

## WhISPER: Waterless Iron Silicate Production with Energy Recovery

**Project Description:** The main objective of **WhISPER** is to **validate an innovative and sustainable air-based pyro-metallurgical system to produce iron silicate in the Non-ferrous Metal Industry through the development and implementation of a pilot demonstration plant.** In comparison with traditional processes, this new system will drastically reduce water consumption, recover and re-cycle significant amounts of energy and will improve the quality of the iron silicate, adding value to the final product.

### Expected synergies and complementarities:

- ✓ Sustainable use of raw materials increasing resource efficiency of the metallurgical process
- ✓ New process that will enable a flexible and sustainable treatment of complex copper ores in a copper smelter
- ✓ Development of a new technology in Europe bringing an innovative solution to the industry partners and to the market
- ✓ A process solution that reinforce a true Circular economy through a resourceful and efficient sustainable usage of water and energy
- ✓ Complementary expertise of partners and task partner leading to broad, sophisticated and advanced activities addressed to promote sustainable development and copper applications knowledge

### Outcomes expected with this project:

- ✓ Feasibility study of an innovative technology: validate the technical characteristics of the new air-granulated iron silicate with research into new possible added-value applications
- ✓ Environmental advantages: Water consumption reduction and energy recovery
- ✓ Evaluation of the new process outputs, attending to the actual limits and applicability at EU level of this technology and providing recommendations to policy makers
- ✓ Validation of the feasibility of the complete process and products, including Life Cycle and Cost Assessments, to recommend the new process as a viable Best Available Technology
- ✓ Transfer the results to the European copper smelter industry to foster replication and to pave the way for the transferability to other non-ferrous industries

### Market & Business opportunities:

- ✓ Evaluation of by-products. Study of new iron silicate applications

### Partners already identified:

Atlantic Copper (Industrial partner), HATCH (task partner)

### Wanted additional partners :

- **Educational or Research Center** to study the new iron silicate and the news application
- **Educational or Research Center:** Life Cycle Analysis

