move SOLUTIONS

Reduce risks with **infrastructure** Monitoring

The complete solution for **static SHM, dynamic SHM** and **geotechnical and environmental monitoring**

• Dams • Vertical structures • Tunnels • Buildings • Dams • Vertical structures • Tunnels • Buildings • Dams • Vertical structures • Tunnels • Buildings • Dams

Dam security

Tilt, Deformations, Pressure, Temperature, and Vibrations

Rock face integrity

Deformations, Cracks, Groundwater pressure, and Seismic activity

Ground conditions

Soil movement, Groundwater level, Deformations, Settlement, changes in Pore Pressure, and Soil moisture content

Vibration analysis

Frequencies, Amplitude, Velocity, Acceleration, and Dynamic Displacement

Tunnel Structural Health

Convergence, Longitural Settlement, Deformations, and Cracks

Building stability

Tilt, Settlement, Lateral Displacement, and Foundation soil properties

Smart infrastructure monitoring with dynamic and static wireless IoT sensors

VIBROMETER

Vibrational analysis

Monitor the speed at which the dam vibrates to identify changes that could indicate structural damage.

TILT BEAM

Longitudinal stability of the tunnel

The longitudinal slope is monitored to detect any changes in deformation caused by surrounding ground pressure, traffic loading or temperature fluctuations.

TILT BEAM

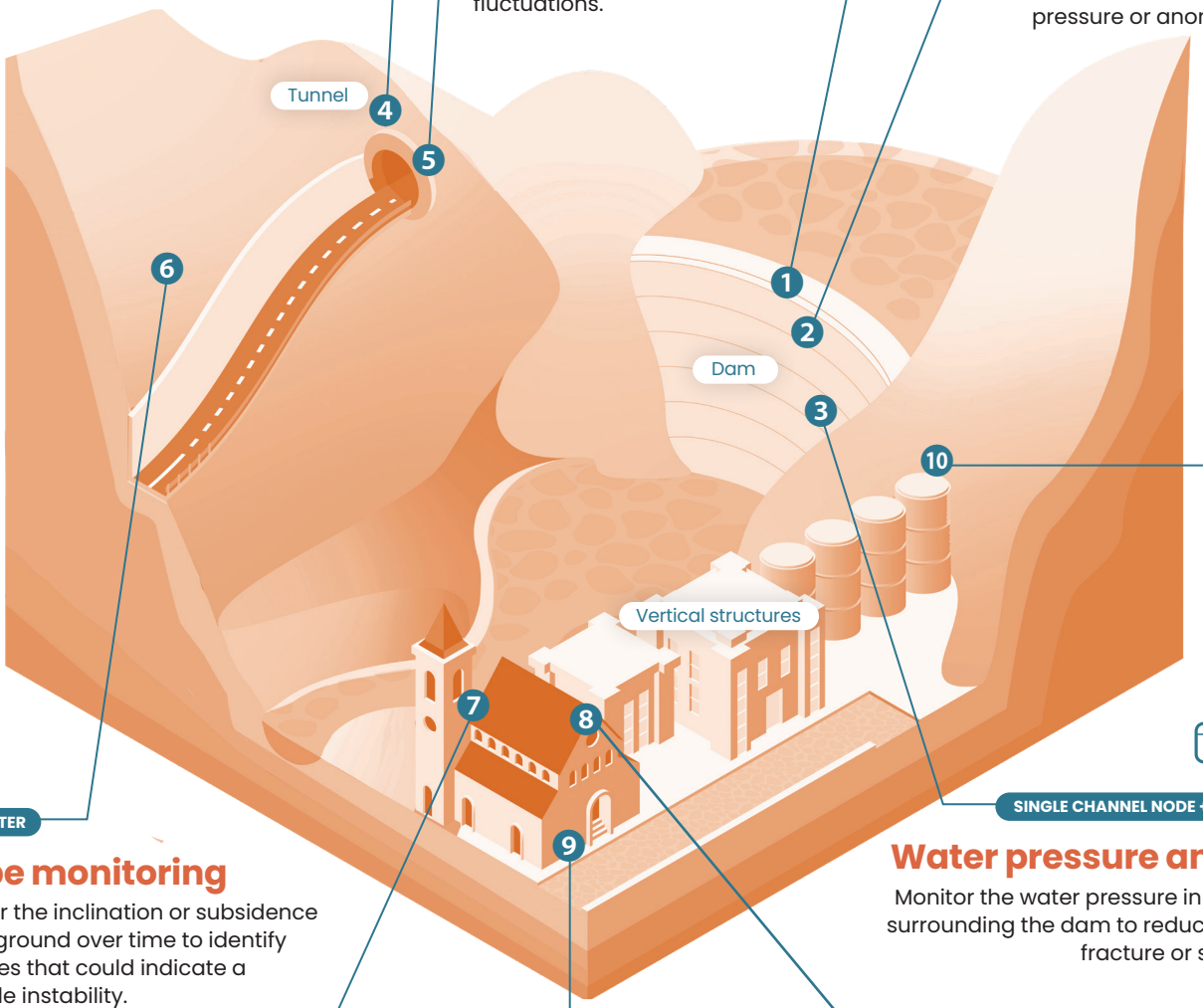
Tunnel convergence

Monitor the convergence of the tunnel to detect any changes in the walls over time and prevent any long-term structural problems.

