Monitoring of the building at 69 Wolska Street

Warsaw, Poland

Comprehensive monitoring of the construction of a multi-family building during the reinforcement of the soil subsoil using Soilcrete jet injection technology

The project

Uneven settlement of buildings is a very big problem that can result in serious structural failure. This is especially important if we consider residential buildings located in the strict center of cities. In such cases, it is necessary to cover the building with precise real-time monitoring. As we like interesting challenges, we supported our colleagues from KellerPolska responsible for the implementation of soil subsoil reinforcement using soilcrete injection at 69 Wolska Street in Warsaw.

The challenge

Provide a comprehensive monitoring system that allows the acquisition of real-time data on the work of the structure of the entire facility during the construction work and for about 6 months after the completion of the work.

The solution

For the implementation of a comprehensive monitoring system to support the blast injection process, we designed a system based on the HLC hydrostatic precision leveling system consisting of 16 sensors and a set of 4 inclinometers. We started the work with the detailed design of the entire system and the installation of the sensors on the technical floor. Even before the start of construction work, we began collecting data which allowed us to verify the so-called "zero state" and then precisely determine the impact of the work performed on the building. All this in order to continuously monitor vertical displacements and tilts of the entire building during the execution of soilcrete columns. In addition, all data was collected and made available on our QuickView platform, allowing real-time monitoring of the processes affecting the high-rise structure.

The specialized geotechnical work, which lasted almost 2 months, was fully successful. Our measurements will continue for several more months allowing for the evaluation of the performed works and providing valuable information on the work of the entire structure.

Project facts

Owner(s)

Spółdzielnia Mieszkaniowa "CENTRUM-WOLA"

Keller business unit(s)

GEO-Instruments Poland

Main contractor(s)

Keller Poland Sp. z o.o.

Engineer(s)

Tomasz Ziętkowski - Monitoring Project Manager
Grzegorz Dziedzic - Construction Monitoring Engineer
Mateusz Orsicz - Software Specialist
Paweł Faryna - Foreman, Physical Worker, Welder

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