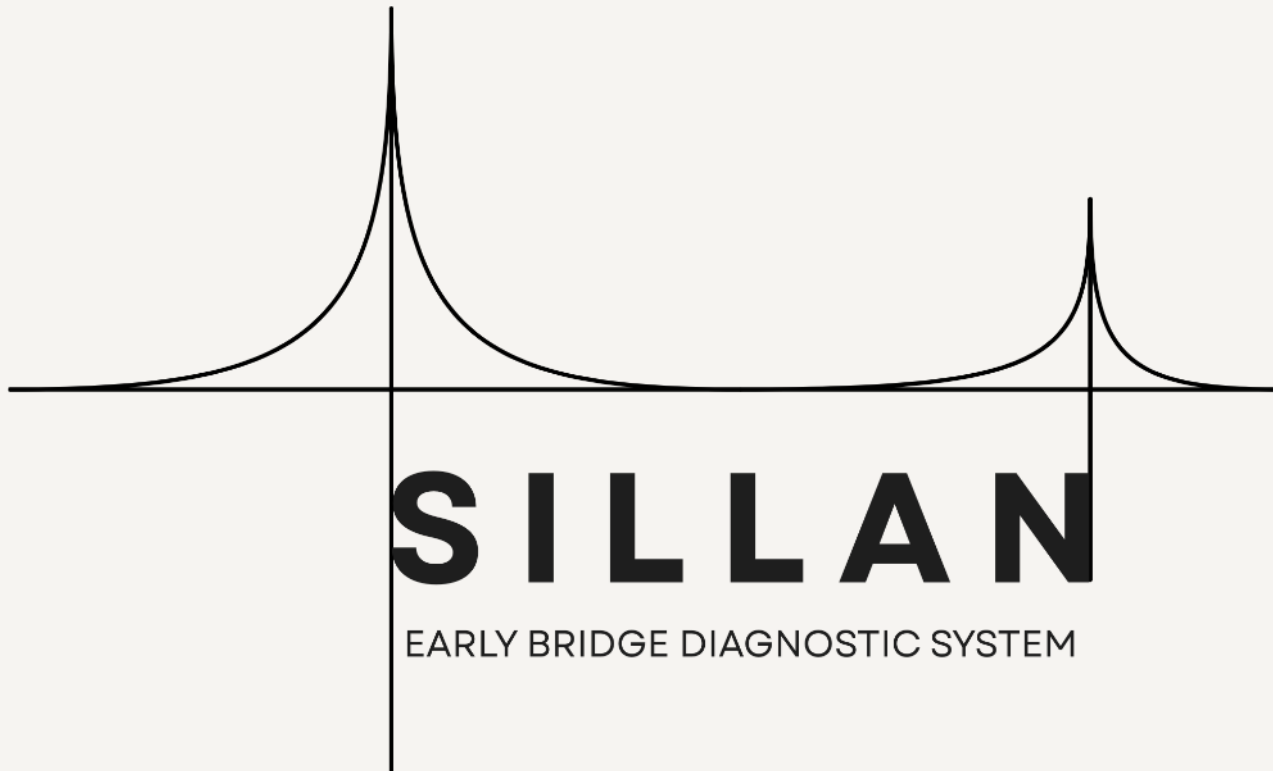
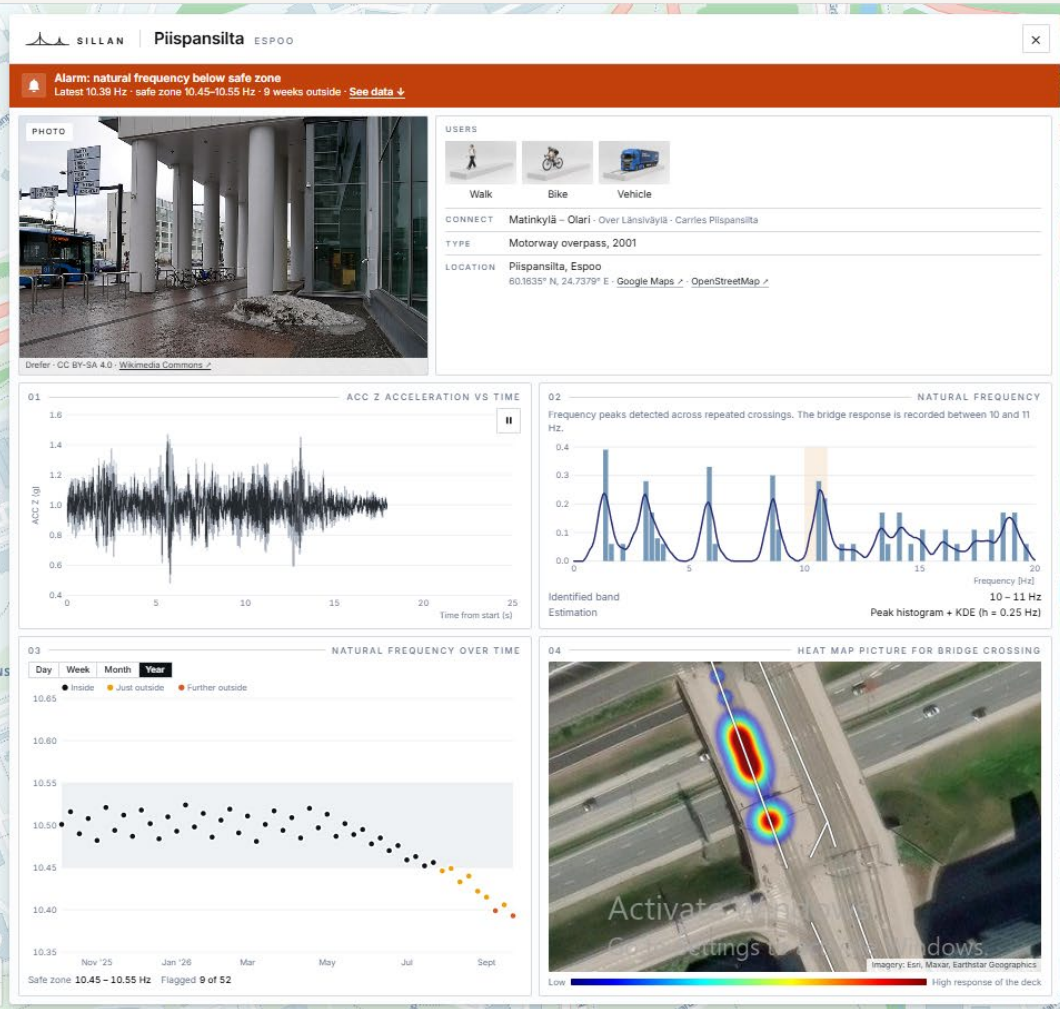
