Research and Development Project:

Extraction of Rare Earth Elements and production of secondary raw materials within the framework of complex utilization of Red Mud

GINOP-2.2.1-15-2017-00106 (Operational Program for Economic Development and Innovation)

Name of beneficiary: WSP Hungary Consulting Zrt. (previously Golder Associates (Magyarország) Zrt.)

European Union financial support: 1.003 billion HUF (67.73 % of total project costs)

WSP Hungary Consulting Zrt. (previously Golder Associates (Magyarország) Zrt.) member support amount: 51 million HUF (40.25% o total pro ect costs)

Project period: 01 March 2018 – 30 September 2023

Project description:

The primary goal of the research and development project is to explore the extraction potential of mineral resources within the red muds deposited in domestic (Hungarian) tailings, primarily at Ajka as the mining and chemical by-product of bauxite mining and processing, and to develop methods and technology for their utilization. In cooperation with the consortium partners of research institutes, universities, and business companies we plan the extraction of metals and rare earth elements, production of construction raw materials, application of biological processes, exploration of soil improvement with the utilization of red mud and with that the reduction of environmental risks.

The consortium members of the project are: Martin Metals Kft., as consortium leader, Bay Zoltán Nonprofit Kft., Pannon University, Geovol Kft, and WSP Zrt. (previously GOLDER Zrt.), as consortium members.

WSP Hungary Consulting Zrt. (previously Golder Associates (Magyarország) Zrt.) is linked to the above research directions within the project and its primary task is to perform a resource assessment by integrating available geological, hydrogeological and assay data. We survey the existing environmental risks in the vicinity of the tailings, and we estimate the ecological footprint of the planned utilization processes. By modelling we quantify the environmental impacts (especially impacts on the groundwater) of red mud extraction and utilization.

The goal of the consortium is to develop such a red mud process methodology with which the valuable mineral resources may be utilized and with which the main components (like iron ore) may be used in construction raw material production or in agricultural applications, and with that the volume of remaining red mud may be reduced. WSP Hungary Consulting Zrt. compiles the feasibility study for these planned procedures and carries out the environmental impact assessment required for the planning.