

BIM4CE

Bridge monitoring using real-time data and digital twins for Central Europe

Bridges are critical transport infrastructure and need regular maintenance to be safe. Smart systems help with monitoring and allow to optimize maintenance processes - but they carry a high price tag.

BIM4CE project aspires to develop a new bridge management solution that will be efficacious as well as cost-effective.

Project budget in EUR:

2,701,235.41

Project duration:

01.04.2023 - 30.03.2026



NEWS

BIM4CE implements new sensor technology

Schüßler-Plan Digital, in collaboration with Colneo's InfoHub, is developing a digital twin for monitoring a demonstration bridge as part of the BIM4CE project to improve infrastructure management in central Europe. The BIM model integrated in the InfoHub platform will collect real-time data from sensors on the bridge, providing an up-to-date view of its structural condition. This innovative approach will enable more efficient maintenance and timely intervention, increasing safety and durability.

Leakage Sensors installed on the IDA-Ki Bridge

In the BIM4CE project, the IDA-Ki bridge was fitted with advanced sensors to detect water infiltration, which is essential for preventing corrosion and structural damage. Continuous monitoring allows for timely intervention, increasing safety, reducing maintenance costs and extending the life of the bridge. The installation marks an important milestone in the project, which aims to integrate intelligent technologies into infrastructure management.

Installation at the Tomačevo Bridge

Between 13 and 17 February, CESTEL installed a WIM system and 14 accelerometers on the Tomačevo bridge. The infiltration sensor will be added within one month. The WIM system was calibrated on 6 March and the data is now integrated into the digital twin. The bridge, a crucial hub in Ljubljana, is crossed every day by thousands of vehicles. This technology aims to improve security and infrastructure management.

Events

EUROSTRUCT 2025 – 3rd Conference of the European Association on Quality Control of Bridges and Structures

2nd - 5th September, 2025
University College Dublin, Ireland

The Event is devoted to the research and development of sustainable, modern, and environmentally friendly solutions for built infrastructure.

ARCH25 - 11th International Conference on Arch Bridges

September 30th - October 3rd, 2025
Genova, Italy

This conference focuses on the preservation of historical arch bridges, new designs, and interdisciplinary themes like material characterization and structural restoration

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