



Academia & Research Institutes of RM Sector: Current State, Challenges, Future Steps

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Academia in RM Sector - Current Status

Knowledge
Network for
Sustainable
Mineral
Wealth
Exploitation



Academia in RM Sector - Current Status



Open University Day

Raw Material Resources:
Future, needs and opportunities



19 June 2014

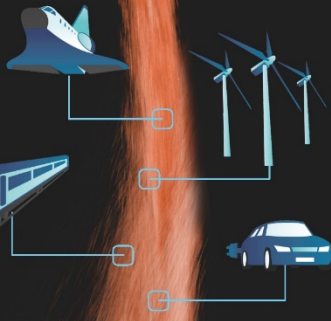
Megaron

The Athens Concert Hall
Room Banquet

09:30 – 17:30


Prof. Ioannis Paspaliaris
Dean, School of Mining and Metallurgical Engineering
National Technical University of Athens

Assoc. Prof. Nicolaos Voulgaris
Head, Faculty of Geology and Geoenvironment
National and Kapodistrian University of Athens



@EUenterprise
@OpenUnivDayGR
#RawMaterialsDay
#EU4Jobs

In cooperation with:

 National Technical University of Athens
School of Mining and Metallurgical Engineering

 National and Kapodistrian University of Athens
Faculty of Geology and Geoenvironment

