

xWave

DIGITAL ACCELEROMETER

The Core of Structural Intelligence

High-fidelity, digitally synchronized acceleration data—ready for real-time monitoring and advanced modal analysis.

Why xWave

- Synchronized networks via GPS or DigiSync® (sub-ms alignment).
- No data gaps: Store&Forward® + local SD/eMMC recording.
- Standalone accelerograph or daisy-chained network node.
- Rugged IP67 aluminum housing with leveling plate.
- Embedded web interface—setup, charts, downloads, OTA updates.
- Integrates with Voyager®, Nexus, Vista, and Observer.

What makes it different

- Keeps networks aligned with GPS or DigiSync® for sub-ms accuracy.
- No data gaps — Store&Forward® buffers and auto-forwards after outages.
- Runs standalone or as a synchronized node in distributed SHM.
- Rugged IP67 aluminum housing with leveling plate for fast installs.
- Embedded web server for setup, charts, downloads, and OTA updates.

Made for

Bridges • Dams • High-rises • Tunnels •
Pipelines • Mines/Industry

How xWave fits your SHM

- Digitize at the source: high-performance ADC + low-noise accelerometer for clean, ready data.
- Network or portable: deploy as a compact recorder or as a synchronized node in xDAS®.
- Any link, any scale: Ethernet, Wi-Fi, DigiMESH®, optional GSM/4G—grow from 1 to hundreds of nodes.



Configure your unit

Comms to fit the site: Ethernet, Wi-Fi, DigiMESH®, optional GSM/4G.
Local logging: SD/eMMC for standalone or backup recording (MiniSEED).
Flexible triggering: STA/LTA, thresholds, voting with pre/post buffers.
Time sync: GPS or DigiSync®—sub-ms network precision.
Power options: 9–28 V DC, PoE-compatible; optional 12 h battery.
Works with Voyager®, Nexus, Vista, and Observer software.

Outcome snapshot

- Rapid deployment on bridge spans with synchronized nodes—clean, comparable channels from day one.
- Continuous data through comms drops thanks to Store&Forward®.
- One workspace for teams: acquisition, storage, visualization in Voyager®.

Result: Faster modal insights and confident alarms without babysitting the network.

Your workflow with Digitex

- **Instrument:** mount, level, and power xWave; auto-discover in Voyager®.
- **Acquire:** stream in real time or log locally; sync with GPS/DigiSync®.
- **Analyze:** view trends/spectra; trigger events; export MiniSEED.
- **Act:** set alarms/notifications and share results with stakeholders.

Scale from a single unit to hundreds—daisy-chain or star topologies across structures.

