

Development of a sampling protocol for the resource definition of sulphidic Cu-Zn-Pb tailings in an industrial tailings storage facility

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What are tailings? Tailings are the fine-grained residues of ore processing, which are typically deposited in a Tailings Storage Facilities (TSF). Sedimentary-style processes deposit the tailings material in sub-horizontal, internally graded layers.

What is the problem? Each TSF has a complex internal structure, where the minerals comprising the tailings are heterogeneously concentrated, both laterally and vertically. Primary depositional structures may be overprinted by chemical reactions and metal mobilisation. The difficulty lies in how to sample the tailings materials in a way that allows the characterisation of both the horizontal and vertical variability, and the building of geospatial models.

Why are geospatial models needed? Tailings can contain significant amounts of recoverable valuable metals which were not recovered by original processing techniques or were previously not of economic interest. Additionally, sulphidic tailings may produce Acid and Metalliferous Drainage (AMD). Accurate and reproducible geospatial models are required for assessment of the economic potential of reprocessing tailings, as well as the AMD generation potential.

SULTAN European Training Network for the Remediation and Reprocessing of Sulfidic Mining Waste Sites

This study is part of the SULTAN ETN. The work is ongoing, and due to the current situation there are not many new results to publish. Instead, the SULTAN project will be presented – see the next slide for the project poster.

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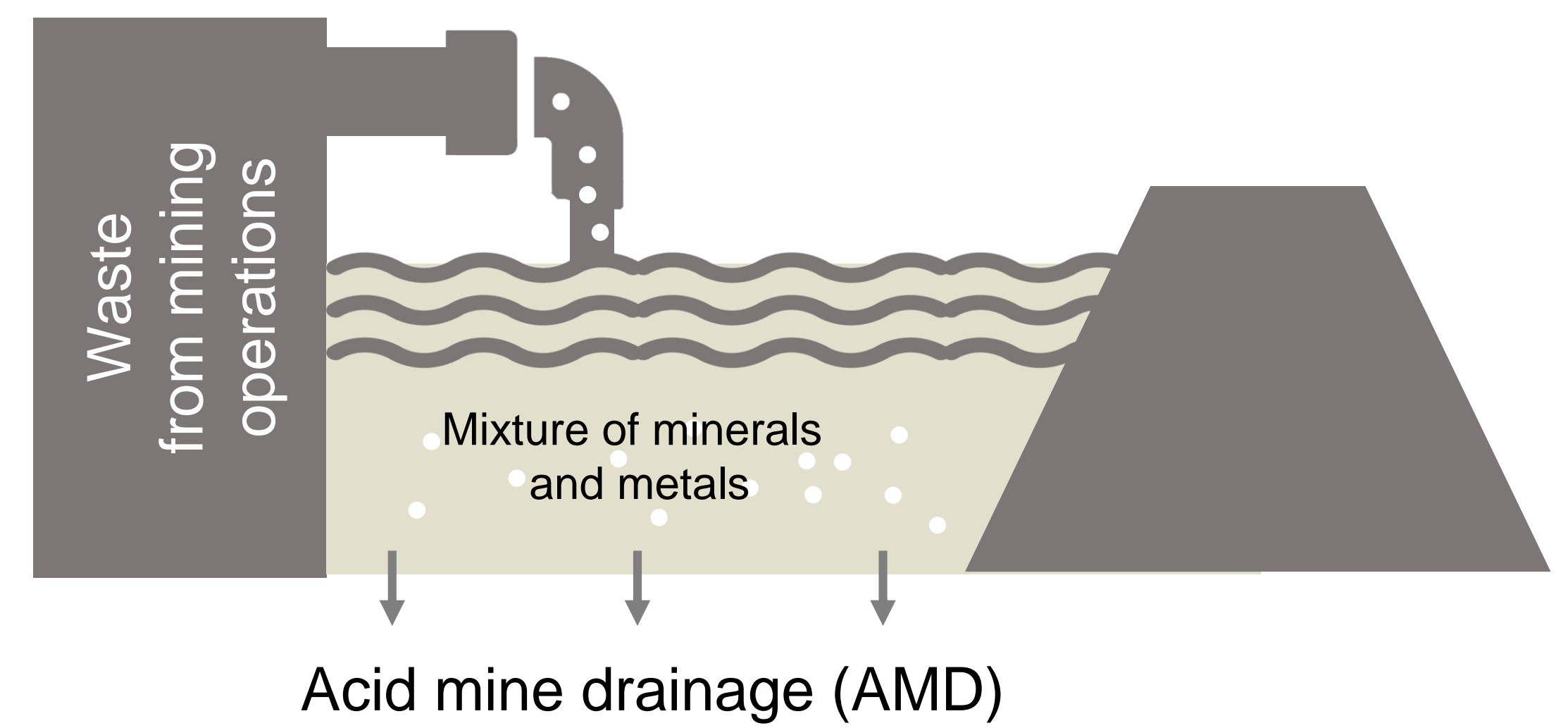
"Waste of the past, material of the future"

