **can** use the interaction platform Sli.do
- Sli.do allows you to submit your questions online
- You **may** also submit your questions via Twitter @EU_ecoinno with #H2020SC5
- Participants present in the room are welcomed to **ask questions** in the traditional way
Sli.do – asking questions online

1. Go to www.sli.do

2. Enter the event code #H2020SC5

3. Select the room: Raw Materials

4. Write/Type your question
Raw Material Actions should

- respond to the objectives of the **Strategic Implementation Plan** of the EIP on Raw Materials, and the **Circular Economy Action Plan**

- deliver pilot actions demonstrating sustainable production of primary and secondary raw materials, particularly **CRMs** or other **scarce high-tech** metals (IA)

- contribute to building EU knowledge base of primary and secondary raw materials for solid decision making; **and** further development of EC Raw Materials Information System – **RMIS**

- improve **framework conditions** for sustainable development of and investment in innovative solutions for raw materials in the EU (CSAs)
Raw Material Actions should contribute to:

- pushing the EU to the forefront in the area through generated know-how (patents and publications)

and in the long term, positively impact:

- downstream industries' access to raw materials
- employment in and competitiveness of EU raw materials and related manufacturing industries, including SMEs
- environmental and social performance of the sector
- public awareness, acceptance and trust
### Opening dates and deadlines

<table>
<thead>
<tr>
<th>Topics (type of actions)</th>
<th>Opening date</th>
<th>Deadlines</th>
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<tr>
<td>CE-SC5-07-2018-2019-2020 (IA)</td>
<td>03 July 2019 (CE)</td>
<td>05 Feb 2020</td>
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<tr>
<td>CE-SC5-08-2018-2019-2020 (CSA)</td>
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<td>05 Feb 2020 (First Stage)</td>
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<tr>
<td>SC5-10-2019-2020 (IA)</td>
<td>12 November 2019 (SC5)</td>
<td>03 Sep 2020 (Second Stage)</td>
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<td>SC5-26-2020 (CSA)</td>
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<td>SC5-36-2020 (ERA-NET Cofund)</td>
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Innovation actions (IA)

Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services.

For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

A ‘demonstration or pilot’ aims to validate the technical and economic viability of a new or improved technology, product, process, service or solution in an operational environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.

Projects may include limited research and development activities.
Innovation actions (IA)

- Funding rate: 70% (except for non-profit legal entities, where a rate of 100% applies)
- Technology Readiness Levels (TRL) 6-7
- Indicative size of proposals: EUR 8 to 13 million
Innovation actions (IA) should:

- make sure that research and innovation end up on the market
- strengthen the competitiveness of the European raw materials industries
- meet ambitious energy and climate targets for 2030
- minimise health & safety as well as environmental impacts and risks
- apply a circular economy approach throughout the entire value chain
- gain the trust of EU citizens in the raw materials sector
- seek additional or follow-up funding within the projects, including from relevant regional/national schemes under the European Structural and Investment Funds (ESIF)
Innovation actions (IA) should:

• facilitate the market uptake of solutions developed through industrially- and user-driven multidisciplinary consortia covering the relevant value chain and should consider standardisation aspects when relevant

• justify the relevance of selected pilot demonstrations in different locations within the EU (and also outside if there is a clear added value for the EU economy, industry and society)

• include an outline of the initial exploitation and business plans (with indicated CAPEX, OPEX, IRR and NPV) with clarified management of intellectual property rights, and commitment to the first exploitation
a) Sustainable processing and refining of primary and/or secondary raw materials (2020)

- demonstrate **new or improved systems integrating relevant processing and refining technologies for better recovery of minerals and metals** at increased efficiency in terms of better yield and process selectivity as well as better utilisation of resources (hence reducing wastes)

- include **processing of and recovery from low grade and/or complex ores and/or from industrial or mining wastes, and/or the reduction of the content of toxic elements or compounds in the resulting materials**

- demonstrate the **importance of the targeted raw materials and their sources for the EU.**
a) Sustainable processing and refining of primary and/or secondary raw materials (2020)

• the solution proposed should be flexible enough to adapt to different or variable ore/secondary raw material grades and should be supported by efficient and robust process control.

• where relevant, any solution proposed for the reduction of the content of toxic elements or compounds in the resulting materials should also include the appropriate management of the hazardous substances removed.