CE • ISO • Calibration certificate

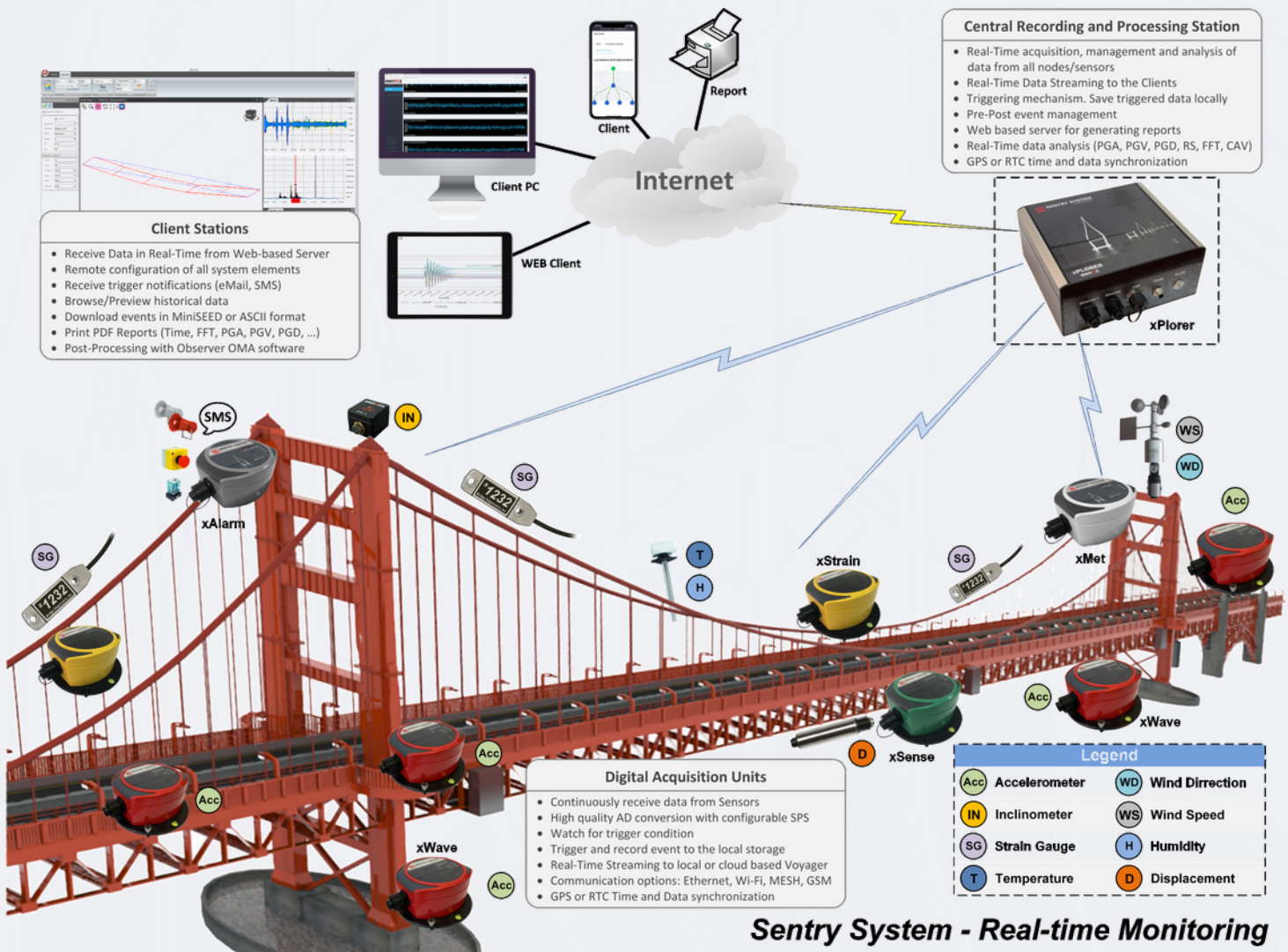
DISTRIBUTED SYSTEM OVERVIEW

xDAS® is Digitex Systems' distributed Structural Health Monitoring (SHM) solution, designed to instrument large and complex structures with networks of intelligent sensors. By combining multiple digital acquisition units, xDAS provides a scalable, modular, and reliable way to capture the dynamic response of structures in real time. From bridges and dams to skyscrapers, tunnels, pipelines, and industrial facilities, xDAS delivers the 'pulse' of any structure continuously, enabling operators to assess safety and performance instantly.

The system integrates seamlessly with Digitex's Voyager® software running on xPlorer® or in the cloud, providing centralized acquisition, storage, and analysis. Each xDAS node digitizes sensor data directly at the source, ensuring noise-free transmission over Ethernet, Wi-Fi, DigiMESH®, or low-cost CAT5 cabling. The modular architecture allows hundreds of units to be combined in daisy-chain or star topologies, making it ideal for projects of any scale.

DISTRIBUTED SYSTEM MEMBERS

The Distributed Sentry System family of products consists of several units that can be installed as standalone devices or as part of a complete SHM deployment: **xPlorer** – Central Acquisition and Processing Unit, **xWave** – Digital Accelerometer Unit, **xSense** – Voltage Sensor Digitizer Unit, **xStrain** – Bridge Sensor Digitizer Unit, **xGeo** – Digital Geophone Unit, **xInc** – Digital Inclinator Unit, **xMet** – Weather Station Gateway, **xAlarm** – Digital Alarming Unit.



ABOUT DIGITEX

Digitex is a company specialized in design and development of real structural health monitoring systems for a variety of industries and applications including: bridges, tall buildings, campuses, windmills, oil rigs and more. Digitex's innovative solution for ambient vibration measurements and quick health assessment of structures is jointly developed and validated with our partners and advisors from the Universities. When properly configured, the Digitex system is capable of measuring and responding to both natural and man-made events such as: earthquakes, wind, explosions and accidental heavy impacts.