

## Rösslimatt building site B+C, Lucerne

### Complex groundwater monitoring during civil engineering works



Rösslimatt is changing from a place characterised by railway tracks to a sustainable urban district. In 2013, SBB and the city of Lucerne defined the future of the 42,000 square metre site by means of an urban planning study and a design plan based on it. Buildings with residential, office, service and catering areas are being built on six construction sites.

The construction site is located in a multi-storey groundwater basin. The 100 x 40 m excavation pit was therefore divided into 11 different construction fields and secured with sheet pile walls. In each of these construction fields, piezometers were drilled into the 2-3 groundwater levels. The TEDAMOS LoRa radio modules enabled the local automation of the groundwater management. The great advantage of LoRa technology is that no separate cabling is required for communication or power supply. The radio modules are a great help, especially in a project with high demands on data availability during civil and structural engineering.

Further project information can be found at: <https://roesslimatt-luzern.ch/>

- 📍 Lucerne, Switzerland
- 👤 SBB AG/Stump-BTE AG
- 🕒 2023

#### Services

- ◆ Consultancy for the implementation of groundwater monitoring
- ◆ Installation of piezometers in several stages in 2" piezometer tubes
- ◆ Installation of TEDAMOS LoRa radio modules
- ◆ Operation of the system, maintenance work after damage for 8 months
- ◆ Automatic measurements at intervals of minutes to hours (depending on the construction phase)
- ◆ Alarm in the event of limit value violations via SMS/email

#### Technologies

- ◆ 87 piezometers
- ◆ 35 TEDAMOS LoRa radio modules
- ◆ TEDAMOS Web, password-protected customer portal with 24/7 access