

ION4RAW

Ionometallurgy of primary sources for
an enhanced raw materials recovery



Coordinated by IDENER (María Tripijana)
CONTACT@ION4RAW.EU

ION4RAW project proposes a new energy-, material- and cost-efficient mineral processing technology to recover by-products from primary sources by means of innovative Deep Eutectic Solvent (DES) ionic liquids and an advanced electrochemical process for metal recovery as an only step.

A joint recovery of by-products from primary sources which belong to the **Cu-Ag-Au group** is proposed. Most of the targeted by-products elements are **Critical Raw Materials** such as bismuth (Bi), germanium (Ge), indium (In), cobalt (Co), platinum (Pt) and antimony (Sb). Accompanying major product metals, e.g. copper (Cu), silver (Ag) and gold (Au), may also be recovered by this process. The development of the process will be supported by the mapping and assessment of by-product potential in Europe.

ION4RAW will make an ambitious contribution to the **EIP Raw Materials Strategic Implementation Plan** unlocking the full potential of Europe's inner wealth by converting new and currently unexploited resources into reserves.



CONTACT@ION4RAW.EU



ION4RAW.EU



ION4RAW H2020



@ION4RAW_EU



This project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 815748.

This content only reflects the author's view. The European Commission is not responsible for any use that may be made of the information it contains.

OUR PARTNERS



Coordinated by IDENER, the consortium will put their effort together in order to elaborate on the cost-efficient mineral processing technology to recover by-products from primary sources over a period of 4 years.

The technical feasibility of this concept is supported by the TRL 2-3 accomplished so far by the R&D partners embodied in the project's consortium. From this starting point, ION4RAW aims to reach TRL 5 by implementing a process prototype at TECNALIA (TEC) facilities and validating it using real primary samples provided by Scotgold Resources (SG), Cumbres Exploraciones S.A.C. (CUM) and Cobre las Cruces.

TRL 5	- technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)	ION4RAW IN 2022
TRL 4	- technology validated in lab	
TRL 3	- experimental proof of concept	ION4RAW IN 2019
TRL 2	- technology concept formulated	
TRL 1	- basic principles observed	

ION4RAW achievements will lead to a significant increase in by-product metal availability for EU, thus reducing EU dependency on imports as well as the environmental impact of mineral processing operations with respect to conventional hydro- and pyro- routes.