

# The European "ecosystem" for research and innovation

Svemins miljökonferens 2018

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- ≡ Introduction to Euromines
- ≡ EU Raw Materials Initiative (since 2008)
- ≡ European Innovation Partnership Raw Materials (since 2012)
- ≡ EIT RawMaterials (since 2014)
- ≡ Horizon Europe (2021 – 2027)

# Euromines – who we are



- ≡ Recognized representative of the European mining industry;
- ≡ Service provider to its members with regard to EU policy;
- ≡ Network for cooperation and for the exchange of information throughout the sector within Europe;



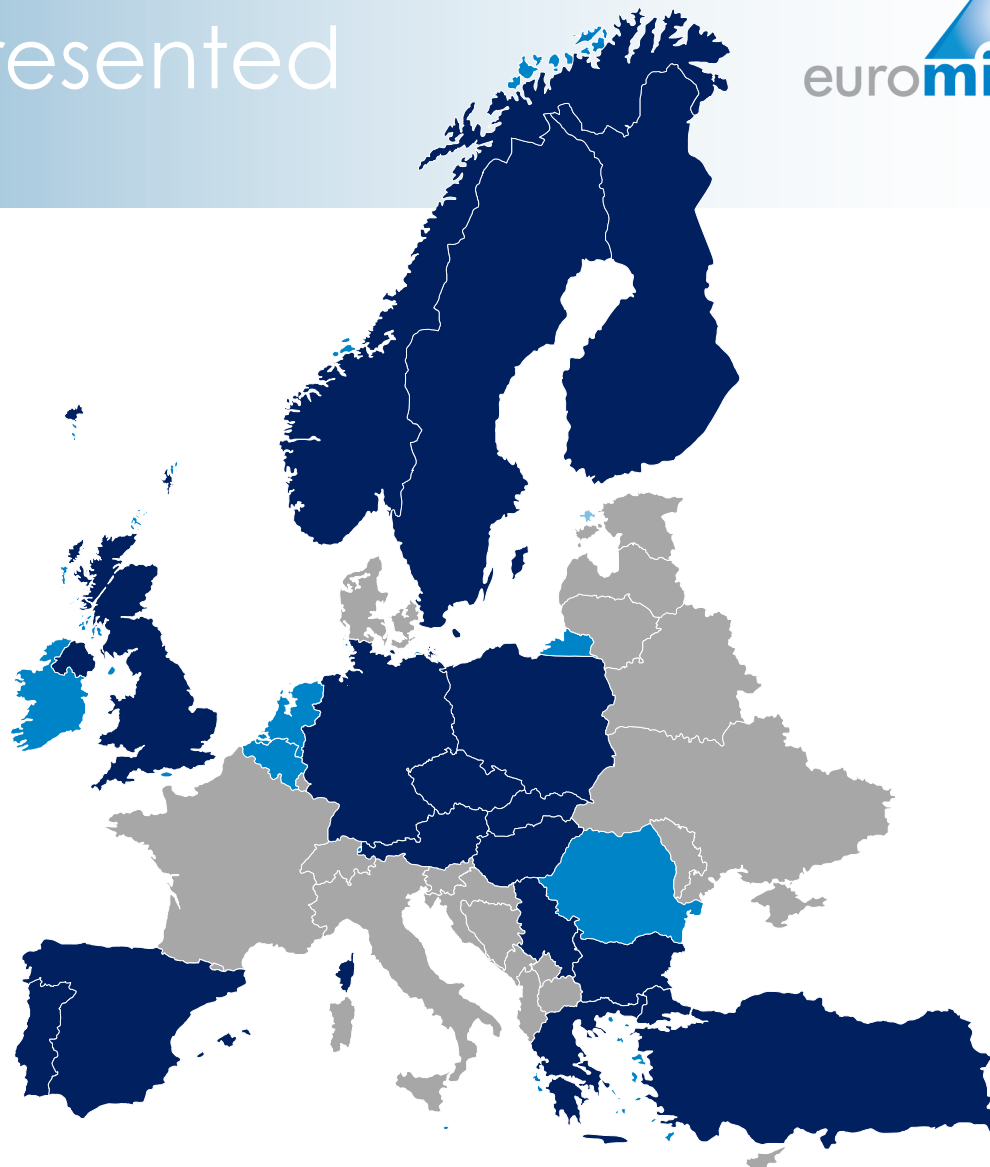
RawMaterials



- ≡ Link to contacts with the mining community throughout the world.