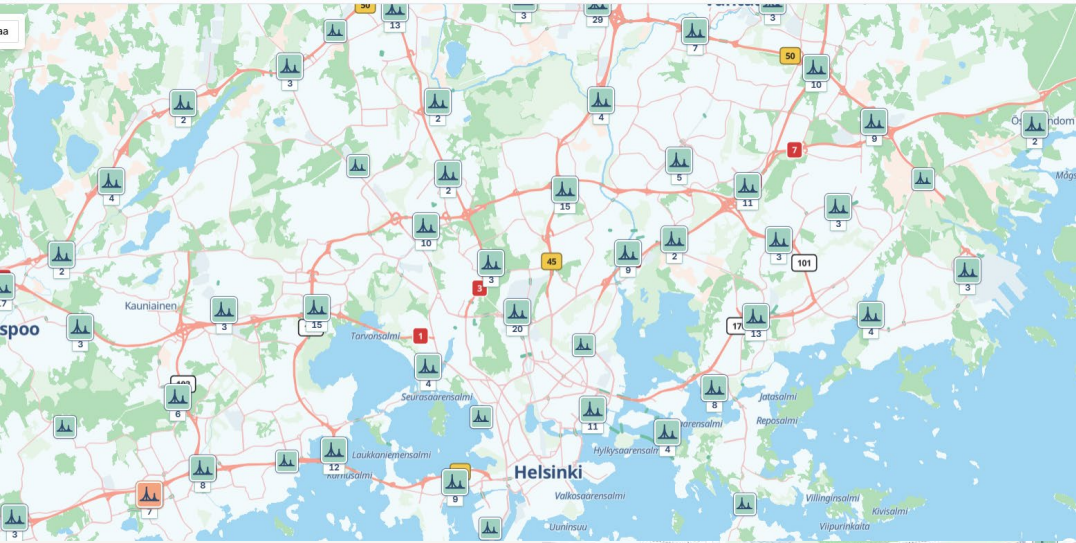