TILTMETER

Structural stability

Measure the movement of the dam and its stability in response to external forces, such as water pressure or anomal activity.



GATEWAY

SINGLE CHANNEL NODE + PIEZOMETER

Water pressure and level

Monitor the water pressure in the ground surrounding the dam to reduce the risk of fracture or subsidence.

TILTMETER

Slope monitoring

Monitor the inclination or subsidence of the ground over time to identify changes that could indicate a possible instability.

VIBROMETER

Vibrational analysis

Measure building vibrations to increase safety and to comply with state regulations on structural monitoring, respecting the required threshold levels and sampling methods.

SINGLE CHANNEL NODE + CRACKMETER

Crack monitoring

Cracks can indicate the presence of structural deformations or movements: their monitoring is important to assess the stability of a building.

ACCELEROMETER

Dynamic analysis

Carry out the Operational Modal Analysis (OMA) of the building by synchronizing accelerometers to identify relevant vibration modes and their evolution over time.

Wireless sensors for infrastructure monitoring

Buildings • Dams • Vertical Structures • Tunnels

8

ACCELEROMETER

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

1 7

VIBROMETER

Measure triaxial vibration parameters with complete analysis of speed (mm/s or inch/s), frequency and amplitude of the vibrations.

2 6

TILTMETER

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

3 9

SINGLE CHANNEL NODE

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

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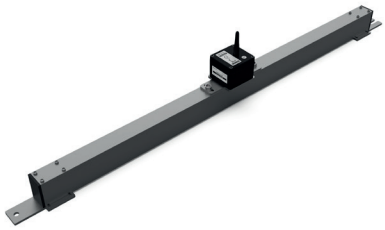
GATEWAY

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



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TILT BEAM

Measure the degree of slope or tilt over a larger area with a series of Tiltmeters attached to a bar.

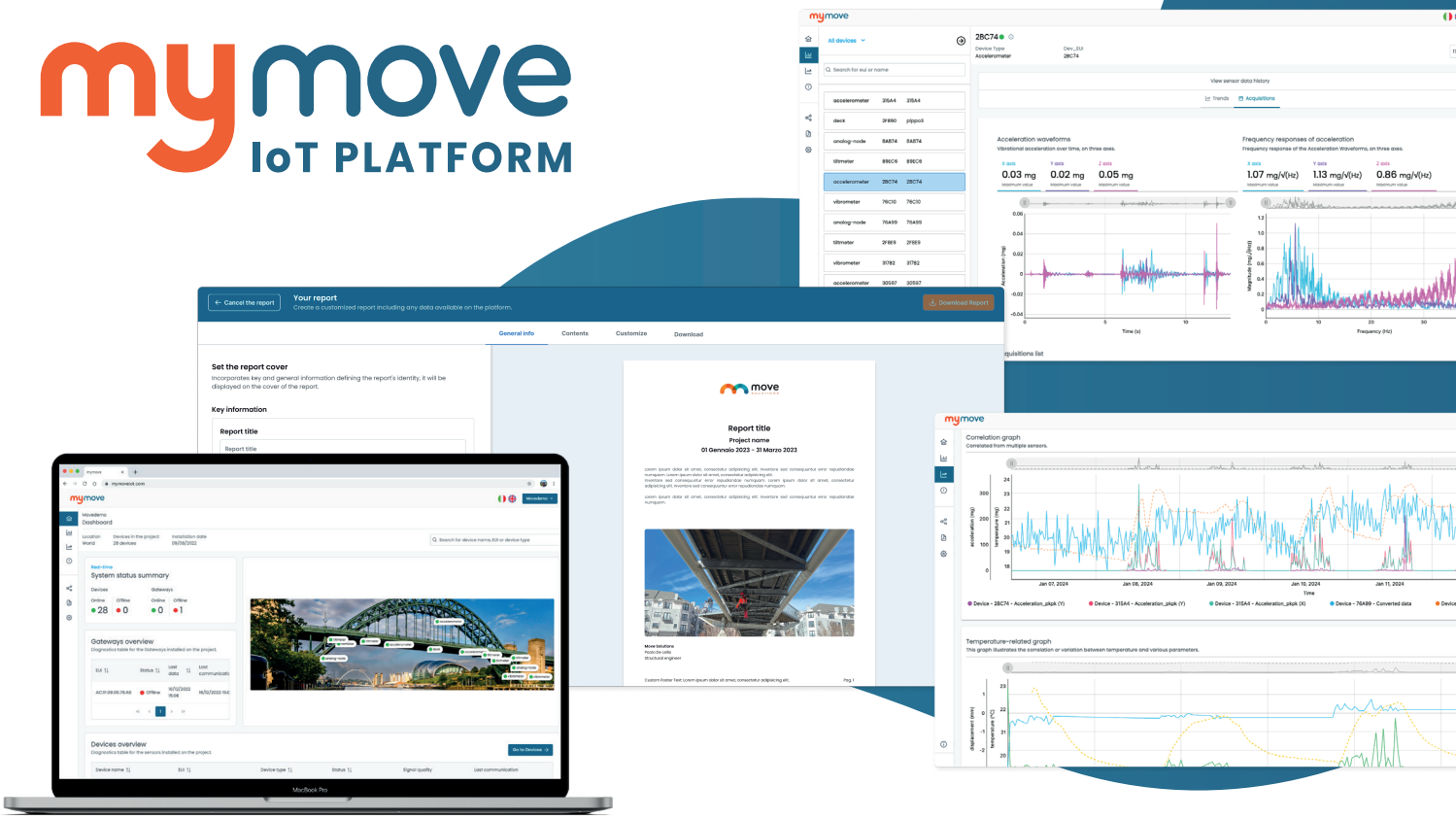
All our sensors are **battery-powered** and they measure **temperature**.

