

xGeo

DIGITAL VELOCIMETER UNIT

Sense Ground Truth Velocity

High-sensitivity, synchronized geophone measurements—clean velocity data for seismic, vibration, and modal insights.

Why xGeo

- Embedded tri-axial geophone—28 V/(m/s), 4.5 Hz natural frequency, 0.2–200 Hz bandwidth.
- 24-/32-bit $\Delta\Sigma$ digitization with up to ~120 dB dynamic range.
- Synchronized networks via GPS or DigiSync® (sub-ms alignment).
- No data gaps: Store&Forward® + local SD/eMMC recording (MiniSEED).
- Embedded web interface—setup, live charts, logs, OTA updates.
- Rugged IP67 aluminum housing; PoE-compatible power.

What makes it different

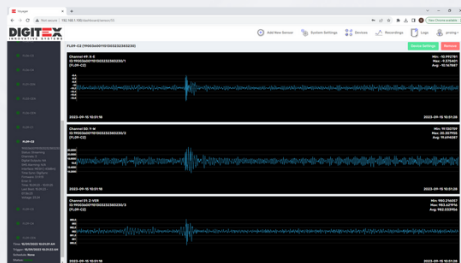
- Purpose-built for precise velocity capture where accelerometers underperform at very low frequencies.
- Clean signals at the source: anti-alias filtering + precision ADCs.
- Flexible topologies: runs standalone or as a synchronized node in distributed SHM.
- Communications to fit any site: Ethernet standard; optional Wi-Fi, DigiMESH®, GSM/4G.
- SeedLink streaming + MiniSEED storage for seamless workflow

Made for

Dams • Bridges • Tunnels • Rail/Metro & highways • Buildings/High-rises • Construction/blasting/piling • Research & testing

How xGeo fits your SHM

- Measure true ground/structural velocity to complement acceleration and tilt—ideal for low-frequency dynamics and propagation effects.
- Drop in as a compact local velocimeter or as a synchronized node alongside xWave®/xInc® across corridors and networks.
- Any link, any scale: CAT5e/PoE, Wi-Fi, DigiMESH®, optional GSM/4G—grow from one to hundreds of nodes.



Configure your unit

Comms to fit the site: Ethernet, Wi-Fi, DigiMESH®, optional GSM/4G.

Local logging: SD/eMMC (MiniSEED) for standalone or backup recording.

Sampling: 50–1000 SPS for seismic and vibration use cases.

Triggers: Above/Under thresholds, relative/absolute, voting with per-channel weights.

Time sync: GPS or DigiSync®—sub-ms network precision.

Power: 9–28 V DC, PoE-compatible; optional ~12 h battery.

Works with xPlorer®, Voyager®, Nexus, Vista, and Observer software

Outcome snapshot

- Reliable low-frequency velocity channels from day one—clean, comparable across sites.
- Continuous data through comms drops thanks to Store&Forward®.
- One workspace for teams: acquisition, storage, visualization in Voyager®.

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

Your workflow with Digitex

- **Instrument:** mount/level; connect power/comms; add in Voyager®.
- **Acquire:** stream real-time via SeedLink or log locally; sync with GPS/DigiSync®.
- **Analyze:** trend spectra/velocity RMS, correlate with events, export MiniSEED.
- **Act:** set alarms/notifications and share dashboards with stakeholders.
- **Scale:** start single site; expand to distributed networks across critical corridors.

CE • ISO • Calibration certificate

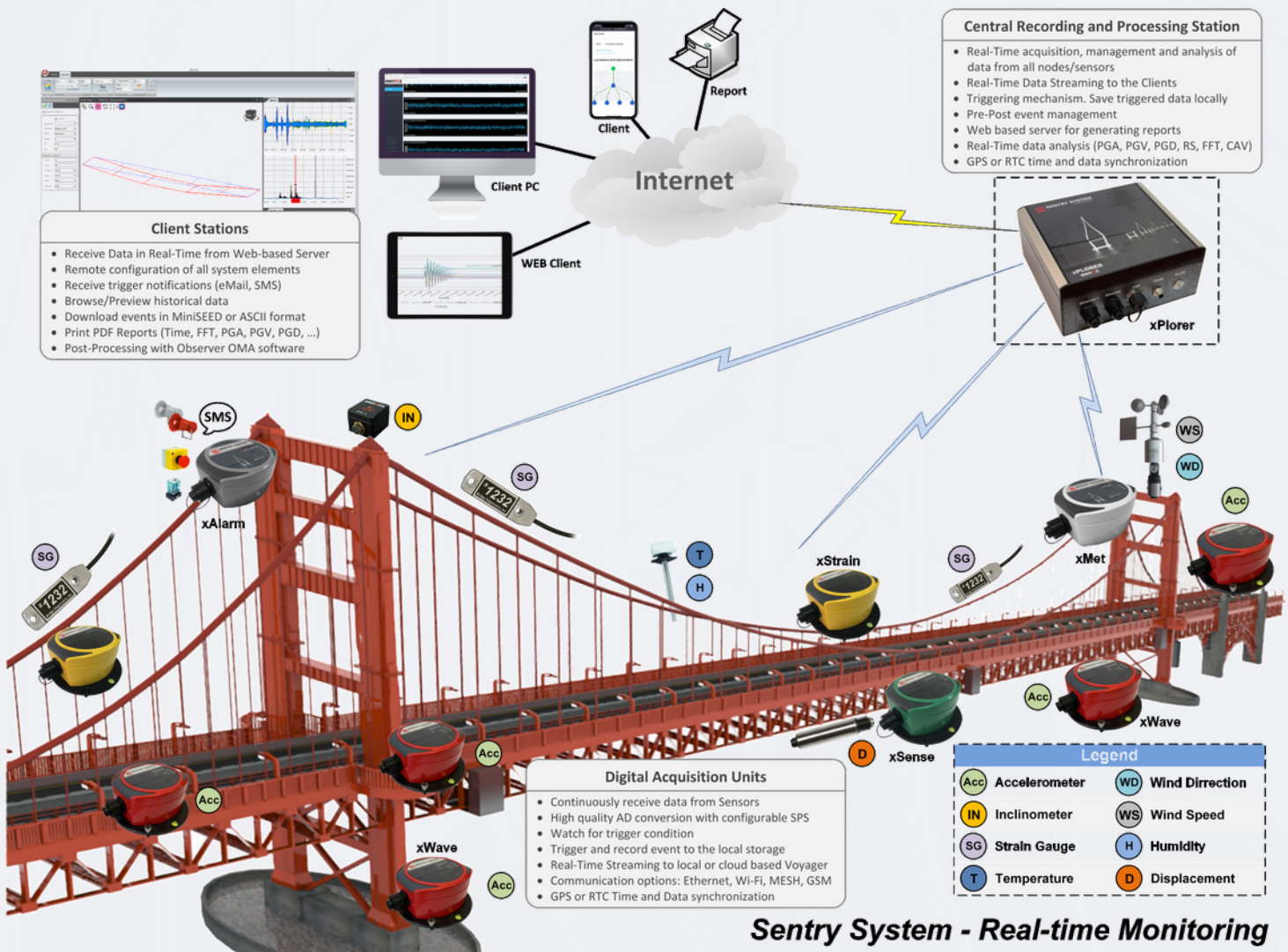
DISTRIBUTED SYSTEM OVERVIEW

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.