

xCAS®

CENTRALIZED STRUCTURAL HEALTH MONITORING SYSTEM

CENTRALIZED SHM SYSTEM

Unify • Coordinate • Distribute — from a single hub!

Central multi-channel acquisition (24/32-bit) with pre/post triggers; local recording, live broadcast, and auto-reports—no sensor-side digitizers required.

What is xCAS

- Centralized multi-channel SHM system for continuous monitoring and event-driven recording
- Voyager® central acquisition (on xPlorer or in the cloud) manages data from all connected sensors
- Works with Digitex D-Series accelerometers and most sensor types (geophones, voltage-output, Wheatstone bridge, environmental)
- Web interface for anywhere access; automatic PDF reporting per event; role-based user logins

Why the xCAS

- High-quality A/D: 24-/32-bit. with bursts up to 1,000 sps
- Manual & threshold triggers with pre-/post-event memory and localized recording
- Distribute data in real time: broadcast to remote locations; FTP upload and remote retrieval
- Multi-threaded architecture scales to large sensor counts and long records; email notifications

xCAS SHM Applications

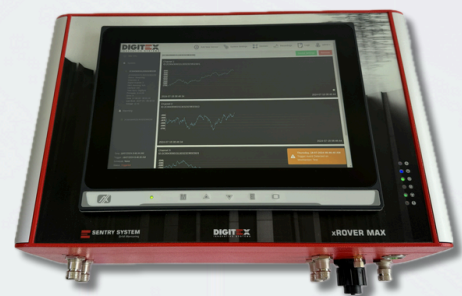
- Multi-story buildings and skyscrapers
- Bridges of different types
- Old and historical constructions
- Repairs and retrofits
- Mining facilities and underground structures
- Dams and reservoirs
- Oil platforms, Rigs and Pipelines
- Power plants and energy facilities

System Snapshot

xCAS® is Digitex Systems' **centralized, high-performance SHM** system for large structures that need coordinated, **multi-channel acquisition and real-time analysis**. Voyager® (running on xPlorer or in the cloud) acquires, manages, and analyzes data from diverse sensors, supports manual and event-driven triggers with **pre-/post-buffers**, and provides **automatic PDF reports** for each event. The system's multi-threaded core broadcasts live measurements to remote locations while also recording locally for resilience; users can retrieve data locally or remotely, receive email notifications, and **FTP-upload** events. With **24/32-bit conversion**, bursts to 1,000 sps, and broad sensor compatibility, xCAS delivers accurate structural response monitoring from a single, centralized platform.



xRover



xRover MAX



D-Series Accelerometers



G-Series Geophones

Outcome

- Prove compliance with auditable histories and shareable PDFs
- Protect people & assets via reliable thresholds, alerts, and notifications
- Faster decisions with live dashboards, remote viewing, and quick reports
- Lower operating cost through centralized acquisition and resilient storage
- Consistent datasets for trends, OMA screening, and lifecycle planning

Your workflow with Digitex

- **Instrument** – connect accelerometers/aux sensors; assign channels and roles in Voyager®
- **Acquire** – continuous streaming with manual or threshold triggers; pre/post buffers; local + remote
- **Analyze** – quick analysis in Voyager® and advanced processing in Observer®; cross-correlate modes/damping
- **Act** – automatic PDFs, email notifications, FTP uploads; share results with stakeholders

