

Industrial Symbiosis as a tool to secure sustainable supply of secondary raw materials

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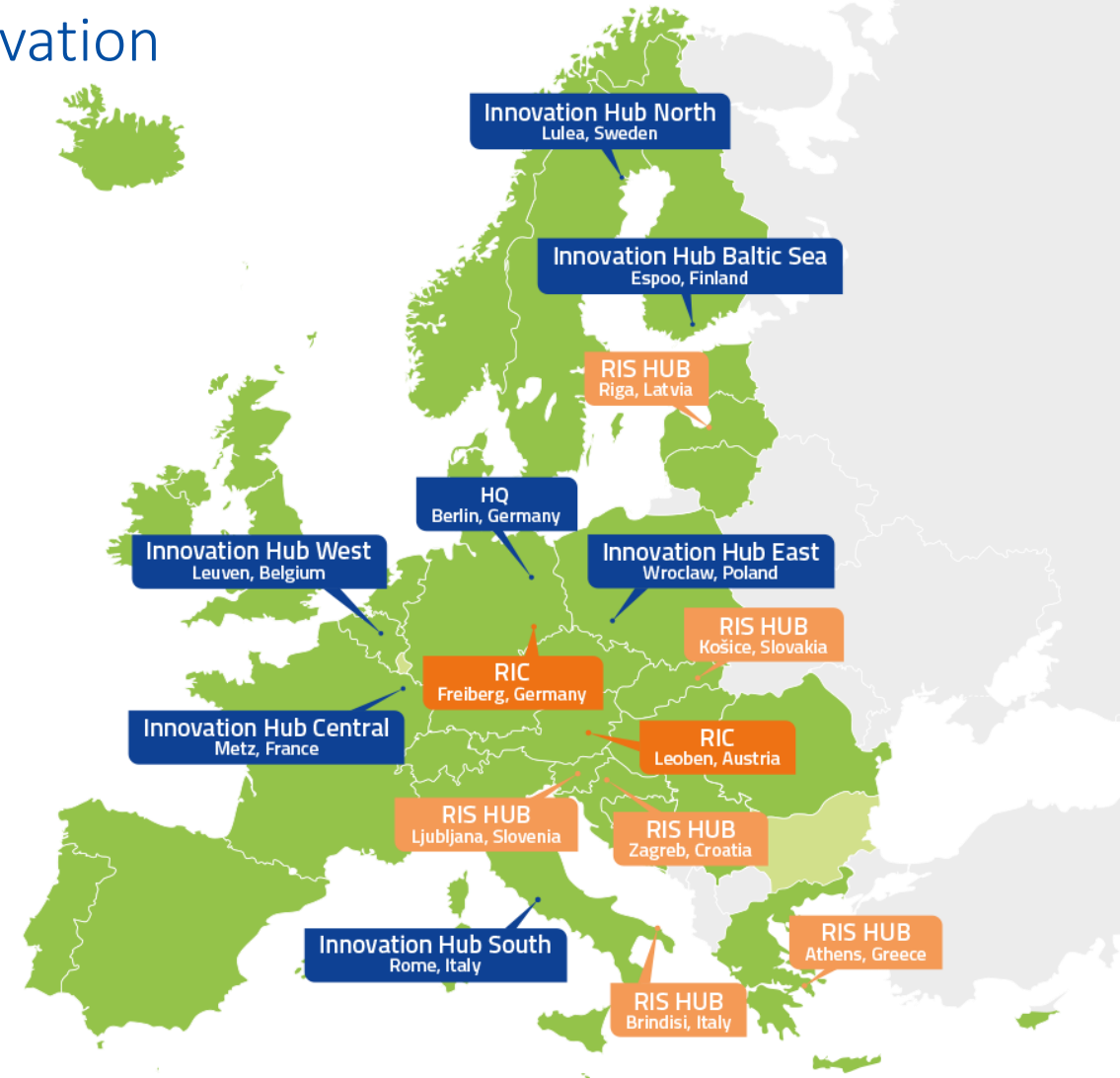
Funded by the
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EIT RawMaterials – EU funded pan-European Innovation Community

- World's largest innovation community in raw materials – across several value chains
- Over 120 core and associate partners and 180+ project partners: industry, research, universities
- 22+ countries
- 6 Innovation Hubs, 8 Regional Innovation Hubs/Centers
- Headquarter in Berlin, Germany

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



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- Every one of us is consuming on roughly three times as much energy and twice as many materials as our ancestors were consuming in 1900. And what's more, there are now over 7.2 billion of us doing so, compared with 1.6 billion back in 1900.