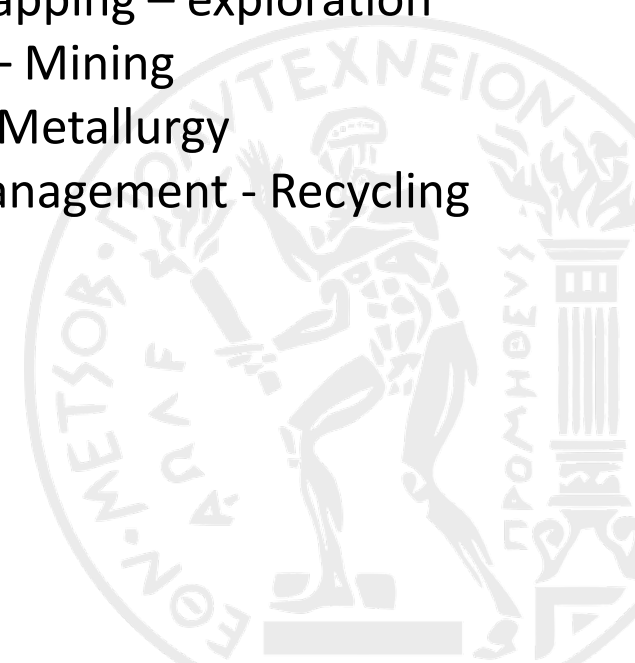


More information:
ec.europa.eu/enterprise/policies/raw-materials

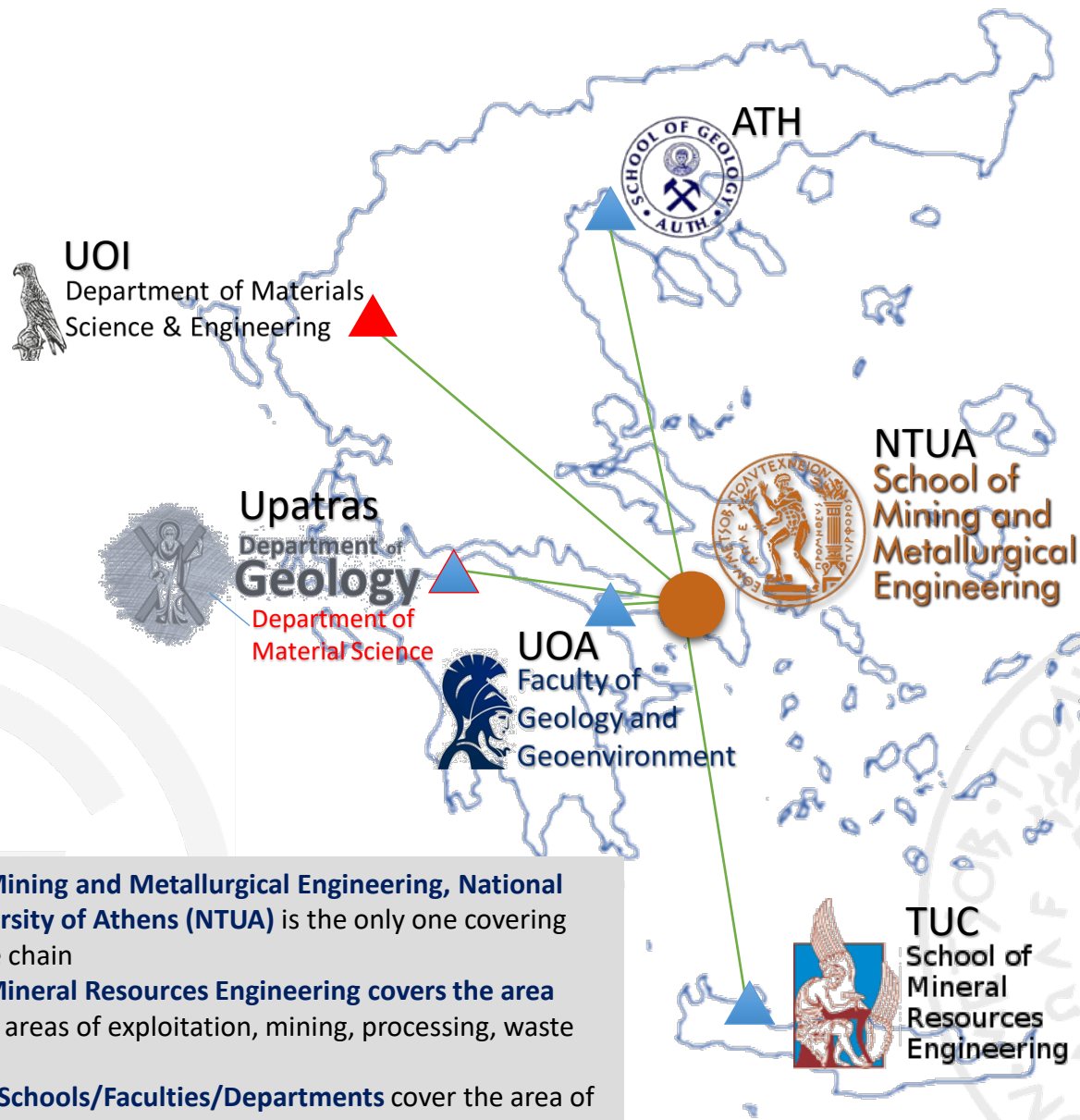


In relation to the Raw Materials sector there are in Greek several Schools/Faculties/Departments focusing on the various stages of the value chain:

- Resources mapping – exploration
- Exploitation – Mining
- Processing – Metallurgy
- RM waste management - Recycling