European Training Network for the Remediation and Reprocessing of Sulfidic Mining Waste Sites

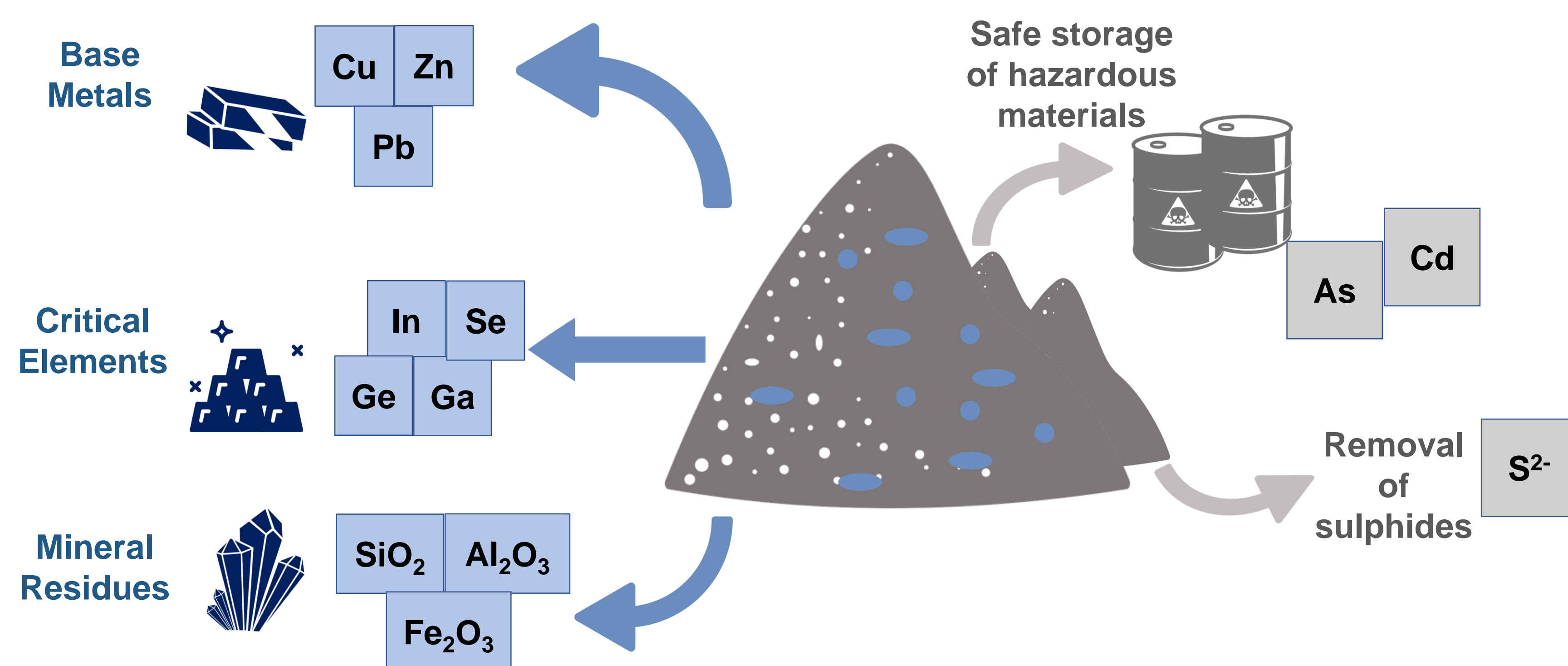
Towards future management of sulfidic mine waste residues



