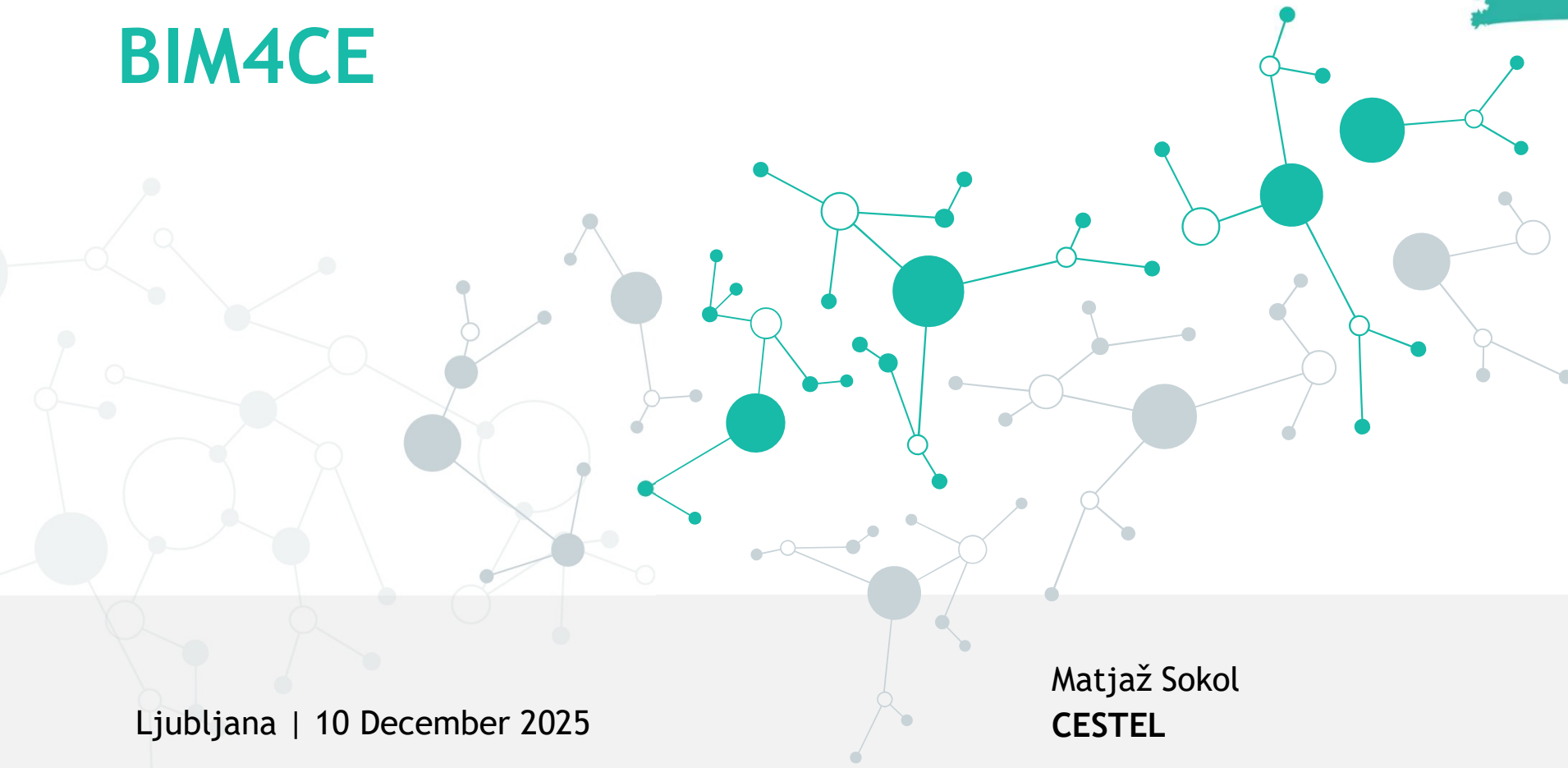


BIM4CE

BIM4CE



Ljubljana | 10 December 2025

Matjaž Sokol
CESTEL

MAIN OBJECTIVE

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

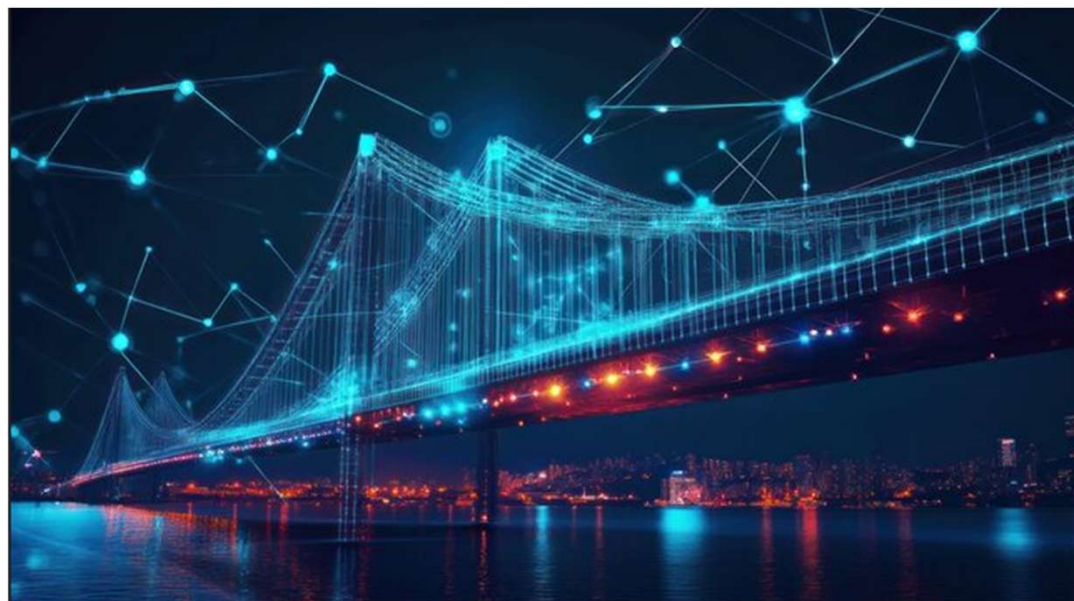
Critical infrastructure.
Smart systems.
Efficient and cost-effective.