# Countries represented

- ≡ Austria
- ≡ Bulgaria
- ≡ Czech Republic
- ≡ Finland
- ≡ Germany
- ≡ Greece
- ≡ Hungary
- ≡ Norway
- ≡ Poland
- ≡ Portugal
- ≡ Serbia
- ≡ Slovakia
- ≡ Sweden
- ≡ Turkey
- ≡ United Kingdom



# Our Key Messages

## RESOURCES

- ***We strongly believe that Europe has viable mineral resources***

## DEMAND

- ***Member State governments should determine the raw materials required to meet their different policy aims, and***

## STANDARDS

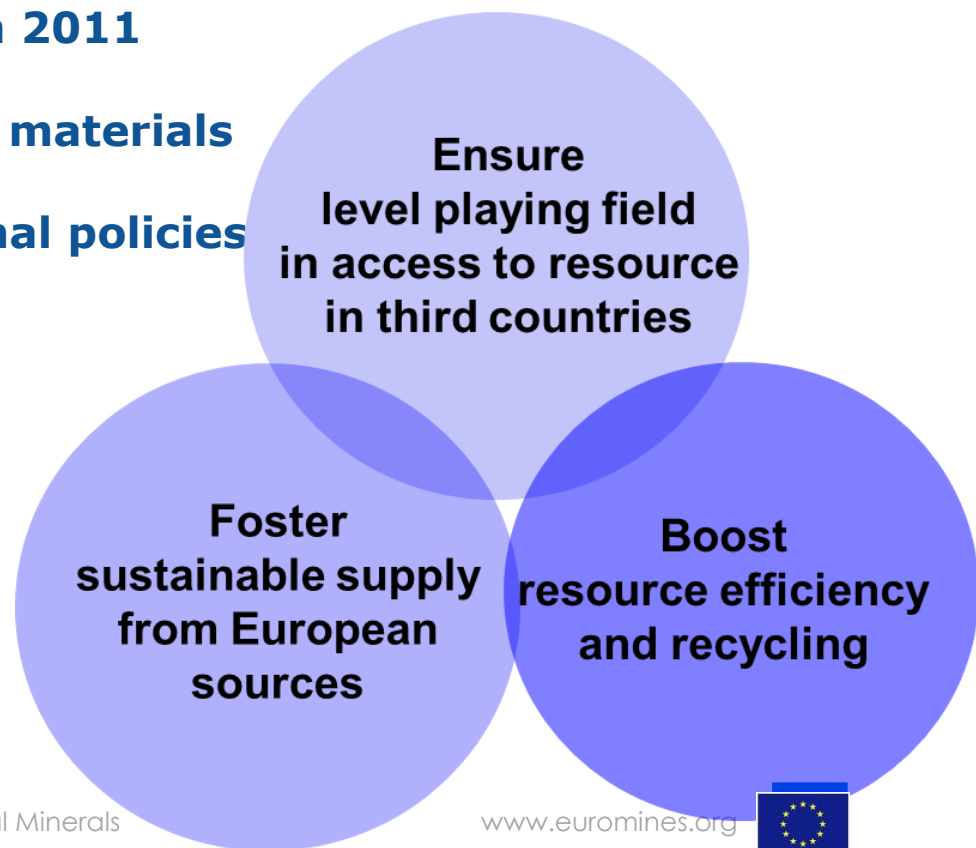
- ***Maintain an enabling environment which provides highest standards, excellence and leadership of the European extractive industry***



# EU Raw Materials Initiative



- **Aim: securing sustainable supplies of raw materials**
- **Launched in 2008, consolidated in 2011**
- **Non-energy, non-agricultural raw materials**
- **Connecting EU external and internal policies**
- **Integrated strategy (3 pillars)**
- **Introduced list of 14 Critical Raw Materials (CRM) in 2010, updated in 2014 and 2017**
- **Created European Innovation Partnership on Raw Materials**



## **I. Technology Pillar**

- I. A Raw materials research and innovation coordination
- I. B Technologies for primary and secondary raw materials' production
- I. C Substitution of raw materials

## **II. Non-Technology (Policy) Pillar**

- II. A Improving Europe's raw materials framework conditions
- II. B Improving Europe's waste management framework conditions and excellence
- II. C Knowledge, skills and raw materials flows

## **III. International Cooperation Pillar**

- III.1 Technology
- III.2 Global Raw Materials Governance and Dialogues
- III.3 Health, Safety and Environment
- III.4 Skills, Education and Knowledge
- III.5 Investment activities