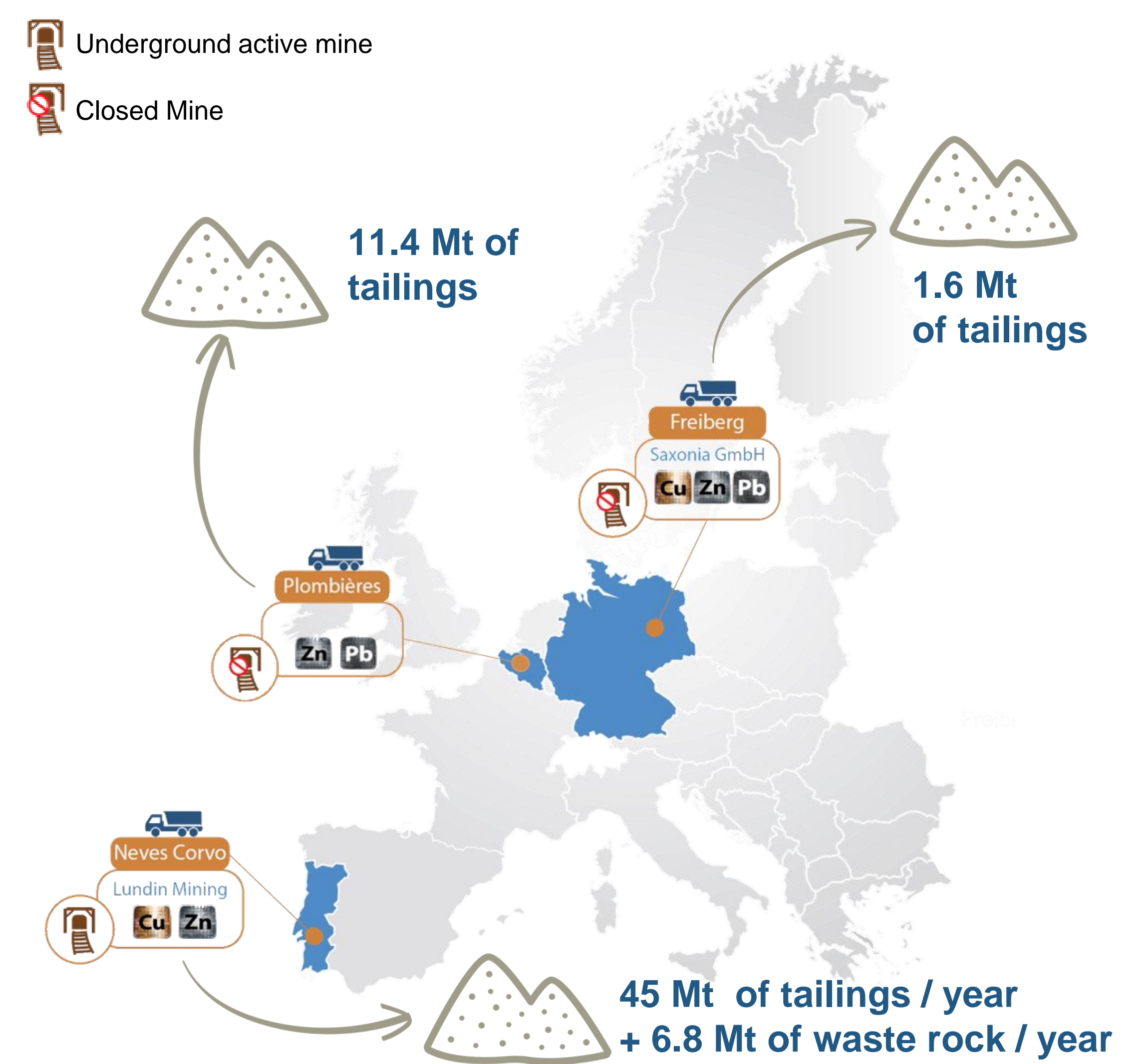
The SULTAN project is performing an innovative approach to **reprocess mine waste** and **recover valuable materials** through **sustainable methodologies** – Working on different approaches linked to geology, geometallurgy, mineral processing, valorization and remediation, thus helping to close the circular loop.



