

Evento di lancio della piattaforma italiana del forforo

EIT RawMaterials CLC South, Pier Luigi Franceschini



A pan-European partner network

- Coverage of the entire raw materials value chain
- World's largest community in the raw materials sector
- 120+ Core and Associate partners
- 190+ Project partners
- 20+ EU countries
- 6 Co-location Centers (Innovation Hubs) across Europe
- Three Regional Innovation Hubs and two Regional innovation centers (RIS and RIC)
- Headquarters in Berlin, Germany
- > 200 ongoing projects

- Countries covered by EIT RawMaterials
- EU countries
- Innovation Hub (Co-Location Center)
- RIC (Regional Innovation Center)
- RIS HUB (Regional Innovation Scheme)

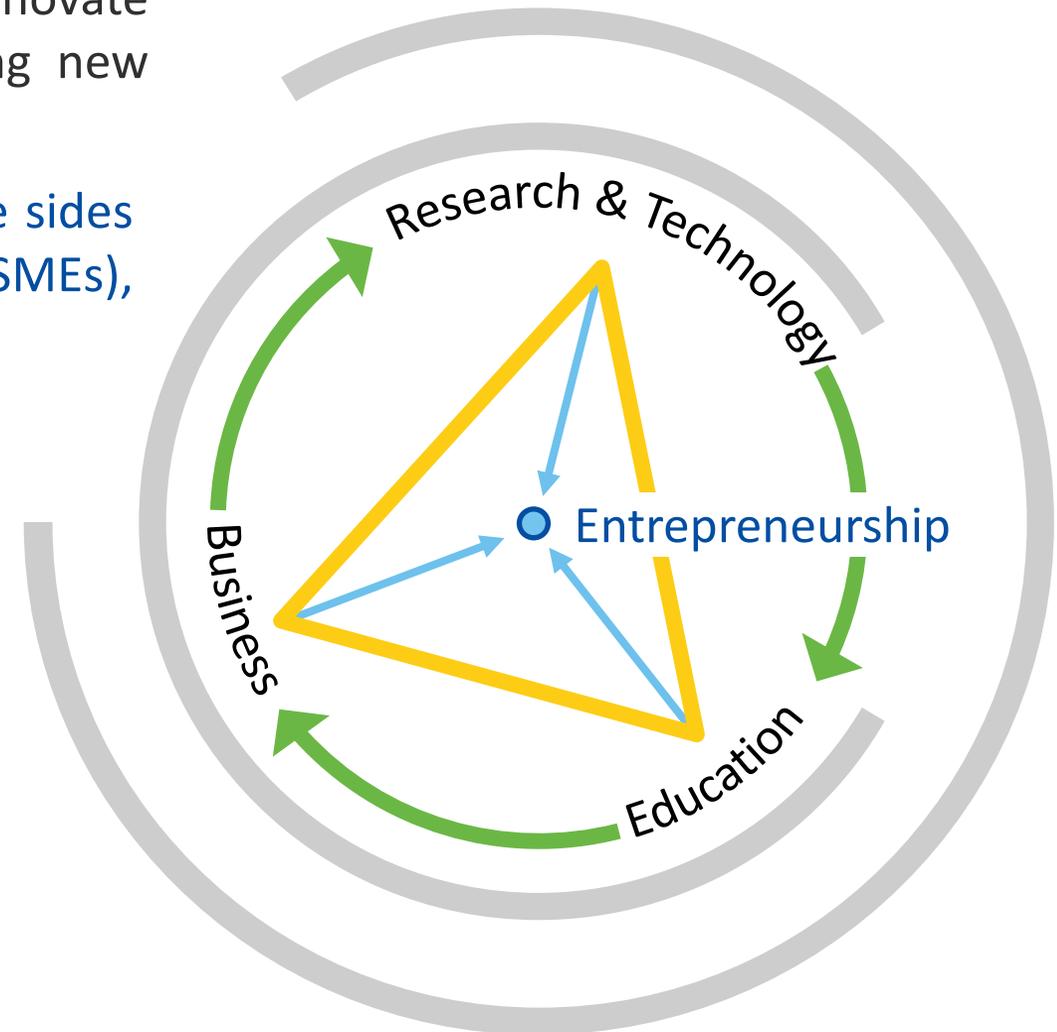
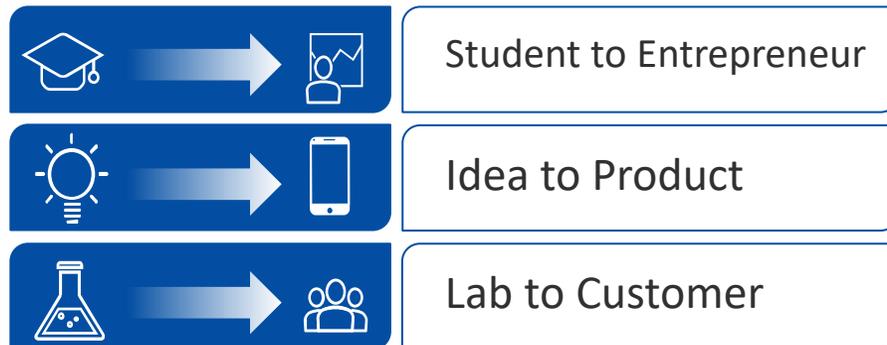


