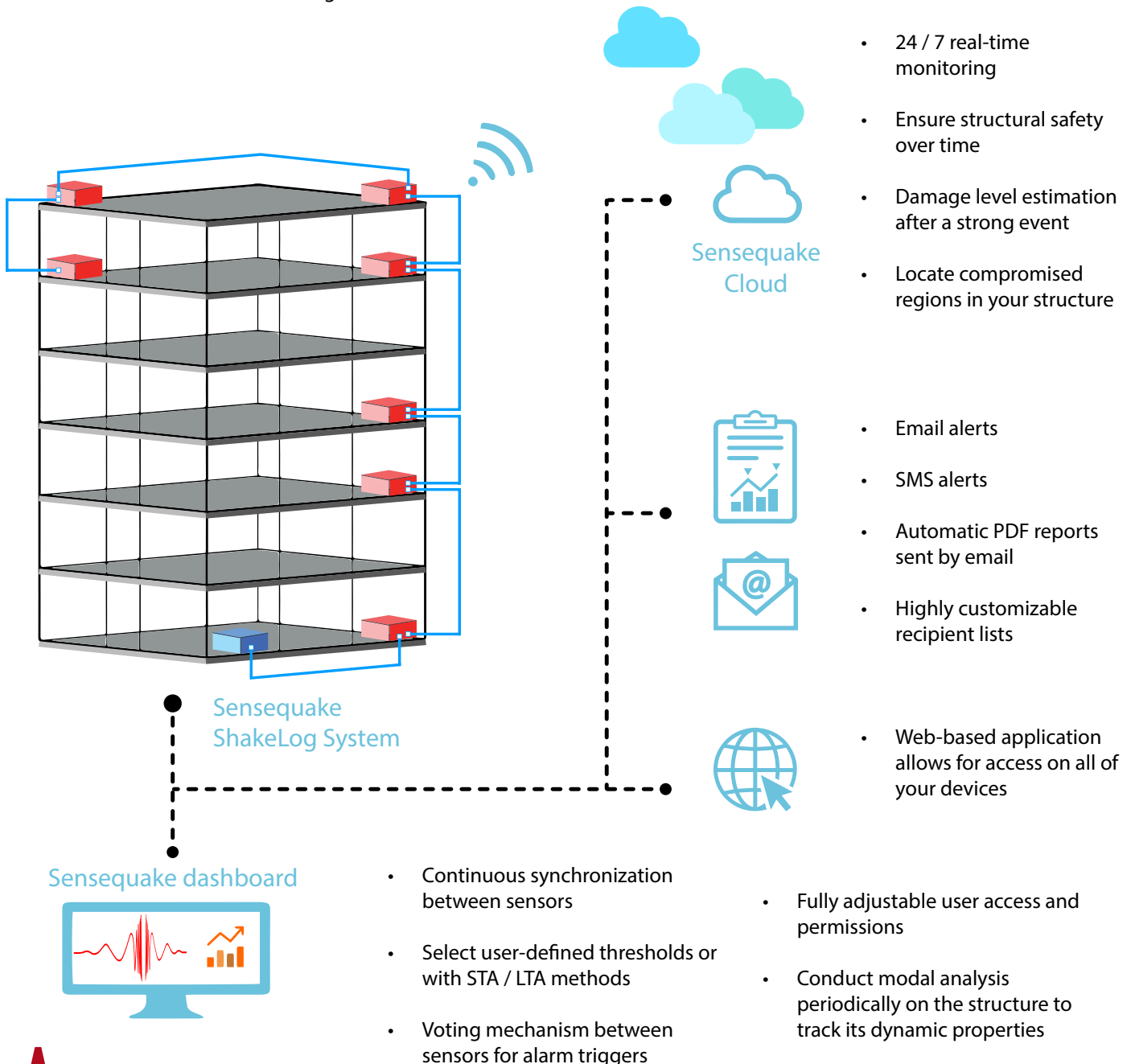# ShakeLog
Permanent Monitoring System

ShakeLog is the most comprehensive vibration-based permanent monitoring system that can be installed on a structure to monitor its health over time. The system is connected to an online dashboard and automatically does a modal analysis on the structure to closely follow its modal properties. Thresholds can be defined to detect earthquakes / events and estimate and locate damages.