Recycling of end-of-life products is excluded.
b) Recycling of raw materials from end-of-life products (2020)

- Develop and demonstrate novel and environmentally sound solutions for a higher recycling and recovery of secondary raw materials from end-of-life products such as:
  - waste electrical and electronic equipment (WEEE),
  - batteries,
  - wood-based panels,
  - multi-material paper packaging,
  - end-of-life tyres, etc.

- These products can contain a multitude of minerals, metals, wood and wood-fibre, rubber, etc. (including critical raw materials and other technology metals)
c) Recycling of raw materials from buildings and infrastructures (2020)

• develop and demonstrate novel solutions for a high-value recovery of raw materials from buildings and infrastructures.

• benchmark against a series of comparative case studies of construction and demolition waste (C&DW) management in deconstruction of buildings and infrastructure of representative size categories in countries with different types of end-of-life building and infrastructure stocks, showcasing the appropriate use of:
  - the EU C&DW Management Protocol,
  - pre-demolition audit,
  - smart demolition practices,
  - technical equipment,
  - sorting/processing and quality management of waste fractions such as metals, aggregates, concrete, bricks, plasterboard, glass, polymers and plastics and wood.
d) Advanced sorting systems for high-performance recycling of complex end-of-life products (2020)

Develop and demonstrate innovative dismantling and sorting systems enabling functional recycling of Critical Raw Materials, or other types of highly efficient recovery of metals, minerals or construction materials, from complex end-of-life products and scrap thereof.

The advanced sorting systems should achieve very high throughput rates in order to allow their economically viable operation on the European market.
e) Sustainable metallurgical processes(2020)

Develop and demonstrate **innovative metallurgical systems** integrating pyro-, hydro-, bio-, and/or electro-metallurgical and/or electrochemical technologies, in order to enhance the **production efficiency** in terms of:

- increased yield and selectivity,
- higher grade and purity of the produced metals from primary and/or secondary raw materials

as well as the **environmental performance** throughout the whole life cycle.
EXPECTED IMPACTS CE-SC5-07-2020

• **pushing the EU to the forefront** in the area of raw materials processing and/or recycling technologies and solutions **through generated know-how** (planned patents, publications in high impact journals and joint public-private publications etc.) and promoting **socially innovative solutions**;

• improving **significantly** the **economic viability** and **market potential** that will be gained **through the pilot**, leading to expanding the business across the EU after the project is finished, as well as creating added value and new jobs in raw materials producing, equipment manufacturing and/or downstream industries;
EXPECTED IMPACTS CE-SC5-07-2020

• unlocking a significant volume of various primary/secondary raw materials currently unexploited/underexploited within the EU, hence improving their 'circularity' in the economy and ultimately closing the material cycles for a circular economy;

• improving significantly the health, safety and environmental performance throughout the whole life cycle considered, including better energy and water efficiency, a reduction in emissions of greenhouse gases and waste generation and wastewater and a better recovery of resources from generated waste or a better recovery and recycling of resources from complex end-of-life products;
Additionally, only for sub-topic b)

• 'Recycling of raw materials from end-of-life products', in the shorter term, increasing measurably the efficiency and effectiveness (range, yield, quality and selectivity of recovered materials) of the exploitation of complex and heterogeneous secondary raw materials deposits ('urban mines') when compared to the state of the art;
Additionally, only for sub-topic c)

- 'Recycling of raw materials from buildings and infrastructure', lead to wider application of smart demolition techniques, C&DW processing, quality assurance practices, traceability and standardization for secondary raw materials in the construction sector, thus improving the material and value recovery rate.
This specific challenge addresses two major targets of the European Innovation Partnership (EIP) on Raw Materials:

• the development of "innovative pilot actions" (subtopic c) and

• finding substitutes for at least 3 applications of critical and scarce raw materials (subtopic d)
c) Mining Pilots (2020):

Actions should develop and demonstrate **innovative mining systems** to avoid exposure of workers in dangerous operations, to increase efficiency, selectivity and profitability of the mining operations, to minimise environmental impacts during the mining life cycle, to improve social acceptance and trust in the innovative solutions;

The actions should develop a plan to communicate to policy makers on alignment of public policies with emerging innovative mining systems.

