EIT Raw Materials: Developing raw materials into a major strength for Europe

REMiX Workshop
Fundación Santa Bárbara
La Ribera del Folgoso, León, España
EIT (European Institute of Innovation and Technology)

The EIT is an EU body that enhances Europe’s ability to innovate by nurturing young entrepreneurial talent and supporting new ideas through the Innovation Communities.

The EIT is the first EU initiative bringing together the three sides of the ‘knowledge triangle’: Business (companies and SMEs), Higher Education Institutions and Research Centres.

The EIT aims to increase the cooperation and integration between education, business and research to facilitate the transition from:

- Student to Entrepreneur
- Idea to Product
- Lab to Customer
EIT Community

European Institute of Innovation and Technology (EIT)

- Climate-KIC
- EIT RawMaterials
- EIT Health
- EIT Food
- EIT Alumni

EIT Manufacturing | EIT Urban Mobility

2018 EIT call

European Union

HORIZON 2020*

* The EU Framework Program for Research and Innovation
Raw Materials sector predictions

- A strong move towards recycling and circularity
- Mining will not disappear
- The need for raw materials will not disappear
- Technology will matter more than ever
- Understanding the value chains is important

EIT RawMaterials vision and mission

EIT RawMaterials vision is to develop raw materials into a major strength for Europe.

Its mission is to enable sustainable competitiveness of the European minerals, metals and materials sector along the value chain by driving innovation, education, and entrepreneurship.

EIT RawMaterials strategic objectives are:

1. **Securing raw materials supply**: collaborating across the entire industrial value chain
2. **Designing solutions** for materials innovation, products and processes
3. **Closing material loops**: a radical shift from linear to circular thinking
Partners
Research and Technology Organisations
Partners
Universities
Access to the Consortium

- **Project Partner**:
  - Annual fee: 10 keuro
  - Maximum contribution receivable: 100 keuro/year

- **Associated Partner**:
  - Annual fee: 30 keuro
  - Maximum contribution receivable: 300 keuro/year

- **Core Partner**:
  - Annual fee: 100 keuro
  - No limit in the contribution receivable

- **Process**:
  - “membership application” to be sent to General Assembly
EIT RawMaterials Innovation Themes

The themes represent the different links of the raw materials value chain:

• Exploration and raw materials resources assessment
• Mining in challenging environments
• Increased resource efficiency in mineral and metallurgical processes
• Recycling and material chain optimization for end-of-life products
• Substitution of critical and toxic materials in products and substitutions for optimized performance
• Design of products and services for the circular economy
Exploration and raw materials resource assessment

Identification and evaluation of the techno-economic value of ore bodies, residue stocks and landfills is vital for the valorisation of Europe’s resource potential and for a secure raw materials supply.

Innovation areas include:

- Transformation and adaptation of value estimation methods from primary to secondary resources
- 3D/4D modelling of ore belts and regimes based on big data interpretation
- Deep exploration techniques
Mining in challenging environments

Innovative mining solutions for extraction of materials from resources not previously exploited for economic, environmental or safety reasons.

Innovation areas include:

• Mining automation, remote control and advanced maintenance systems
• Effective integration of rock mechanics, mine planning and operations
• Technologies and concepts to mine the sea bed in a sustainable way
Increased resources efficiency in mineral and metallurgical processes

A step-change is required to enable treatment of resources of decreasing grade and increasing complexity.

Innovation areas include:

- Flexible and economic treatment of complex material feed streams
- Increase of impurities due to recycling
- New products from waste and solutions for an increased reuse of process residues

Experimental blast furnace in Luleå, Photo courtesy of LKAB
Lighthouses

• The scope of the Lighthouses is to generate impact that goes beyond that created by individual projects and consortia

• Funnelling synergies and expertise already existing within the partnership into coordinated high-impact activities that will contribute to the solution of important societal challenges and that will enhance the role of EIT RawMaterials as a leading innovation community

• Identifying future challenges and developing the ability to address them in the partnership

Two Lighthouses to be initiated in 2018
- Raw Materials and Circular Societies
- Sustainable Materials for Future Mobility

At least one additional Lighthouse to be implemented in 2019
- Sustainable Discovery and Supply
Sustainable Materials for Future Mobility
(Societal Challenge and Market)

- Raw materials and advanced materials for two key innovation trends in mobility: electrification and lightweight design
- Innovation across specific value chains is considered
- **Materials for electrification**
  - Fuel cells, batteries, magnets, e-drives
- **Materials for lightweight design**
  - Steels, composites, multimaterials, non-ferrous alloys
Sustainable Discovery and Supply
*To be launched in 2019*

- Focus on exploration, mining and processing of primary and secondary raw materials, and on public acceptance
Matchmaking & Networking, Acceleration, Education Activities

**MATCHMAKING & NETWORKING**
- RM InfoCenter
- Events: RawMaterials Summit, Open Innovation Events
- Matches: Alumni Community, Internationalization

**ACCELERATION**
- Up-scaling – Innovation Projects
- Start-up Booster
- RM Accelerator

**ACADEMY**
- Master Education, PhD Education
- Lifelong Professional Education
- Wider Society Learning

**LIGHTHOUSES**

**CROSS KIC ACTIVITIES**

**REGIONAL INNOVATION SCHEME (RIS)**
Innovation in Education - RM Academy

- **Master and PhD Education**: Modules for Programmes focus on raw materials themes and industry needs
- **Lifelong Professional Education**: Industry needs focused education for qualified professionals
- **Wider Society learning**: Aims to raise awareness of the young students, general public
EIT RawMaterials key numbers - Education