The modern asset management tool

Sensequake Cloud

- 24 / 7 real-time monitoring
- Ensure structural safety over time
- Damage level estimation after a strong event
- Locate compromised regions in your structure

- Email alerts
- SMS alerts
- Automatic PDF reports sent by email
- Highly customizable recipient lists

- Web-based application allows for access on all of your devices

Sensequake ShakeLog System

Sensequake dashboard

- Continuous synchronization between sensors
- Select user-defined thresholds or with STA / LTA methods
- Voting mechanism between sensors for alarm triggers

- Fully adjustable user access and permissions
- Conduct modal analysis periodically on the structure to track its dynamic properties

Sensequake

Sensequake ShakeLog will monitor your structure in real-time 24/7. Alerts are generated in case vibrations exceed a threshold or damages are detected in the structure.

A state-of-the art health monitoring method tracks the structural dynamic performace to detect anamolies.

GATEWAY
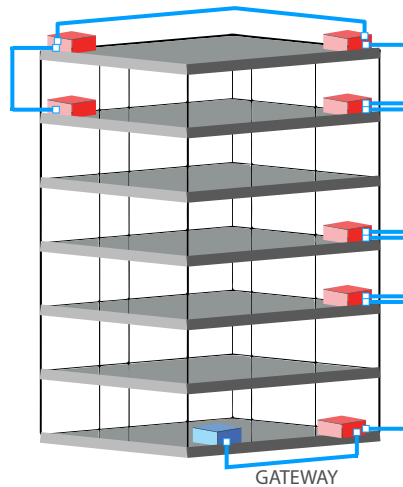
CLOUD

Real-time dashboard

Sensequake analysis software

Easy to Use

Easy Access via Web

Back-up Battery
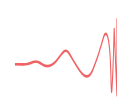
Light Weight & Compact Size

Cloud Data Management

Damage Estimation

Automated Health Reports

Event Detection and Notification

Sensors
- Triaxial velocimeter, ±40 mm/s
- Triaxial accelerometer, ±2g and ±6g

Digital conversion
- 6 independent and differential 32-bit channels
- Sampling rates from 15 Hz to 244 Hz
- Analog and digital anti-aliasing filters
- Dynamic range of 143 dB at 15 Hz and 134 dB at 244 Hz sampling

Self-noise density estimates
- Accelerometers : 8 μg/√Hz at 1 Hz and 5 μg/√Hz at 10 Hz
- Velocimeter: 10 nm/s/√Hz below 10 Hz

Communication
- Serial RS-485 daisy chain network over a twisted pair
- Supports up to 32 sensors

Timing
- All sensors are synchronized with microsecond accuracy. NTP time is available.

Storage
- 16 GB, FAT32 file system
- Data format: binary, ASCII, and MiniSEED

Gateway
- Wired connection to the sensors
- Real-time analysis of the vibration records
- Connection to the the Sensequake Cloud platform

Event detection
- Fixed threshold
- STA/LTA method
- Voting mechanism to issue alerts
- Email/SMS notifications

Damage estimation
- Computation of drift ratios after an event
- Hazus and FEMA P-58 standards are used
- Automatic report after an event

Health Monitoring
- Periodic evaluation of the structure by automatic modal identification based on ambient vibration data
- Artificial intelligence algorithms to process the data
- Periodic health reports

Remote Control
- Complete access from the Sensequake Cloud
- Remote firmware update

Power supply
- Internal lithium battery, 2 days of back-up
- Standard 5 V charger

Connector
- Field installable M12 connector

Dimensions: 120 x 90 x 80 mm
Weight: 700 g
Temperature range: -30 to 50ºC
Water resistant

ShAkeLog

Sensequake

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