SCALABLE BRIDGE MONITORING

Presented by (Sampo Hietanen)

Live status of bridge condition every time a vehicle drives over.



WE ARE TRYING TO SOLVE...

- **€260M** spent annually on bridge maintenance and repairs
- Repair and maintenance **backlog increases by 6%**
- **Aging bridge stock** increases future maintenance pressure

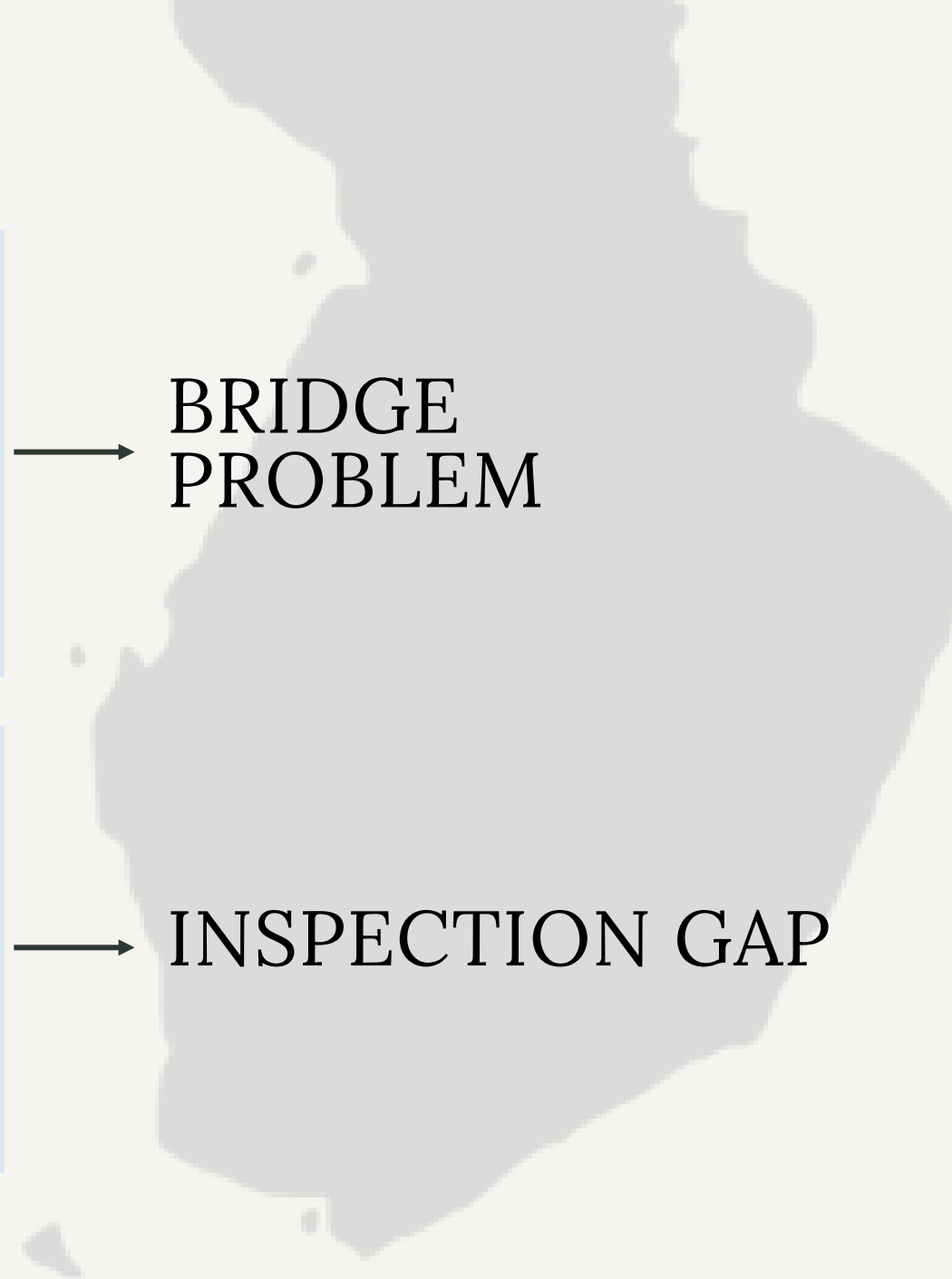


BRIDGE
PROBLEM

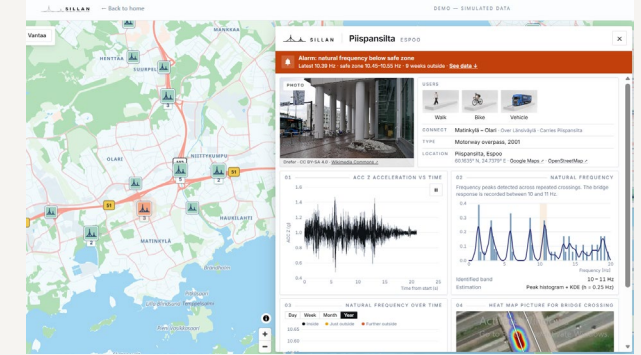
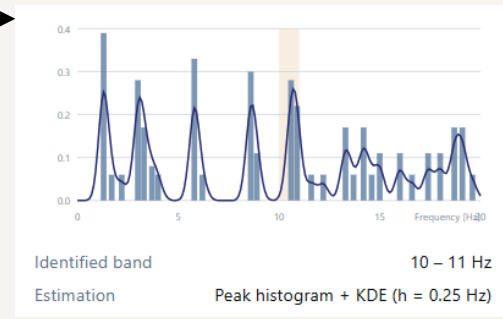
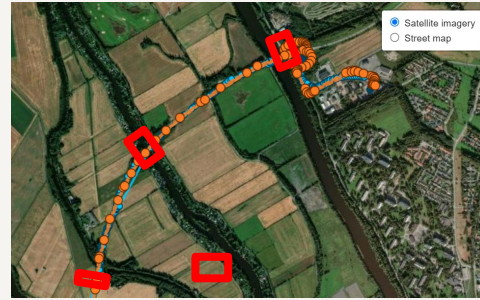
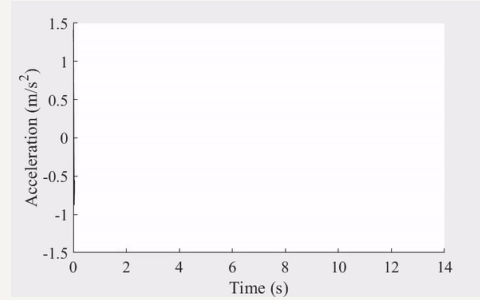
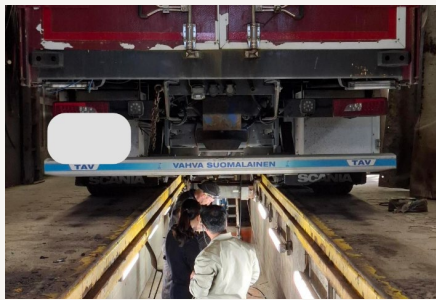
- 99% bridges rely on **visual inspections**
- Inspections only conducted **once every 5 years**
- **Less than 1%** being monitored by direct sensor system



INSPECTION GAP



SILLAN METHODOLOGY



Data collection

Data processing

Analysis and tracking

Insight

Sensors fitted on
in-service vehicles

Vibration + GPS
captured at every
bridge crossing

Repeated crossings filter
noise and reveal each
bridge's natural frequency

Frequency changes over
time flag bridges to
inspect first

2025

Q 1 - Q2 2026

Q 3 - Q4 2026

June 2027

More than 20 years of research in drive by and indirect monitoring for bridges.

Professor Weiwei Lin with 15 years of research applied for funding with Business Finland

Business Finland funded Research-to-Business project SILLAN for 18 months

SILLAN joined Aalto Startup Center for R2B Pre-incubator

Won 2nd place for innovative technology at Falling Walls Lab Kuopio

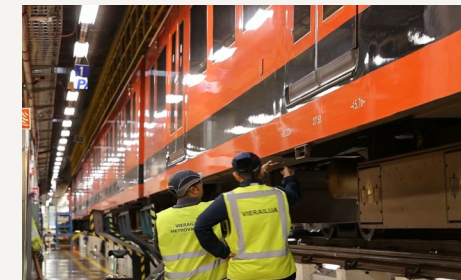
Presented at various tech and mobility events in Riga, Oslo and Tallinn



Won the Tallinn City Resilience Hack, with a €10,000 prize

Installed sensors on truck with Huhtala logistics

First ever bridge monitoring sensor installed on metro with Kaupunkiliikenne OY



