



Vision

The EIT Raw Materials Lab initiative aims at contributing to a **competitive and sustainable Europe** through successful development of **innovations** for new **commercial products and services** on a **global market**



Challenges

With the KIC in Raw Materials the EIT addresses the societal challenges of Europe, boosting competitiveness and sustainable growth by creating world-class innovation and implementing the knowledge triangle



KIC focus

Business creation
in existing
industry and new
endeavours



Entrepreneurial
people



Innovative climate
by close
cooperation
between industry
and academia

Job creation,
brain gain,
competitiveness
and sustainable
growth





Sweden has initiated the EIT Raw Materials Lab addressing the entire value chain supported by global industry, research institutions and universities

Raw Materials is defined as Sustainable exploration, extraction, processing, recycling and substitution

The European consortium embraces the idea of the Knowledge Triangle. The primary interest of Sweden covers the value chain of primary resources in exploration, mining, mineral processing and metallurgy, as well as the end user-perspective in the secondary value chain, material science and substitution.

The EIT Raw Materials Lab European consortium contributes to:

Commercialization of R&D results through participating SMEs, suppliers and spin-offs

Securing the industrial need of 'top talents of tomorrow'

Impact upon the innovative agenda of Europe

Close collaboration of excellence in international R&D platforms and demonstrators

Cooperation of European universities by investing in international M.Sc.- and Ph.D.-programs with double degree (EIT)

Primary resources value chain

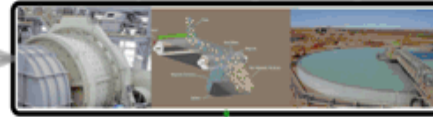
Exploration → Mining → Processing

Resource Efficiency

Economic and multi-physics understanding key to "closing" loop



Resources
Materials



Pre-processing / Sorting

Residues / Sludges / Plant Footprint
Water / Energy / Materials

Metals & Materials in
Consumer Products



EoL, Scrap
Consumer
Production
Intermediate
Legislation

Resource Efficiency
Product Centric Metal & Material
Production System

Environment: Maximize Resource Efficiency -
Energy, Recyclates, Materials, Water,
Sludges, Emissions, Land...

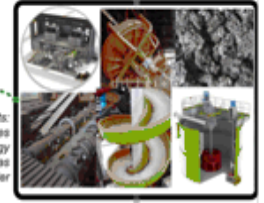
by
Economic feasibility: BAT & Recycling
Systems Simulation & Digitalization, Global
Leader

Social - Licence to Operate: legislation,
consumer, policy, competitive edge...

with
Deep Knowledge: multi-physics models used
in intelligent control systems, materials
science, innovative technology, product
design, market, life cycle management,
Design for Recycling & Sustainability...

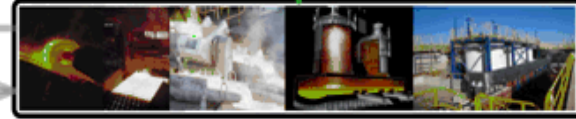
Emissions / Residues / Energy / Plant Availability /
Unused Resources / Cost & Product Driven