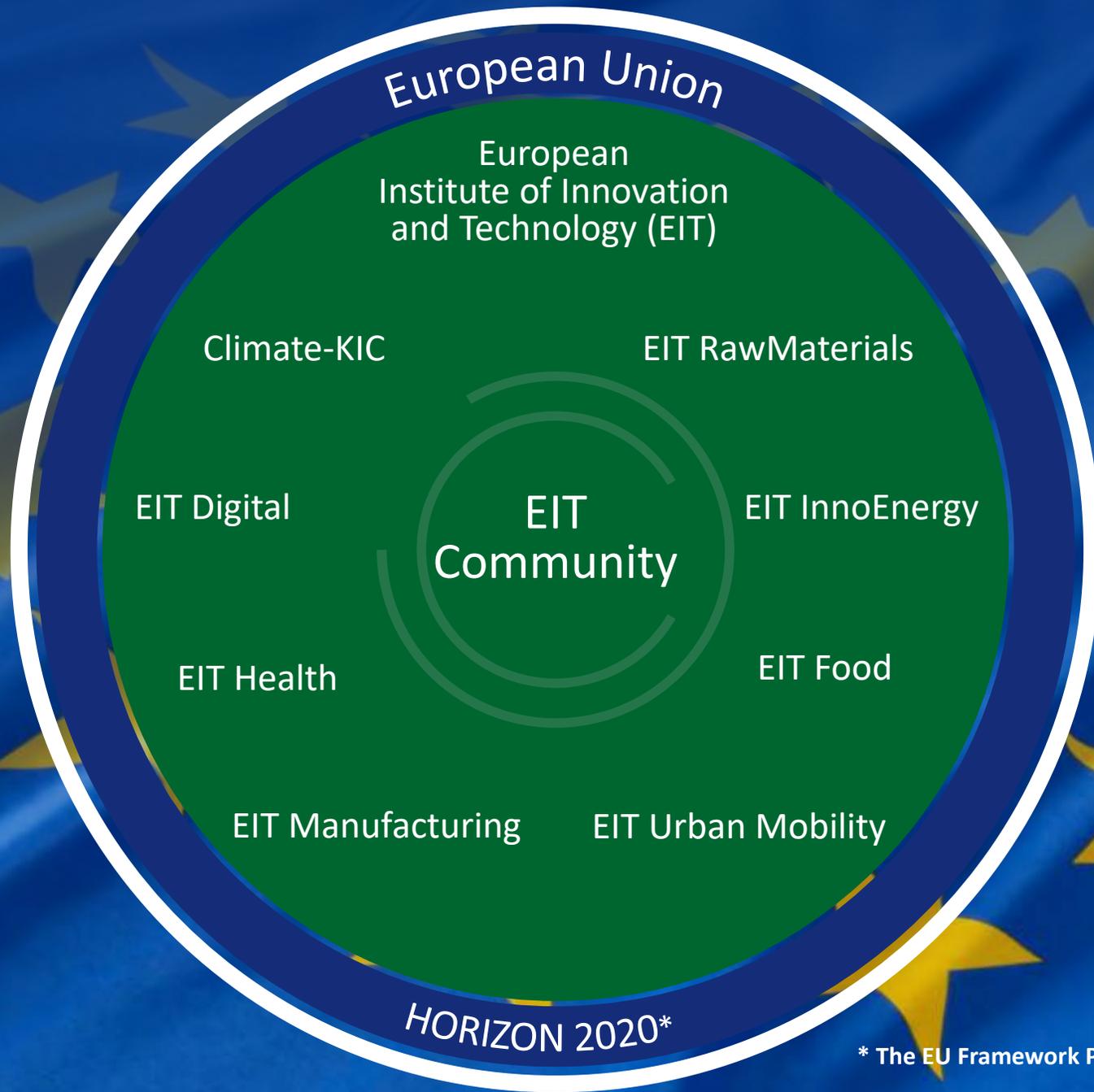
EIT (European Institute of Innovation and Technology)

