Working environment: requirements and restrictions at Underground laboratories

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The Underground laboratories (ULs) due to their unique conditions can be used in many ways - as machinery test site by industrial equipment providers, for scientific and technical equipment testing, as test site for various experiments for instance in particle and nuclear physics, for food production, for safety personnel trainings, for data storage purposes etc. In order to use underground spaces for various purposes, you have to know what underground working conditions are. Depending on location, depth, and other characteristics the working conditions and requirements in every underground facility are different.

We present an overview of the underground working environment in six different ULs. Named ULs locates in different EU countries and have different national regulations and requirements. We conducted a common standard of underground working environment what acts as the minimum level on which the working environment must meet. We mapped working environment conditions in such topics as ownership and regulation, air and water quality, safety and monitoring in ULs, lighting requirements, noise, vibration and radiation measurements, including risks and monitoring. The results are based on held questionnaire and data collection tour, which was carried out among six ULs.

Additionally, we will highlight the best practices and experiences that ULs have implemented in order to improve their working conditions. These best practices are usually more than the national laws and regulations have requested. The collected practices will help to set new higher standards of the working environment for the other ULs to aim at. The best practices are based on held questionnaire and data collection tour, which was carried out among in six ULs. By sharing the best practices among the ULs will lead to knowledge transfer and implementation of better working conditions where new practices can be applied.

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