# European Innovation Partnership Raw Materials



## Technology

Mining of small and complex deposits and alternative mining

**REAL TIME MINING**

**BIOMore**  
An Alternative Mining Concept

**vamos!**

Flexible processing technologies

**OptimOre**

**FAME**

**eit RawMaterials**

Deep sea mining

**blue nodules**

New metallurgical systems

**Int-Met**  
Integrated Metallurgy

**METGrow**

New sustainable exploration technologies and geomodels

**Hi tech**

**Alk Carb**

**SOLSA**

**ROBUST**

**UNEXMIN**

Materials for electronic devices

**INREP**  
Towards Sodium-Pass TCOs

**INFINITY**

New solutions for sustainable production of raw materials

**CHROMIC**

**Platirus**

**scale**  
SCANDIUM ALUMINIUM EUROPE

Materials under extreme conditions

**FLINT STONE 2020**

**EQUINOX**

RM R&I coordination

**MAVERAM**

Recycling of raw materials from products and buildings

**Hiser**

**CLOSEWEE**

**ERA-MIN 2**  
RESEARCH & INNOVATION PROGRAMME ON RAW MATERIALS TO FOSTER CIRCULAR ECONOMY

**SILC II**

**LoCO2Fe**

**AgRIAL**

New solutions for sustainable production of raw materials

**IMP@CT**

**slim**

**ITERAMS**

Raw materials Innovation actions

**X-MINE**

**SIMS**

## Policy

Secondary raw materials inventory

**ProSUM**

**SMART GROUND**

Mineral deposits of public importance

**MINATURA 2020**

Raw materials policy support actions

**SCREEN**  
Guidelines for Critical Raw Materials - a European Expert Network

Raw materials intelligence capacity

**MICA**  
Mineral Intelligence Capacity Analysis

Innovation friendly minerals policy framework

**MIN guide**

Raw materials partnerships

**IMPACTPAPER REC**  
Reaching separate paper collection

**MSP**  
REFRAM

## Trade

Strategic international dialogues and cooperation on raw materials with technologically advanced countries

**intraw**  
International Raw Materials Observatory

Raw materials international co-operation

**MinFuture**

**FORAM**  
TOWARDS A WORLD FORUM FOR RAW MATERIALS

Strategic international dialogues and cooperation with raw materials producing countries and industry

