

Redevelopment of "Warsaw West" railroad station

Warsaw, Poland

Automatic geodetic monitoring of railroad infrastructure during reconstruction of the "Warszawa Zachodnia" railroad station



The project

Automatic geodetic monitoring of deformation of railroad infrastructure

The challenge

Providing geodetic automatic monitoring of railroad infrastructure during works related to the construction of the tunnel using the excavation method. Implementation of the entire system installation without the possibility of introducing track occupation dictated by the need to maintain passenger traffic.

The solution

For measurement of deformation and displacement of the track bed a solution based on AMTS (Automated Motorized Total Stations) was implemented, the device was installed outside the excavation influence zone. Monitoring prisms were installed on the active track bed in crossbars every 5m. The work was carried out in accordance with the highest health and safety standards - under the supervision of signalmen. The measurement was realized by robotic total station Topcon MS1AXII in measuring sessions every 1h. The entire measurement process was managed by Delta Solution software, and the presentation of results was done on the monitoring platform DeltaLive! allowing for real-time data visualization.

Project facts

Owner(s)

PKP Polish State Railways S.A.

Keller business unit(s)

Geo-Instruments Polska

Main contractor(s)

Budimex S.A.

Engineer(s)

Jerzy Pieronkiewicz - Technical Director
Tomasz Ziętkowski - Monitoring Engineer

Services

Deformation monitoring

Markets

Rail
Infrastructure

Technologies

Automated motorised total stations (AMTS)