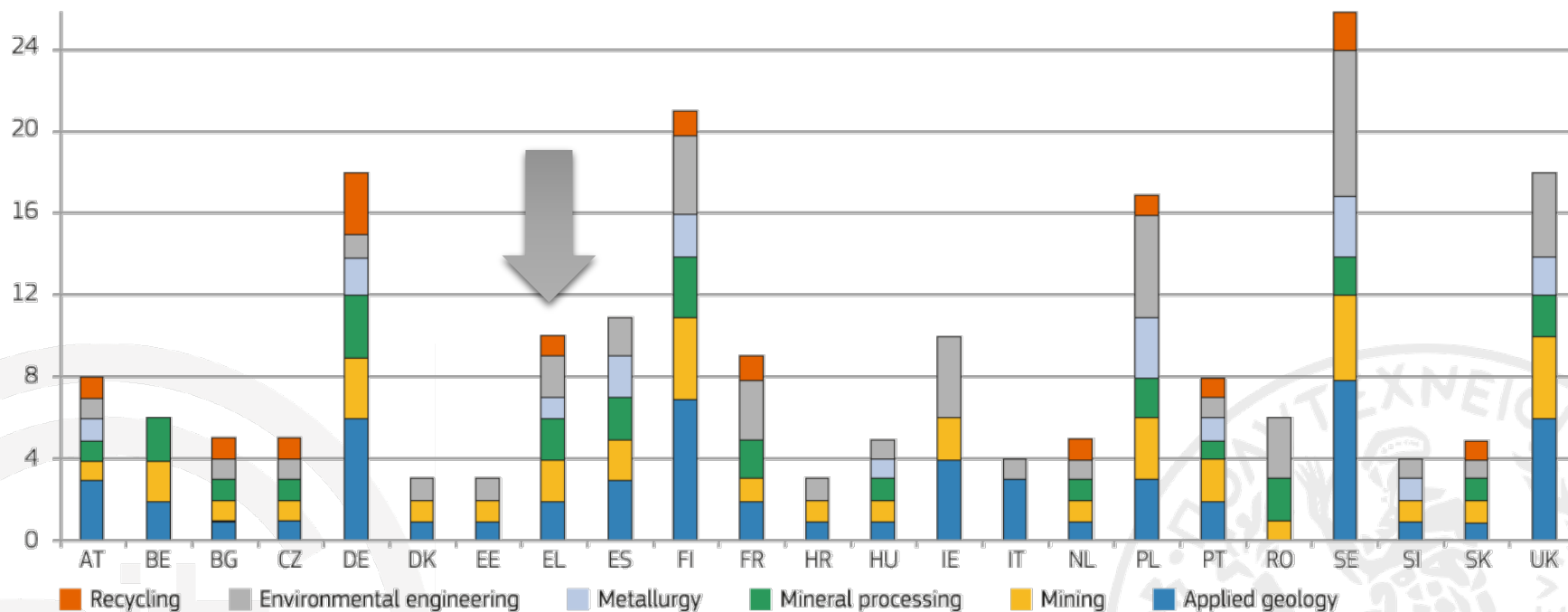
Academia in RM Sector - Current Status



- The **School of Mining and Metallurgical Engineering, National Technical University of Athens (NTUA)** is the only one covering the whole value chain
- The **School of Mineral Resources Engineering covers the area (TUC)** cover the areas of exploitation, mining, processing, waste management
- The **Geological Schools/Faculties/Departments** cover the area of resources mapping, identification, ore exploration