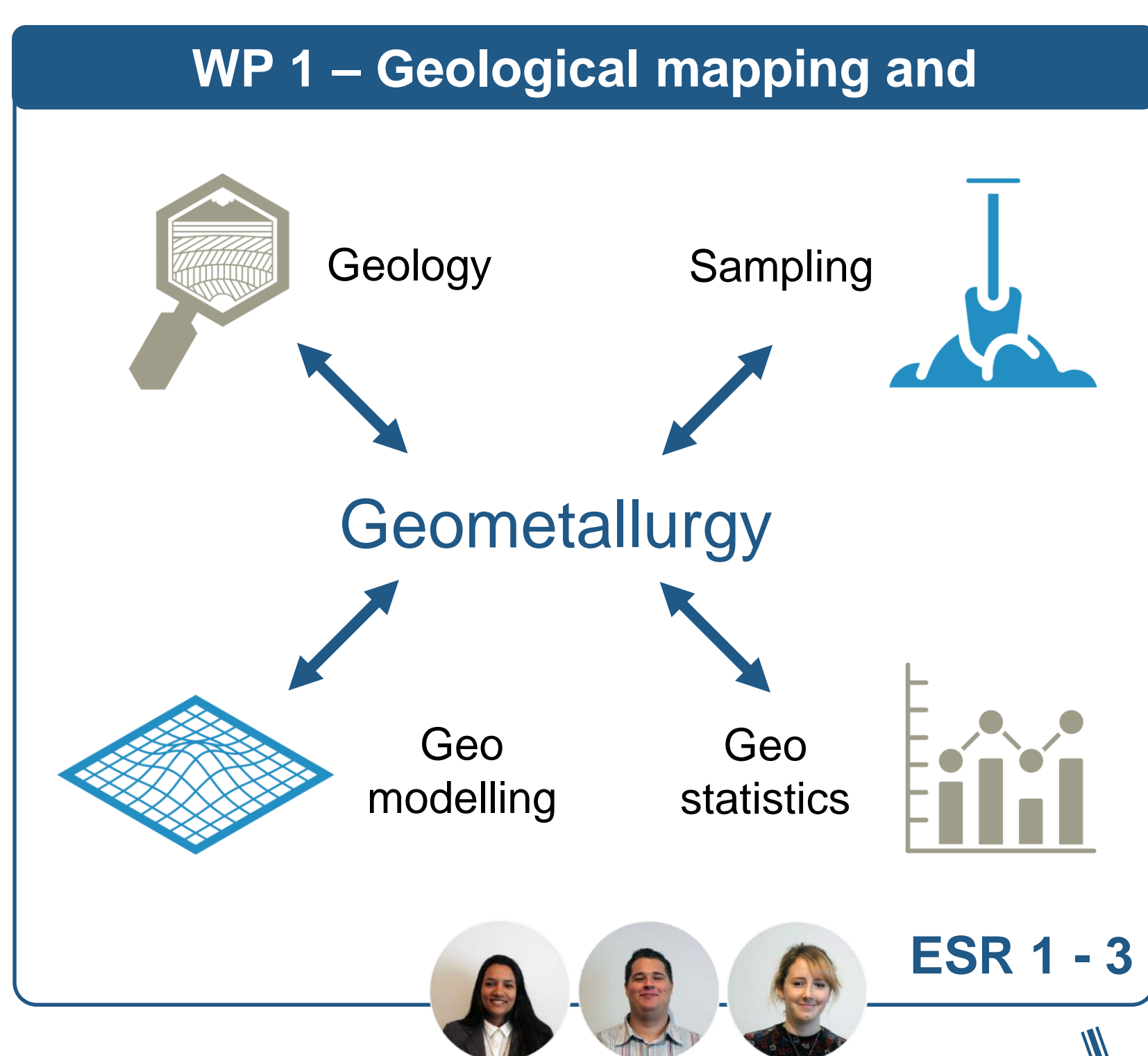
What?



