

xDAS®

DISTRIBUTED STRUCTURAL HEALTH MONITORING SYSTEM

Monitor • Verify • Act - All in real time

Digitize at the sensor, keep every channel time-aligned, and stream clean, high-fidelity data into one workspace—reliably, in real time, and with numerous customization features.

What is xDas

- Distributed network of intelligent acquisition nodes
- Real-time capture of a structure's dynamic response
- Digitize at the source to keep signals clean (noise-free over long runs)
- Flexible communications & Scaling: Ethernet, Wi-Fi, DigiMESH®, or low-cost CAT5

Why the xDas

- Noise-free by design: A/D conversion at the sensor.
- Precise timing: GPS/DigiSync® keeps all channels aligned.
- Scales effortlessly: Different topologies grow to large networks.
- Low power, simple install: PoE support and rugged enclosures.
- Event-ready: Triggers, ring buffer, and automated reports.
- Works your way: Ethernet, Wi-Fi, DigiMESH®, or 4G; local storage and Store&Forward®.

xDas SHM Applications

- Multi-story buildings and skyscrapers
- Bridges of all types
- Old and historical constructions
- Retrofits and rehabilitation projects
- Mining facilities and underground structures
- Oil platforms and rigs
- Pipelines and long-span infrastructure
- Power plants and energy facilities

System Snapshot

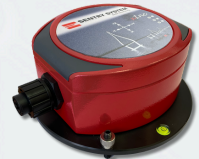
xDAS® is Digitex Systems' distributed SHM platform for large and complex assets, built from networks of intelligent sensors. It's scalable, modular, and reliable, capturing the structure's dynamic response in real time—from bridges and dams to towers, tunnels, pipelines, and plants. **xDAS integrates with Voyager® on xPlover® or in the cloud** for centralized acquisition, storage, and analysis. Each node digitizes at the source for noise-free transmission over **Ethernet, Wi-Fi, DigiMESH®, or low-cost CAT5**, and the architecture combines hundreds of units in daisy-chain or star topologies. Sensors stream continuously; **configurable thresholds trigger event recording, alerts, and immediate analysis with pre-/post-buffers**. The system auto-generates PDF reports, supports secure FTP upload, and its multi-threaded core handles large fleets—enabling cross-correlation and quick insights into mode shapes, damping, and load interactions, while securely distributing live data to all stakeholders.



xPlover



xStrain



xInc



xMet



xAlarm



xWave



xSense



xGeo

Outcomes

- Prove compliance on PPV/air-blast with auditable histories
- Protect people & assets via reliable thresholds and alarms
- Faster decisions with live dashboards and summary PDFs
- Lower site visits thanks to remote access and auto-reports
- Consistent datasets for trend analysis

Your workflow with Digitex

- **Instrument** - mount/level sensors; auto-discover in Voyager
- **Acquire** - real-time streaming or local logging; sub-ms time sync
- **Analyze** - PPV/air-blast, spectra, OMA; correlate with blast plans & weather
- **Act** - thresholds/alarms, automatic PDF, share with stakeholders

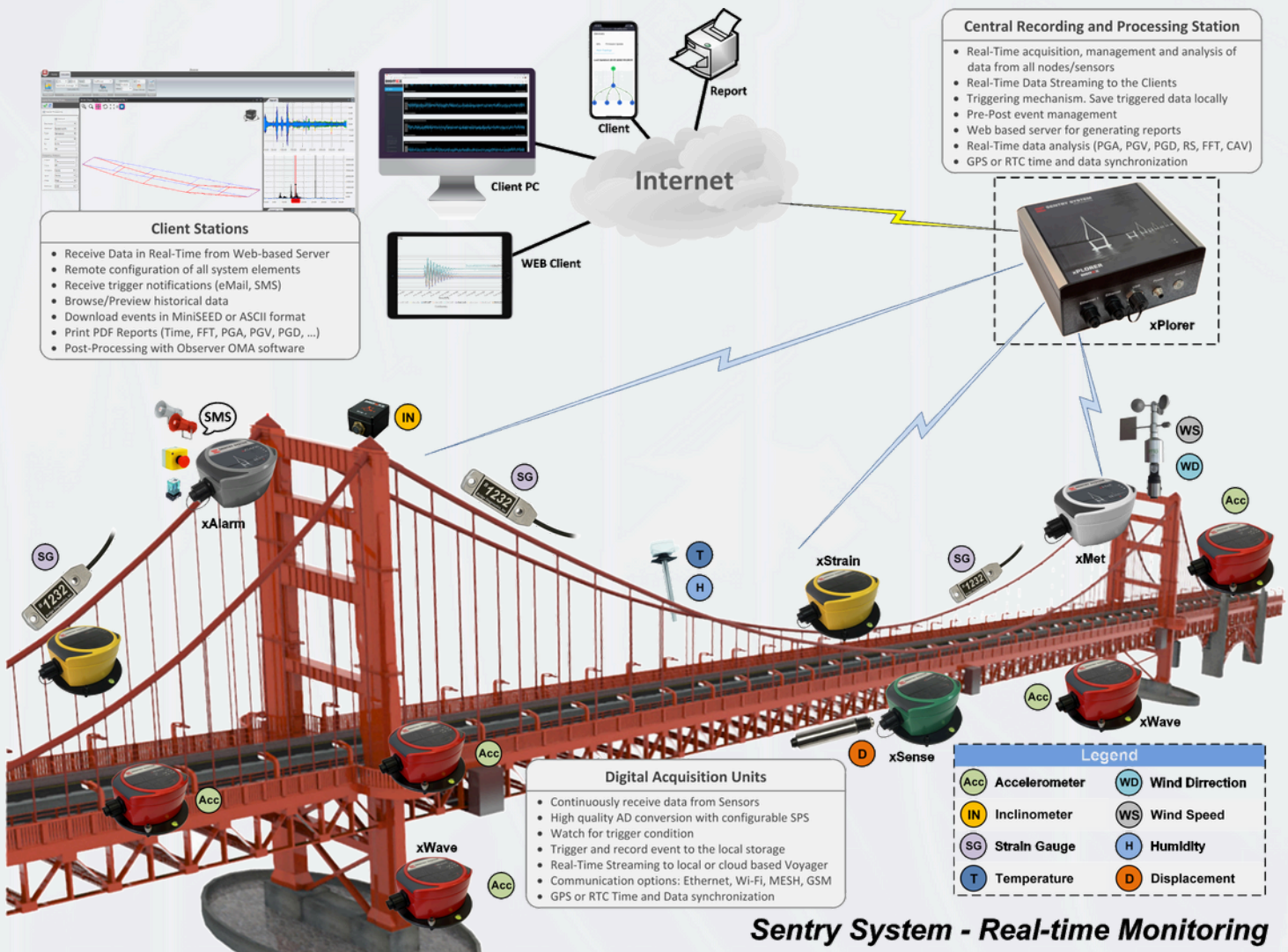
DISTRIBUTED SYSTEM OVERVIEW

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 xPlover® 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: **xPlover** - 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.