Concentration
Pre-treatment



Footprints:
Additives
Energy
Offgas
Water

Recycling



Metallurgy (hydro, pyro, bio), Metals Processing, Energy Recovery



Secondary resources value chain

Antropogenic → Recycling → Processing

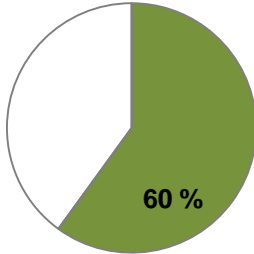
Deposit
analysis



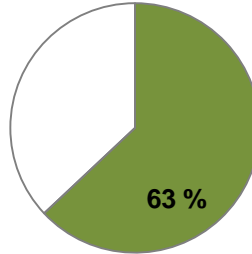
Share of EU31 production

in Finland, Poland and Sweden, 2010

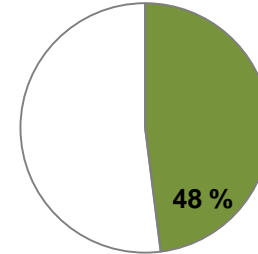
Copper



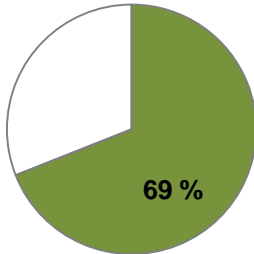
Lead



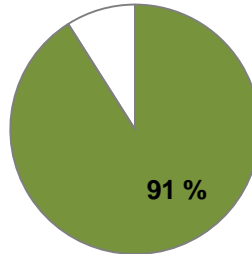
Zink



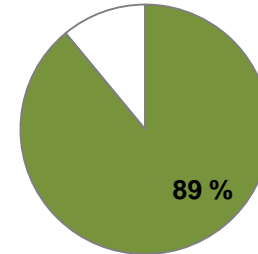
Gold



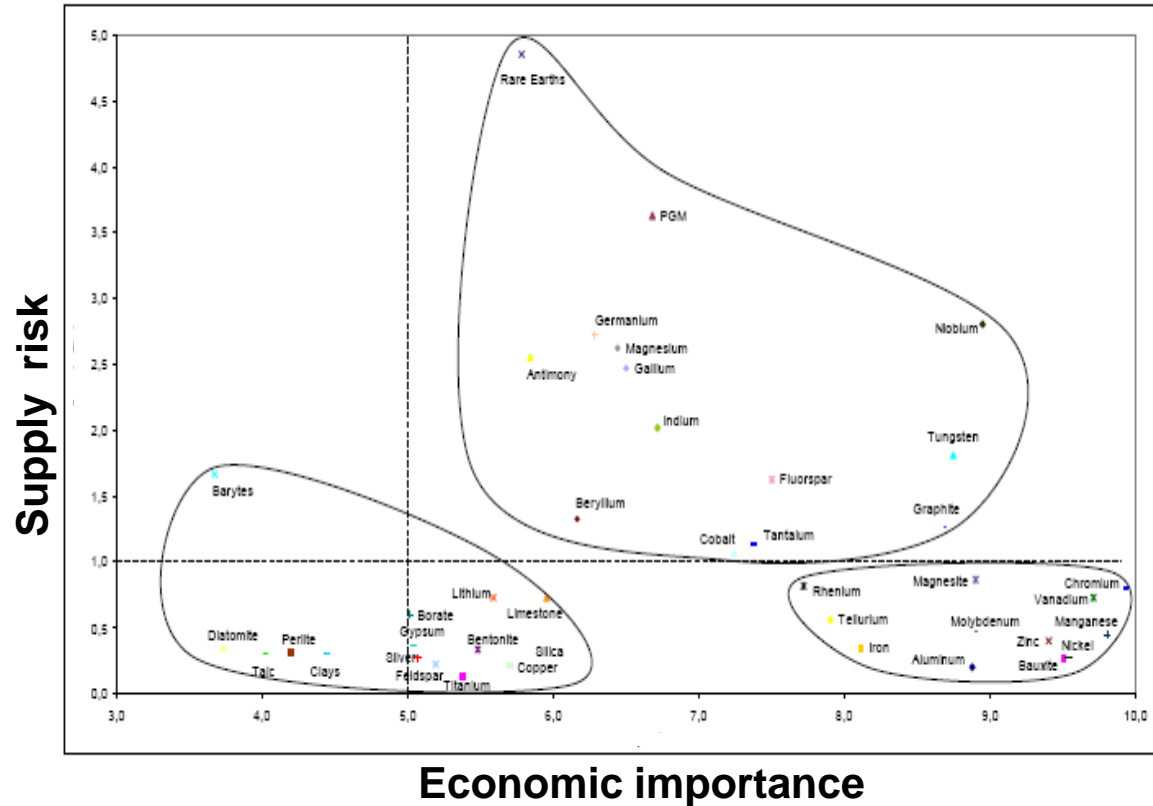
Silver



Iron



Critical elements



List of critical raw materials at EU-level

List of critical raw materials at EU level (in alphabetical order):

Antimony	Indium
Beryllium	Magnesium
Cobalt	Niobium
Fluorspar	PGMs (Platinum Group Metals) ¹
Gallium	Rare earths ²
Germanium	Tantalum
Graphite	Tungsten

¹ The Platinum Group Metals (PGMs) regroup platinum, palladium, iridium, rhodium, ruthenium and osmium.

