UNEXMIN at the Ecton Mine, UK, to further prove the project's innovative solution to explore and map flooded mines

The UNEXMIN project is developing a technology capable of autonomous exploration and mapping of flooded underground mines. The robotic platform uses non-contact methods to gather geological, mineralogical and spatial data without major costs or risks associated. The field trials, set up at four different flooded underground mines in Europe, help the team to access the platform's development and to make improvements to the unique technology.

UNEXMIN is now on English soil to undergo its fourth field trial, at the Ecton mine, an old mine site, once the deepest mine in the UK. This trial follows the field testing at Kaatiala (Finland, June 2018), Idrija (Slovenia, September 2018) and Urgeiriça (Portugal, March/April 2019) mines with the UX-1 technology. At Ecton, the team plans to explore and map the whole flooded section of the mine, not seen for more than 160 years.

After going through the preparatory work, that included setting up the workspace, both inside and outside the mine, testing with the UX-1 system finally started on the 13th of May. The UNEXMIN team aims at reaching a set of achievements and objectives, including real-time 3D mapping with structured light systems combined with sonars. Besides this, work will also focus on preparation of enhanced videos, production of distortion-corrected geo-located images, and the first use of the multi-spectral imaging for rock and mineral characterization.

The geologists and archaeologists at Ecton have identified priority targets for exploration, and have a long list of questions to be answered about parts of this mine that have not been seen since before 1858. UNEXMIN is in Ecton until the end of May to solve the mine's mysteries.

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CONTACT

Coordinator: University of Miskolc (UNIM)
Norbert Zajzon: nzajzon@uni-miskolc.hu