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 Move Solutions

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 MoveSolutionsIT

PROACTIVE BRIDGE MONITORING

Real-time insight for safe,
resilient bridges.

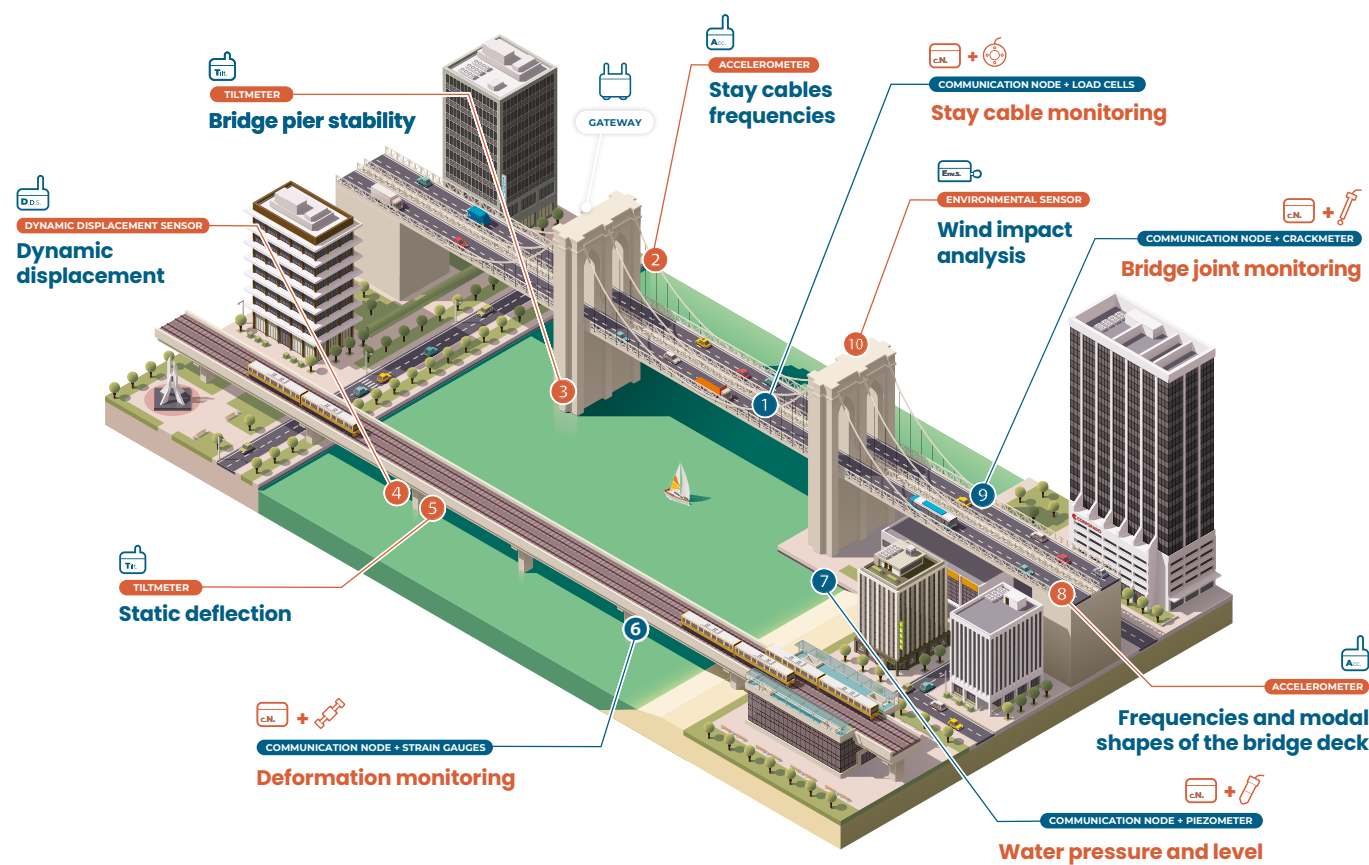
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Smart bridge monitoring

with dynamic and static wireless IoT sensors



ACCELEROMETER 2 8

Measure acceleration (mg) and frequency (Hz) on three axes, synchronizing devices for modal analysis.



TILTMETER 3 5

Measure rotation, ground deformation and triaxial tilt changes, with the option of synchronizing devices to better assess the stability of structures.



ENVIRONMENTAL SENSOR 10

Tracks air quality, noise, and wind in real time via LoRaWAN, fully integrated with the MyMove IoT Platform.



DDS DYNAMIC DISPLACEMENT SENSOR 4

Measure the dynamic amplitude of the displacement (mm) and the vibration frequency through an FFT algorithm.



COMMUNICATION NODE 1 6 7 9

Make geotechnical and environmental probes suited for wireless communication and receive alarms for threshold breaches.



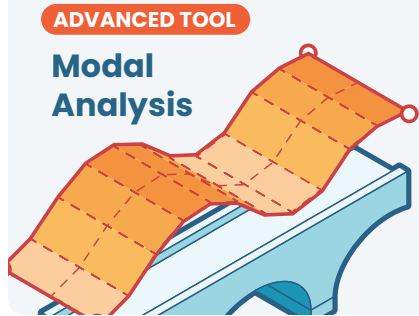
GATEWAY

Collect data measured by the sensors and transmit them to the MyMove IoT Platform where they will be processed and analyzed.





MyMove centralizes all structural and environmental data from your monitoring system into a single cloud platform—giving engineers full control, real-time visibility, and actionable insights without the need for multiple tools.



How our structural monitoring system works

From sensor installation to data analysis, Move Solutions delivers a fully wireless structural health monitoring solution.

Install sensors

Deploy **wireless devices** on site. Sensors connect automatically via LoRaWAN.

Collect and manage data

Data flows to the cloud and is managed in **MyMove**, remotely and in real time.

Analyze structural behavior

Turn raw data into engineering insights with **advanced built-in Tools** for smart analysis.

Automate reporting

Generate **customized PDF reports automatically**—ready to share with stakeholders.

CASE STUDY — Bridge

East Huntington – Gunner Gatski Bridge

September 2023 West Virginia, USA



The West Virginia Department of Transportation launched a real-time SHM program on the **East Huntington Bridge**, a cable-stayed structure spanning the Ohio River and carrying over 14,000 vehicles daily. Traditional inspections proved insufficient to track evolving structural behavior in such high-risk environments.

Move Solutions, together with **Marshall University** and **HNTB**, deployed 57 wireless sensors connected to the **MyMove IoT Platform**. The system included accelerometers on cables, deck, and towers; tiltmeters for long-term drift; displacement sensors; crackmeters; a weather station; and a collision detection system.

Data is transmitted via LoRaWAN gateways to provide continuous insight into modal response, vibrations, and potential damage.

Already, the system detected vortex-induced vibrations, optimized maintenance of dampers, and confirmed structural integrity after a local earthquake—preventing costly inspections and saving over \$600K in avoided replacements.

This project demonstrates how IoT-based SHM delivers safety, cost-efficiency, and a scalable model for future smart infrastructure.



WE LOVE MEASURING OUR WORLD