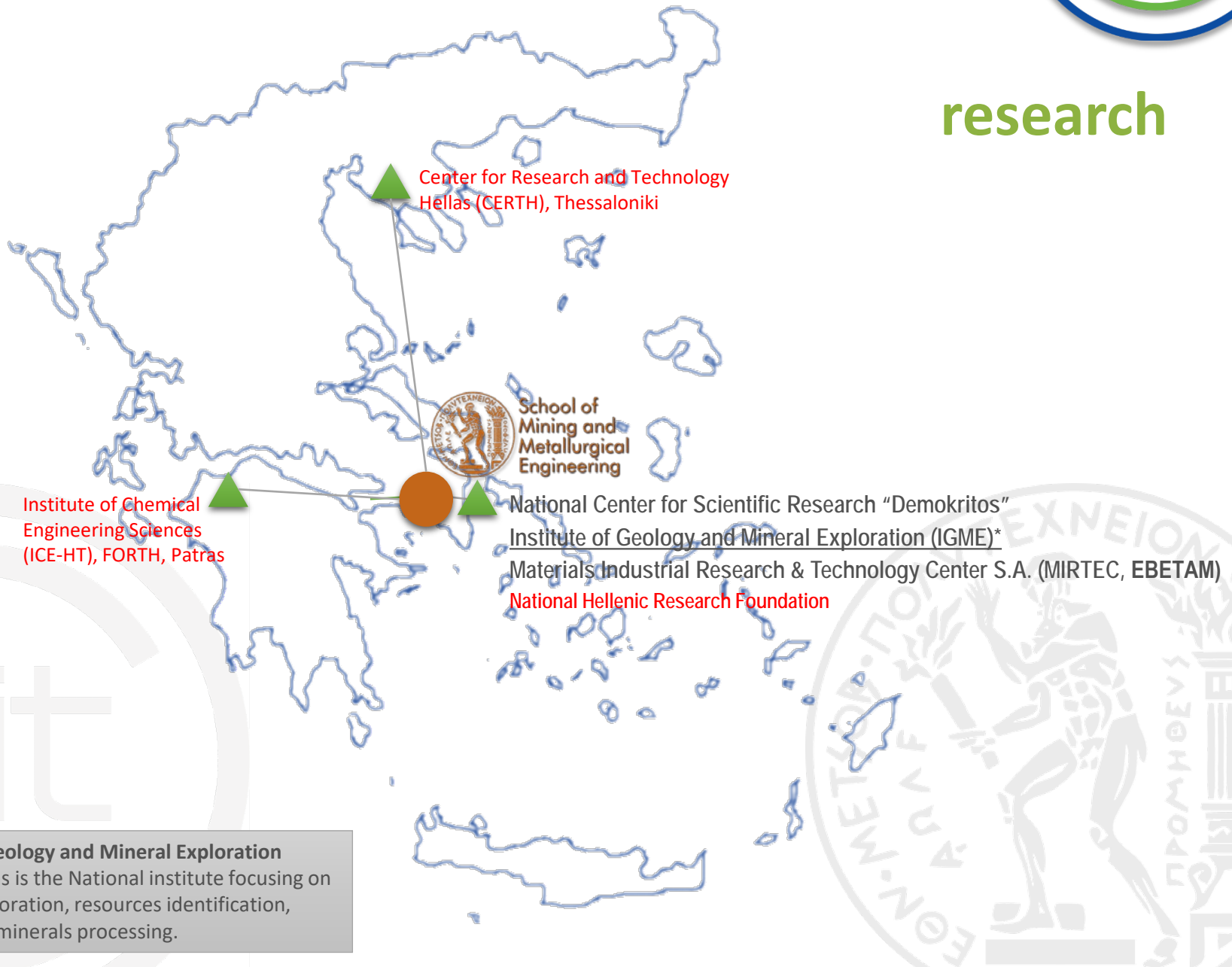
Academia in RM Sector - Current Status

Figure 23: Number of educational programmes related to raw materials by country (2012)¹⁰³



Research Institutes in RM Sector - Current Status

research

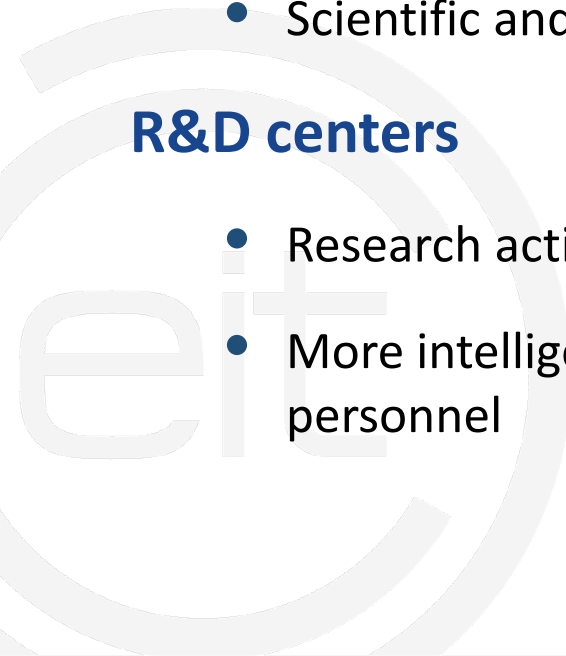
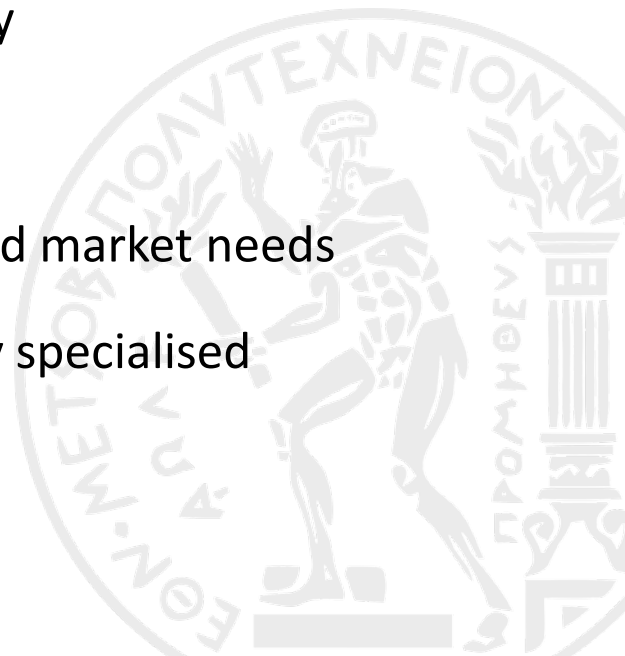


* Institute of Geology and Mineral Exploration (IGME), Athens is the National institute focusing on mapping, exploration, resources identification, covering also minerals processing.

Academia


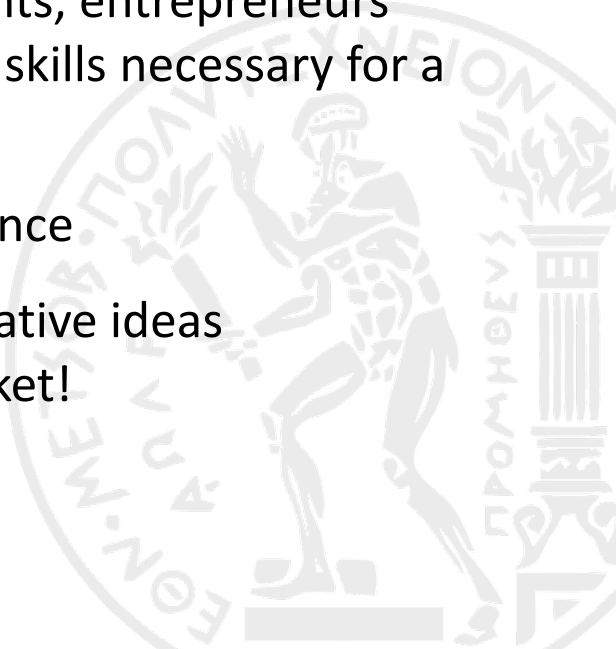
- Scientists and Engineers with strong knowledge in the field of Raw Materials, covering the whole value chain
- Research and innovation through the development of knowledge, new products, processes and applications
- Post graduate courses, workshops etc.
- Scientific and technological services to Industry

