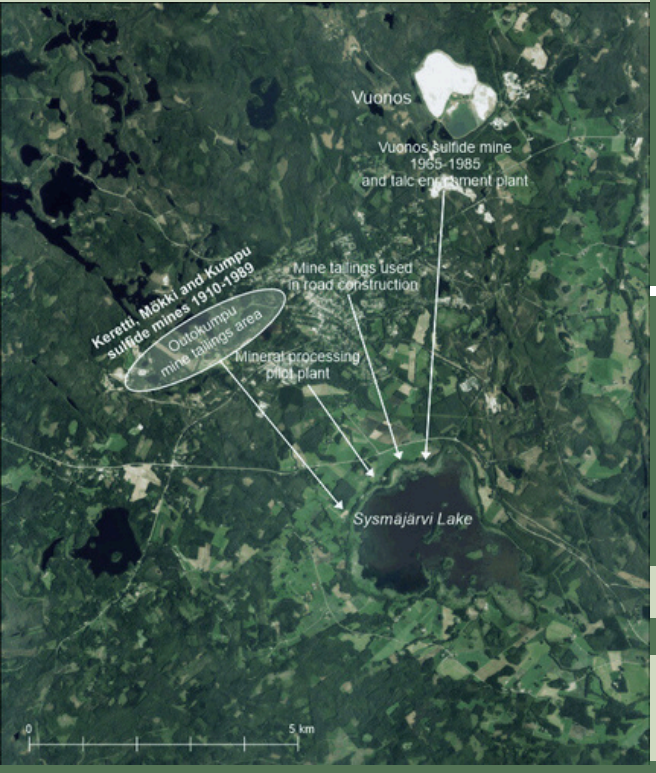

TEST AREA n°1

Outokumpu, Finland

Innovative approaches for the risk management for contaminated sites in the Outokumpu CobaltCopper-Zinc-Gold (Co-Cu-Zn-Au) Mining District, Finland

Scale

National scale, focusing on several demonstration sites

Type of soil contaminants

- There are several demonstration sites under consideration: Historical mining industry (closed Co-Cu-Zn-Au mines on the map to the right) and contamination since 1930s at Outokumpu.
- Elevated natural background values of Ni, Cu, Co, and Zn.

Special focus

The special focus of this ITA will be on the contamination of soils, surface water, and groundwater bodies, as well as on the development of remediation methods and risk management procedures. Regional planning is the main option for extensive areas, while remediation options that directly treat the soil can only be considered in small areas subject to sensitive use.

Outokumpu is one of the key ITAs testing regional planning models and prioritization in close cooperation with regional stakeholders. Outokumpu ITA provides a study on the operational environment to identify institutional and other barriers which may affect the successful implementation and replication of the risk management procedures and recommendations developed during the ISLANDR project.

Current State of Test Area

There are several sites with contamination due to acid mine drainage. In addition, the soils have naturally high heavy metal concentrations even prior to any mining activities. The remediation costs have been covered so far by the Town of Outokumpu and a public authority. Permitted land reuse, such as golfing in the former tailings area as illustrated in the above picture, includes soil cover and re-vegetation.

The Outokumpu test area provides an example of high background concentrations and diffuse contamination caused by mining and metallurgical industry, and in particular an example of how to deal with residual risks in remediation sites. The facilities of the oldest mine, shown to the right, now serve as a mining museum.

Ambition for the end of the project

This test area will be used to evaluate risk assessment in the context of the Source(s) – Pathways – Receptor(s) model and site prioritisation methods that can be used to improve soil health in a northern European environment. The test areas will serve also as an operational environment to identify any institutional and other barriers and enablers that can affect the implementation and replication of the outcomes of ISLANDR.

Ambition beyond the project

Development of risk management solutions for contaminated mining areas across the EU. Application of low-cost measures to improve soil health in northern Europe.

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