**STRADE**

# Knowledge & Innovation Centres in Europe

## Climate-KIC

- Co-location Centre
- Regional Centre

## EIT Health

- Co-location Centre, InnoStars Regions

## EIT Digital

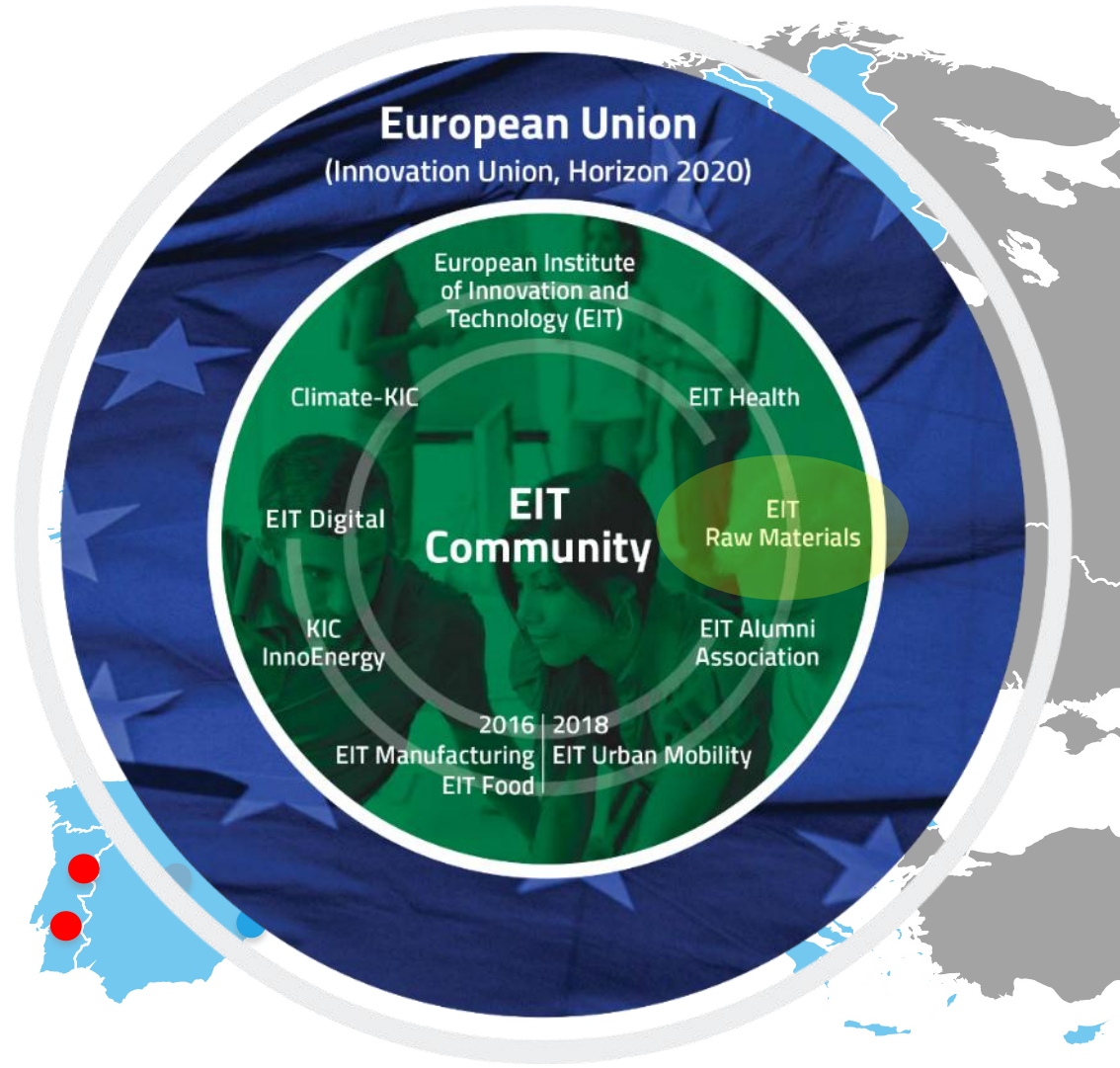