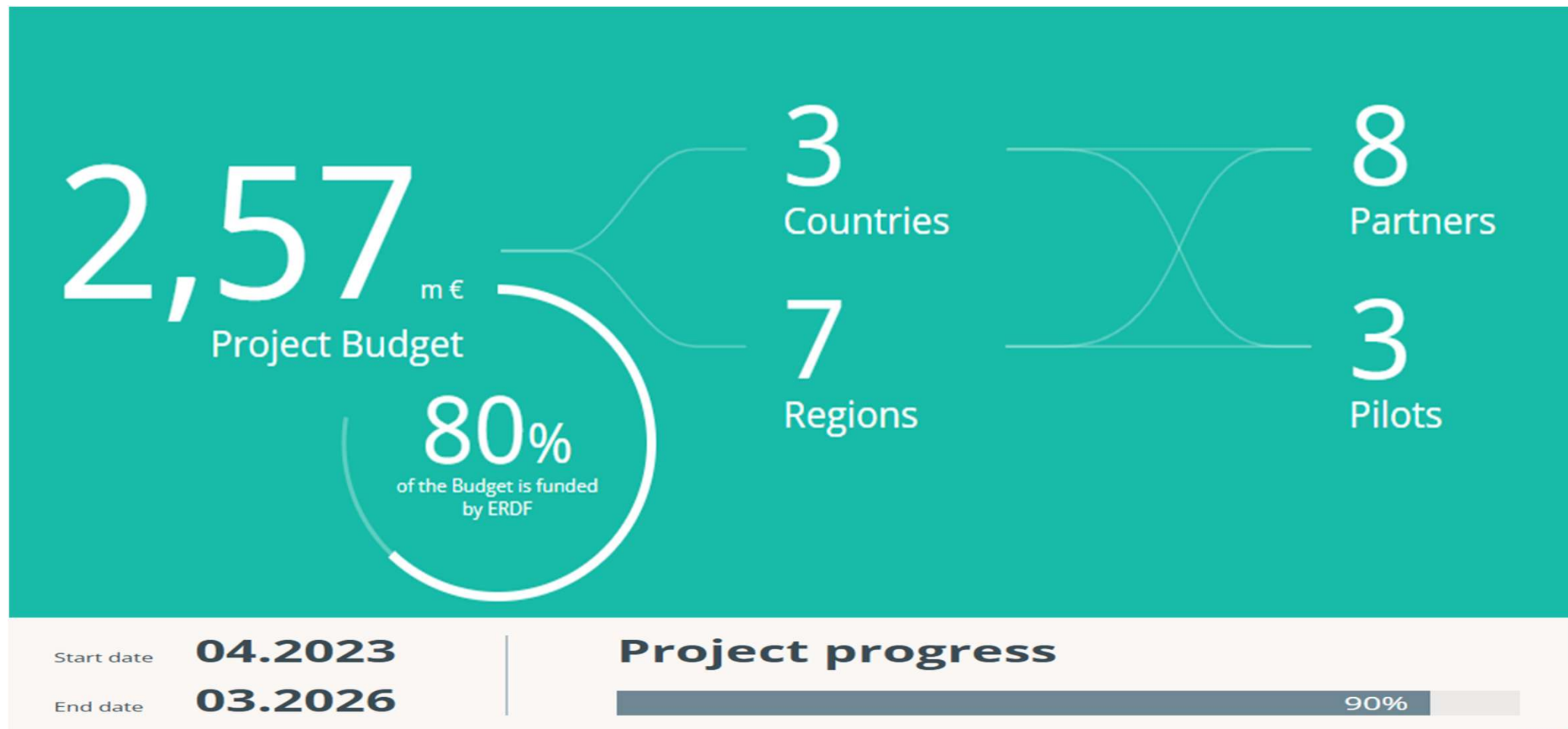
VISION, MISSION & VALUES

Smarter, greener, better connected and more integrated Europe.

Importance of data collection.
Infrastructure lifespan.
Overloaded HGV traffic.