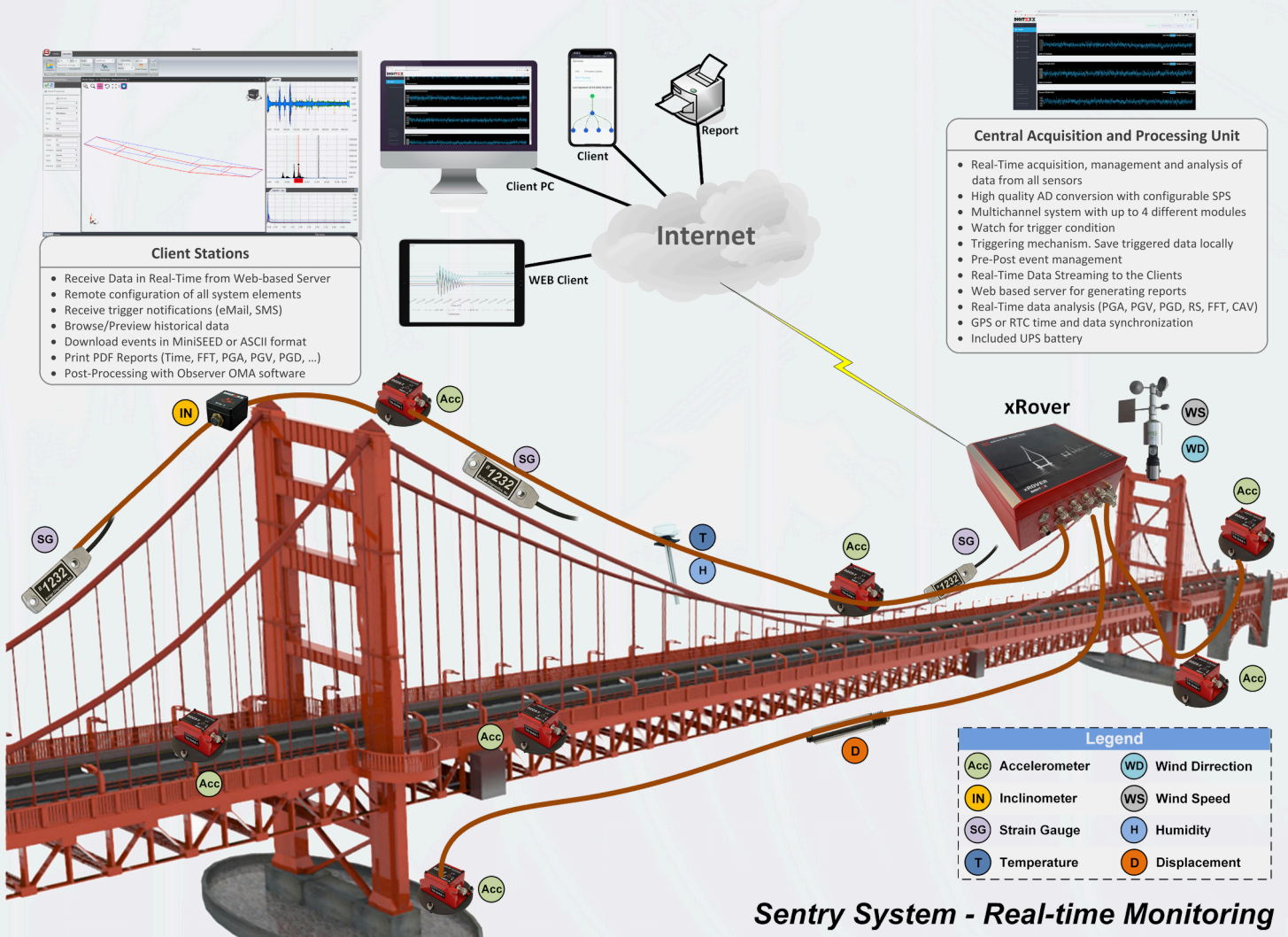
CENTRALIZED SYSTEM OVERVIEW

xCAS is Digitex Systems' centralized Structural Health Monitoring (SHM) solution, built around high-channel acquisition cabinets and a central processing hub. By concentrating multi-type sensor inputs into one modular unit (xRover) and managing them with Voyager® on xPlorer® or in the cloud, xCAS delivers synchronized, low-noise data, real-time streaming, automated reports, and event-driven alarms from a single, serviceable platform. It fits projects where cabinet-based wiring is preferred—plants, buildings, tunnels, dams—while scaling cleanly in channel count and functionality.

The system integrates seamlessly with Voyager® for centralized acquisition, storage, analysis, alarming, and publishing. Each cabinet digitizes signals at the source with 24/32-bit ADCs and applies GPS/DigiSync® timing for sub-ms alignment, then streams to client stations for live preview and reporting. Local Ring Buffer + Store&Forward® protects continuity during outages, and automated PDF reports keep stakeholders informed.

CENTRALIZED SYSTEM MEMBERS

xRover — Central acquisition & processing cabinet with Voyager®; GPS/DigiSync® timing; Ring Buffer & Store&Forward®; alarms & reporting. **D-Series Digital Accelerometers** — D-305 / D-230 / D-225 / D-211; high-fidelity, synchronized acceleration measurement for distributed mounting points feeding the xRover hub. **Together:** synchronized, low-noise acceleration data, event logic, and reporting from one cabinet.



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.