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:





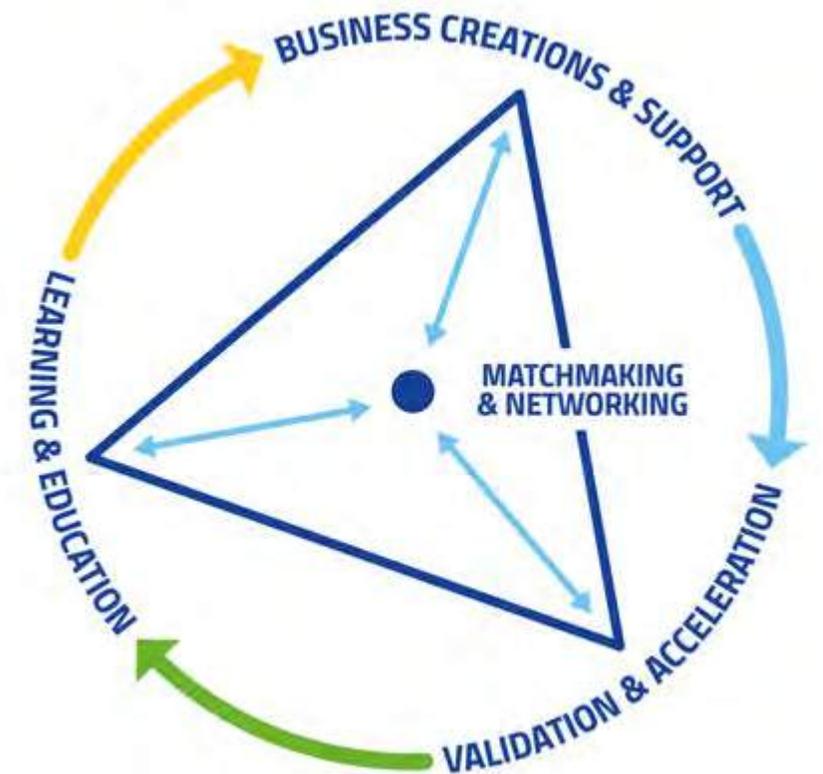
EIT RawMaterials vision and mission

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

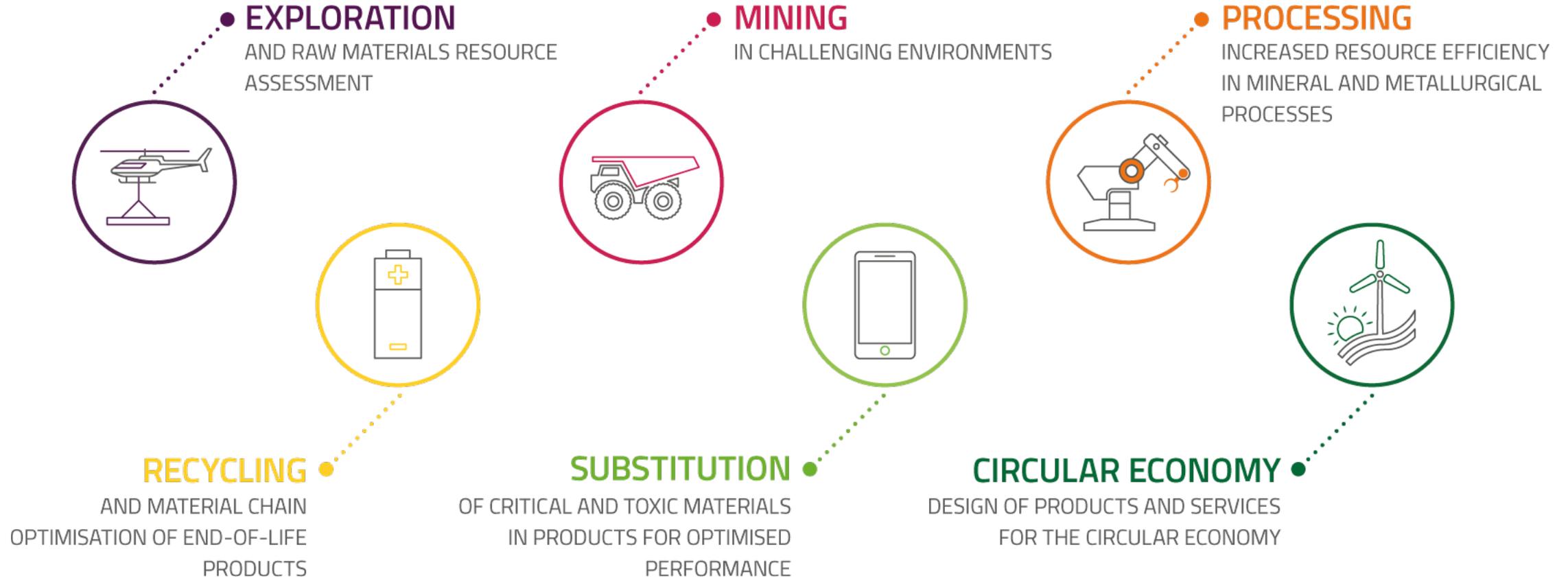
Its mission is to enable sustainable competitiveness of the European minerals, metals and materials sector along the value chain by driving innovation, education, and entrepreneurship.