- Co-location Centre
- Associate Partner

## EIT Raw Materials

- Co-location Centre

## KIC InnoEnergy

- Co-location Centre



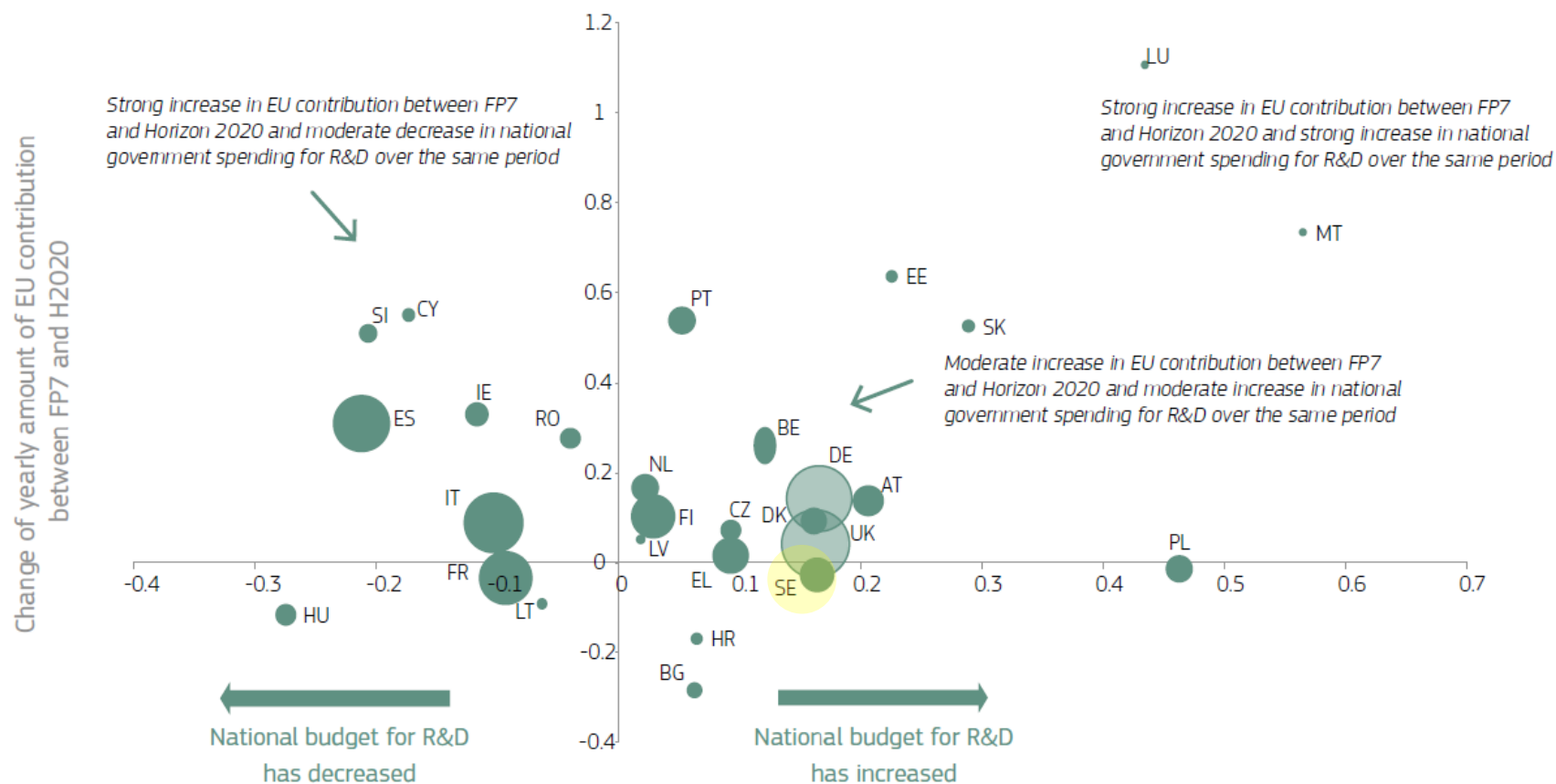
European Institute of  
Innovation & Technology



