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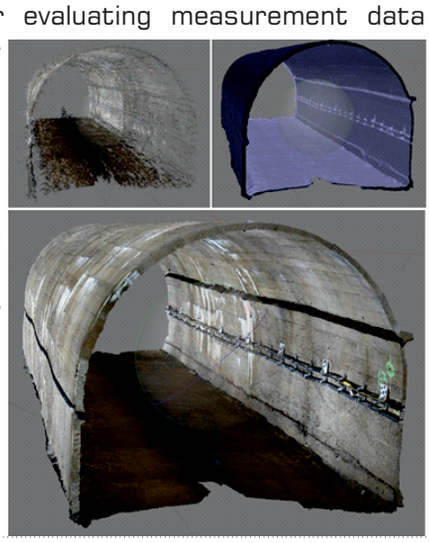
European Institute of Innovation & Technology

EU KAVA-PROJECT (UPSCALING) UNDROMEDA

EIT RAW MATERIALS PROJECT: UNDERGROUND ROBOTIC SYSTEM FOR MONITORING, EVALUATION AND DETECTION APPLICATIONS

The UNDROMEDA project aims at developing a robotic underground measurement system for autonomous 3D mapping and monitoring. The system is based on a mobile wheel-driven platform which additionally carries a flying drone to approach particularly unknown, difficult-to-access or hazardous areas in underground mines and other underground environments (e.g. tunnels or sewer systems).
The final product will integrate advanced positioning, navigation, and mapping sensors (e.g. laser scanning, radar, and inertial measurement unit) as well as innovative algorithms (e.g. SLAM, and VR control).
UNDROMEDA is a milestone project within the current leap-frog developments towards the "invisible, zero-impact, intelligent, safe and fully autonomous" mine and enables to face the related challenges for future mining concerning social and environmental acceptance as well as economic efficiency. The final product will reduce the risk for underground personnel by replacing manual measurements. Automation will reduce time and costs for mapping and monitoring while advanced sensor systems will enhance the information flow and quality.
The MUL team in the project (Chair of Automation and Chair of Mining Engineering and Mineral Economics) focusses on developing methods for evaluating measurement data acquired by the robotic system, handling data streams and processing, and quality control.



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ME mining engineering mineral economics

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