Press release and invitation I Mežica and Ljubljana I October 2023

ROBOMINERS Project to Conduct Field Trials and Open Day in Slovenia

The ROBOMINERS project, funded by the European Union, is set to embark on a groundbreaking field trial in Slovenia, in the second half of October 2023. These trials will be held at the historic Mežica and Žerjav lead and zinc underground mines. This significant event marks a milestone in the project's mission to bolster European access to mineral raw materials while reducing import dependency.

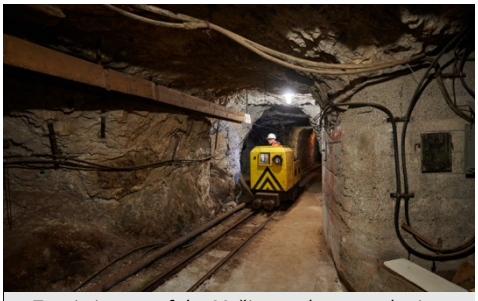
The primary objective of the EU-funded ROBOMINERS project is to facilitate the extraction of mineral resources, including strategically important metals crucial for the ongoing energy transition, from domestic sources within the European Union. To accomplish this ambitious goal, ROBOMINERS has been developing a bio-inspired mining robot prototype designed specifically for challenging-to-access deposits and smaller-scale mining operations.

ROBOMINERS RM1 prototype. Credit: C. Rossi.

During the summer of 2023, the ROBOMINERS team successfully demonstrated its full-scale prototype, RM1, in an open-pit mine in Estonia. This achievement underscored ROBOMINERS' commitment to enhancing Europe's access to vital mineral resources while decreasing reliance on raw materials imports. The next phase of testing is scheduled to occur in an underground mine in Slovenia in October. These endeavours are aimed at further refining the core functionalities of the mining robot with particular emphasis on its sensors.

To share these exciting developments with the public, ROBOMINERS will organise an open day and a press conference at Podzemlje Pece, Mežica, Slovenia, on October 25, 2023. The region's mining legacy dates back to the late Middle Ages, with the Mežica lead and zinc mine being one of Europe's oldest, with official records dating back to 1665. The press conference is scheduled for 11:00 am and the public exhibition for 13:00 pm. The participation is free of charge, but registration is required by sending an email to gorazd.zibret@geo-zs.si. Visitors will have the opportunity to combine the open days with a paid tour of the historic mine at 15:00 pm (please express your interest when registering), providing a unique chance to explore its rich mining heritage.

Key institutions involved in this campaign include the Geological Survey of Slovenia (responsible for event organisation), Tampere University (demonstration of the RM1 robot), TalTech University (RM1 control and tactile sensing development), the Royal Belgian Institute of Natural Sciences (mineralogical and geophysical sensors), KUTEC (slurry management system), Universidad Politécnica de Madrid (robot AI and coordination, project coordination), Montanuniversität Leoben (production tool), RCI (data management), La Palma Research Centre (roadmapping), and the European Federation of Geologists (public relations).



Touristic part of the Mežica underground mine. Credit: D. Komar

The field trials will play a pivotal role in validating key functions of the RM1 prototype, ultimately advancing its Technology-Readiness-Level (TRL) to level 5. Through a series of tests and demonstrations relevant to future mining operations, the ROBOMINERS project aims to provide tangible evidence of its successful completion and its potential to revolutionise the mining industry, where the RM1 prototype can be deployed for efficient and sustainable mineral extraction.

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