“EEA”

- **EIT RawMaterials vision is to develop raw materials into a major strength for Europe:**
 - - **Securing raw materials supply**
 - - **Designing materials solutions**
 - - **Closing materials loops**
- **“Secondary Raw materials”**

EIT RawMaterials Innovation Themes

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



LIGHTHOUSES



SUSTAINABLE DISCOVERY AND SUPPLY

Sustainability starts with Europe's
resource potential



SUSTAINABLE MATERIALS FOR FUTURE MOBILITY

Innovation in electrification and lightweight
design enabling green energy transition



RAW MATERIALS AND CIRCULAR SOCIETIES

Closing material loops: a radical shift
from linear to circular thinking

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)

Technology – EIT RM calls

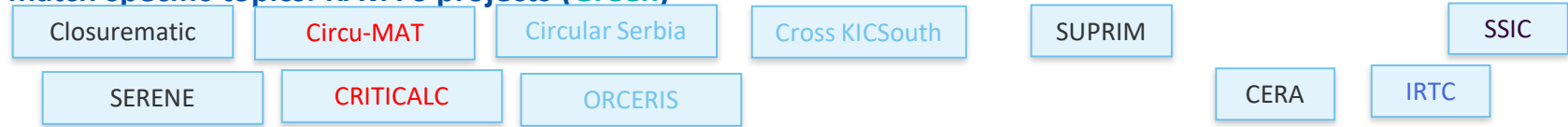
- Supporting Innovation
- TRL 5/6 to TRL 7/8
- Access to market
- ETV support in EIT RM calls
- Technology just one enabler; market/policy/data management/education

Circular Societies– Portfolio Analysis

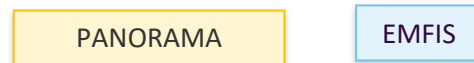
Themes

Existing Up-scaling, Education (red), RIS (blue), Nol (brown), Knowledge creation , INT (yellow) projects that match specific topics. KAVA 6 projects (Green)

Modelling Tools / LCA / Circularity



Data Management /MFA / Design for the Circular Economy



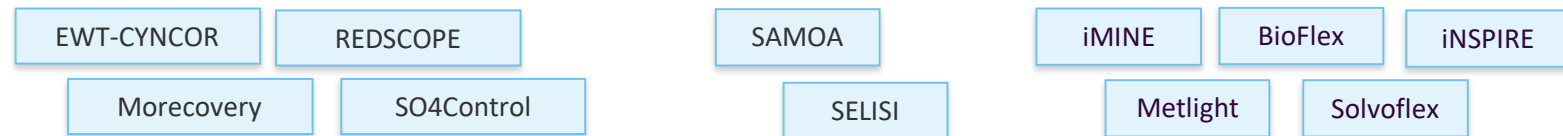
Industrial Symbiosis / Industrial Waste Valorisation /



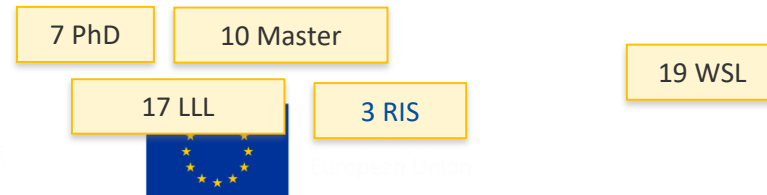
Recycling / End-of-Life Products



Resources efficiency- Metallurgical processing



Education for Circular societies / Awareness Cross Topic



Circular Societies– Portfolio Analysis

Themes

Existing Up-scaling (black), Education (red), RIS (blue), Nol (brown), Knowledge creation, INT (yellow) projects that match specific topics

Modelling Tools / LCA /
Circularity

Triple Link

IRTC Business

Data Management /MFA
/ Design for the Circular
Economy

STORM

Residuflex

IntCEB

DESULF

SAMEX

TETALEAD

ERMAT

Inco PILES

DIGISERplus

Industrial Symbiosis / Industrial
Waste Valorisation

AUSOM

RAMSES-4 CE

VALOMAG

Recycling / End-of-Life
Products

CHARAMBA

Resources efficiency-
Metallurgical processing

Education for Circular
societies / Awareness/
Cross Topic
Knowledge Creation Call

CIRCUIT

POLICE



Business Creation – Start-ups supported

Recycling of end-of-life-products

TND: recycling of PCB by recovering strategic metals

Extracthive: High-quality recycling-technology for fibre reinforced plastics

FLAXRES: rapid separation of photovoltaic modules via light pulse

Circular Industries: recovery of CRMs from (low grade) PCBs



Industrial Waste Valorisation

ResourceFull: concrete out of metallurgic & mining residues

Value Ash: concrete binders and fillers out of fly ashes

PMC: recovery of premium steel from contaminated steel scrap

Black Bear: recovery of carbon black & metals from e.o.l. tires

ROSI: recycling of silicon kerf waste from photovoltaic panels manufacturers

AJELIS: selective sorbents for enrichment and extraction of strategic metals



Financed by the
European Union

non exhaustive

THANK YOU

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