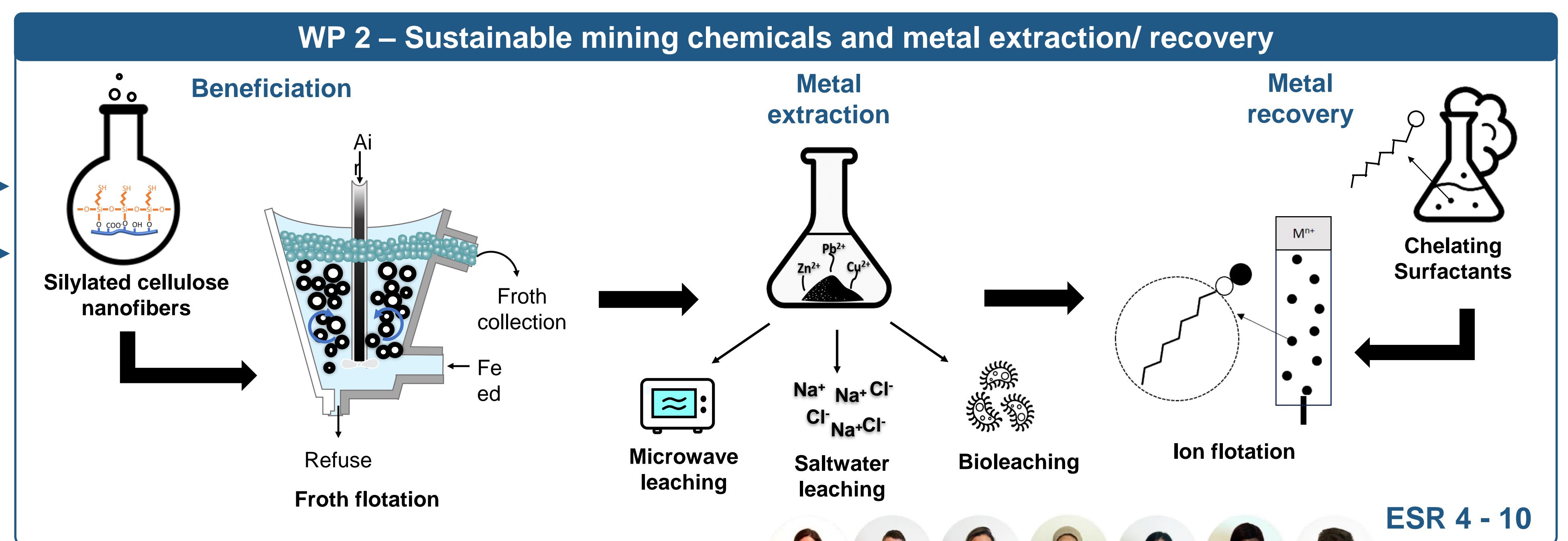
Where?



How?