Any of the metallic, industrials and/or construction minerals could be targeted.

However, the importance of the targeted raw materials for the EU economy has to be duly demonstrated in the proposal.
d) Pilots on substitution of critical and scarce raw materials (2020):

Actions should develop and demonstrate innovative and sustainable solutions for the appropriate substitution of critical and/or scarce raw materials use in applications related to any of the high tech sectors, such as the low-carbon renewable energy, electric and electronic, mobility sectors, etc.

Actions should build on existing research and aim at scaling-up and market uptake of the most promising solutions.
EXPECTED IMPACTS CE-SC5-10-2019-2020 subtopic c)

• achieving the targets of the EIP on Raw Materials, particularly in terms of innovative pilot actions on mining for innovative production of raw materials;

• demonstrate a market potential and the competitive technology advantage that will be gained through the pilot leading to expanding the EU business and to be implemented across the EU after the project is finished;

• push the EU to the forefront in the area of mining technologies and solutions through generated know how (planned patents, publications in high impact journals and joint public-private publications etc.).
EXPECTED IMPACTS CE-SC5-10-2019-2020 subtopic c)

• lead to unlocking substantial reserves of new or today unexploited resources within the EU;

• create added value and new jobs in raw materials producing, equipment manufacturing, information and communication technologies and/or downstream industries;

• lead to improving the environmental (including reduction of emissions), health and safety performance of the mining operations.
EXPECTED IMPACTS CE-SC5-10-2019-2020 subtopic d)

- achieving the targets of the EIP on Raw Materials to find substitutes for at least three applications of critical or scarce raw materials;

- have a market potential and the competitive technology advantage that will be gained through the pilot leading to expanding the EU business and to be implemented across the EU after the project is finished

- speeding-up industrial exploitation and take up of results of substitution's projects.
Coordination and support actions (CSA)

- **Focus** on coordination and networking of R&I projects, programmes and policies.
- **Actions** consists of measures such as:
  - Standardisation,
  - Dissemination,
  - Communication/ raising-awareness,
  - Networking,
  - Planning and coordination (between programmes in different countries),
  - Supporting services,
  - Policy dialogues and
  - Mutual learning exercises and studies, including contributing to design studies for new infrastructure.
- **Main purpose of CSAs:**
  - Increase networking opportunities
  - Exchange ideas and knowledge
  - Make the best-possible use of results
  - Increase the visibility
  - Supporting EU policies
  - ...
- **Funding rate:** 100%
Raw materials policy support actions for the circular economy - Expert network on Critical Raw Materials

Actions should contribute to improving EU official statistics and to building the EU knowledge base of primary and secondary raw materials (RMIS);

strengthen an EU expert network and community covering all raw materials screened in the CRM assessment of 2017, and once available also the raw materials of 2020;

should improve data and knowledge on all screened raw materials; flexibly support the Commission in policy making related to CRM in general or linked to specific applications or sectors; as well in the relevant events organised by the Commission.
Raw materials policy support actions for the circular economy - Expert network on Critical Raw Materials

Actions should also support the Commission in the analysis of the future supply and demand of raw materials, policy and technology gaps and innovation potential along the raw materials value chains.

The consortium should organise the expert community across the EU covering expertise on primary and secondary resources; production, including exploration, mining, processing, recycling and refining; substitution of CRM; raw materials markets; future demand and supply; materials flows; socio-economic analysis, and strategic value chains and end-use sectors, including batteries, e-mobility, renewable energy, electronics, defence and aerospace.
EXPECTED IMPACTS CE-SC5-08-2020

- achieving the objectives and the implementation of both the Raw Materials Initiative and the EIP on Raw Materials, in particular in terms of securing the supply of critical raw materials (CRMs);
- better informed and more effective decision-making by the EU and Member States policy makers and the producers and users of raw materials regarding the supply and demand of raw materials and the associated environmental and social aspects;
- improved awareness of society across the EU about importance of the critical raw materials and other relevant materials for strategic value chains in support of the implementation of the Sustainable Development Goals (SDGs) in the EU;
- in the longer term improved diversification of CRMs supply to the EU.
Sustainable management in extractive industries

Actions should strengthen raw materials policy framework and foster mineral production in the EU.

