



Raw Materials Week 2019

19 November 2019, Le Plaza Hotel, Boulevard Adolphe Max, 1000 Brussels

Innovation, new technology trends and Skills for Raw Materials

1. General overview of the event

The “Innovation, new technology trends and Skills for Raw Materials” event addressed new and innovative technology trends in exploration, mining, processing, and discussed how to keep and develop knowledge and skills for future and/or present professionals in the raw materials sector.

2. Welcome and opening remarks

DG GROW opened the event on the most relevant technology trends and examples of applications that all contribute to the competitiveness of European raw materials industry and that relate to circularity, climate neutrality and resource security. The around 600 million EUR that we have invested since 2014 in innovative solutions in raw materials exploration, mining and processing in Europe through Horizon 2020 built the base for future developments. It bridges between industry, academia and research, where Europe excels in terms of the digital transformation and cutting-edge technologies.

3. Session I: New technology trends in exploration, mining and processing

The session addressed new and innovative technology trends in exploration, mining and processing. EIT RawMaterials pointed at the integrated Knowledge Triangle between education, business and research and technology, with raw and advanced materials enabling the transition to a green economy. Helmholtz Institute Freiberg for Resource Technology gave examples on simulation-based quantification of the resource efficiency of very large Circular Economy (CE) systems that included the analysis of physics, technology, systems and the underlying economics. DMT expects that the demand for the highest IT safety standards will increase, and that two parallel technology streams will likely merge - electric vehicle revolution and digital transformation. There are growing requests for raw materials provenance and transparent value chains (mining→product→recycling), which likely can trigger the implementation of reliable raw materials certification standards. Deltares presented best practices for the use of Earth Observation services in the mining sector which included unlocking current EO services potential and a best practices roadmap. Epiroc gave examples on how automation and interoperability are used for handling lower ore grades and more underground mines, leading to safety and productivity gains, Smart Mining.

The Q&A session included the raw materials ecosystems including industrial value chains, and the role of access to finance and of investments in pushing for the transition towards climate neutrality and circularity. In addition, the discussion circled around the integrated approach of the upcoming industry strategy, the need for more research reaching the market and in a faster way, and industry being able to recruit and maintain people with the right skills.

Session II: Skills for Raw Materials

The session dealt with knowledge and skills for future and/or present professionals in the raw materials sector and how EIT Raw Materials Academy addresses these aspects. Efforts directed towards primary, secondary and higher education point at a wide outreach and on the importance of STEM skills, including in geo-science, and cooperation with Junior Achievement (includes development of entrepreneurial skills). There is a continued need to further develop even closer links between university and industry for better matching of skills needs and skills demand, and to create an interest in engineering studies in general. Tallinn University of Technology highlighted that more applied and soft skills (including entrepreneurial skills) are needed, and a development towards curricular learning communities bundled together, rather than the traditional separate modules and work integrated learning. Thyssenkrupp underlined the new agile work environments. From the student's perspective, the need for policies for skills retention and industrial support was in focus.

The Q&A session involved exchanges on how to further strengthen skills development and measures to raise awareness and interest about working in the Raw Materials Sector.

Session III: Horizon 2020 Raw Materials calls

The Commission introduced the session and gave a general presentation about raw materials policy background and raw materials in the Horizon 2020 Work Programme 2018-2020. She referred to the Raw Materials Initiative as the main EU policy, to the current geopolitical situation, and the increasing demand for raw materials in view of the transition towards a climate-neutral and digitised economy. The EU needs more strategic thinking about raw materials.

EASME then presented to the audience the implementation of Raw materials in Societal Challenge 5 up to the present.

DG GROW's presentation concerned the current 2020 topics on raw materials under Societal Challenge 5: "Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes"; "Raw materials policy support actions for the circular economy – Expert network on critical raw materials"; "Raw materials innovation actions: mining pilots and pilots on substitution of critical and scarce raw materials"; "Sustainable management in extractive industries". He also referred to the ERA-NET Cofund action on raw materials.

DG RTD introduced the 2020 SPIRE calls, in particular "Tapping into the potential of industrial symbiosis", "Preserving fresh water: recycling industrial waters industry" and "Alternative mineral resources for high volume production"; altogether with a budget of 97.50 million EUR.

DG GROW spoke about the Space related topics for 2020, on "Copernicus market uptake" with a budget of 9 million EUR, and on "Big data technologies and artificial intelligence for Copernicus" with a budget of 10 million EUR.

DG GROW presented on behalf of DG RTD the topic on "Sustainable wood value chains: resilient forest systems", located in Horizon 2020's Societal Challenge 2.

The "Fundação para a Ciencia e a Tecnologia" introduced the ERA-Min Joint Call 2019 on Raw materials for the sustainable development and the circular economy, containing five

topics. She explained the submission, evaluation and selection procedures and pointed out that on March 12, the call closes.

The last presentation was given by EIT Raw Materials, who referred to the Lighthouses on Raw materials and circular societies, Sustainable materials for future mobility and Sustainable discovery and supply. He highlighted the timeline and the need to submit applications by 28 February 2020 at the latest.

As the presentations were very detailed, clear and informative, there were no questions for clarification from the audience during the Q&A session.

