SUESSCO SENSORS

Case Study - Bridge Bearing Monitoring

ÖBB Hillside Bridge

ÖBB

Limberg, Austria

Background

The railway bridge in Lower Austria is a critical component of the ÖBB rail network and has been in service for more than 100 years. Due to its exposed location on a hillside, gradual geological movements are suspected, which could adversely affect the bridge's structural integrity over time.

Requirements

Instead of relying on labor-intensive on-site inspections that could only be performed periodically by in-house personnel, a new technical solution for continuous monitoring was required. The objective was to detect and analyze changes in the bridge caused by geological movements of the hillside at an early stage, enabling timely implementation of any necessary measures.

ÖBB Bridge

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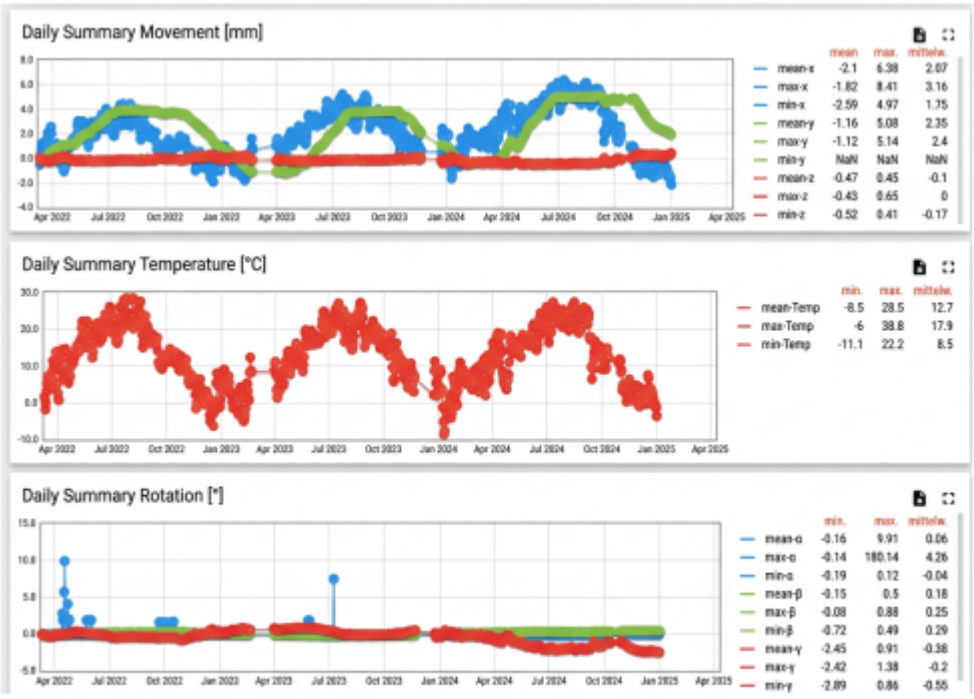
Solution

SuessCo 6D-Sensors were installed at the bridge bearings. Combined with data from the integrated temperature sensors, the responsible experts at ÖBB can now permanently monitor changes via a clearly structured dashboard from their desks.



Data Comparison Over 3 Years

Result

- Permanent monitoring of the roller bearings
- Substantial dataset now available from several years of operation
- X-axis shows expected movements; Y and Z axes remain stable
- "Problem bearing" at the bridge apex shows shear movements (green)
- Based on these findings, appropriate remediation measures were implemented

"Previously, we inspected the bridge bearings on site. With the SuessCo 6D-Sensors, we always have up-to-date measurement data available. That is our advantage – it saves us costs and delivers higher quality."

Georg Gotthart, Asset Engineer Bridge Construction, ÖBB