



ERA-MIN3

---

RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY

**EU co-funded ERA-MIN Joint Call 2021**

---

7<sup>th</sup> PROMETIA Scientific Seminar

10<sup>th</sup> December 2020

Dina Carrilho, PhD

ERA-MIN3 Project coordinator

FCT - Foundation for Science  
and Technology (Portugal)

# ERA-MIN 2 and ERA-MIN3 Outlook

- ❖ Evolution of ERA-MIN network
- ❖ ERA-MIN objectives
- ❖ Scope of joint transnational calls
- ❖ Results of ERA-MIN2 joint calls
  
- ❖ **ERA-MIN3 consortium**
- ❖ **EU co-funded call 2021** (countries, topics, eligibility criteria and call calendar)



ERA-MIN3

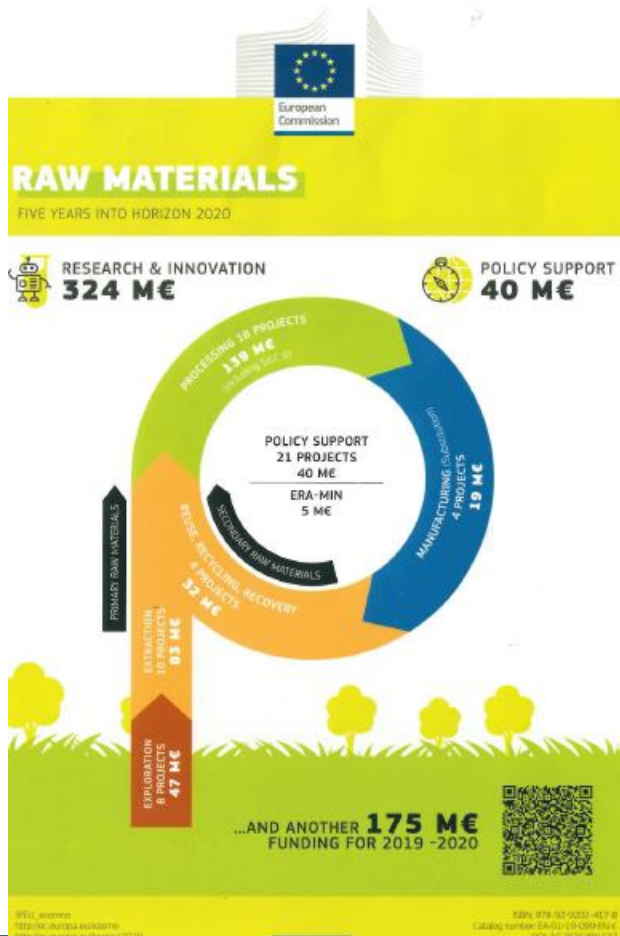
RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY



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



# Horizon 2020 funding to Raw materials related projects: € 584 Million

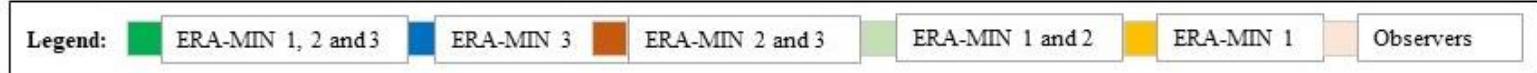
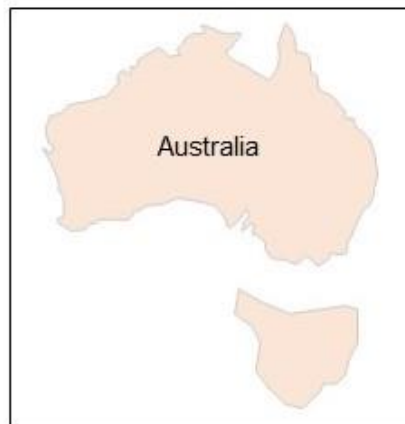