CASE STUDY

Grain silos • Beirut, Lebanon

The Beirut grain silos, 42 cylindrical reinforced concrete structures 48 meters high, were severely damaged by the August 2020 explosion that occurred nearby. Move Solutions **Tiltmeters** were installed to monitor their inclination, which was noticed to worsen with time; their collapse was expected soon, and it was not avoidable. However, thanks to the real-time data provided by the monitoring sensors the area was cleared and secured just before the collapse, and no one got injured.

mymove IoT PLATFORM



All-in-one

Comprehensive structural analysis for efficient monitoring

User-centered

Designed to meet and anticipate your needs

Intuitive interface

Clear and simple design for a smooth user experience

Manage

Efficiently oversee your projects with ease, monitoring **multiple structures** through a single account. Configure **multi-level severity alarms** for proactive risk management, ensuring timely responses to potential issues and improving the safety of your structures.

Explore

Delve into **historical data**, accessing comprehensive **trends** and detailed **acquisition lists**. Uncover hidden patterns and anomalies for a complete understanding of your structure behavior, aiding in predictive maintenance and strategic planning.

Analyze

Interpret complex data with a**dvanced analytics**, **comparing graphs** and generating **customized reports**. Transform them into actionable insights, for informed decision-making and improved longevity and safety of your infrastructure.

Be in control of your structural monitoring, anywhere you are.

Discover all the features available on **MyMove IoT Platform**

move SOLUTIONS

Smart Structural Health Monitoring
A comprehensive solution

Our Smart Structural Health Monitoring (SHM) system offers a complete solution that helps detect potential issues before they become critical, ensuring the safety and longevity of structures.

Wireless system

Avoid expensive and complex installations thanks to battery-powered, LoRaWAN-based and long-lasting devices.

Remote monitoring

View all sensor-collected data on our MyMove ioT Platform, accessible from any computer at any time.

Threshold setting

Configure sensors according to your needs to receive automated alerts of threshold breaches.

Static SHM

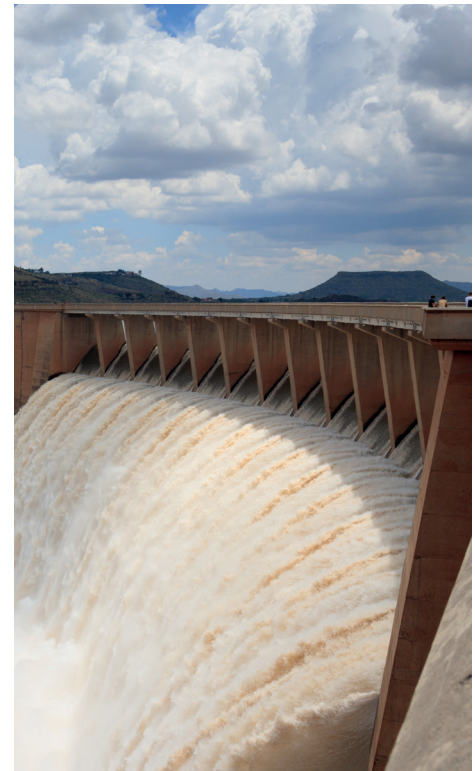
Static structural health monitoring measures slow-varying parameters over a long period of time, such as inclination, rotation, static displacement, and crack monitoring. This type of analysis is appropriate for structures that are subject to gradual load changes.

Dynamic SHM

Dynamic structural health monitoring is used to handle dynamic loading, such as frequencies, dynamic displacement, modal forms, vibrations and accelerations. This type of analysis is suitable for structures subject to fast impacts involving frequencies and vibrations.

Geotechnical & Environmental

Geotechnical monitoring focuses on ground movement, settlement, slope stability, subsidence and any changes that affect the structure stability. Environmental monitoring looks at factors like air quality, water level, soil contamination, wind speed and anything that accelarates structure degradation.



SMART INFRASTRUCTURE MONITORING

✔ Enhance safety ✔ Increase productivity ✔ Improve decision-making

move
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