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



EIT RawMaterials Innovation Themes



Partners

Industry



Partners

Universities

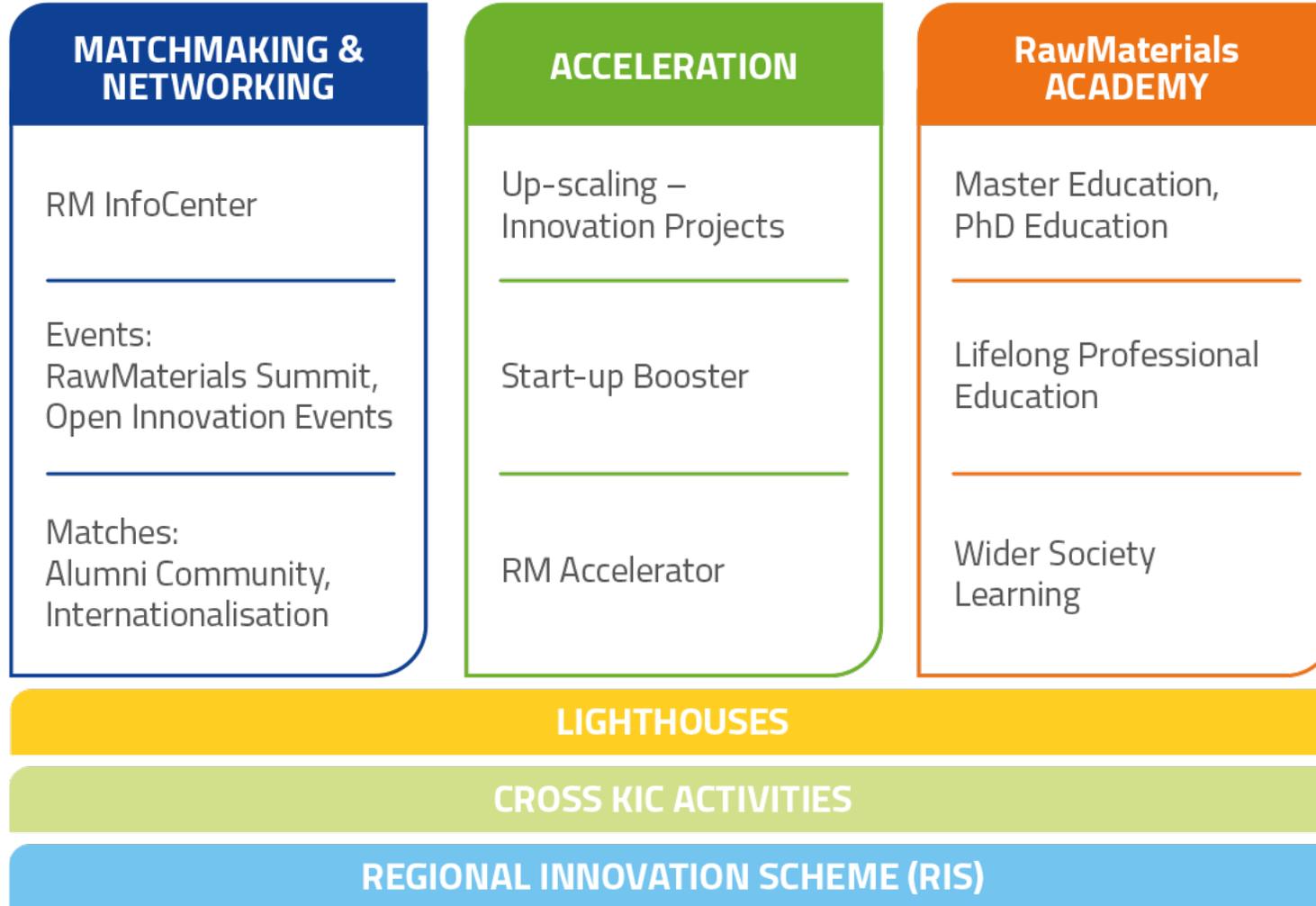


Partners

Research and Technology Organisations



Matchmaking & Networking, Acceleration, Education Activities



Innovation & Acceleration

Acceleration activities ensure the development, demonstration and transfer of innovative processes, technologies, products and services towards the market.

Activities cover innovative technology focused demonstration and validation projects with a strong focus on feasibility and application.

- **Upscaling innovation projects target:**
 - Integration of existing technology
 - De-siloing and value chain co-operation
 - Bringing technologies to the market
- **Start-up booster**
 - Supporting new start-ups, spin-offs and SMEs in creating their business models
- **RM Accelerator**
 - Accelerate start ups (scouting, business model development, funding and technology, coaching, incubation)



Innovation in Education – RawMaterials Academy

The RawMaterials Academy strives to educate the raw materials game-changers of the future and ensure that Europe cultivates a society of learners contributing to a strong EU raw materials base.

- **Master and PhD Programmes:** Strengthen students' technical expertise while fostering entrepreneurial and innovation skills and a problem solving mindset.
- **Lifelong Professional Education:** Courses offer education for raw materials professionals based industry needs.
- **Wider Society Learning:** Aims to raise awareness among young students (16-18 years) to ensure the availability of professionals in the future.





