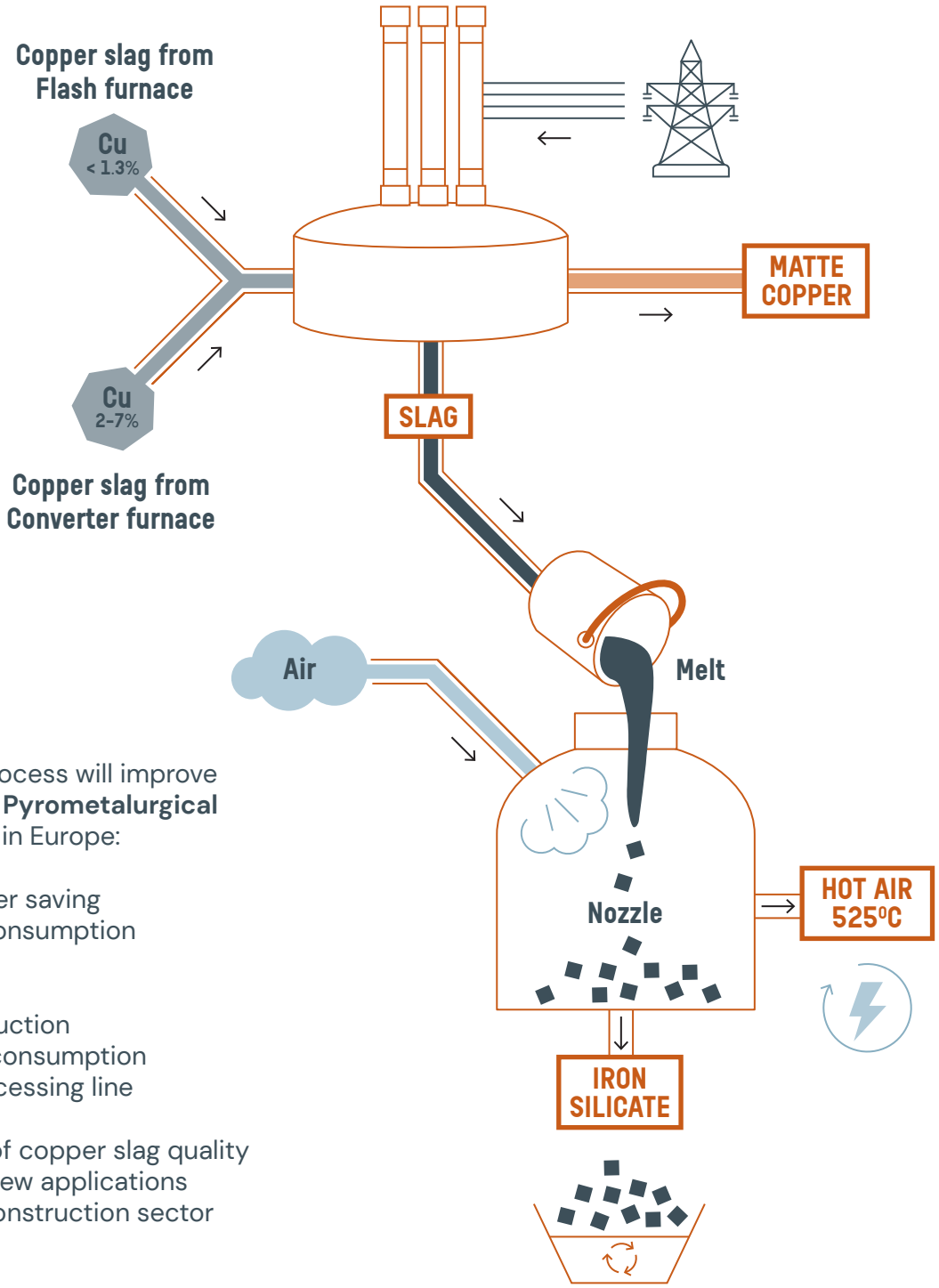
The WhISPER project

The aim of WhISPER (Waterless Iron Silicate Production with Energy Recovery) is to develop a new iron silicate produced with the atomisation technology while evaluating and demonstrating the new properties of the material for improved commercial applications.

The project led by Atlantic Copper, will enable an optimal use of raw materials within Europe and will contribute to European Commission's current strategy on Circular Economy.

Flowsheet of the dry granulation process



Main benefits

The air atomization process will improve the **Circularity of the Pyrometalurgical** production of copper in Europe:

- Up to 35% water saving of the global consumption of the plant
- Up to 50% reduction of the energy consumption of the slag processing line
- Improvement of copper slag quality to be used in new applications in building & construction sector

Timeline: from TRL 5 to 7

TRL 5: Preliminary test in a relevant environment

2015 – 2018
→ Preliminary feasability study in copper sector: slag granulation with air atomization technology

TRL 6: Technology demonstrated in a relevant environment

APRIL – OCTOBER 2019
→ Design of pilot plant (prototype)

NOVEMBER – DECEMBER 2019
→ Installation of the pilot plant

JANUARY – MARCH 2020
→ Test & operational perfomance analysis
→ *Evaluation of most promising applications of iron sillicates in construction sector*
→ *Preliminary Go-To-Market Strategy*
→ *Description of new business models*

TRL 7: System prototype demonstration in an operational environment

APRIL 2020 – APRIL 2021
→ Tests results and selected operational parameters
→ *Iron sillicates characterization based on samples from the pilot test*
→ *Selected target applications*
→ *Dissemination activities for master students in Advanced Material engineering*

FINAL VALIDATION
→ Technical validation of the new pyrometalurgical system
→ Technical feasibility of heat recovery
→ *Valorization of new building materials based on iron sillicates*
→ *Environmental impact assessment study*
→ *Life cycle costing analysis*
→ *Business plan & definitive Go-To-Market Strategy*

INDUSTRIAL LEADER

Atlantic Copper
A Freeport-McMoRan Company

CONSORTIUM MEMBERS

RESOURCEFULL

université de BORDEAUX

KU LEUVEN

RWTH AACHEN UNIVERSITY

ZAG — ZAVOD ZA GRADBENIŠTVO SLOVENIJE

UPSCALING PROJECT SUPPORTED BY

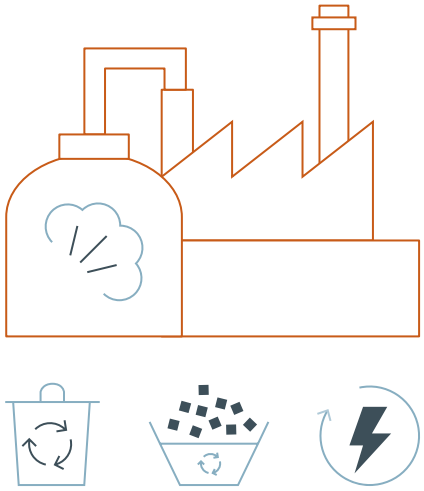
eit RawMaterials
Connecting matters

This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

Follow us on Twitter @WhISPER_copper

Waterless Iron Silicate Production with Energy Recovery

WHISPER



NEW IRON SILICATE PRODUCED WITH THE AIR ATOMISATION TECHNOLOGY