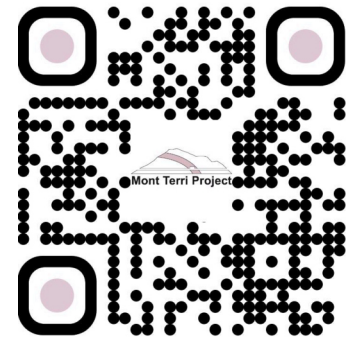


# Mont Terri Project Underground Rock Laboratory

Report period: July 14, 2025 – August 17, 2025

Assembled and edited by swisstopo, St-Ursanne



**Spotlight of the week:** Best Paper Award for AR Research in the Mont Terri Underground Rock Laboratory. Congratulations to Pascal Mosler, from TU Darmstadt, who received a Best Paper Award for his work presented at the ICONE32 in a paper entitled "Augmented Reality in Nuclear Facilities: Insights from Experiments in the Mont Terri Underground Rock Laboratory, Switzerland". Pascal Mosler developed a method for tracking and the exact positioning of virtual contents using an extended reality headset. He successfully tested the system under challenging conditions at the Mont Terri URL. Dr. Martin Ziegler, research associate at the Mont Terri URL and one of the co-authors of the paper, supervised the on-site research. Link to the article on the TU Darmstadt website: [https://www.iib.tu-darmstadt.de/institut\\_iib/aktuelles\\_iib/news\\_details\\_309568.en.jsp](https://www.iib.tu-darmstadt.de/institut_iib/aktuelles_iib/news_details_309568.en.jsp).

## Important note

- On Friday, August 15, The Mont Terri network infrastructure has been the victim of a potential cyber-attack from a foreign ransomware group on our firewall. We were informed by the National Cyber Security Centre (NCSC) of this fact and in coordination with the NCSC immediately started mitigating the attack. On Friday, August 15, the firewall was completely reset, updated and reconfigured and several additional defense mechanisms were implemented. During the next week we will continue taking more preventive measures that will also affect the partners and how they can access their experiments inside the rock lab. We are investigating the logs to see if any damage has been done- and we urge you to do the same on your computers inside the lab. The Geoscope DAS was not affected by this incident. If you have any questions, don't hesitate to contact S. Schefer (swisstopo) directly.

## CL (CO2LPIE-CO2 Long-Term Periodic Injection) experiment

- From Monday to Tuesday, July 14–15, J. Gisiger and A. Jakupi (Solexperts) installed the three cabinets for water circulation, gas sampling and brine injection in Niche CL.
- On Tuesday, July 15, M. Ziegler (swisstopo) restarted the acoustic and transmission seismic measurements after a power loss the day before due to the installation of the pumps for the CL cabinets.
- On Tuesday, August 12, M. Ziegler (swisstopo) shut in the borehole interval 2 (Q2) of BCL-09.

## DR-D (Heterogeneity of Sandy Facies by Geophysical Characterization and Diffusion Studies) experiment

- On Friday, July 18, F. Heberling, C. Marquardt (KIT) and S. Schefer (swisstopo) discussed radio protective measures for the upcoming tracer injection and took a sample vial for water analyses done at KIT.

## DR-E (Long-Term Diffusion Experiment in the Main Fault-Zone) experiment

- On Monday, July 14, S. Schefer (swisstopo) took samples #15 from the injection fluid on both boreholes BDR-E1 and BDR-E2.

## FE-M (Long-Term Monitoring of the Full-Scale Emplacement Experiment) experiment

- On Tuesday, July 15, S. Schefer (swisstopo) performed moisture measurements in BFE-B49 and thermal conductivity measurements with the KD2 probe. He also refilled the calibration bath with 25 l of demineralized water.

## HT (Hydrogen Transfer in Opalinus Clay) experiment

- On Monday, July 14, S. Schefer (swisstopo) switched off the Raman.
- On Tuesday, July 15, S. Schefer (swisstopo) emptied the Tedlar bag of BHT-1.

## PF-A (Progressive Evolution of Structurally-Controlled Overbreaks: Long-term monitoring, hydromechanical simulation and rock testing) experiment

- On Tuesday, July 15, M. Ziegler (swisstopo) conducted FO-strain measurements at BPF-7 using TW-COTDR and PPP-BOTDA.

## SW-A (Large-Scale Sandwich Seal in Opalinus Clay) experiment

- On Wednesday, July 16, S. Schefer (swisstopo) refilled the HPT of shaft 2 and changed the nitrogen bottle of shaft 1.
- On Friday, July 25, R. Nicol (swisstopo) refilled the HPT of shaft 1.
- On Wednesday, July 30, S. Schefer (swisstopo) refilled the HPT of shaft 1.
- On Wednesday, August 6, C. Nussbaum (swisstopo) refilled the HPT of shaft 1.
- On Wednesday, August 13, S. Schefer (swisstopo) refilled the HPT of shaft 1.

## Visits

Day	Date	Group Name	Group Size	Visitors Guide
Tue	12.8.2025	FMS Basel	27	R. Nicol (swisstopo)
Tue	12.8.2025	FMS Basel	19	H. Sager (Nagra)
Tue	12.8.2025	Austauschgruppe Geotechnik BGE / Nagra	8	H. Sager (Nagra)

## Figures