

ALBERDING A07 MONITORING SYSTEM



- Monitoring object geometry, surface deformation & landslides with the help of the A07-MON -

Task

It is intended to monitor pit wall stability and detect motions with high accuracy. The system shall be quickly set up by employees without special knowledge and it shall run autonomously and continuously at any weather conditions. In case of significant movements, the monitoring system shall deliver precise information on coordinate changes of the chosen control points.

What is needed

- 1 Alberding A07 GNSS reference station (possibly already existing)
- 1 Alberding A07-MON system per measuring point with:
 - L1 GNSS antenna
 - Continuous power supply
 - Mobile phone SIM card with mobile Internet contract
 - Access to the Alberding Monitoring Server
 - Survey mast with GNSS antenna

- **L1 GNSS multi-constellation receiver** (GPS, GLONASS, Galileo, SBAS)
- **Sub-centimetre accuracy** due to post-processing of GNSS raw data
- **Weatherproof** box (IP67) with connectors
- **Autonomous operation mode** utilising solar panels, batteries and charge controller
- Integrated, **wireless communication**

Procedure

- In advance**
- Configuration of A07-MON sensors
 - Provide access to the Alberding Monitoring Server

- In the field**
- Set up the A07-MON systems with weatherproof box
 - Verify GSM mobile coverage
 - Turn on the A07-MON receivers

Results

The measurements of the A07-MON monitoring system are automatically transferred to a server of Alberding GmbH. Here, the data of the A07 rovers along with the reference station is processed and visualised in defined intervals. Depending on the interval (e.g. 1h or 24h) coordinate changes of < 1cm can be detected. When exceeding a pre-defined threshold, an alert message is sent immediately. The system's web interface can be accessed via the web browser with customer specific parameters.

A07-MON:
Easy set up and automated evaluation with low-cost GNSS systems.

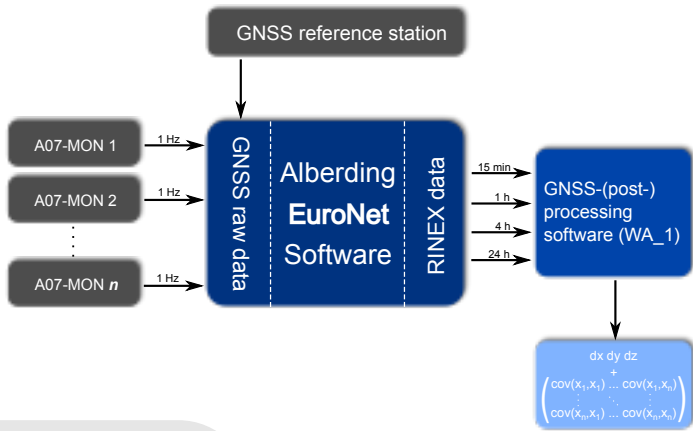
Please, contact us!



THE LOW-COST SOLUTION FOR YOUR MONITORING TASK



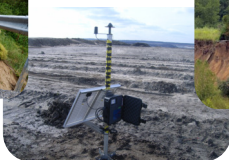
- GNSS data management
- Automatic processing at user-definable intervals
- Short or medium baselines, VRS
- Solution comparison: 1h, 4h, 12h, 24h



- Comfortable access via the web interface
- Visualisation of time series, PDF reports, CSV output, database
- Alarming - email/ SMS

Application fields

- Landslide monitoring
- Surface subsidence monitoring of underground operations
- Open-cast mine high wall stability monitoring
- Long-term deformation monitoring of abandoned mines
- Deformation monitoring of:
 - Dams
 - Bridges
 - Tunnels
 - Embankments
 - Storage caverns ...
- Glacier flow monitoring



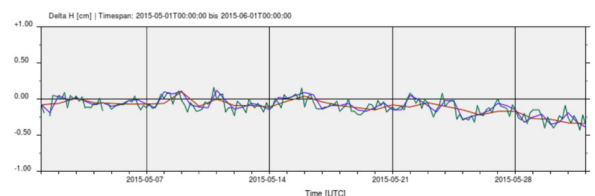
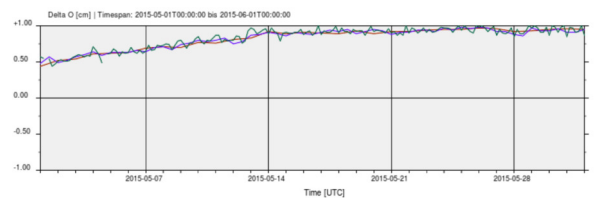
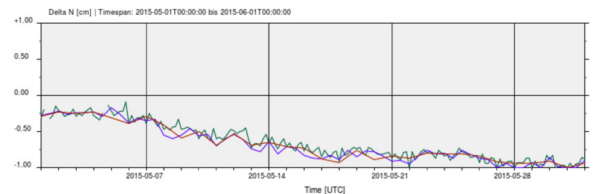
Processing example

Period: 01.05.2015 - 01.06.2015
Baseline: 383 m **Y scale:** 1 cm

Processing intervals*:

- GREEN:** 4 hours
- PURPLE:** 12 hours
- RED:** 24 hours

Reference station: A07-N-11
Rover: A07-N-11



*1h solution is omitted in favour for readability

The Alberding GNSS monitoring software is offered as a processing service by Alberding GmbH.