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RAWMINA Project Newsletter

Building an integrated, innovative pilot system for
recovery of critical raw materials from mine waste



Project News



From Lab to Pilot

Our team are working on combining and adapting a suite of lab-scale technologies into a scheme ready to receive and process mine waste.

Within RAWMINA, processes such as bioleaching in a cascade reactor, is being scaled up from buckets in a university lab (above left) to a pilot system of stirred vessels, such as at one of Europe's largest copper mines in the Iberian peninsula (above right).

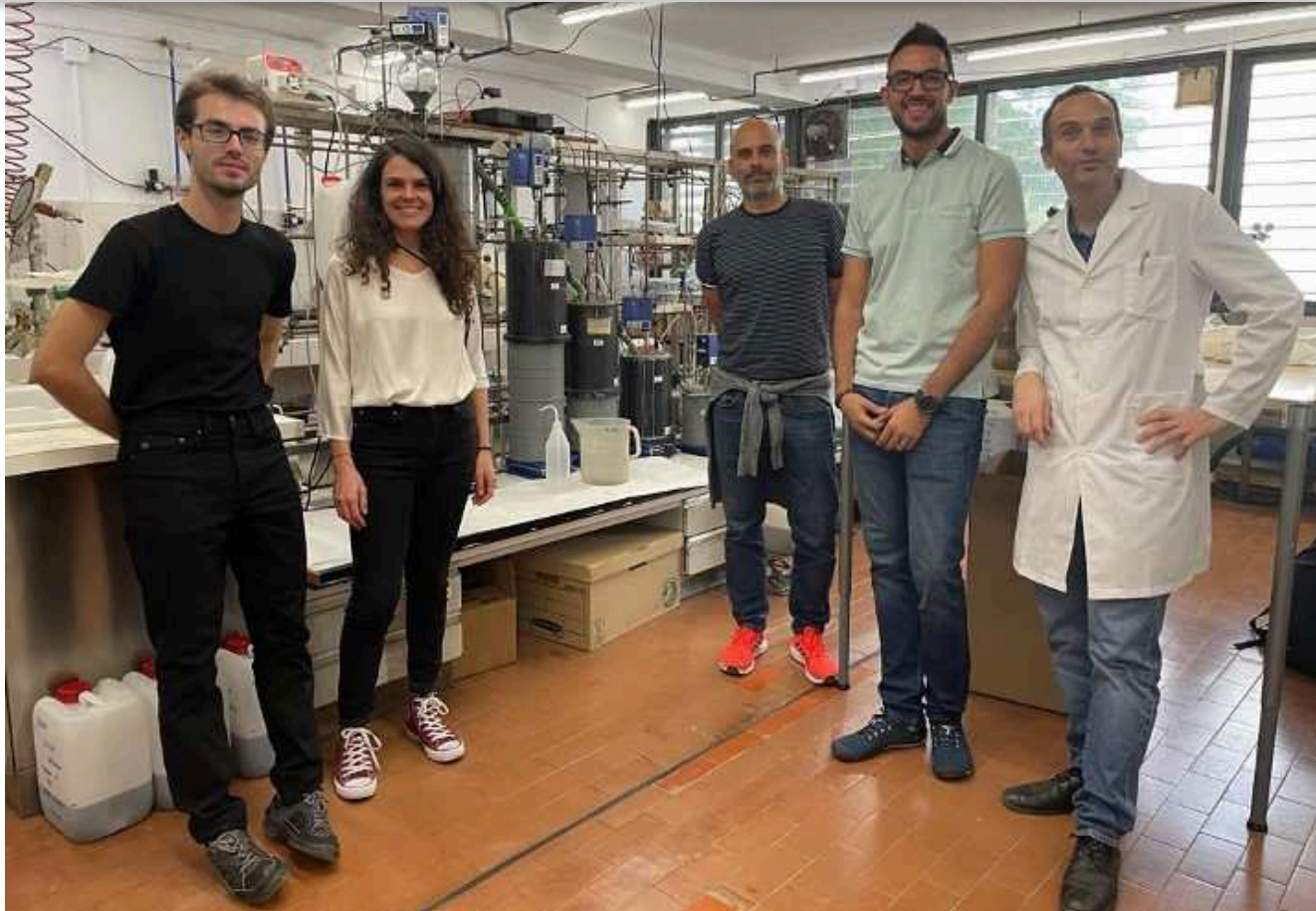
Adding process building blocks for iron removal and selective filtration using nanofibres, electrowinning and thermodesorption create a pilot scheme tailored for this particular location that achieves zero waste, full water recirculation and low energy demand.