**Master and PhD Education**
- 249 PhD and Master students enrolled
- 40+ Nationalities represented
- 102 Partners engaged
- 177 Alumni association members
- 8 MOOCs Developed by EIT RawMaterials Academy & partners

**RM@Schools & Junior Achievement**
- 7 EIT Labelled Master and PhD programmes
- 216 Students enrolled in the EIT Labelled programmes
- 35+ Events
- 20 Countries
- 3500+ School pupils participated

**RM University Days**
- 9 Events
- 3000+ Number of participants
Innovation & Acceleration

• **Up-scaling innovation projects**
  - Integration of existing technology
  - De-siloing and value chain co-operation
  - Bringing technologies to the market

• **Start up booster**
  - Providing soft landing for SMEs expansion and tailor-made benchmarking and matchmaking of local / regional actors
  - Supporting new spin-offs and existing SMEs in creating their business

• **RM Accelerator**
  - Supporting new start-ups (scouting, business model development, funding and technology, coaching, incubation)
What is the purpose?

- Bridging the valley of death
- Market introduction of production and processes
- Educate entrepreneurs

KICs bridge the “valley of death”

Public Funding (H2020, national)

Exploitation of R&D

Market Funding (VC, companies, …)

Idea → Explore → Mature → Pilot → Sales
Where are you in the innovation process?

**Concept**
TRL1-2: principles observed, concept formulated

**Proof of Concept**
TRL3-4, lab experiments

**Precommercial**
TRL7-8: Prototype demonstrated in operational environment

**Iterative prototyping**
TRL5-6: Validated/demonstrated in relevant environment

**Commercial ready**
TRL8-9: Proven in real environment
Turn your innovative idea into a budding business!

Welcome to our joint EIT JumpStarter Competition 2019 co-organised with EIT Health and EIT Food! EIT JumpStarter Competition is an innovation contest aiming to reach out, identify and support the best ideas from researchers, professionals and early-stage start-ups, with a potential impact in the Raw Materials Value Chain.

EIT RawMaterials Accelerator: Bringing Ideas to the Market!

https://eitrawmaterials.eu/accelerator-program/
The EIT RawMaterials “Start-up & SME Booster Program” is one of the EIT RawMaterials funding instruments dedicated to support third parties’ activities, such as business creation by idea holders and growth support by start-ups and SMEs. It provides support to existing start-ups and SMEs to develop innovative products/services that can produce impact in the raw materials sector or benefit our partners. https://eitrawmaterials.eu/booster-call-2019/
EIT RawMaterials Key numbers - Business Creation

- 108 Early start-ups supported
- €77m External investment raised
- 19 Product services launched
- 506 Applications received
Timeline – KAVA 6 – Call for proposals

15 October 2018
Launch of call for proposals

Late October/early November 2018
The proposal registration and submission platform “Seedbook” goes online

Friday 11 January 2019 at 13.00 CEST
Proposal registration deadline

Friday 15 February 2019 at 13.00 CEST
Proposal submission deadline

March 2019
Evaluation

April 2019
Preparation of list of projects for funding by KIC Management Team

April to early May 2019
Approval of list of projects for funding by KIC Executive Board & communication to partners

August 2019
Inclusion of selected projects in Business Plan 2020 to be submitted to EIT

1 January 2020
Earliest starting date for approved projects

1 July 2020
Latest starting date for approved projects
Changes to the KAVA process – KAVA 6

Guidance on Upscaling proposals – focus on business potential, feasibility, sustainability. Clear guidelines on go-to-market strategy and project review

Technical results
Market evolution
Customer validation

Annual release
August - Starting Y1

Review / Feedback / go no-go
Q3 review

GAP?
Market launch

GO-TO-MARKET STRATEGY for UPSCALING PROJECTS
Process and guidance
EUROPEAN INNOVATION PARTNERSHIP

Join us at Trade Show North booth #6516N
Tuesday, 6 March, 13:00–18:00: EU Exploration and Mining Day: Presentation room #202D
Tuesday, 6 March, 18:30–20:30: EIT RawMaterials Networking Reception: Room #205B, by invite only

EIT RawMaterials at PDAC 2019 3 - 6 March 2019

https://eitrawmaterials.eu/events/eitrawmaterials-at-pdac-2019/
The Raw Materials Summit 2019 will include keynotes by prominent speakers from the raw materials sector, representatives of the EU Commission, high profile entrepreneurs and startup investors. Besides the keynote speeches, a series of parallel sessions will take place.

At the venture forum, startups will showcase and pitch their ideas to potential investors. Innovative programmes in education will be presented.
The Metallic Mining Hall (MMH) was held in Sevilla, Spain, on 17-19 October 2017, offering an international forum for the industry related to mineral extraction and processing.

The focus of MMH 2017 has been the sustainability of metals mining with regard to the technology advancements, the environmental protection and efficiency of the processes.
¡Gracias por su atención!

Lorena Jurado
Business Development manager Spain – CoLocation Center Southern Innovation Hub

lorena.jurado@eitrawmaterials.eu