RAW MATERIALS SUMMIT 2019

Connecting Innovation in the Raw Materials Sector

20 - 22 MAY 2019, BERLIN

[#RMSummit2019](#)

- **Innovation and new technologies** covering the entire raw materials value chain
- **Future EU innovation** programmes and **impact on the raw materials industry** and sector
- **Start-up and venture forum:** showcase of the start-ups and pitching sessions dedicated to investors
- **Education:** showcasing innovative programmes in Education and the EIT Alumni



This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

Critical Raw Materials list

- List periodically produced by the EC based on various indicators expressing
 - Supply Risk
 - Economic Importance

Material	Stage ¹¹	Main global supplier	Share	Material	Stage	Main global supplier	Share
1 Antimony	P	China	87%	23 Natural graphite	E	China	69%
2 Baryte	E	China	44%	24 Natural Rubber	E	Thailand	32%
3 Beryllium	E	USA	90%	25 Neodymium	E	China	95%
4 Bismuth	P	China	82%	26 Niobium	P	Brazil	90%
5 Borate	E	Turkey	38%	27 Palladium	P	Russia	46%
6 Cerium	E	China	95%	28 Phosphate rock	E	China	44%
7 Cobalt	E	DRC	64%	29 Phosphorus	P	China	58%
8 Dysprosium	E	China	95%	30 Platinum	P	S. Africa	70%
9 Erbium	E	China	95%	31 Praseodymium	E	China	95%
10 Europium	E	China	95%	32 Rhodium	P	S. Africa	83%
11 Fluorspar	E	China	64%	33 Ruthenium	P	S. Africa	93%
12 Gadolinium	E	China	95%	34 Samarium	E	China	95%
13 Gallium*	P	China	73%	35 Scandium	P	China	66%
14 Germanium	P	China	67%	36 Silicon metal	P	China	61%
15 Hafnium	P	France	43%	37 Tantalum	E	Rwanda	31%
16 Helium	P	USA	73%	38 Terbium	E	China	95%
17 Holmium	E	China	95%	39 Thulium	E	China	95%
18 Indium	P	China	56%	40 Tungsten	E	China	84%
19 Iridium	P	S. Africa	85%	41 Vanadium	P	China	53%
20 Lanthanum	E	China	95%	42 Ytterbium	E	China	95%
21 Lutetium	E	China	95%	43 Yttrium	E	China	95%
22 Magnesium	P	China	87%				

Legend

Stage E = Extraction stage P = Processing stage

HREEs Dysprosium, erbium, europium, gadolinium, holmium, lutetium, terbium, thulium, ytterbium, yttrium

