

Slovakia

Geodesy, Cartography and Cadastre Authority of the Slovak Republic

Ensuring accuracy of high-precision surveying in Slovakia

“Land surveying measurements requiring high accuracy must be carried out with surveying instruments that are calibrated at regular intervals. By building a state-of-the-art calibration baseline, we are enabling professional surveyors to check and calibrate their instruments to meet the strict requirements for carrying out high-precision surveying work.”

Ján Mrva

Head, Geodesy, Cartography and Cadastre Authority of the Slovak Republic

Precision land surveying is being facilitated in the Slovak Republic by a national calibration facility for selected systems, instruments, and devices.

Established by the Geodesy, Cartography and Cadastre Authority (UGKK SR), the Calibration Centre of Geodesy (CCG) unifies all calibration activities of geodesy and cadastre. The CCG consists of several laboratories that provide calibration activities for selected systems, instruments, and devices to enable high accuracy land surveying measurements.

Construction of a calibration baseline for testing and calibrating EDM (Electronic Distance Measurement) instruments began in 2020. The baseline consists of 7 pillars placed in a single line with a total length of 606 metres.

Reference measurements of the baseline were carried out between 2022 and 2023 to determine the individual lengths between pillars and their reference coordinates. In 2024, the calibration baseline will become operational together with the ‘calibration’ web application. In the future, UGKK SR plans to expand the baseline, so that GNSS instruments can also be calibrated there.

UGKK SR’s vision is for the CCG to become an accredited calibration facility that will issue calibration certificates. The certificate is a guarantee of the quality and accuracy of the instrument, and confirms its suitability for precise surveying measurements. At the same time, it aims to anchor the condition that precise surveying works may only be carried out with calibrated instruments in legislation.

EDM instrument prepared for testing



Reference measurement of the calibration baseline



Benefits

- Establishes a state-of-the-art calibration baseline.
- Unifies all calibration activities of geodesy and cadastre across the Slovak Republic.
- Ensures precision measurement by enabling surveying instruments to be calibrated at regular intervals.
- Enables professional surveyors to meet strict requirements for carrying out high-precision surveying work.