PROJECT OVERVIEW



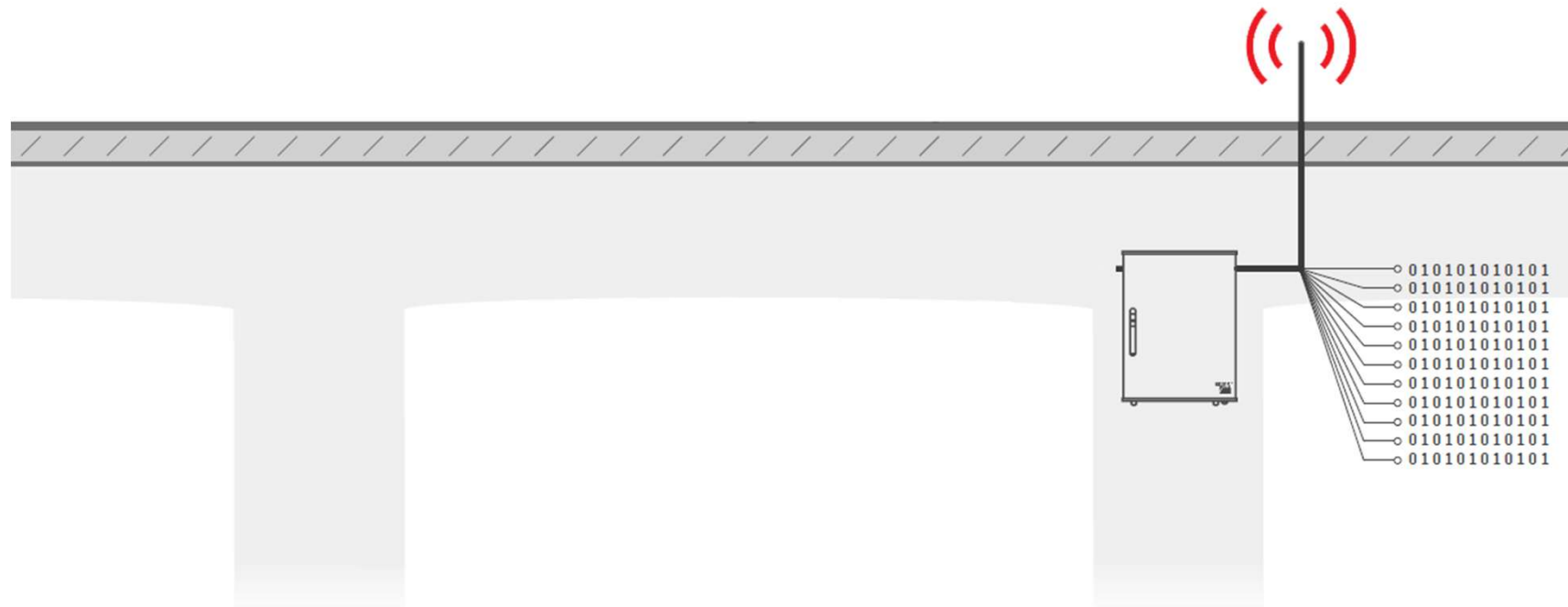
PROJECT PARTNERS

Lead Partner - Technische Universität Dresden



INITIAL SITUATION

Bridge Weigh-in-Motion system (SiWIM)