**ERA-MIN3 - €5 Million** (1<sup>st</sup> Dec. 2020 – 30<sup>th</sup> Nov. 2025)  
**ERA-MIN 2 - €5 Million** (1<sup>st</sup> Dec. 2016 – 30<sup>th</sup> Nov. 2022)





# Evolution of the ERA-MIN consortium since 2011



# Pan-European innovative and flexible network of public research and innovation funding organisations



ERAMIN3

RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY

1. Secure the sustainable and responsible supply of **non-food, non-fuel mineral raw materials** for a **carbon-neutral and a circular economy**
2. Promote **world-wide** research and innovation (R&I) cooperation through **coordinated funding**
3. **Reduce the fragmentation of R&I funding** across Europe and globally
4. Implement **Joint Calls for transnational R&I projects on “Raw materials for the sustainable development and the circular economy”**
5. Support **international R&I projects** between universities, research institutes, small, medium and large enterprises, NGOs, public authorities, etc



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

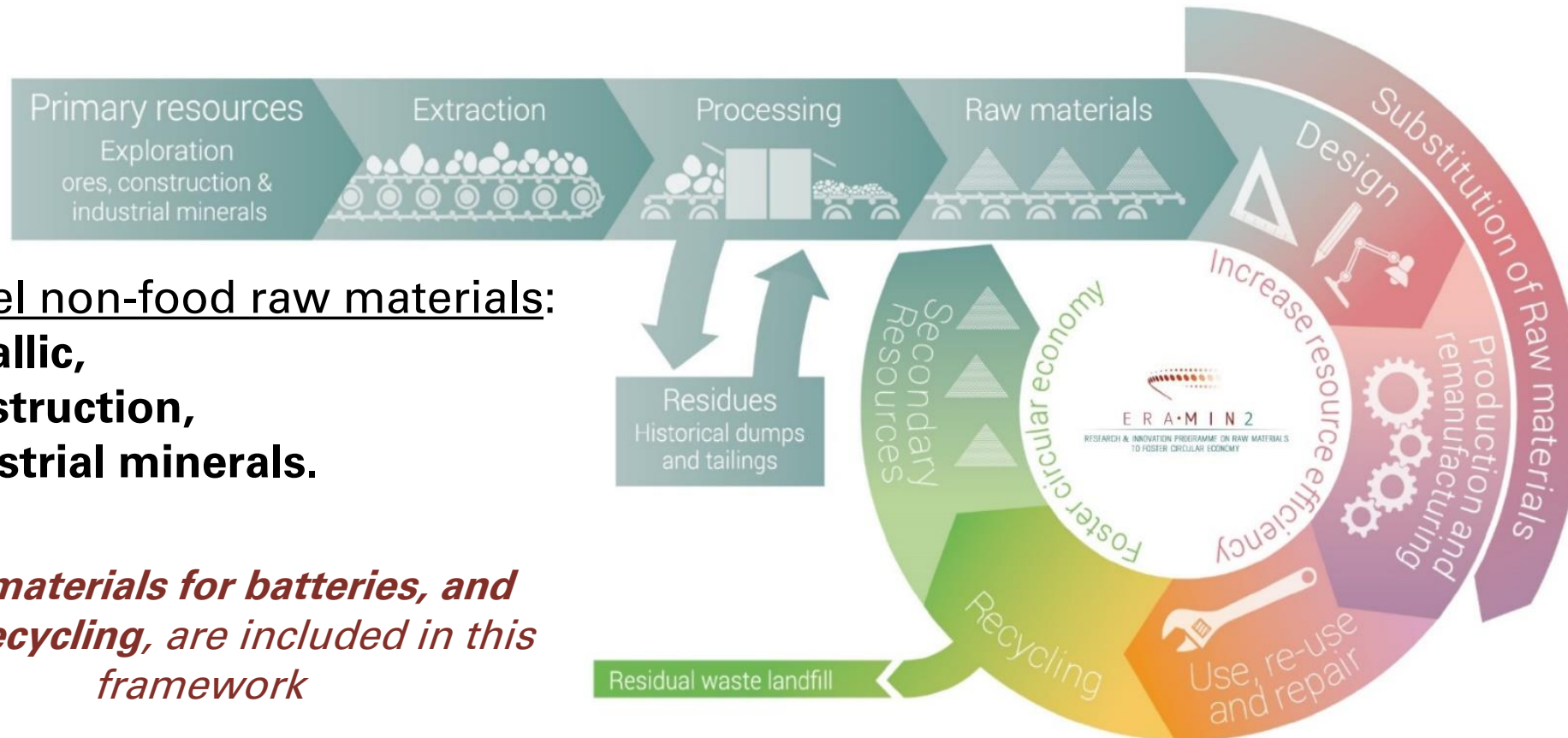




# ERA-MIN Joint Calls scope

*Raw materials*