€3M OVER 3 YEARS: WHAT FINLAND GETS

€1M a year for hardware, team and a security data platform

Where the money goes over the duration of 3 years	€
Sensor kits & installation, 100 vehicles	0.95M
Team: 2 co-founders and 1 employee	0.61M
Field operations (contracted installation)	0.45M
Security and compliance	0.25M
Sensors installed on bridges for validation	0.20M
Data platform and IOT connectivity	0.15M
Contingency	0.39M
Total, 3 years	3,00M

100

vehicles with sensors

2,000–10,000

bridges in reach

20–100

bridges per vehicle

THE TEAM



Teddy Tran – Business Developer

5 years coaching early-stage startups and deep tech founders at Aalto University



Ziyi Huang – Technical Researcher

Researching indirect Structural Health Management system



Sampo Hietanen –Business Developer

Founder of MAAS Global Ltd,
Multiple exec positions in Civil Engineering industry
Commercialize multiple CE innovations



Pramod Acharya – Technical Researcher

Researching Bridge Robustness and Non-linear analysis.
5-year industry experience.

ADVISORY BOARD



Weiwei Lin – Accountable Project Lead, Associate Professor

*Associate editor of Journal of Bridge Engineering, ASCE
Nearly 15 years of experience in bridge engineering and SHM*



Panu Kuosmanen Senior Innovation Advisor, School of Engineering

*30 years of experience in technology commercialization, transfer and Founding of new startups
Founding and seed funding of more than 100 technology start-ups*

HOW INSTALLATION WORKS

Your vehicle

Buses, trams, trucks, metro
that are already in use and
crossing your bridges

Light installation

Installation would take 2 to 4
hours
Vehicle specialists install the
equipment with our support

Light installation

Installation would take 2 to 4
hours
Vehicle specialists install the
equipment with our support