LREEs Cerium, lanthanum, neodymium, praseodymium and samarium

PGMs Iridium, palladium, platinum, rhodium, ruthenium

*Global supply calculation based on production capacity

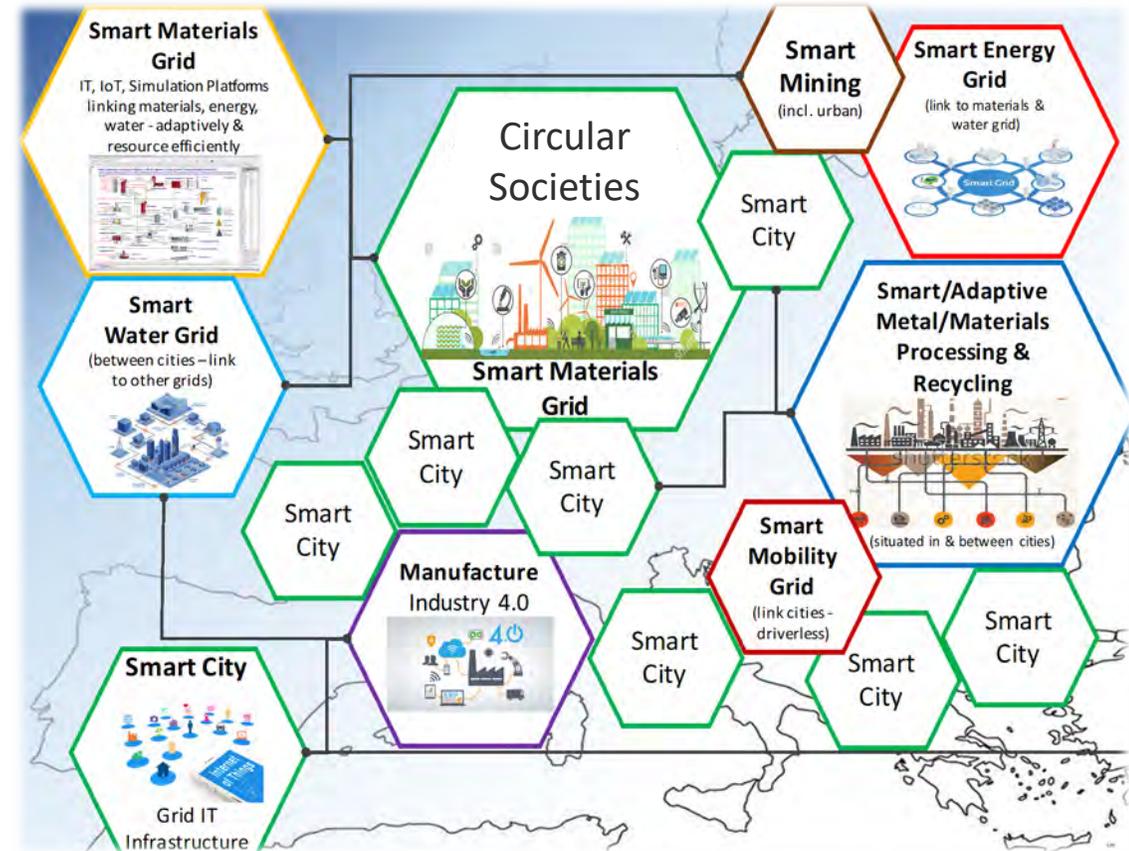
Sustainable Materials for Future Mobility

- **Challenge:** Mobility is essential for rapidly changing modern society and an important economic factor in European industrial competitiveness. Emerging energy and mobility technologies create a strong demand for raw materials, and for some critical materials this demand will dramatically exceed current production in the next 10 to 15 years.
- **Approach:** Support innovation activities and critical knowledge to solve challenges in the mobility sector.
- **Impact:** Great innovation and business opportunity for the primary/secondary raw materials and advanced materials sectors. Fundamental shift in resource basis of our society. This Lighthouse focuses on the raw materials and advanced materials for two key innovation trends in mobility:
 - *Electrification (Materials:* Fuel cells, batteries, magnets, e-drives)
 - *Lightweight design (Materials:* Steels, composites, multimaterials, non-ferrous alloys)