*for the sustainable development and the circular economy*



## Non-fuel non-food raw materials:

- **Metallic,**
- **Construction,**
- **Industrial minerals.**

*Raw materials for batteries, and their recycling, are included in this framework*



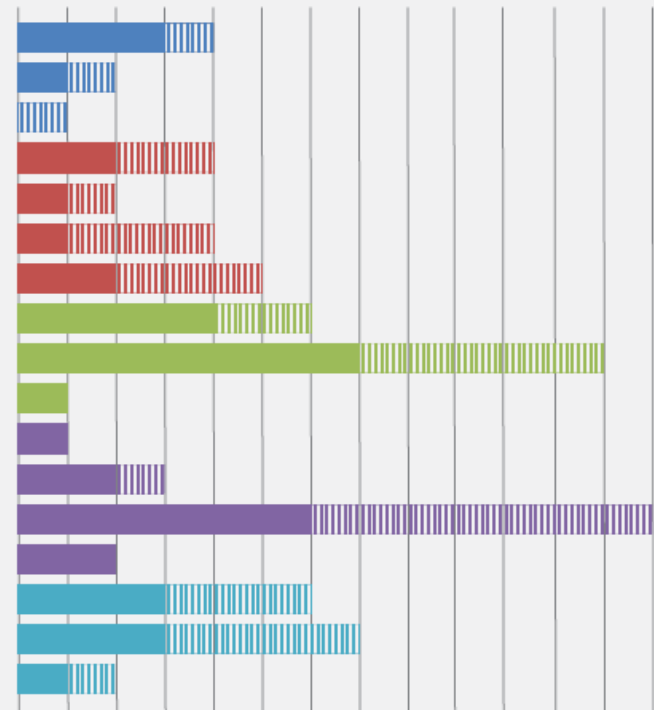
# Funded projects in ERA-MIN Joint Calls 2017 & 2018

■ **TOPIC 1** Supply of raw materials from exploration and mining
 ■ **TOPIC 2** Design
 ■ **TOPIC 3** Processing, Production and Remanufacturing

■ **TOPIC 4** Recycling and Re-use of End-of-Life products
 ■ **TOPIC 5** Cross-cutting topics

## FUNDED PROJECTS

0 1 2 3 4 5 6 7 8 9 10 11 12 13



- 1.1. EXPLORATION
- 1.2. MINING OPERATIONS
- 1.3. MINE CLOSURE AND RECLAMATION
- 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 MATERIALS SUBSTITUTION
- 3.1. INCREASE RESOURCE EFFICIENCY IN RESOURCE INTENSIVE PRODUCTION PROCESSES
- 3.2. INCREASE RESOURCE EFFICIENCY THROUGH RECYCLING OF RESIDUES OR REMANUFACTURING OF USED PRODUCTS AND COMPONENTS
- 3.3. INCREASE RESOURCE EFFICIENCY USING ICT
- 4.1. END-OF-LIFE PRODUCTS COLLECTION AND (REVERSE) 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 ICT
- 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

