

BIOCriticalMetals

Recognition of microbial functional communities and assessment of the mineralizing potential (bioleaching) for high-tech critical metals

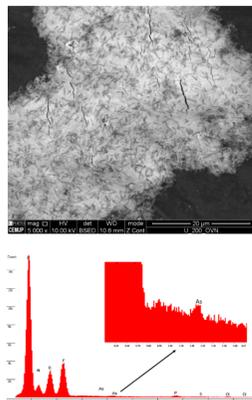


Metals are raw materials

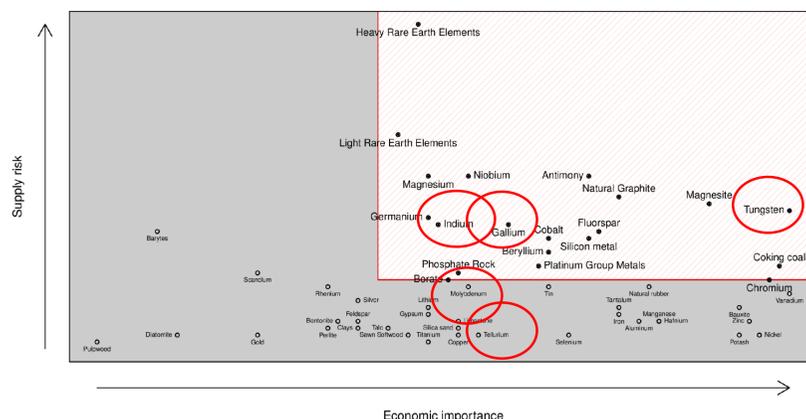
Precious raw materials to the economy of a country and need to be secured for sustainable production of key components of various products

- 1) low carbon energy technologies ,
- 2) automobiles,
- 3) electronic and biomedical devices,

The availability and supply of critical metals greatly influence the economy of a country by affecting manufacturing, export, and job creation

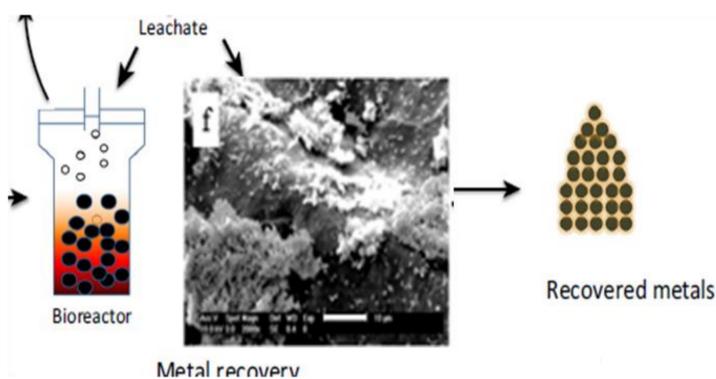


Metals elected as Critical by EU

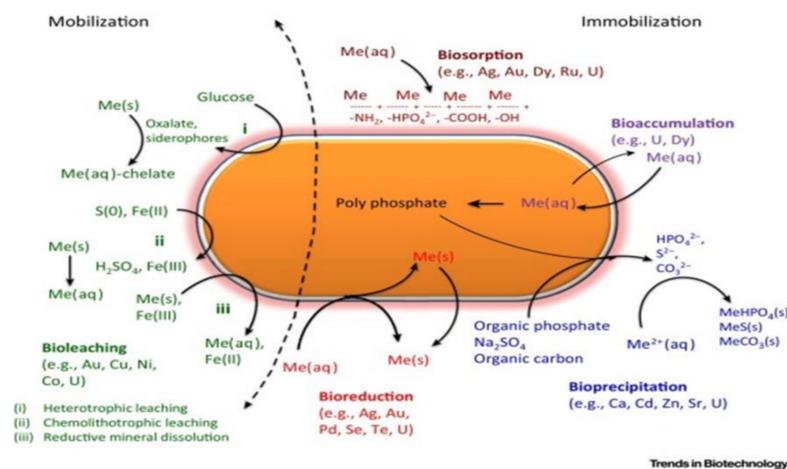


“BioCriticalMetals”

This project is conceived as a need-driven-research, focused on the concept that **waste** can become a **valuable resource**, supplying metals that are extracted today by other processes, **promoting recycling**, minimizing harmful waste and hazard and dissipation.



Microbe-metal interaction



Biohydrometallurgy: Microorganisms are used to produce the leaching agents (oxidants and/or acids) needed for extraction of metals

Biomineralization (bacterial): the process by which bacteria produce mineral phases. Bacteria are known to form a variety of minerals, both inside and outside the cell.

