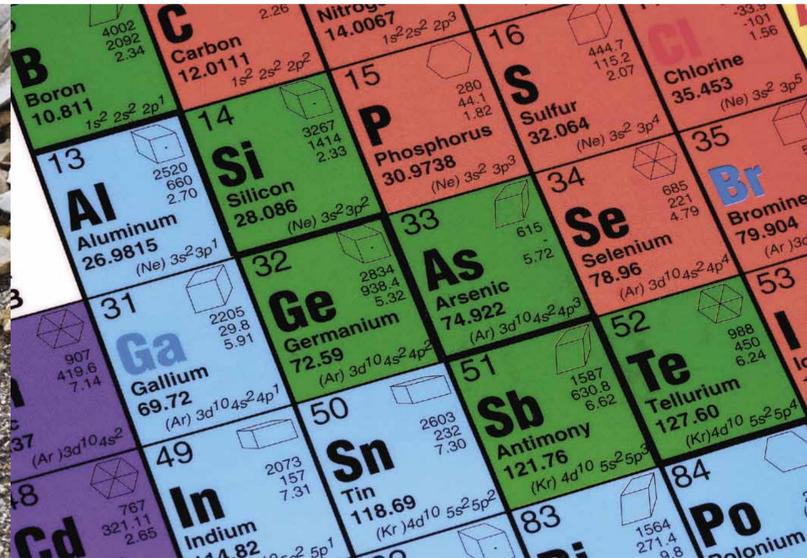




MINERAL RESOURCES AND MATERIAL SUBSTITUTION



ACADEMY PROGRAMME
2014-2019



Mineral resources
and material substitution

Bedrock aggregate materials and minerals are central to the modern way of life. They are needed not only in building construction, but in virtually all instrumental activities from transport and industrial production to commerce and everyday consumer routines. Raw materials extracted from the earth are nonrenewable. Their unequal distribution means there are two categories of states: those that can earn substantial wealth by extracting and selling mineral resources, and those that are dependent on the mechanisms governing mineral resource access and pricing. Finland has a favourable location in terms of the potential for mineral deposits. The Finnish bedrock contains deposits of both basic and precious metals as well as rare earth metals.

The premise for the Academy of Finland's academy programme Mineral Resources and Material Substitution is that mineral resources in general have become an increasingly complex area that calls for a stronger systemic approach and novel solutions. New solutions require exact information and multidisciplinary understanding that is grounded in sound basic research. The programme aims to provide a broad and in-depth coverage of the occurrence, properties, processing, use and recycling of rare, especially metallic minerals as well as alternative materials used as substitutes for metallic minerals.

The programme will create a knowledge base that will facilitate responsible mining and recycling operations that are aware of their impacts on the natural environment and the surrounding society.

There are three main themes:

- Primary mineral resources
- Materials efficiency and recycling
- Material substitution.

There are two research questions that cut across all these three themes:

- How can the same functionality be achieved for different material solutions?
- How can interconnected metals be separated in connection with beneficiation and recycling as economically, energy-efficiently and environmentally soundly as possible?

IMPLEMENTATION

The programme started in December 2013 with the launch of a targeted call "Primary mineral resources". The second call within the programme was open in September 2014. Overall funding for these 2 calls is planned to be 12 million euros

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