**CALL 2017**  
 **CALL 2018**



# ERA-MIN Joint call 2017 – funded R&I projects

All topics and sub-topics are covered  
by the funded projects

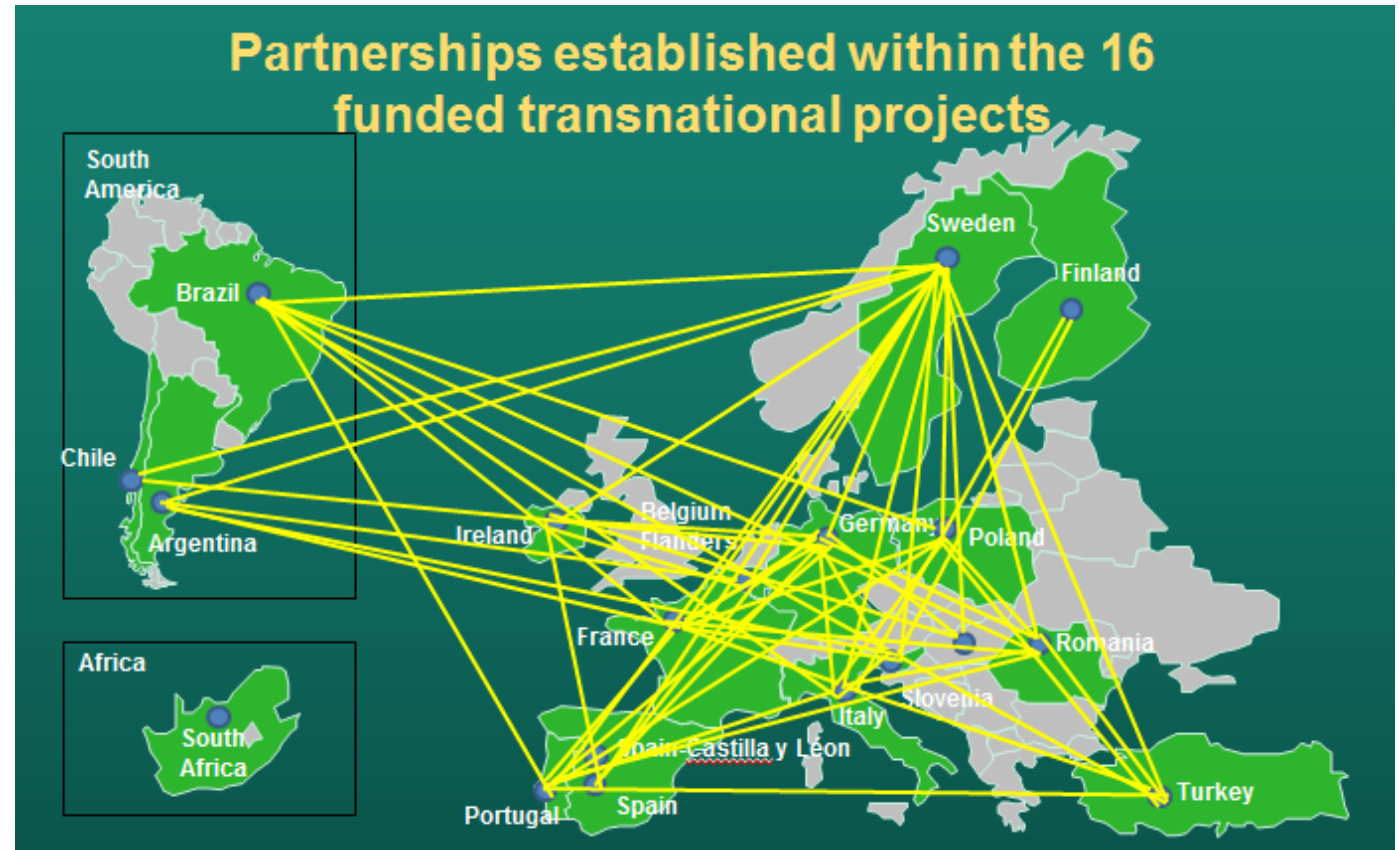
80% academia-industry projects

4 to 11: # partners per project

2 to 8: # countries per project

€0.5 to €1.5 Million: funding per  
project

24-36 months: Project duration







# ERA-MIN & ERA-MIN 2 Joint Calls funded R&I projects

FP7 ERA-MIN Joint Calls			H2020 ERA-MIN 2 Joint Calls		
2013	2014	2015	2017 (EU co-funded)	2018	2019
57 R&I transnational projects (total)					
30% enterprises (average)					
€42 Million total public funding					
€60 Million total project costs					





## Examples of collaborative international R&I projects Raw materials for the sustainable development and the circular economy

---

***Li-deposit exploration***

***Gold mining in EU***

***new eco-innovative solutions for  
mining infrastructures***

***Substitution of phosphate  
rocks and natural graphite***

***Recovery of base/precious metals  
in mining by-products***

***Recycling of Critical Raw Materials (e.g. REE, V,  
phosphorus) from End-of-Life products (magnets,  
WEEE) and waste (slag, ash)***

***Recycling of construction materials***



**8 Battery related projects (€6 million)  
ERA-MIN Calls (2015, 2017, 2018, 2019)**



