PHYSICAL SECURITY MONITORING OF ENGINEERING STRUCTURES

Huggenberger-Monitor: Data Management for Monitoring Projects on the Internet

With the Huggenberger Monitor, measurement results from various data loggers, including those from the WRLog system radio data network and the Huggenberger tensologger, are displayed on an Internet project website. This gives users very easy-to-use and password-protected access to the measurement results, their metadata and important additional project information.

The main page contains an overview of the monitoring project with the arrangement of the measuring points (green dots) as well as a measuring point list. If a point or the measuring point is moved over with the cursor, the relationship between the list and the image is established.

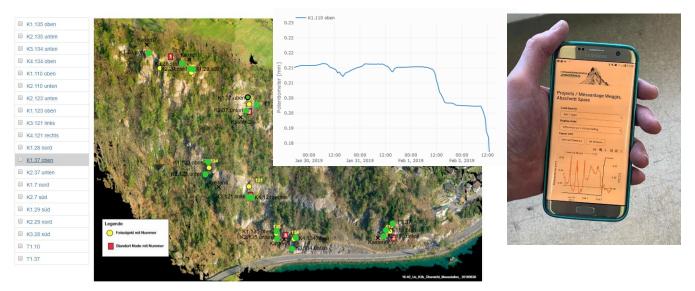


Figure 1: Rock face instrumented with telejointmeters (green symbols of the measuring points) and mobile device

By selecting a sensor symbol, the relevant measured values are displayed graphically (time/measured value) and numerically. The graphic representation can be changed either in time and measuring value axis.

If several sensors are selected, the graphic scale is expanded accordingly. It is possible to display measured values with regard to a 2nd axis (e.g. the temperature).



Figure 2: Displacements in mm and temperature in °C



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Other functions are:

- Enter graphic scaling Y axis and time axis.
- Presentation of raw measured values, measurement results in technical units such as mm, measured value differences with regard to the first measured value, measured value change per hour, measured value acceleration per hour.



Figure 3: Displacement speed in mm/h and temperature in °C

Export of measurement results as a .csv file for further evaluations.



Figure 4: Table of values (either raw and engineering units)

- Create a graphic of the measured values in .png format.
- Zoom and pan function.
- Documents, e.g. Address list, pictures of the measuring points, technical report of the sensors and the
 measuring system, results of other measurements can be uploaded and then displayed in the Huggenberger
 Monitor.
- Alerting: sending alarm messages via SMS. Various limit values can be set for this.