They should ensure cross-sectoral policy coordination and integration aspects covering economic, environmental and social aspects in the value chain of the extractive life cycle from finding and access to deposits to closure and rehabilitation, while focusing on access to deposits and permitting process.

Actions should take into account various external stakeholder interests and the general public, address circular economy and sustainable development aspects.
Sustainable management in extractive industries

Actions should develop a toolkit applicable across the EU Member States for assessing socio-economic and environmental impacts, land-use planning, health and safety issues, and reporting official statistics to support transparent permitting process of mining projects.

Based on the toolkit, actions should develop training materials and organise capacity-building workshops for competent authorities, industry and civil society in different Member States in different regions the EU and at the EU level.

The actions should avoid duplication and build up on the results of the previous actions on the raw materials policy and legislative framework, mineral deposits of public importance, land use planning, engaging relevant authorities of different EU regions.
EXPECTED IMPACTS SC5-26-2020

• achieving the objectives and the implementation of both the Raw Materials Initiative and the EIP on Raw Materials, in particular in terms of the improving framework conditions for primary raw materials production in the EU;

• better informed and more efficient decision-making by the EU and Member States policy makers and the producers and users of raw materials regarding the supply of raw materials;

• improving the awareness of relevant external stakeholders and the general public across the EU about the importance of raw materials for society, the challenges related to their supply within the EU and about proposed solutions, duly taking into account the applicable EU environmental legislation;

• facilitating more integrative and coordinated raw materials policy frameworks in the EU and at the Member States level.
ERA-NET Cofund action on raw materials

- Building on the experience of ERA-MIN and ERA-MIN 2.
- Covers the whole raw materials value chain including exploration, extraction and processing technologies and recycling, as well as substitution.
- Joint call for proposals with EU co-funding.
- Additional joint calls without EU co-funding

SC5-36-2020
ERA-MIN Joint Call 2019

Mrs. Dina Carrilho
ERA-MIN 2 project coordinator
FCT- Foundation for Science and Technology (Portugal)

Information days Horizon 2020
Societal Challenge 5 "Climate Action, Environment, Resource Efficiency and Raw Materials" - 2020 Calls
16-17 September 2019 / Brussels, Belgium
CONSORTIUM
Pan-European network of 21 public research and innovation funding organisations from:

11 EU Member States countries
Finland
France
Germany
Ireland
Italy
Poland
Portugal
Romania
Slovenia
Spain
Sweden

2 EU Member States regions
Belgium – Flanders
Spain – Castille y Léon

4 non-EU countries
Argentina
Brazil
Chile
South Africa

1 EU Associated Country
Turkey
Countries/regions that have expressed interest

**EU countries/regions:**
Belgium-Brussels; Belgium-Flanders; Belgium-Wallonia; Czech Republic; Finland; France; Greece, Ireland, Poland; Portugal; Romania; Slovakia; Slovenia; Spain - Andalucía; Spain - Castilla y Léon; Sweden.

**EU Associated country:** Turkey

**Non-EU countries:** Brazil, Canada-Québec; Chile and South Africa.

More than €14 million
Total call budget (sum of national/regional budgets)
Non-energy non-agricultural raw materials:
- Metallic,
- Construction,
- Industrial minerals.
ERA-MIN Joint Call 2019 – main topics and sub-topics

Topic 1. Supply of raw materials from exploration and mining

**Sub-topics:** Exploration; Mining operations; Mine closure and reclamation

Topic 2. Design

**Sub-topics:** Product design for: increased raw material efficiency; for reuse or extended durability of product; to promote recycling; for critical materials substitution

Topic 3. Processing, Production and Remanufacturing

**Sub-topics:** Increase resource efficiency: in resource intensive production processes; through recycling of residues or remanufacturing of used products and components; using information and communication technologies (ICT)
ERA-MIN Joint Call 2019 – main topics and sub-topics

Topic 4. Recycling and Re-use of End-of-life products

Sub-topics: End-of-life products: collection and (reverse) logistics; pre-processing: pre-treatment, dismantling, sorting, characterisation; Recovery of raw materials from End-of-life products; Increase recycling of End-of-Life products through information and communications technologies (ICT)

Topic 5. Cross-cutting topics

Sub-topics: New business models; Improvement of methods or data for environmental impact assessment; Social acceptance and trust/public perception of raw materials
ERA-MIN Joint Call 2019 – submission, evaluation and selection procedures

• Joint application & evaluation but national/regional funding

• International evaluation of proposals based on the H2020 evaluation criteria: 1) Excellence, 2) Impact and 3) Implementation.

