## **GRIMONIT (Groundriskmonitor) Fully Automatic and Remote-Controllable Deformation Early Warning System for Difficult Measurement Conditions**

## Inma Gutierrez and Edi Meier (Switzerland)

Key words:Deformation measurement; Engineering survey; Positioning; Risk management;<br/>monitoring; deformation; settlement; hazard prevention; high-precision ground<br/>deformation; long-term stability; hydrostatic leveling system; vertical displacement;<br/>power dam; bridge control; Earth tide

## SUMMARY

Hazard prevention is of crucial importance regarding monitoring settlements or deformations of bridges, dams, buildings as well as mines, caused by natural hazards or structural measures that have been taken. Apart from that, monitoring forested areas through which roads or train tracks lead is currently extremely challenging. Furthermore, it's equally difficult to monitor areas at risk using optical methods when meteorological conditions such as rain, snow or fog occur.

GRIMONIT (Ground Risk Monitor) is a hydrostatic measuring system, allowing for continuous monitoring, even if the conditions are unfavorable. Hydrostatic systems do not rely on a clear line of vision. Accordingly, weather conditions such as rain, snow or fog are not obstacles. Thus, measuring points can be covered or buried after installation; they do not have to be visible. Thanks to a comparably simple setup process, the device can be deployed within a short period of time and will then allow for continuous surveillance. The access via internet allows recalibration of the system remotely and data extraction from anywhere at any time.

GRIMONIT (Groundriskmonitor) Fully Automatic and Remote-Controllable Deformation Early Warning System for Difficult Measurement Conditions (11868) Inma Gutierrez and Edi Meier (Switzerland)

FIG Working Week 2023 Protecting Our World, Conquering New Frontiers Orlando, Florida, USA, 28 May–1 June 2023