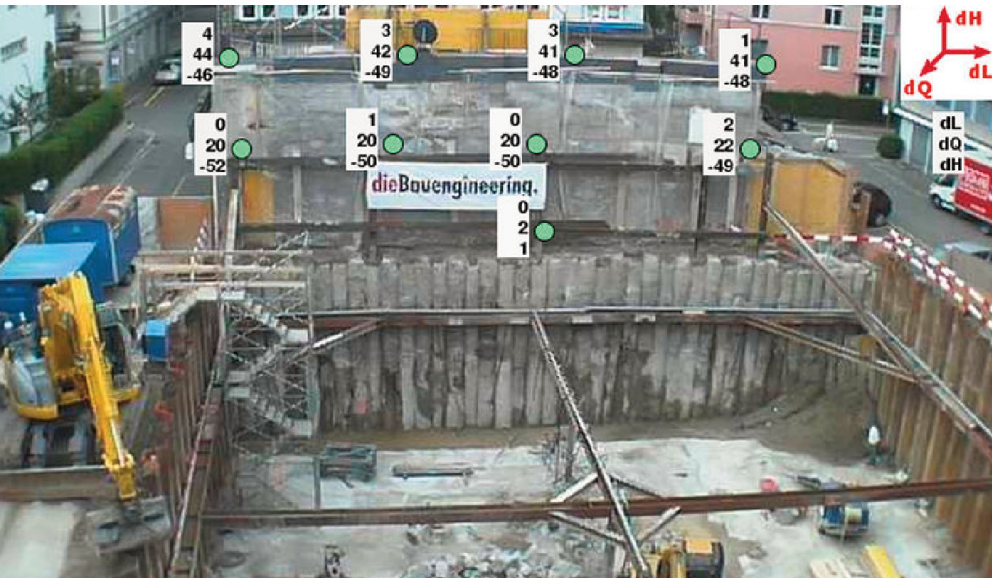


Leica Geosystems **TruStory**

Permanent Monitoring during Urban Excavation



- **Company**
BSF Swissphoto AG, Zurich
- **Challenge**
Wall monitoring at excavation site
- **Date**
2007-2008
- **Location**



- **Project Summary**
- Instruments**
Leica TCA1101plus
Meteo sensor
Leica monitoring prisms
WebCam
- Software**
Leica GeoMoS Monitor options 1 & 2
BSF Swissphoto's client portal
- Aim**
To predict accelerations of the wall tilt in order to protect personal and adjacent house
- **Benefits**
 - Safety of the residents in the bordering houses and detecting deformations for taking immediate action

BSF Swissphoto AG has developed a powerful tool for permanent monitoring applications called DeTraS (Deformation Tracking System). Sensor control and database management is provided by Leica's GeoMoS Software.

During 2007 and 2008 a new residential house was constructed in the middle of a built-up area. The construction project required the excavation of soil sediment layers as well as lowering of the surface groundwater. It was a concern that these actions might endanger the surrounding infrastructure and construction site.

Therefore, a permanent monitoring system was required to ensure the safety of surrounding buildings and construction workers.

Automatic monitoring, operating 24hrs a day was installed to monitor the adjacent wall. Measurements were taken twice an hour and automatic alert triggers were configured to alert engineers of exceeded thresholds. Additional manual leveling, inclinometer and water gauge measurements completed the deformation monitoring in the nearby area. Webcam images recorded a history of site construction and helped to record a claim of water penetration. Results and images were accessible via BSF Swissphoto's client portal.

Based on the long monitoring period immediate corrective measures could be initiated to protect the existing buildings and construction site before serious damage occurred. The effectiveness of the corrective measures was immediately visible due to the continuous monitoring.

