RIS-CuRE: Zero waste recovery of copper tailings in the ESEE region

Project duration: 1 January 2019 – 31 December 2021

Objective

Although mining and processing tailings can present a substantial risk to the environment, on the other hand, they represent valuable sources of secondary and in particular critical raw materials. Serbia and FYR Macedonia have an abundance of Cu mines which have been exploited since ancient times. These activities generated about 920 M tonnes of different types of mining, floatation and metallurgical tailings, containing approximately 1.3 M tonnes of Cu, 128 tonnes of Ag and 23 tonnes of Au, which presents a valuable resource for the European raw materials market sector.

The solution (technology)

The activities of the RIS-CuRE project are based on an innovation model merging all relevant stakeholders within the knowledge triangle in the field of industry, research, and education in order to increase regional competitiveness based on a regional scale, taking into account the latest know-how of the RIS-CuRE consortium. This innovative approach is based on the zero waste paradigm, which means that, once valuable raw materials such as CRM and other metals are extracted, the residues can be recycled for the construction sector. Such a holistic eco-innovative approach to the extraction of valuable metals and the beneficial use of residues after the extraction of metals provides a guarantee for the successful development of a regional innovation scheme based on the exploitation of tailings, and is, from the economic, organizational, technological, environmental and social points of view, the most viable option. This will lead to the development of an encouraging environment for the boosting entrepreneurship and

intrapreneurship in the region, based on the exploration of secondary deposits. The final output of the project will be a strong sustained regional network, based on validated and fact-based data, including a study of the potential economic, technological, organisational (legislative), environmental and social impacts of applying the innovative methodology of the zero waste extraction of valuable materials in Serbia and the FYR of Macedonia.

Partnership

- Zavod za gradbenistvo Slovenije, ZAG (Slovenian National Building and Civil Engineering Institute), Slovenia (Lead Partner)
- Chamber of Commerce and Industry of Serbia, Serbia
- Chamber of Commerce and Industry Vratsa, Bulgaria
- Civil Engineering Institute Macedonia, Macedonia
- DPTU BUCHIM DOO, Radovish, Limited trade company for production, trade and service, Macedonia
- ELEM Macedonian Power Plants, Macedonia
- Geological Survey of Slovenia, GeoZS, Slovenia
- Goce Delcev University Štip, Macedonia
- Gomez Pardo Foundation, Spain
- IRGO Consulting, Slovenia
- Mining and Smelting Combine Bor, Serbia
- Outotec (Finland) Oy, Finland
- University of Belgrade, Technical Faculty in Bor, Serbia
- University of Petrosani, Romania