Pan-European Research & Innovation Funding Programme on Raw Materials

RESEARCH & INNOVATION PROGRAMME
ON RAW MATERIALS
TO FOSTER CIRCULAR ECONOMY

Co-funded by the Horizon 2020 programme of the European Union

REMIX Mining Conference
Valladolid, 20-22 March 2018

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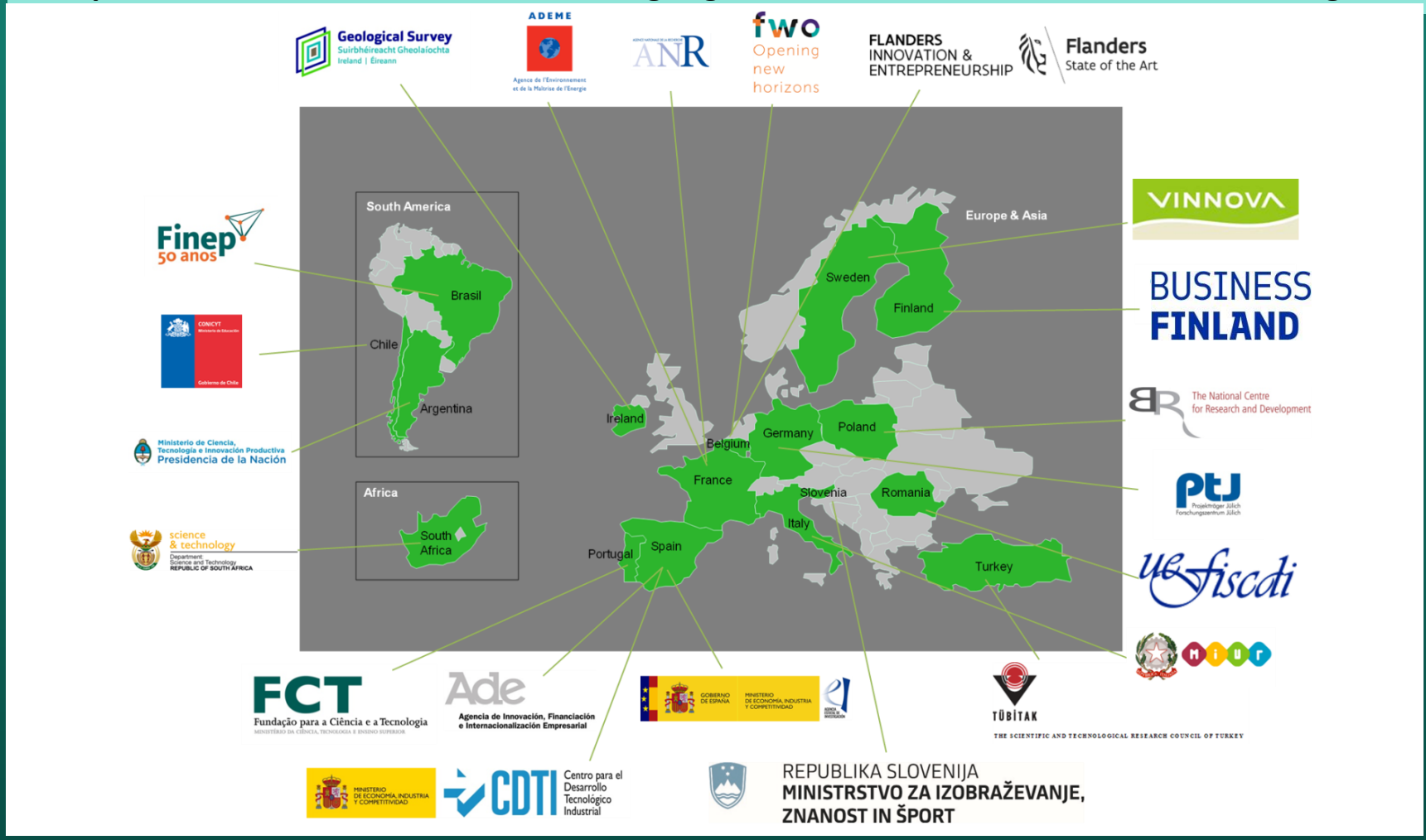
ERA-MIN 2. Consortium

21 public research and innovation funding organisations of EU and non-EU countries/regions



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ERA-MIN Joint Call 2017

Co-funded Call 2017

- EU co-funding: ca. **5 M€**
- Total call budget ca. **15 M€**

- Launch: **1st February 2017**
- Funding decision: **Jan. 2018**
- Projects start: **1st May 2018**

- **Centralised peer-review** based on the H2020 evaluation criteria: 1) Excellence, 2) Impact and 3) Implementation.
- Selection of projects following a **ranking list** recommended by the Scientific Evaluation Board.