# ERA-MIN Joint Calls results (<https://www.era-min.eu/results> )

## ➤ **17 Summary final reports**

Calls: 2013, 2014 and 2015

- ✓ 333 publications + **6 patents/licenses**
- ✓ Ferrovan **start-up**
- ✓ 140 temporary + 19 permanent **jobs**

## ➤ **40 Project's abstracts**

3 Calls: 2017, 2018 and 2019

## ➤ **16 projects 2<sup>nd</sup> year progress report (Call 2017)**

- ✓ **153 publications – 35% open access;**
- ✓ **1 granted patent; 7 submitted patents; 1 submitted license**
- ✓ **290 researchers: 25 % young res.; 37% female**



ERA-MIN3

RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY

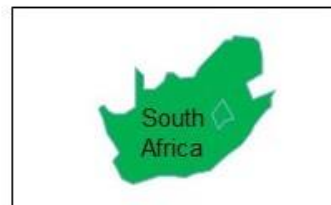
# ERA-MIN3

---

**EU CO-FUNDED ERA-MIN JOINT CALL 2021**



# ERA-MIN3 consortium (2020 – 2025)



Brazil and Chile  
not yet consortium members







# EU co-funded ERA-MIN Joint Call 2021

## 21 Participating countries/regions ( 24 Funding Organisations)

- Belgium-Flanders (FWO and Hermesfond/VLAIO)
- Belgium-Wallonia (SPW-Recherche)
- Bulgaria (BNSF)
- Czech Republic (TA CR)
- Estonia (ETAg)
- Finland (Business Finland)
- France (ADEME and ANR)
- Germany (BMBF/JÜLICH)
- Ireland (GSI)
- Italy (MUR)
- Poland (NCBR)
- Portugal (FCT)

- Romania (UEFISCDI)
- Slovakia (SAS)
- Slovenia (MIZS)
- Spain (AEI and CDTI)
- Spain – Navarra (CFNA)
- Sweden (Vinnova)

### **EU Associated country:**

- Turkey (TUBITAK)

### **Non-EU countries:**

- Canada-Québec (PRIMA-Québec);
- South-Africa (DSI).