HARDWARE

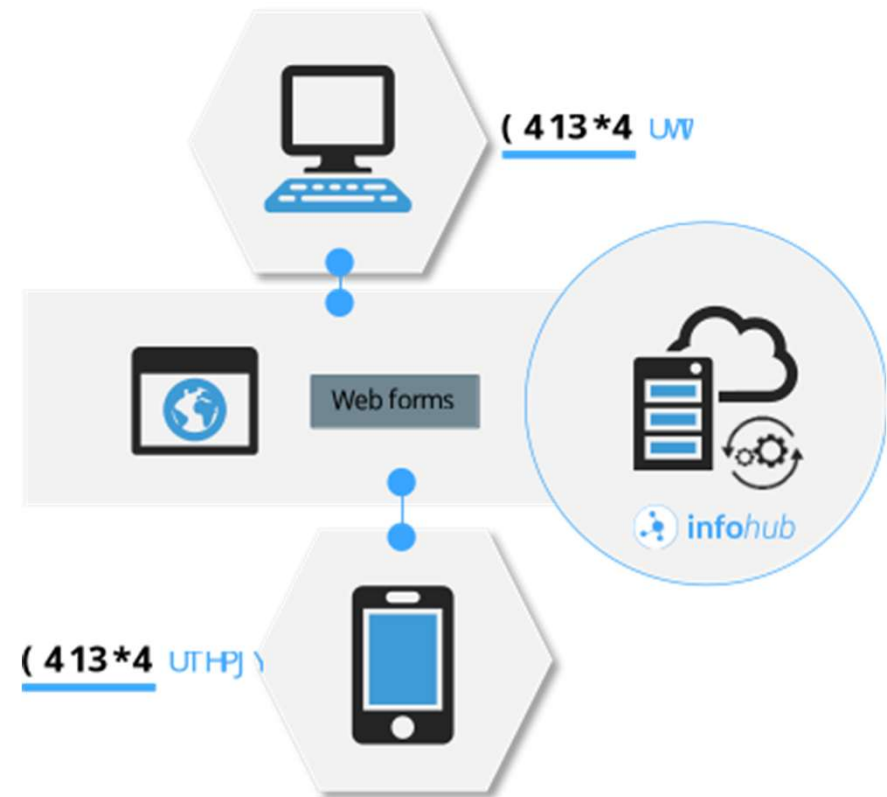
Tried-and-tested technology and advanced innovations



SOFTWARE

Implementing Digital Twin Concept using InfoHub

Real-time data.
Digital Twin.
Bridge assessment.

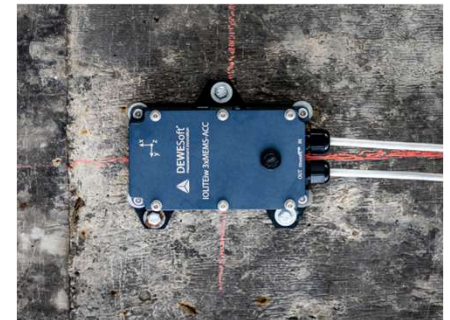


INSTALLATIONS

Germany

Italy

Slovenia





- Built in 2023
- Total length: 45 m, 3 spans
- Laboratory bridge

Germany

IDA-KI bridge



- Total length: 100 m, 5 spans
- 4-lane motorway (A32)

Italy

Sant'Ambrogio bridge



- Built in 1982
- Total length: 204 m, 7 spans
- Span length: ≈ 30 m
- 4-lane main road

Slovenia

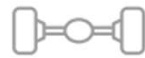
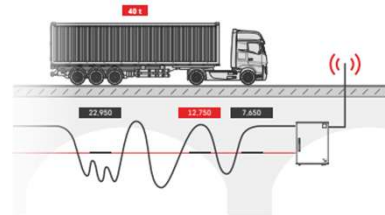
Tomačevo bridge

DATA OUTPUT

Diverse set of sensors for obtaining different types of data to 'understand' the bridge.

B-WIM data:

- Axle loads
- GVW
- Vehicle classification
- Photos
- Speed
- Axle distances
- **Influence line**
- **DAF**
- **Load distribution**



Axle Loads



GVW

SHM data:

- Acceleration
- Deflection
- Vertical displacement
- Strains
- Temperatures
- ...



Acceleration



Displacement



Strain

BIM4CE TEAM

Other activities



Consortium meetings



Events



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

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



ARCH25 - 11th International Conference on Arch Bridges

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

This conference focuses on the preservation

Events



Source: <https://www.consortiofabre.it/>

FABRE 2026– Existing Bridges, Viaducts and Tunnels

16-19 February 2026
Auditorium della Tecnica, Rome, Italy



Source: <https://amcham.si/>

SloveniaBusiness Bridge™ – Investment and Development Conference 2025

13-14 November 2025
Ljubljana, Slovenia

Events

CESTEL presence at the “Intertraffic event” in Amsterdam

At Intertraffic Amsterdam, the world's biggest ITS event, Cestel showcased our bridge WIM system. The event received over 30,000 visitors and had 900 exhibitors. Additionally, they marketed BIM4CE, catching the attention of 60 infrastructure management professionals.



Thank you for your attention.



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 [Linkedin.com/BIM4CE](https://www.linkedin.com/company/BIM4CE)