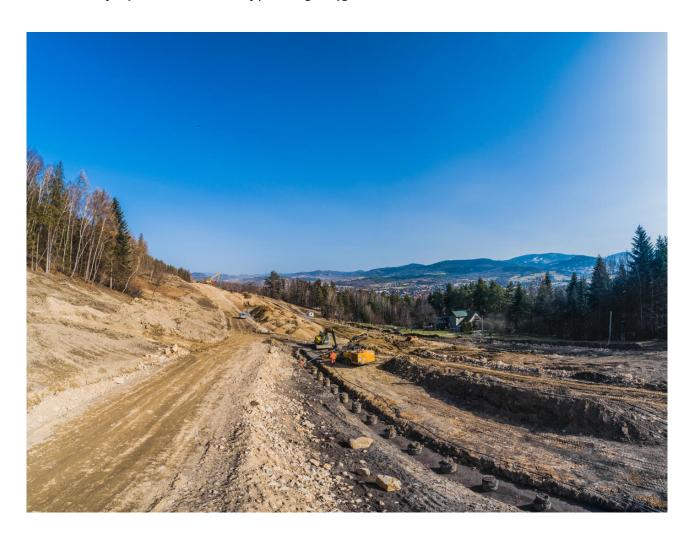


# Construction of the S1 (formerly S69) Bielsko-Biała -Żywiec - Zwardoń expressway, section Przybędza -Milówka (bypassing Węgierska Górka)

Węgierska Górka, Poland

Construction of the S1 (formerly S69) Bielsko-Biała - Żywiec - Zwardoń expressway, section Przybędza - Milówka (bypassing Węgierska Górka)



# The project

Providing an extensive and comprehensive monitoring program for slopes and retaining structures commissioned by Keller Poland, which is performing the structure reinforcements. Providing comprehensive monitoring services (in the field of geotechnics and geodesy) for 16 different bridge structures commissioned by the General Contractor.

# The challenge

Execution of works in the areas of active landslides required us to carry out the works with the utmost precision. Additionally, the works were performed on many fronts, which combined with severe mountain conditions was a great logistic challenge.

## The solution

- preparation of complete project documentation for monitoring of slopes and retaining structures,
- inclinometric monitoring of slopes and retaining structures,
- monitoring of groundwater table levels,
- surface geodetic monitoring of slopes and retaining structures,
- monitoring of forces in soil anchors,
- strain gauge monitoring in large diameter piles
- test loads on soil nails
- strain gauge monitoring of temporary lining of newly built tunnels
- geodetic monitoring of bridges (during the warranty period)
- continuity monitoring of piles

# **Project facts**

### Owner(s)

Generalna Dyrekcja Dróg Krajowych i Autostrad Katowice

## Keller business unit(s)

Geo Instruments Polska

#### Main contractor(s)

MIRBUD S.A. - Leader KOBYLARNIA S.A. - Partner Zrzeszenie budowlane INTERBUDMONTAŻ - Partner

#### Engineer(s)

Jerzy Pieronkiewicz - Technical Director Mateusz Orsicz - Software Specialist Bartłomiej Jadach - Monitoring Engineer

### **Services**

**Deformation monitoring** 

#### **Markets**

Infrastructure Tunnelling

#### **Technologies**

Wireless sensors