**~ €19 million**

Total call budget (sum of national/regional budgets)



# EU co-funded ERA-MIN Joint Call 2021

## 5 Main Research Topics and sub-topics

Topic 1



**Supply** of raw materials from exploration and mining

Topic 2



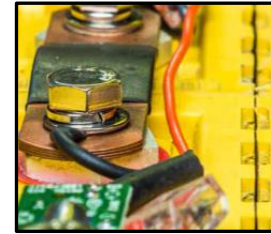
**Circular design** for increased resource efficiency

Topic 3



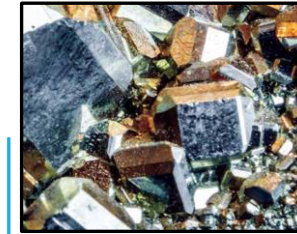
**Processing, Production** and Re-manufacturing

Topic 4



**Recycling and Re-use** of End-of-Life products

Topic 5



**Cross-cutting topics:**

- New business models;
- Environmental impact assessment
- Social acceptance and public perception

### ERA-MIN Research Agenda

(<https://www.era-min.eu/publications>)



# EU co-funded ERA-MIN Joint Call 2021

Joint collaborative R&I projects subject to national/regional funding rules

---

- Selection of projects for funding through a **ranking list from an international scientific assessment of proposals** based on the **H2020 evaluation criteria**:
  - 1) Excellence
  - 2) Impact
  - 3) Implementation

## **Types of eligible research (TRL from 1 to 9):**

- Fundamental
- Applied research
- Innovation

## **Eligible legal entities:**

**Universities**  
**Research institutes**  
**SMEs, large industry**  
**NGOs**  
**public authorities**

## **Variable funding rates:**

- ~100 % for not-for-profit organisations
- < 70% for profit organisations

# Some Eligibility Criteria

## ERA-MIN Joint Call 2021



ERA-MIN 3

RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY

Minimum consortium composition: **3 partners** requesting funding of **3 countries** whereof **2** are **EU Member State or an Associated Country (Turkey)** named in this Call

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

Applicants not requesting funding must provide evidence of the availability of their own funds to cover their project costs.

At least half of the partners in a consortium must belong to countries participating in the Call.

Project duration: 12 - 36 months (subject to national/regional rules)



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



# EU co-funded ERA-MIN Joint Call 2021

## Online partner search tools

### ERA-MIN Partner Search

- Post a Partner Offer/Request
- Search List of Partner Offers/Requests posted by others

The **European Commission Partner search services:**

*<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/partner-search>*

The **Enterprise Europe Network** is active in more than 60 countries worldwide: *<https://een.ec.europa.eu/>*

**ERA-MIN Joint Call LinkedIn Group**

<https://www.linkedin.com/in/era-min>





# EU co-funded ERA-MIN Joint Call 2021

## Important dates

---

September 2020	1st Call pre-announcement
November 2020	2nd Call pre-announcement
January 15, 2021	Call opens
➤ April 1, 2021	<b>Deadline for Pre-Proposal submission</b>
June 15, 2021	Communication of pre-proposal assessment
September 15, 2021	Deadline for Full-Proposal submission
December 13, 2021	Communication of full-proposal assessment
May 1, 2022	Latest starting date of selected projects

### Further information

- Joint Call Secretariat ([eramin@fct.pt](mailto:eramin@fct.pt))
- Updated information:

<https://www.era-min.eu/joint-call/era-min-joint-call-2021>



ERA-MIN3

RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY



- If you are a research performing organisation, submit an application to the Call for proposals;
- If you are an expert, apply as a reviewer.



- If you are a research funding organisation, join the future Joint Call planned to 2023.



- If you are a raw materials related project or initiative, liaison with ERA-MIN3 to promote synergies.



[www-era-min.eu](http://www-era-min.eu)



[@eranetmin3](https://twitter.com/eranetmin3)



[www.linkedin.com/in/era-min](https://www.linkedin.com/in/era-min)

# Get involved

# Contact&Info

 NEWSLETTER

Subscribe

Newsletters



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



E R A • M I N 3

---

RAW MATERIALS FOR THE SUSTAINABLE DEVELOPMENT  
AND THE CIRCULAR ECONOMY

---

Thank you very much!

Muito Obrigada!