RawMaterials



# Between FP7 and Horizon2020



GBARD change between yearly average over 2007-2013 and yearly average over 2014-2015

**Excellent Science  
(24.4 B €)**

European Research  
Council  
(13.1 B €)

Future and Emerging  
Technologies  
( 2.7 B €)

Marie Skłodowska-Curie  
Actions  
( 6.1 B €)

Research Infrastructures  
( 2.5 B €)

**Industrial Leadership  
(17 B €)**

LEIT = Leadership in  
enabling and industrial  
technologies

- ICT
- Nano, new materials
- Biotechnology
- Space

( 13.5 B €)

Access to Risk Finance  
( 2.9 B €)

Innovation in SMEs  
( 0.6 B €)

**Societal Challenges  
(29.7 B €)**

Health  
(7.5 B €)

Food  
(3.9 B €)

Energy  
(6 B €)

Transport  
(6.3 B €)

Climate  
(3 B €)

Inclusive Societies  
(1.3 B €)

Security  
(1.7 B €)

**Spreading Excellence (0.8 B €)**

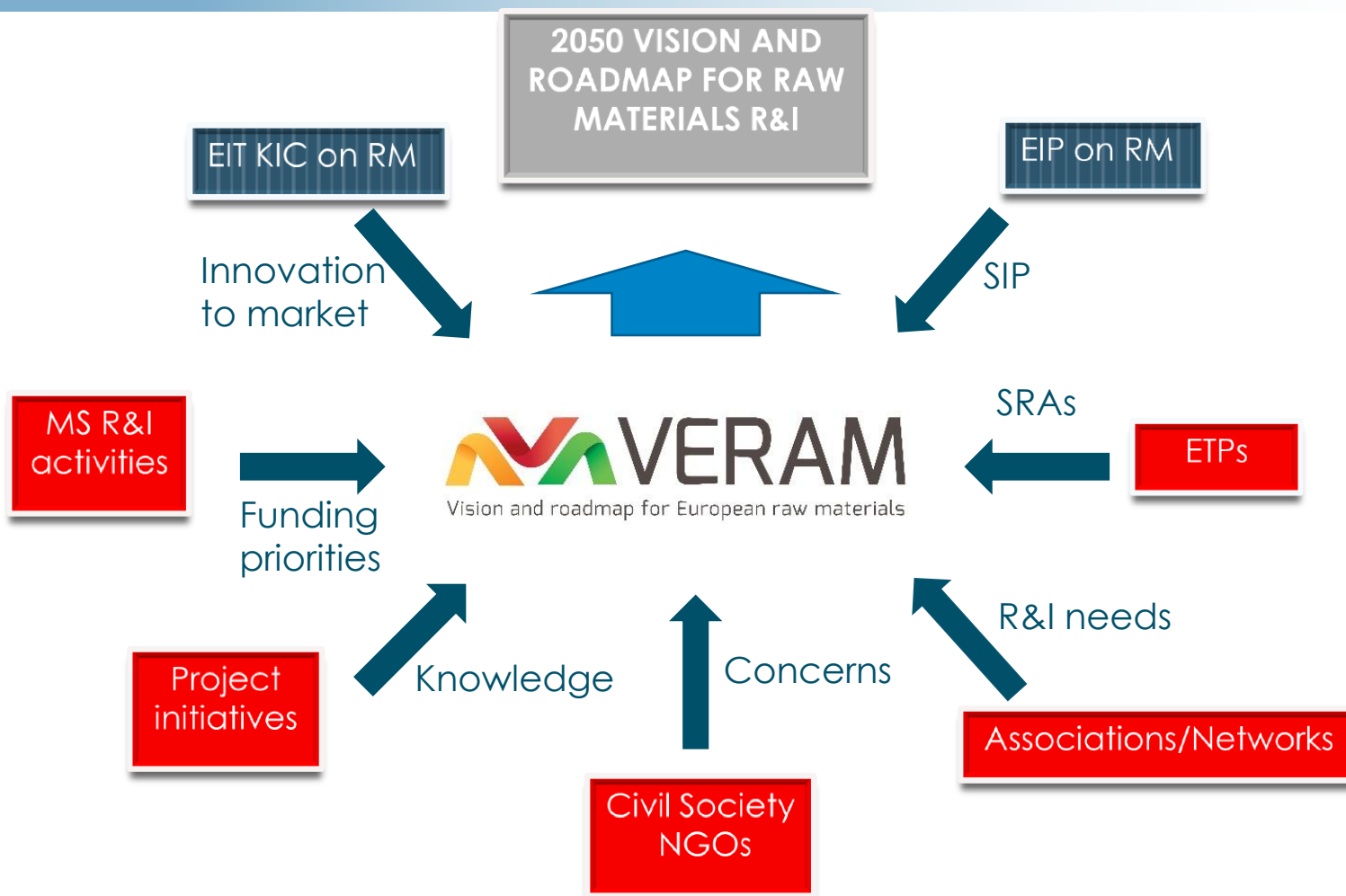
**Science for Society (0.5 B €)**

**EIT (2.7 B €)**

**JRC (1.9 B €)**

**Euratom (1.6 B €)**

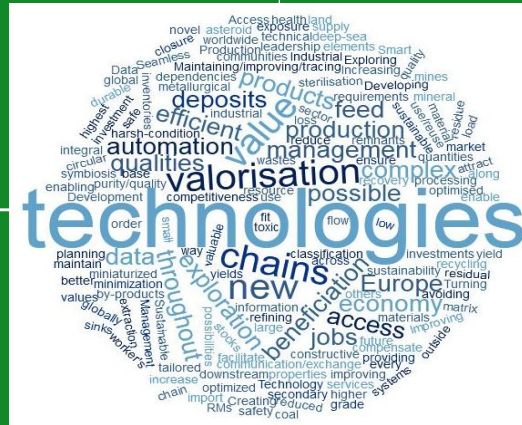
# VERAM Response



# VERAM Response (2018)

Fostering a **sustainable supply** of raw materials to feed new and existing value chains

## Resource-efficient **processing** for raw materials



## Raw materials in **new products** and applications

by maximising the **recycling** of  
products, buildings and  
infrastructure



VERAM ROADMAP to 2050

## Vision and roadmap for European raw materials



# What is New?

**Horizon Europe**, with a budget of **€97.6 billion**, is the biggest ever research and innovation funding programme. It is designed around three pillars:

- the **Open Science pillar** supports researchers through fellowships and exchanges as well as funding to projects defined and driven by researchers themselves, through the European Research Council and the Marie-Skłodowska-Curie actions.
- The **Global challenges pillar** directly supports research relating to societal challenges, setting EU-wide missions with ambitious goals around issues that worry us daily such as such as the fight against cancer, clean mobility and plastic-free oceans. Industrial leadership will be prominent within this pillar and throughout the programme as a whole.
- The **Open Innovation pillar** aims to make Europe a front runner in market-creating innovation. A **European Innovation Council** will offer a one-stop shop for high potential and breakthrough technologies and innovative companies with potential for scaling up.

Open Science

Global challenges

Open Innovation



**HORIZON  
EUROPE**



Horizon Europe will have simpler rules, cutting red tape for beneficiaries.



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