R&D centers

- Research activities more oriented in society and market needs
 - More intelligent equipment operated by highly specialised personnel
- 
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The needs



- Stronger links and cooperation with industry and the business sector
 - Development of specialised educational programs with a strong focus on the delivery of entrepreneurship and innovation skills.
 - Focus on the specific research and technological problems of industry in order to advance the technological frontiers
 - Targeted, innovative curricula that provide students, entrepreneurs and business innovators with the knowledge and skills necessary for a knowledge and entrepreneurial society.
 - Funding opportunities to access support and finance
 - Specialised tools and knowledge as to help innovative ideas developed in the lab to find their way to the market!
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SWOT Analysis on Academia/Research Institutes

- The SWOT analysis is a versatile tool and business analysis technique that we can perform for Academia/Research Institutes of RM sector to register and decide on the best way to achieve future growth. The process involves identifying the strengths and weaknesses of the Pillar, and opportunities and threats emerging from external factors.
- **Objective:** Strengthen Academia/Research Institutes of the RM sector

Strengths <u>Internal</u> factors that are <u>favorable</u> for achieving objective	S	W	Weaknesses <u>Internal</u> factors that are <u>unfavorable</u> for achieving objective
Opportunities <u>External</u> factors that are <u>favorable</u> for achieving objective	O	T	Threats <u>External</u> factors that are <u>unfavorable</u> for achieving objective

Current Strengths

- Learning programmes
- Infrastructure
- Knowledge
- Innovation capacity
- Access to information

Strengths that are currently in academia and R&D institutes of the RM sector

Envisaged Future Strengths

- Share knowledge and promote knowledge transfer
- Increase the attractiveness and raise the profile of academia and R&D institutes
- Interact with applied research
- Focus on the journey from research to market

The vehicle for this is the RCG

Strengths that we expect or want to have in academia and R&D institutes

Current Weaknesses

- Limited interaction within the knowledge management triangle
- Limited knowledge transfer towards market

Weaknesses that are currently in academia and R&D institutes of the RM sector. Basically these are the challenges!!

Solutions for Weaknesses

- Mobility between countries and academia-industry
- Specialised courses
- Networking at European level

The vehicle for this is the EIT RawMaterials and the RCG

Proposed solutions for the weaknesses



Current Opportunities

- Practical training in industry
- PhDs
- ERASMUS

Opportunities that academia and R&D institutes of the RM sector can benefit from to expand or become better.

Exploitation of Opportunities

- Business oriented workshops and post-graduate studies
- Mobility between countries and academia-industry
- Networking at European level

The vehicle for this is the EIT RawMaterials and the RCG

How we can exploit and take advantage of these opportunities in real business

Current Threats

- Economic crisis
- Unemployment

Threats maybe posed from external factors to academia and R&D institutes of the RM sector.

Solutions for Threats

- EIT RawMaterials
- RCG
- Work at European level

Proposed solutions for the recognized threats



SWOT Summary for Academia/Research Inst.

S

Strengths

- Strength 1
- Strength 2
- Strength 3
- Strength 4
- Strength 5
- Strength 6

W

Weaknesses

- Weakness 1
- Weakness 2
- Weakness 3
- Weakness 4
- Weakness 5
- Weakness 6

O

Opportunities

- Opportunity 1
- Opportunity 2
- Opportunity 3
- Opportunity 4
- Opportunity 5
- Opportunity 6

T

Threats

- Threat 1
- Threat 2
- Threat 3
- Threat 4
- Threat 5
- Threat 6

SWOT Summary for Academia/Research Inst.



Academia

Industry

OPTIMIZING

UNIVERSITY-INDUSTRY

RELATIONS



- Is the existing cooperation between academia and industry adequate?
- What is missing from the new scientists and engineers curricula in relation to industry and market needs at National and European level?