Additional Objectives/activities

- In support of the **EU integrated strategy "Raw Materials Initiative" (2008)** and the **European Innovation Partnership on Raw Materials (2012**)
- Support and **promote R&I cooperation**
- **Improve the efficiency and impact** of human and financial investment in R&I activities
- Enhance and strengthen the synergies, coord. & **collaboration of EU and non-EU RFOs**
- Two additional calls **without EU co-funding**

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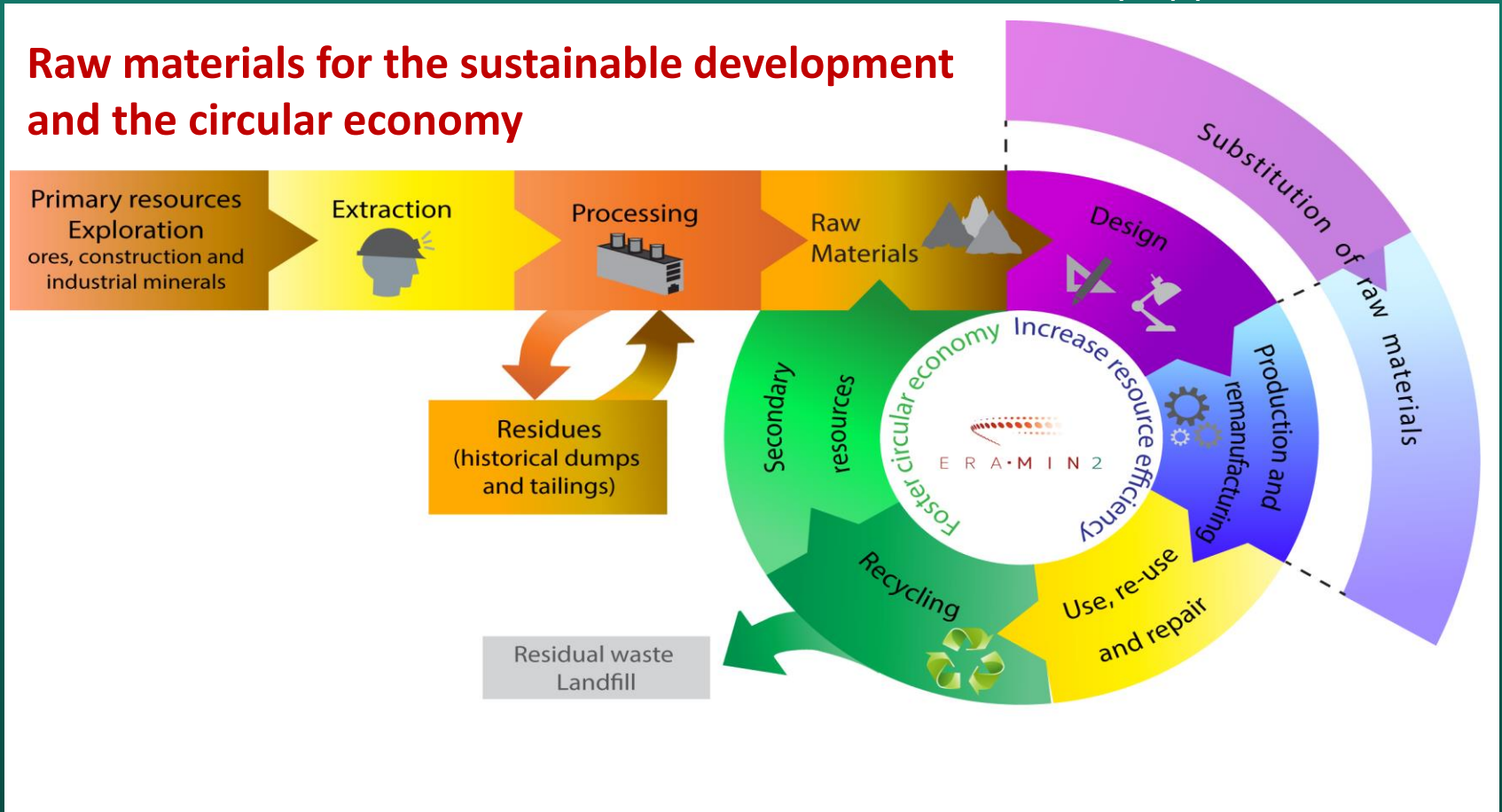
ERA-MIN Joint Call 2017 at a glance

SCOPE: demand-driven research and innovation on **primary** and **secondary resources** of **metallic, construction and industrial minerals** and **substitution of Critical Raw Materials** in a circular economy approach.