• Selection of projects following a ranking list recommended by a Scientific Evaluation Board.

• National/regional funding rules and regulations apply (CALL TEXT):
  • Topics and sub-topics supported by the participating funding organisations
  • Legal entities (academia, industry, SMEs, NGOs, public authorities)
  • Types of research (fundamental, applied research or innovation - Technology Readiness Level (TRL) from 1 to 9)
  • Project costs (personnel, travel, consumables, equipment, sub-contracting, overheads)
Who can apply - ERA-MIN Joint Call 2019

• All stakeholders in the raw materials value chain:
  • Universities and Research Institutes
  • SMEs and large enterprises
  • NGOs
  • Public authorities

• Consortia may include players from the public and private sector with different backgrounds, e.g. physical scientists, engineers and technology developers, but also social scientists and policy advisors and covering different parts of the raw materials cycle.

• Applicants not requesting funding may be partners of the consortium on the condition that they provide evidence of the availability of their own funds to cover their project costs.
Some eligibility criteria (see CALL TEXT)

- **Minimum Consortium composition**: three independent legal entities requesting funding of two different countries (regions) whereof one is an EU Member State or an Associated Country (Turkey)

- **Applicants requesting funding** must comply with the national/regional funding criteria and regulations of their respective Funding Organisation

- **Project duration**: 12 - 36 months (depending on funding organisation)

- The language of the proposal is **English**
ERA-MIN Joint Call 2019 – Important dates

• September 30, 2019 – Second Call pre-announcement

• November 15, 2019 – Publication of Call documents

• November 28, 2019 - Call for proposals opens

• March 12, 2020 at 17:00 CET - Call for proposals closes

• June 30, 2020 - Communication of Call results

• December 1, 2020 – Recommended latest date for project start
COORDINATION
PORTUGAL

PROJECT COORDINATOR  Mrs. Dina Carrilho
PROJECT MANAGER  Ms. Ana Luísa Lavado
E-MAIL  eramin@fct.pt

ERA-MIN 2
Implement a European-wide coordination of research and innovation programs on raw materials to strengthen the industry competitiveness and the shift to a circular economy
Our project ERA-MIN 2 was made possible thanks to #H2020 funding.

€30 billion is still available in the 2018-20 Work Programme!

#InvestEUresearch
Thank you!

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Funding and tender opportunities
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home

Work Programme 2018-2020:
<table>
<thead>
<tr>
<th>Innovation Actions IA</th>
<th>TRL 6-7</th>
<th>8-13M€</th>
<th>40M€</th>
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<tbody>
<tr>
<td>a) Sustainable processing and refining of primary and/or secondary raw materials</td>
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<td>b) Recycling of raw materials from end-of-life products</td>
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<tr>
<td>c) Recycling of raw materials from buildings and infrastructures</td>
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<tr>
<td>d) Advanced sorting systems for high-performance recycling of complex end-of-life products</td>
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<tr>
<td>e) Sustainable metallurgical processes</td>
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<tr>
<th>Coordination and Support Actions CSA's</th>
<th>Up to 3M€</th>
<th>3M€</th>
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<tbody>
<tr>
<td>CE-SC5-08-2018-2019-2020: Raw materials policy support actions for the circular economy</td>
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<tr>
<th>ERA-NET Cofund</th>
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<tbody>
<tr>
<td>SC5-26-2020: Sustainable management in extractive industries</td>
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</tbody>
</table>

| SC5-10-2019-2020: Raw materials innovation actions: exploration and Earth observation, mining |
| c) Mining pilots |
| d) Pilots on substitution of critical and scarce raw materials |

| SC5-26-2020: Sustainable management in extractive industries |

| a) Sustainable processing and refining of primary and/or secondary raw materials |
| b) Recycling of raw materials from end-of-life products |
| c) Recycling of raw materials from buildings and infrastructures |
| d) Advanced sorting systems for high-performance recycling of complex end-of-life products |
| e) Sustainable metallurgical processes |