² Rare earths include yttrium, scandium, and the so-called lanthanides (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium and lutetium)

International Interim Consortium

Aalto University: Finland, University
AGH University of Technology: Poland, University
ArcelorMittal Group: Belgium, Industry
Atlas Copco: Sweden, Industry
Boliden: Sweden, Industry
CEA: France, Institute
Fraunhofer Institute: Institute, Germany
Geological Survey of Finland: Finland, Institute
Geological Survey of Sweden: Sweden, Institute
Helmholtz Institute: Germany, Institute
HYDROMET Sp.: Poland, Industry
Institute of Non-Ferrous Metals (IMN): Poland, Institute
Institute of Physics Polish Academy of Sciences: Poland, Institute
KGHM: Poland, Industry
KGHM CUPRUM: Poland, Industry
KGHM Ecoren S.A: Poland, Industry
KGHM Letia Technology Park of Legnica: Poland, Industry
KU Leuven: Belgium, University
Leoben University: Austria, University
Liège University: Belgium, University
LKAB: Sweden, Industry

Luleå University of Technology (LTU): Sweden, University
Metso: Finland, Industry
Nordic Rock Tech Centre: Sweden, Industry
Outotec: Finland, Industry
Oulu University: Finland, University
RISE/ SWEREA/ MEFOS: Sweden, Institute
Royal Institute of Technology (KTH): Sweden, University
Sandvik: Sweden, Industry
TNO: Netherlands, Institute
TU Bergsakademie Freiberg: Germany, University
TU Clausthal: University, Germany
Umicore: Belgium, Industry
Uppsala University: Sweden, University
VITO: Belgium, Institute
Voest Alpine: Austria, Industry
VTT: Finland, Institute
Wroclaw Research Centre EIT+: Poland, Institute
Wroclaw University of Technology: Poland, University
W. Trzebiatowski Institute of Low Temperature and Structure Research, Polish Academy of Sciences: Poland, Institute

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External Affairs

Roland Roberts
Professor, Chair in
Seismology (deputy)

International consortium

Purposeful and competitive composition reflecting the core skills of the Knowledge Triangle (K3) as well as of the entire value chain

Key players, industry, universities and institutes are recruited to the sections strategically important at KIC level according to directives set by EIT in the call text, SIA

The engagement of partners in the consortium can be directed at different levels: 'core partners' active at European level, 'associated partners' at national level

Each 'core partner' must be able to demonstrate the capacity to invest costs over a long period, i.e. in kind and in cash.



National consortia and Steering Committees

Reflect the core skills of the Knowledge Triangle

Propose potential 'core partners', education and R&D-programs to the International Steering Committee

Make decisions on 'associated partners'

Appoint two members to the International Steering Committee, one representing industry and one representing academia, and two deputies with similar merits



General Assembly

Consisting of 'core partners' with an ambition to invest in accordance to an indicative level of 1M€ a year in the future KIC in Raw Materials

The intention of the 'core partners' is addressed in a Memorandum of Understanding to be signed before actively contribution

Validates major decisions, such as the final node (CLC) structure and the inclusion of countries/regions that potentially establish nodes, i.e. clusters consisting of more than one core partner

Give comments to the draft application and approve the final application

International Steering Committee

Consisting of senior persons from the core member organisations, with a matched representation of industrial and academic/research partners

A thematic balance will characterize the Steering Committee, as well as a holistic coverage of the three generic working groups

Leads the consortium and the preparation of the application until the KIC is negotiated and won

Leads the work and gives advice and guidance to the project management team

Decides upon thematic focus areas, enrolment of single 'core partners', use of external consulting, et cetera

Project Management

Leads the preparation of the KIC-application and report to the Steering Committee

Prepares Steering Committee meetings and General Assembly meetings

Co-ordinates the Working Groups (WGs), addressing vertical as well as generic topics, and interacts closely with the administrative coordinators of the WGs

Facilitates knowledge sharing, networking and lobbying both within the consortium and with parties and stakeholders of strategic importance to the consortium, in industry and academia, including policy-makers

Analyses EIT directions and guidelines, i.e. demands and expectations related to a KIC-application in Raw Materials, practicalities concerning application process