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ERA-MIN Joint Call 2017 – thematic areas

Five main topics:

1. **Supply of raw materials from exploration and mining**
2. **Design**
3. **Processing, Production and Remanufacturing**
4. **Recycling of End-of-Life Products**
5. **Cross-cutting topics:**

   5.1. New **business models**

   5.2. Improvement of methods or data for **environmental impact assessment**

   5.3. **Social acceptance** and trust/public perception of raw materials

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ERA-MIN Joint Call 2017 – main topics and sub-topics

1. Supply of raw materials from exploration and mining

1.1. Exploration
1.2. Mining operations
1.3. Mine closure & reclamation

2. Design

2.1. Product design for increased raw material efficiency
2.2. Product design for reuse or extended durability of product
2.3. Product design to promote recycling
2.4. Product design for critical material substitution

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ERA-MIN Joint Call 2017 – main topics and sub-topics

3. Processing, Production and Remanufacturing

- 3.1. Increase resource efficiency in resource intensive production processes
- 3.2. Increase resource efficiency through recycling of residues or manufacturing
- 3.3. Increase resource efficiency using information & communication technologies (ICT)

4. Recycling of End-of-life products

- 4.1. End-of-life products collection and logistic
- 4.2. End-of-life products pre-processing
- 4.3. Recovery of raw materials from End-of-life products
- 4.4. Increase recycling of End-of –Life products information & communications technologies (ICT)

ERA·MIN 2

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ERA-MIN Joint Call 2017
Call statistics

Pre-proposal and full-proposals submission

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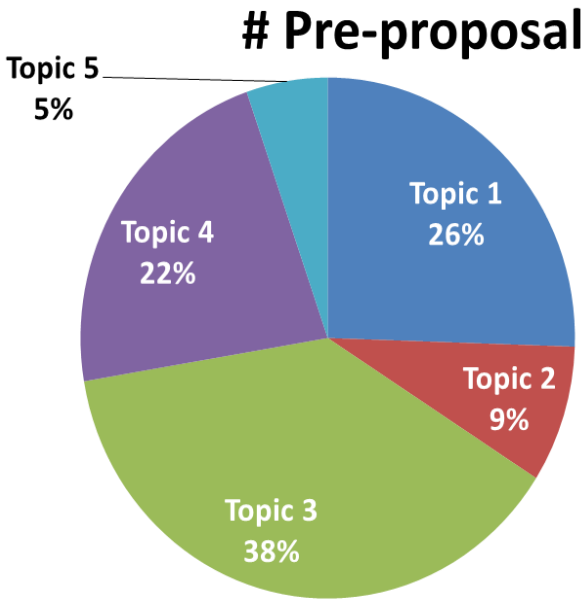
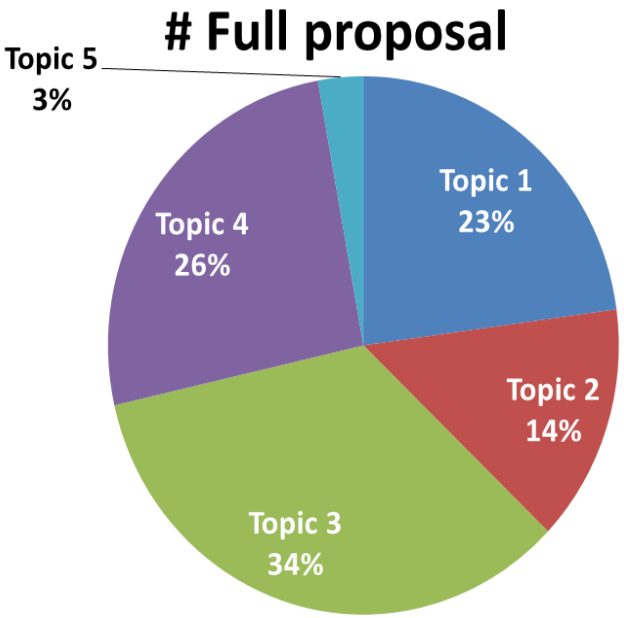
ERA-MIN Joint Call 2017 – proposals submission by call topic





