

NOTICE

Developing a network of experts on technology-critical trace elements



Inspiration

There are a number of trace elements that were until recently only considered to be laboratory curiosities but which have now become key components for the development of new technologies. However, the present understanding of the concentrations, transformation and transport of most of these elements is scarce and/or contradictory due to their typically ultra-trace concentrations and the absence of any significant industrial role until now.

These technology-critical elements (TCEs), which include Nb, Ta, Ga, In, Ge, Tl, Te, the platinum group elements (PGE: Pt, Os, Ru, Rh, Pd and Ir), and most of the rare earth elements (REE: Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Er, Tm, Yb, Lu), are undergoing significant changes in their natural environmental cycle at the Earth's surface as a result of their increased use in industrial applications. The impact of this on their biogeochemical cycles and potential biological and human health threats needs to be further explored.

Innovation

The main objective of the NOTICE project, Action TD1407 of the COST intergovernmental European research framework, is to create a network of experts on trace elements critical for the development of new technologies with the aim of defining the current state of knowledge and proposing priority research lines.

Impact

NOTICE will contribute towards rapid, cost-effective and accurate analytical determination of the TCEs in the environment, assess their environmental impact and cycling, develop policy-oriented assessment and explore their toxicology and risk to humans.

Partners

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