

Press Release

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REMIEDIATING CONTAMINATED SOILS WITH INNOVATIVE MICROBIOME TOOLBOX

EU project MIBIREM starts - AIT is scientific coordinator

Vienna, October 25, 2022. Start for the EU project MIBIREM in which a "toolbox" to support the remediation of contaminated sites with microbiomes is being developed. The microbiomes should help to remediate contaminated soils and groundwaters across Europe, such as in gas stations, former gas plants, or the chemical industry. AIT soil remediation expert Thomas Reichenauer, Competence Unit Bioresources of the AIT Center for Health and Bioresources, is responsible for the scientific coordination and contributes AIT expertise in microbiome and soil remediation.

In Europe, there are currently 324,000 significantly contaminated sites such as refineries, power plants, or chemical industry production sites. Conventional remediation technologies for cleaning contaminated soils are often complex, too expensive and technically challenging. Microbiomes - the totality of microorganisms that colonize a given environmental compartment - not only support the health of humans, animals, and plants, but also have great potential for improving biobased processes in industry. For example, specialized microorganisms can break down organic pollutants in soil and groundwater; this process is called "bioremediation."

Bioremediation uses living organisms, mostly bacteria and fungi, to remove pollutants from the environment. Like the microbiome in the gut that helps the body digest food, microbiomes can produce enzymes that break down organic pollutants in soil and groundwater.

The MIBIREM project will harness the potential of microbiomes for bioremediation of contaminated soil and groundwater. MIBIREM will develop and apply a unique toolbox to identify, analyze, cultivate, and scale-up microbiomes for environmental bioremediation. Through its toolbox, the project will provide innovative methods to improve the functions of microbiomes in degrading contaminants in soil and groundwater. By testing the improved microbiomes under real field conditions at selected sites, MIBIREM aims to pave the way for long-term upscaling of microbiome-based bioremediation.

The scientific coordinator of MIBIREM at the AIT Austrian Institute of Technology, Thomas Reichenauer, Center for Health and Bioresources, summarizes, *"With MIBIREM we want to emphasize the importance of microbiomes for bioremediation of contaminated sites. The emerging MIBIREM toolbox will help to better utilize contaminant-degrading microbiomes in the future."*

First project meeting at AIT in Vienna

MIBIREM is a European collaborative project of eleven partners from six EU countries that combines the fields of science and engineering and is funded under the European Union's Horizon Europe program. The project brings together cutting-edge microbiome science research centers with leading companies to take on the challenge of cleaning up Europe's contaminated sites through microbiome-based bioremediation.

The project was officially launched on Oct. 1, with the first meeting held Oct. 19-21, 2022, in Vienna, at the headquarters of scientific coordinator AIT. Representatives of the eleven partners from six EU member states (Austria, Belgium, France, Germany, Italy and the Netherlands) attended the meeting to lay the groundwork for this ambitious research project. MIBIREM will accelerate innovation in soil bioremediation for the benefit of humans and the environment and help achieve European environmental goals for soil health and food.

RTDS Group, an Austrian SME, is responsible for the overall coordination of the MIBIREM project, marking the sixth time it has coordinated an EU project. Stephen Webb, CEO of RTDS, says: *"The MIBIREM consortium is ideal due to its interdisciplinary set-up and the joint participation of the private and public sectors. Without the dedicated corporate investment in this project, the research would remain in the laboratory. I am optimistic that the MIBIREM consortium will pave the way for effective and cost-efficient bioremediation of soils."*

Project partners:

RTDS - ASSOCIATION FOR THE DEMAND OF COMMUNICATION AND MEDIATION OF RESEARCH, TECHNOLOGY AND INNOVATION (RTDS ASSOCIATION, ENGL. RTDS ASSOCIATION) - Austria, AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH - Austria, UNIVERSITY OF HASSELT - Belgium, CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS- France, UNIVERSITY OF GENT - Belgium, SENSATEC GMBH - Germany, ALTAR- France, DND BIOTECH SRL - Italy, UNIVERSITEIT UTRECHT-Netherlands, UNIVERSITA DI PISA-Italy, TAUW BV- Netherlands

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