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Summary of ERA-MIN 2 Call

	ERA-MIN Call 2017
Submitted proposals	**94** Pre-proposals **35** Full-proposals
Pre-proposals **Full-proposals**	**493** Applicants /**27% Enterprises** **186** Applicants/**33 % Enterprises**
Funded projects (success rate)	**16** (17%) **88** Applicants/**38.6 % Enterprises**
Allocated funding	**12.3 million €**
Projects Start-end date	May 2018 – April 2021

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ERA-MIN Joint Call 2017
Call statistics

Funded projects

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Partnerships established between partners of the 16 funded projects

18 public research and innovation funding organisations
of 11 EU countries, 1 EU region, 1 EU Associated Country and 3 non-EU countries

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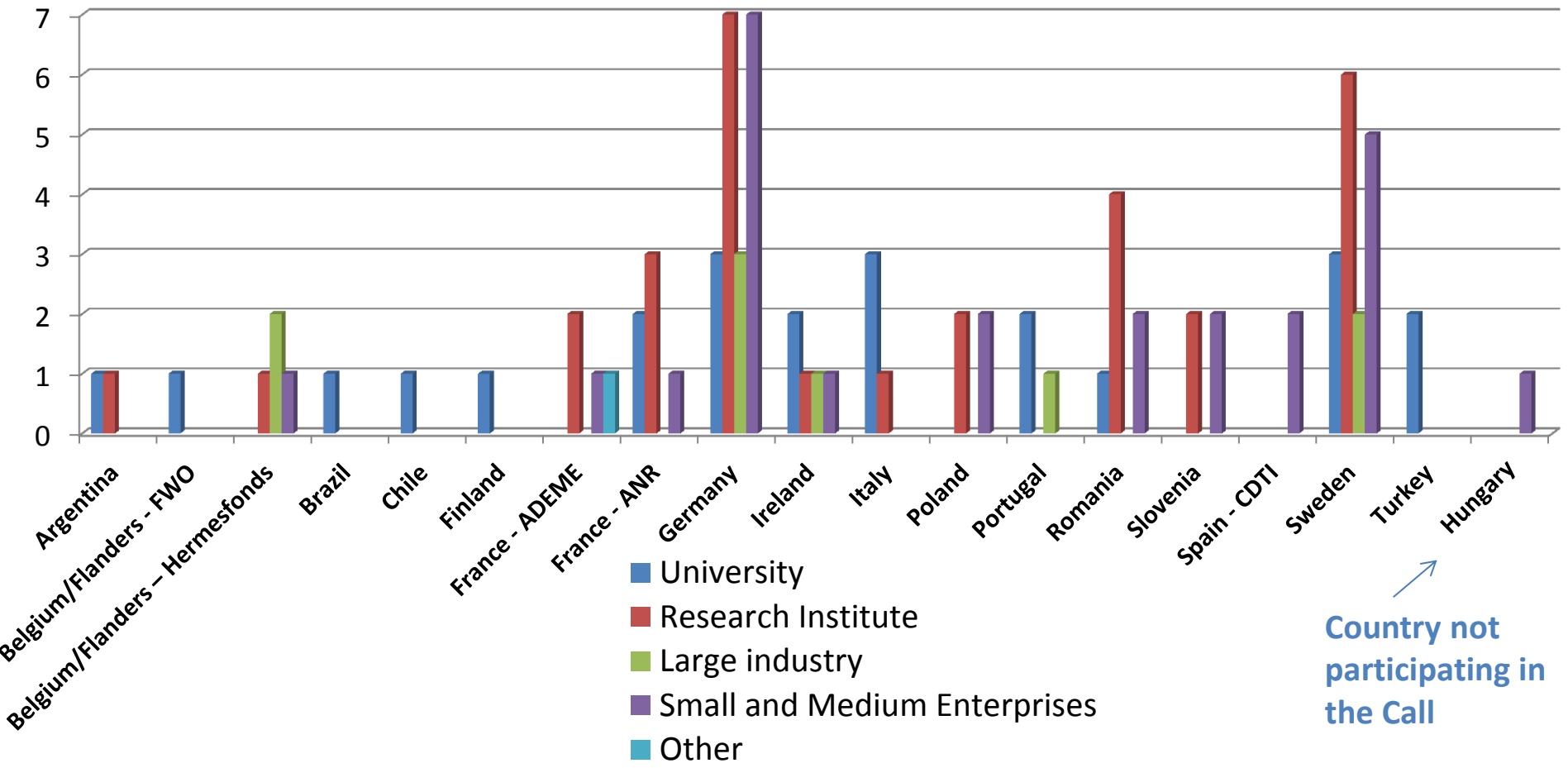
ERA-MIN Joint Call 2017 – Type of applicants in funded projects



