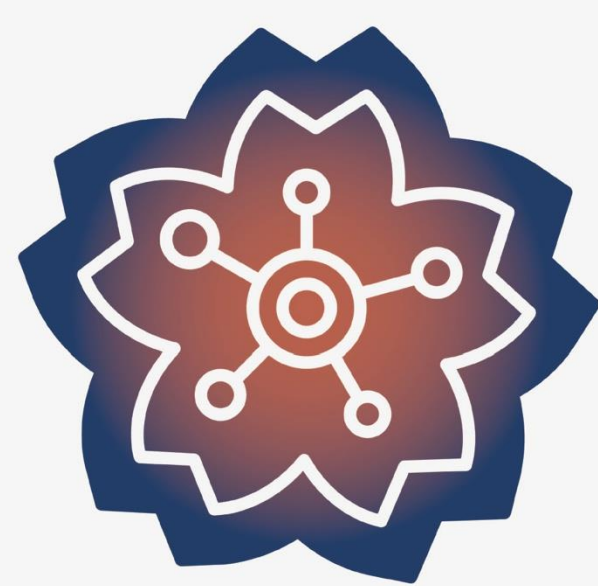
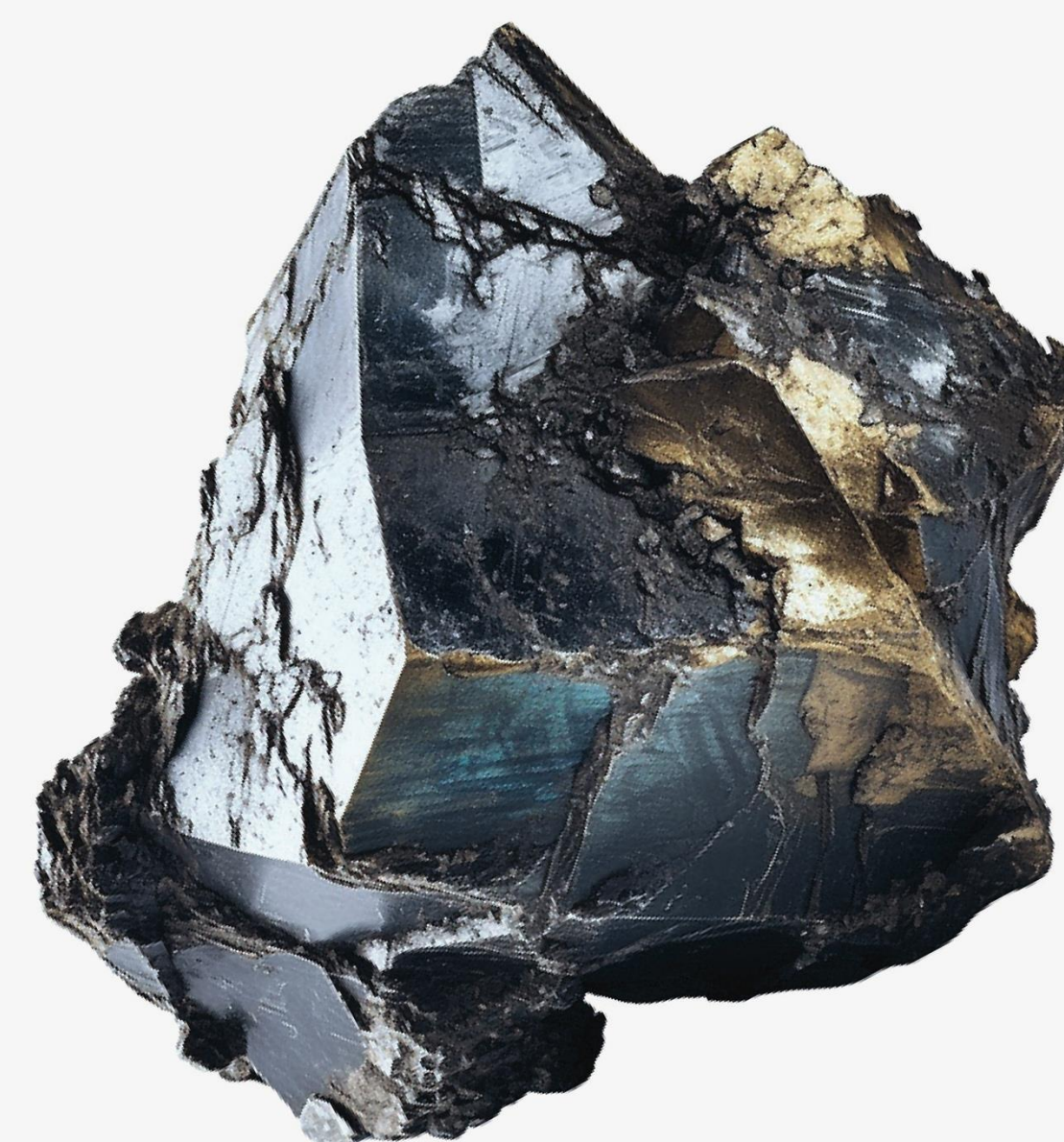




BLOOM

LiBeration anaLysis for Optimising
extraction and prOcessing of CRMs



Media kit: Factsheet for policy makers & journalists September 2026

The **EU-funded BLOOM** project is pioneering advanced digital technologies to modernise how Europe extracts and processes mineral raw materials—particularly those critical to the green and digital transitions.

At the heart of BLOOM is a **new integrated system** for real-time **online Mineral Liberation Analysis**, enhanced by **AI and machine learning**. This innovation will serve both **critical raw materials (CRM)** and **non-CRM** processing plants.

Since the project began, BLOOM has made significant progress towards developing new technologies that will help make the extraction and processing of critical raw materials more efficient, cost-effective and sustainable.

Understanding minerals better

- BLOOM has analysed different types of mineral deposits, including copper, zinc, tantalum and niobium, to better understand how valuable minerals are distributed within the rock.
- Laboratory testing has helped identify the most effective ways to recover these materials while using less energy and reducing waste.
- The project has also created a shared database that brings together mineral and process information, providing the foundation for smarter decision-making in mining operations.

Developing new smart technologies

- BLOOM is designing an innovative mineral analysis system that combines advanced sensors with Artificial Intelligence (AI) to provide rapid information on the composition of ores.
- The system is being developed to work in real mining and processing plants, helping operators monitor materials and optimise production in near real time.
- By providing faster and more accurate information, the technology has the potential to improve recovery rates, lower operating costs and make better use of natural resources.

Testing the Technology in Real Conditions

Building a pilot plant

- A containerised pilot plant is being developed to test the BLOOM technologies under realistic operating conditions before they are introduced into industrial sites.
- This pilot facility will allow researchers to demonstrate how the new system can improve key processing steps, such as grinding and mineral separation.
- The results will help prepare the technology for future use by the mining industry.



Working with industry

- BLOOM is collaborating with mining companies and project developers in Canada, Ukraine and Spain to ensure that its solutions address real industrial challenges.
- Partners are providing mineral samples, technical expertise and operational knowledge, allowing the project to test its technologies on a wide range of raw materials and mining conditions.

Supporting Europe's future supply of critical raw materials

- By improving the efficiency of mining and mineral processing, BLOOM aims to make better use of existing resources, including lower-grade deposits that are currently difficult to exploit economically.
- The project will help reduce energy use, improve resource efficiency and support more responsible mining practices.
- Ultimately, BLOOM contributes to strengthening Europe's supply of the critical raw materials needed for clean energy technologies, digital innovation and the transition to a more sustainable economy.



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