It's clear that other mines around the world, whether active and abandoned will each need their own tailored solution to adapt to the mineral content and volume, presence of contaminants and local environmental concerns.

In the next phase of the project we will demonstrate these process blocks, which may be applied in global locations together with other innovations from our project network, to address scarcity of EU sources of Critical Raw Materials in the context of a circular economy.

We'd love to hear from mine operators and groups interested in recovering land spoiled by mine-tailings interested in our demo - [email us directly](#).

Find out More



The RAWMINA team (LEITAT and BETA) visiting our lab-scale reactors in Universidad de Sevilla

Where to find us in 2023

BIOMINING '23

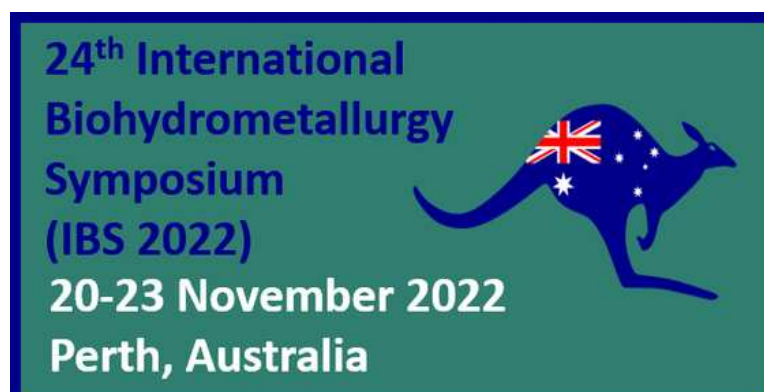
June 5-6, 2023 | Falmouth, Cornwall, UK

Our next major partner appearances will be at Biomining '23 in Falmouth, UK, June - come talk to us directly about the project in sunny Cornwall!

Co-located with Sustainable Minerals '23, this promises to be a fantastic event.

[Read More](#)

In case you missed us...



BRGM, G.E.O.S Engineering and Universidad de Sevilla all presented results in Perth Australia in November. We're already looking forward to the next International Biohydrometallurgy Symposium.

[Read More](#)

Interested in Raw Minerals Innovation?

[Visit and join the Helix!](#)

Raw Minerals Open Innovation Helix: Waste Valorisation & Critical Raw Materials circularity

Critical Raw Materials (CRMs) are crucial to Europe's economy, and for the green and digital transitions. They form a strong industrial base, producing a broad range of goods and applications, both current and future.

Research into sustainable, reliable and resilient sources of CRMs and transfer of process technologies into use has never been more important.

Our members are currently targeting opportunities under Cluster 4 of Horizon Europe, seeking international collaborations relevant to the Raw Minerals community

Destination: "Increased autonomy in key strategic value chains for resilient industry"

Calls closing **20th April 2023**

Our community of researchers, technologists, innovators and policy makers continue to be active on the Crowdhelix platform. [Join free as an individual stakeholder from the link on the Helix page!](#) *[Organisational memberships are required for some functions].*

More from our R&I Community

Production of raw materials for batteries from European resources - a new clustering initiative



CLUSTER HUB

PRODUCTION OF RAW MATERIALS FOR
BATTERIES FROM EUROPEAN RESOURCES

Between 14 and 18 November 2022, the European Commission organised the 7th edition of the Raw Materials Week, gathering a wide range of stakeholders discussing policies but also relevant alternatives in the field of raw materials. [From a workshop led by the RHINOCEROS project](#), a new cluster emerged, to create an environment that could foster knowledge exchange on different approaches for materials recycling and recovery for battery applications.

Batteries are a key end-use for the critical raw materials recovered by RAWMINA. Electric vehicles, renewable generation, internet-of-things devices all have one thing in common - they need energy storage. The demand for many metals relevant for batteries is expected to grow by more than 1000% by 2050.

The increased demand for the metals and minerals required for these batteries is a major challenge, particularly where a solution is presented as 'green' or 'sustainable' in comparison to fossil fuel based tech.

Sourcing raw materials from existing mine waste streams is one part of the solution. Many other projects are working on strategies for recycling, re-using and replacing CRM in batteries. Often the process technologies are the same - for example, hydrometallurgy for recovery of Lithium.

We look forward to engaging with this cluster, representing mine waste sources for battery materials and sharing process-tech building blocks - follow our socials for more updates!



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