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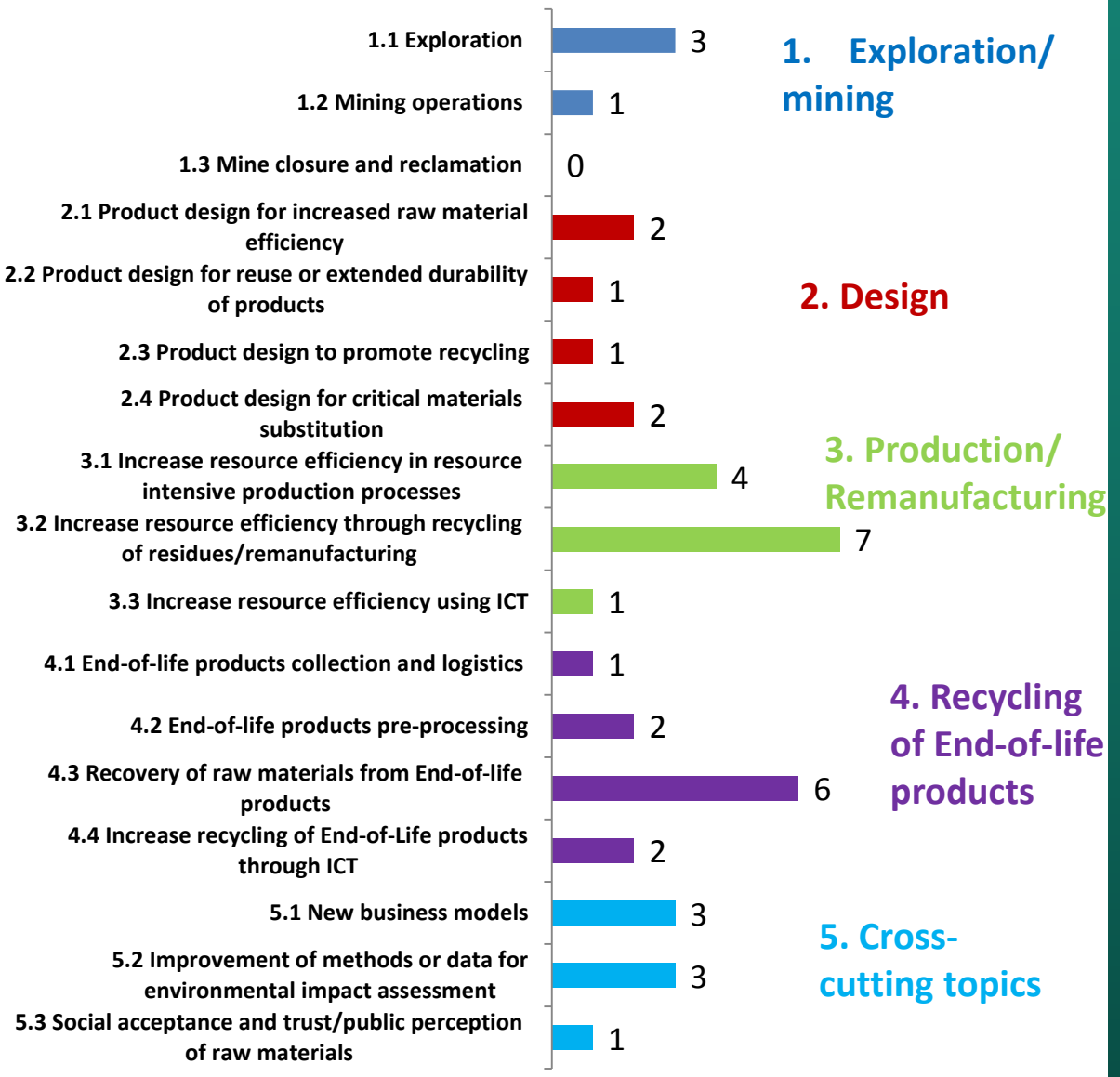
ERA-MIN Joint Call 2017 – Sub-topics of the main 5 call topics covered by the 16 funded projects