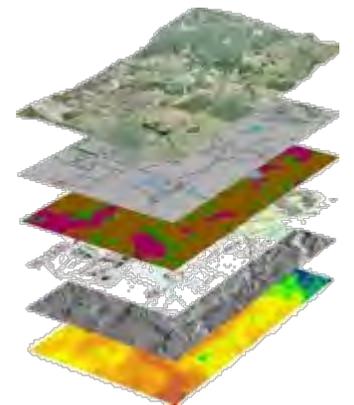
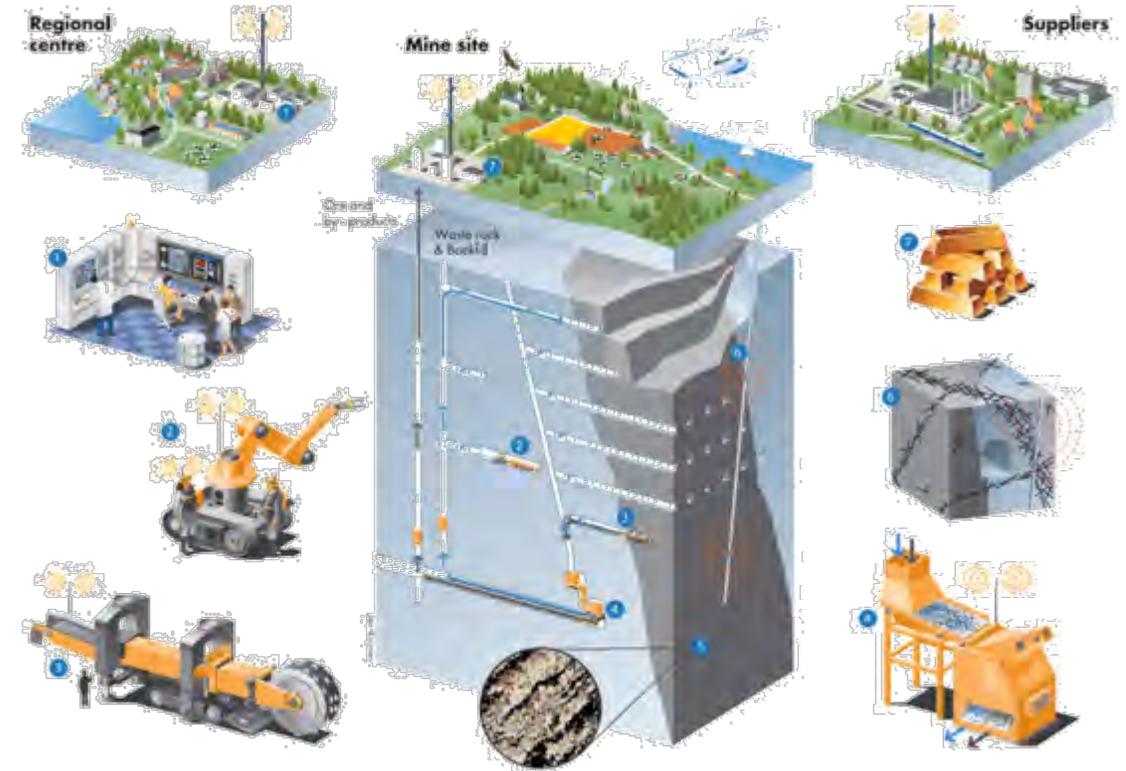
Raw Materials and Circular Societies

- **Challenge:** The sustainability of modern urban environments and the successful transition to the circular economy on a global scale depend on a reliable and sustainable supply and management of raw materials
- **Approach:** Optimize the efficient discovery, characterization, processing and flow of materials across the environment moving towards 'zero waste', a core concept of a circular economy
- **Impact:** The Lighthouse will integrate results, knowledge and data into a digital map of resource locations and their flows within cities, and between cities and the surrounding environment - 'smart materials grid'.
- This Lighthouse is aligned with the *EU Circular Economy Package* and the *EU Zero Waste strategy* to achieve a circular society.



Sustainable Discovery and Supply

- **Challenge:** European Industries depend on raw, processed and advanced materials but these are not produced locally therefore the EU has a significant import dependency and is vulnerable to scarcity and supply shortage. Resources, both primary and secondary, exist in Europe but these are not fully exploited because of public concern over the sustainability of exploration, mining and processing operations.
- **Approach:** Provide technological innovation to develop exploration, mining and processing capabilities. Focus on exploration, mining and processing of primary and secondary raw materials, and on public acceptance.
- **Impact:** This Lighthouse will promote the benefits of a strong minerals and materials sector in modern society and a transition towards a green and circular economy.



Examples of projects on Phosphorus recovery

Short Title	Title	Project Description	Lead Partner
InPhos	InPhos - Sustainable Management of Phosphorus in Baltic countries	P strategy for the Baltic region will be developed by a working group of experts.	Mineral and Energy Economy Research Institute of the Polish Academy of Sciences (MEERI)
PhosForce	Market ready technologies for P-recovery from municipal wastewater	up-scaling a new phosphorus recovery process scheme in WWTP sludge stream targets > 50% phosphorus recovery	Veolia Wasser Deutschland GmbH
ViviMag	A novel magnetic route for phosphorus and iron recovery from sewage sludge	recovery of the iron phosphate mineral vivianite from sewage sludge using magnetic separation steps	Stichting Wetsus European Centre of Excellence for Sustainable Water Technology, (Wetsus)



RawMaterials

Connecting matters

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