Characterization



SULTAN in numbers

15 Early Stage Researchers (ESRs)

8 Beneficiaries

7 Partner Organizations

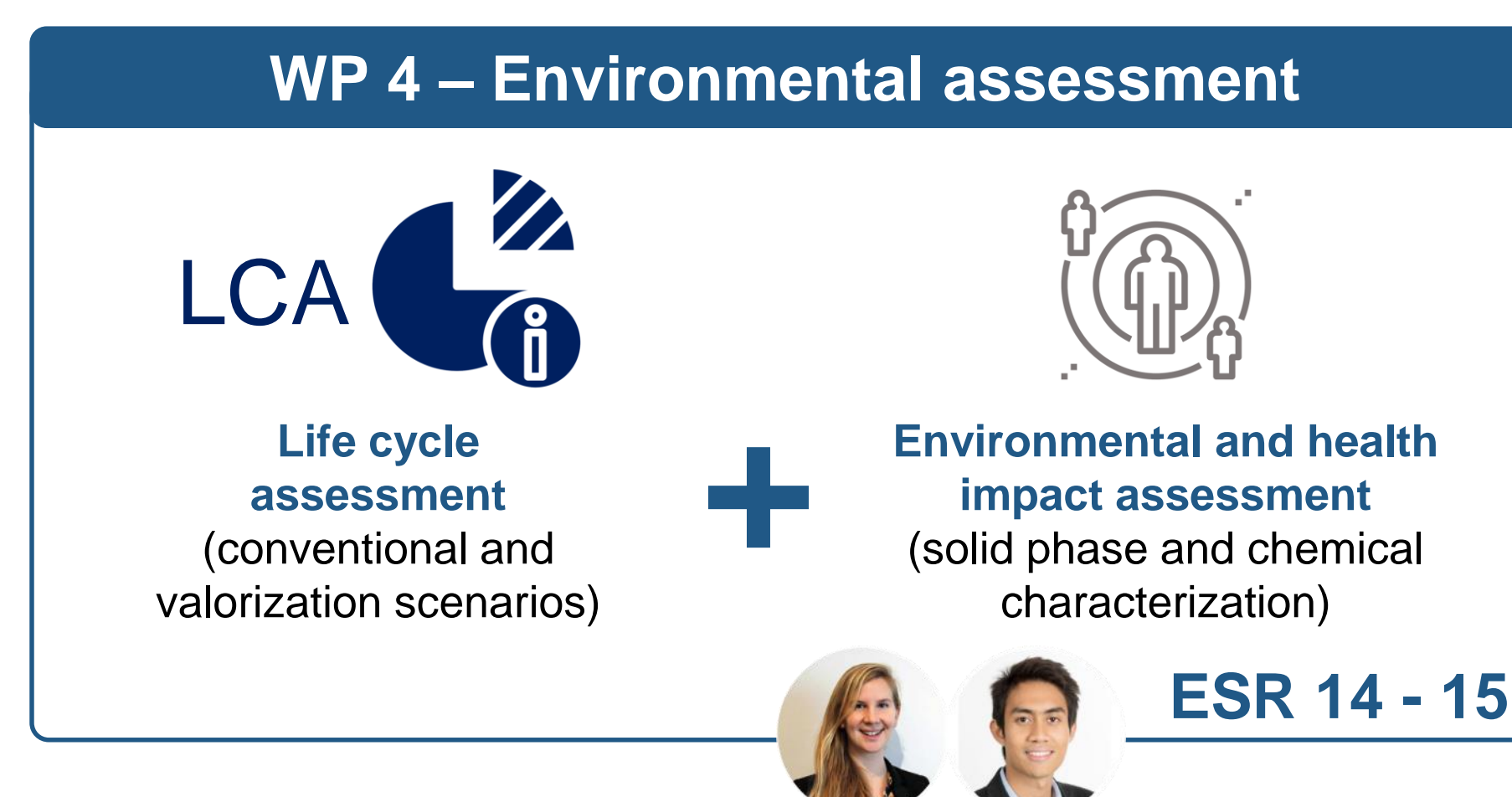
8 Network-Wide Events

5 Tailings and mine site visits

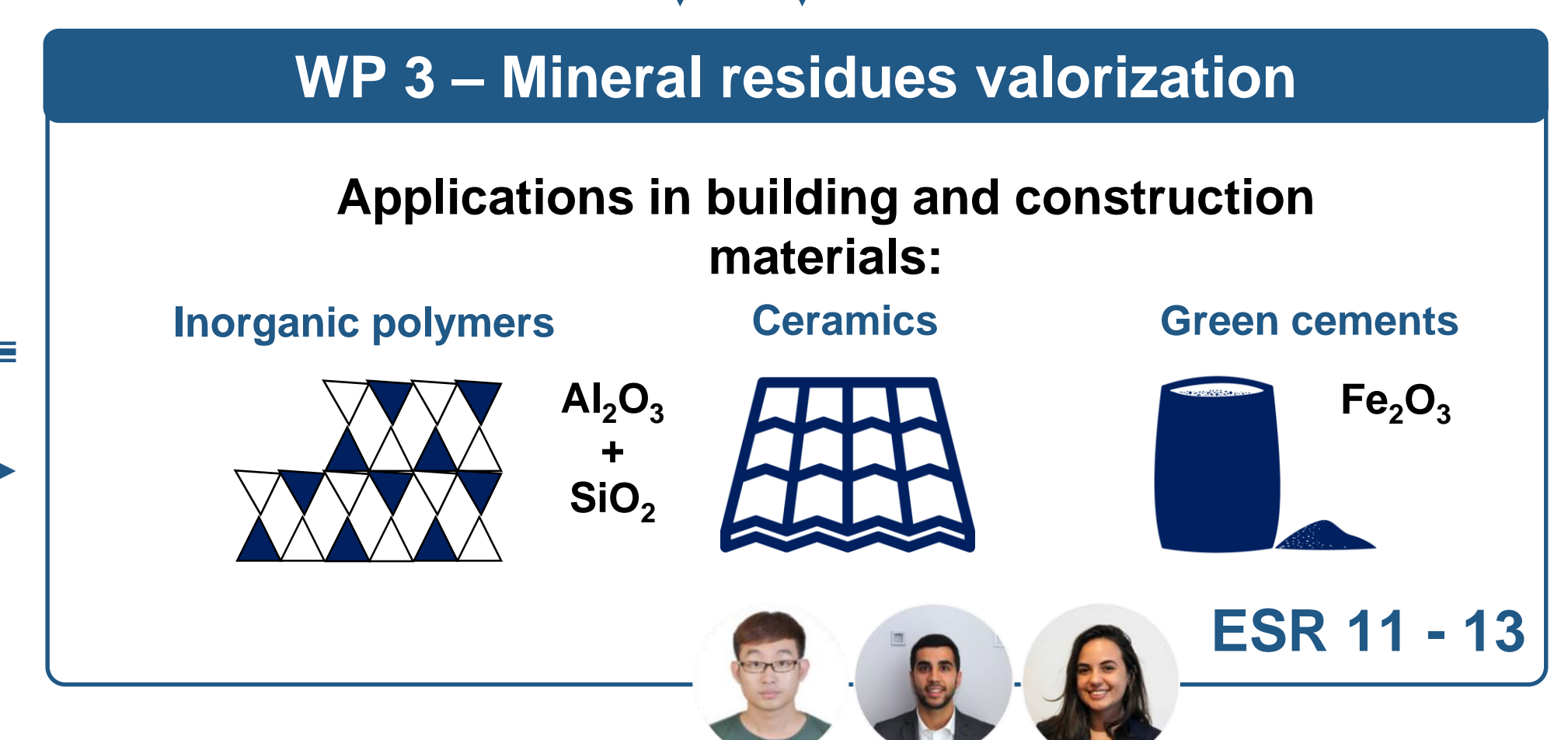
First ETN with *more female ESRs* than male ESRs – Women in science initiative

Design feedback

Design feedback



Design feedback



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Beneficiaries:



Partners:



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