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ERA-MIN Joint Call 2017 – 4 funded projects address Topic 1. Supply of raw materials from exploration and mining

Call sub-topics	Project Keywords	Project acronym	Project title
1.1: Exploration	**Li-deposit exploration**, drone, SWIR, LIBS, integrated software solutions	LIGHTS	Lightweight Integrated Ground and Airborne Hyperspectral Topological Solution
1.1: Exploration	Exploration, magnetics, airborne, FTMG/3D-VM/OPM, high resolution	AMTEG	Advanced Magnetic full TEnsor Gradiometer instrument
1.2: Mining operations	Sensor fusion, LIBS, multi energy X-ray, mining, geological modelling	REWO-SORT	Reduction of Energy and Water consumption of mining Operations by fusion of sorting technologies LIBS and ME-XRT
1.1: Exploration	Innovative, **gold**, targeting, 3D modelling, microanalysis	Gold_Insight	Tracing Gold-Copper-Zinc with advanced microanalysis

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ERA-MIN Joint Call 2017 – 1 funded projects address Topic 2. Design

Call sub-topics	Project identifier	Project acronym	Project title
2.1: Product design for increased raw material efficiency **2.4:** Product design for critical materials substitution	Monazite, **rare earth oxides**, doped zirconia, thermal barrier coatings, sintered zirconia	MONAMIX	New concepts for efficient extraction of mixed rare earths oxides from monazite concentrates and their potential use as dopant in high temperature coatings and sintered materials

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ERA-MIN Joint Call 2017 – 1 funded projects address Topic 2. Design

Call sub-topics	Project identifier	Project acronym	Project title
2.1: Product design for increased raw material efficiency **2.4:** Product design for critical materials substitution	Monazite, **rare earth oxides**, doped zirconia, thermal barrier coatings, sintered zirconia	MONAMIX	New concepts for efficient extraction of mixed rare earths oxides from monazite concentrates and their potential use as dopant in high temperature coatings and sintered materials

ERA-MIN Joint Call 2017 – 7 funded projects address Topic 3. Processing, Production and Remanufacturing

Call sub-topics	Project identifier	Project acronym	Project title
2.4: Product design for critical materials substitution; **3.2**: Increase resource efficiency through recycling of residues or remanufacturing	**Phosphorus recycling**, P from manure ash, P-concentration, P-sustainability, Zero waste	Deasphor	Design of a product for SUBSTITUTION of **phosphate rocks**
3.1: Increase resource efficiency in resource intensive production processes	**Lithium**, membrane electrolysis, water recovery, life cycle analysis, magnesium	Li-Water	Membrane electrolysis for resource-efficient lithium and water recovery from brines
3.2: Increase resource efficiency through recycling of residues or remanufacturing	**Waste recycling, slag**, fibers, alkali activated foams	FLOW	Lightweight alkali activated composite foams based on secondary raw materials
3.1: Increase resource efficiency in resource intensive production processes; **3.2**: Increase resource efficiency through recycling of residues or remanufacturing	Mining wastes, mineral processing, hydrometallurgy, **base and precious metals**, economic and environmental assessment	MINTECO	Integrated eco-technology for a **selective recovery of base and precious metals in Cu and Pb mining by-products**

ERA-MIN Joint Call 2017 – 7 funded projects address Topic 3. Processing, Production and Remanufacturing

Call sub-topics	Project identifier	Project acronym	Project title
2.1: Product design for increased raw material efficiency,**2.2:** Product design for reuse or extended durability of products,**2.3**: Product design to promote recycling **,3.2**: Increase resource efficiency through recycling of residues or remanufacturing,**3.3**: Increase resource efficiency using information and communication technologies (ICT),**4.1**: End-of-life products collection and logistics ,**4.2**: End-of-life products pre-processing: pre-treatment, dismantling, sorting, characterisation,**4.3**: Recovery of raw materials from End-of-life products,**4.4**: Increase recycling of End-of-Life products through information and communication technologies (ICT),**5.1**: New business models,**5.2**: Improvement of methods or data for environmental impact assessment	Circular economy, **magnet recycling**, NdFeB magnets, end-of-life magnets, Eco-labelling	MaXcycle	A novel circular economy for sustainable RE-based magnets

