

Golden Gate: Ahtri 6 - geotechnical monitoring

Tallinn, Estonia

Comprehensive geotechnical monitoring system commissioned by Keller Poland in the heart of Tallinn



The project

As part of Keller Poland's implementation of the Golden Gate (Ahtri 6) project, we designed and installed a monitoring system for the excavation shoring structure and geotechnical monitoring in the vicinity of the construction site.

The challenge

Our tasks included the design and selection of suitable equipment for continuous (wireless) monitoring of the trench shoring structure and the height of the groundwater table at the construction site. In addition, due to the location of the collector near the construction site, which is an element of the critical infrastructure of the city, the General Contractor was obliged by the administrator of the network to cover the monitoring of this object as well.

The solution

Our solution was based on the following:

- 6 pcs. automatic inclinometers (IPI) with a length of about 17 m each made by Geosense,
- piezometer sensor for automatic measurement of the ground water level,
- a sensor for measuring tilts of collector well,

Specialized equipment from our partner Worldsensing, which is well suited for operation in demanding construction conditions, is responsible for data recording and data transmission to the server.

The system has been programmed to operate in automatic mode recording data every 15 minutes, which will allow sensitive construction work to be carried out safely.

Thanks to the implementation of our QuickView monitoring platform, the client and the Works Contractor (KellerPolska) can access the measurement data in real time and receive notifications of exceeded alarm thresholds.

Project facts

Owner(s)

US Real Estate

Keller business unit(s)

GEO-Instruments Polska

Main contractor(s)

Keller Polska

Engineer(s)

Tomasz Ziętkowski - Monitoring Projects Manager
Mateusz Orsicz - Software Specialist

Services

Automated monitoring
Software and web-based data presentation
Deformation monitoring
Excavation support

Markets

Buildings
Commercial

Technologies

Wireless sensors
Shape accel arrays