Working Groups

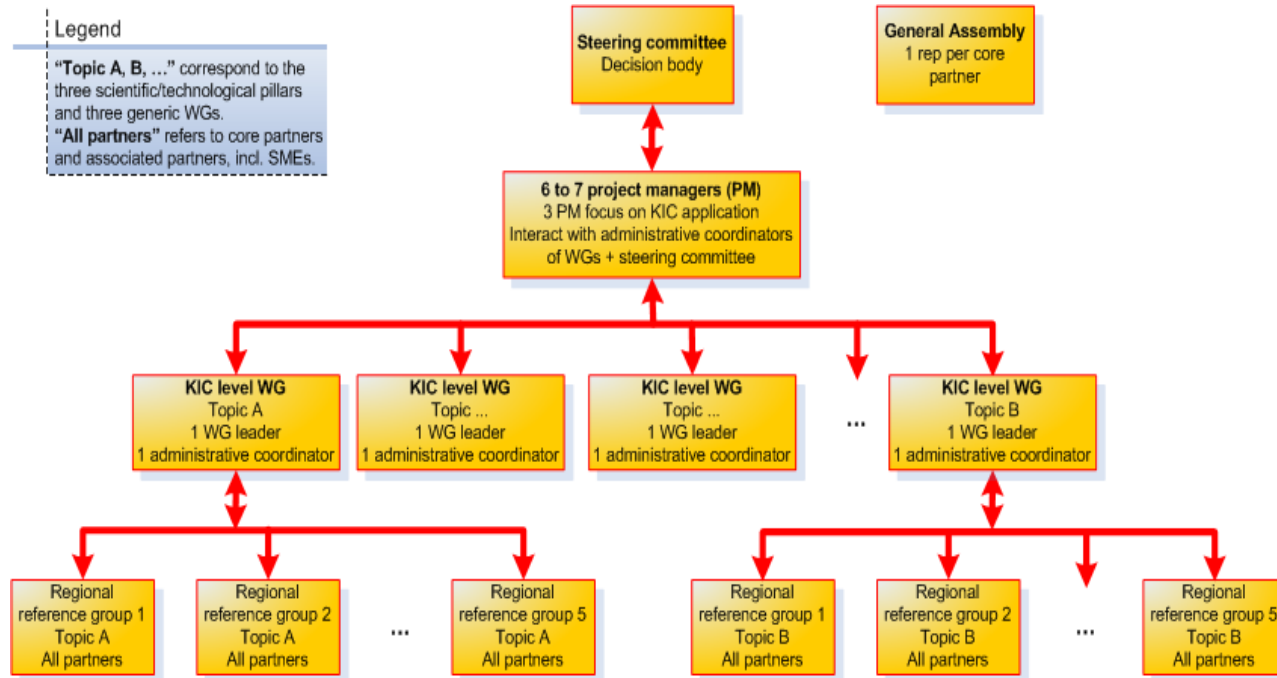
Working Groups addressing the vertical pillars of technology development/innovation/business opportunities:

- Primary Resources (Exploration/Mining/Mineral Processing/Metallurgy)
- Secondary Resources (Recycling/Processing/Metallurgy)
- Tertiary Resources (Material Management/Substitution)

Generic Working Groups:

- Governance, structure, organisation, finance and level of partnership
- Innovation Model and IP, communication and dissemination
- Education programs – academic as well as practical, collaboration between industry and academia

Governance model during preparation phase



Recruitment process of potential partners

National consortium recruits key players in the industry and the academia to the sections strategically important at KIC

The engagement of stakeholders in the consortium can be directed at different levels: 'core partners' active at European level, or 'associated partners' active at national level.



The National Steering Committees make decisions on 'associated partners'

The National Steering Committee proposes potential 'core partners' to the International Steering Committee that make the final decision

A stakeholder wishing to open a dialogue with the consortium, but not given access by the national level, can turn direct to the International Steering Committee to make its case

Next steps

- Establishment of International Steering Committee, April, Sandviken, Sweden
- Joint discussions with potential core partners
- Vision, mission, business strategies
- Establishment of thematic and generic task forces (based upon call EIT SIA)
- Identify and recruit potential core partners
- Participate in EIT Info events and EIT Forum Dublin
- Lobbying with strategic parties, policy-makers
- Secure funding
- Surveillance of launch and content of final call
- Intelligence Horizon 2020, potential synergies EIP
- Recruit external company for writing the proposal (tbc)



Time table

Q1/Q2 2013: EIT will organize seminars on the themes Food, Health and Raw Materials for the next wave of KICs (once adopted by the EP and Council)

Q2 2013: EIT aims to publish the selection criteria applicable to the next wave of KICs as well as a Guidance Document.

Step 1: EIT will launch the call for KICs following the adoption of the Multi Annual Financial Framework. Proposers will be given sufficient time to prepare.

Step 2 (Step 1+2 months): EIT will organize an Info Day event aiming to address specific, logistical questions related to submitting a proposal for the new wave of KICs.

Step 3 (Step 1+4-6 months): Submission of proposals and evaluation process

Q4 2013/Q1 2014:
Selection of new KICs winners



Thank you for your attention!

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