ERA-MIN Joint Call 2017 – 7 funded projects address Topic 3. Processing, Production and Remanufacturing

Call sub-topics	Project identifier	Project acronym	Project title
3.1: Increase resource efficiency in resource intensive production processes, **3.2**: Increase resource efficiency through recycling of residues or remanufacturing, **5.2**: Improvement of methods or data for environmental impact assessment	**Bottom Ash**, Metal Recovery, **Construction Minerals**, **Recycling**, Waste Minimization	BASH-TREAT	Optimization of bottom ash treatment for an improved recovery of valuable fractions
3.2: Increase resource efficiency through recycling of residues or remanufacturing, **4.3**: Recovery of raw materials from End-of-life products	**Rare earth elements**, **recycling**, magnetic nanomaterials, e-waste, selectivity	MetRecycle	Recycling of metals using functionalized magnetic nanoparticles (FMNP)

ERA-MIN Joint Call 2017 – 4 funded projects address Topic 4. Recycling of End-of-Life products

Call sub-topics	Project identifier	Project acronym	Project title
3.1: Increase resource efficiency in resource intensive production processes,**3.2**: Increase resource efficiency through recycling of residues or remanufacturing,**4.3:** Recovery of raw materials from End-of-life products,**5.1**: New business models,**5.2:** Improvement of methods or data for environmental impact assessment ,**5.3**: Social acceptance and trust/public perception of raw materials	Critical Raw Materials, biometallurgi, sulfate reduction, **bauxite residue**, **fly ash**	BIOMIMIC	Innovative biotechnological methods for effective mining of secondary material
4.3: Recovery of raw materials from End-of-life products	**Precious metals recovery**, supercritical CO2, complexing surface-active polymers, spent catalysts, secondary resources	SUPERMET	Recovery of Precious Metals from Spent Catalysts by Supercritical CO2 Extraction Assisted by Polymers

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ERA-MIN Joint Call 2017 – 4 funded projects address Topic 4. Recycling of End-of-Life products

Call sub-topics	Project identifier	Project acronym	Project title
4.2: End-of-life products pre-processing: pre-treatment, dismantling, sorting, characterisation, **4.3:** Recovery of raw materials from End-of-life products, **4.4:** Increase recycling of End-of-Life products through information and communication technologies (ICT)	**Bottom ash**, sensor-based characterisation, sensor-based sorting, process model, optimization	INSTANT	INNOVATIVE SENSOR TECHNOLOGY FOR OPTIMIZED MATERIAL RECOVERY FROM BOTTOM ASH TREATMENT
4.3: Recovery of raw materials from End-of-life products, **5.1**: New business models	PCB, ASR, **battery**, critical metals, economic assessment full scale plant	ReCEOL	Recycling of End-of-Life Products (PCB, ASR, LCD)

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ERA-MIN Joint Call 2018

Participating countries

Call calendar

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ERA-MIN Joint Call 2018

Scope / Call thematic areas	Similar to Call 2017
15 Participating countries/regions (*to be updated in September 2018*)	Argentina; Belgium-Flanders; Brazil; Chile; Finland; France; Ireland; Poland; Portugal; Romania; Slovenia; South Africa; Spain - Castilla y Léon; Sweden; Turkey; *Germany (to be confirmed)*
Call provisional budget (*to be updated later*)	7.2 million euros

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ERA-MIN Joint Call 2018

Submission procedure	One-stage submission procedure (only full proposals)
Call pre-announcement	September 2018
Call opens	31st October 2018
Full-proposal submission deadline	31st January 2019
Feedback to applicants	Mid May 2019
Earliest start date of projects	June 2019

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HOW CAN YOU GET INVOLVED?

If you are a researcher from academia, SME, industry, NGO or public authority

- Apply, as coordinator or partner, in a transnational consortium to 2018 and 2019 ERA-MIN Joint Calls

- Apply as reviewer for the scientific peer-review of international R&D projects

If you are a Research Funding Organisation (Ministry or Agency) from European or non-European country or region

- Join the **2018/2019 joint calls** for transnational R& projects to support the internationalization of the researchers from your country or region

If you represent a raw materials initiative, Horizon 2020 project, industrial association or an international body

- Liaison with ERA-MIN 2 activities to ensure complementarity and avoid duplication of efforts

ERA-MIN 2

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Coordination: **FCT- Fundação para a Ciência e a Tecnologia – Portugal**
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