

GeoSIG Solution Centre Building Structural Health Monitoring

What can be monitored?

- ✓ High-rise, High-profile Buildings
- ✓ Arenas / Stadiums / Roofs
- ✓ Historical Monuments

What are the Features and Benefits?

- ✓ Rapid assessment of building's health
- ✓ Reliable data on actual condition of structure
- ✓ Detect early signs of failure
- ✓ Protect integrity of property and lives
- ✓ Live monitoring
- ✓ Optimise insurance and maintenance costs
- ✓ Assess structure's safety following a major event
- ✓ Additional credit for your structure
- ✓ Achieve compliance with building codes

Professional Advice and Support from concept to deployment

The justification for Building Structural Health Monitoring is quite clear and speaks for itself. The alternative is visual periodic inspections which is yesterday's technology and is less likely to produce the same features and benefits. High value and complex structures without an advanced monitoring solution are at a risk which can be mitigated quite effectively.



False Economy?

Consider a typical office building with up to 500 people working in it. After a substantial natural or manmade disaster; the building's owners would typically need to have a structural safety survey done before allowing the office workers back in to the building.

The process can take from many hours to a number of days depending on the size of the building and the suspected damage.

However, had the proprietor installed a live monitoring system, he would have been able to instantly say whether the safety levels had been breached. What is the cost of the survey? What is the cost of lost time due to 500 office workers being idle?

Contact us for a comprehensive consultation and discussion on your Building Structural Health Monitoring requirements.

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OUR SERVICES

Advice

Consulting

Technical Proposal

Financial Offer

Planning

Installation

Training

THE SMART WAY TO Manage YOUR RISK



What can be measured?

There are a host of options for measuring the changes in a structure. Each project will have its own unique requirements. The structural engineers will assess such requirements, which our experts can then provide as an appropriate package.

The most widely used packages for Building Structural Health Monitoring:

1. **Vibration:** Structural health, behaviour and modal analysis, comfort index
2. **Strain:** Fatigue and rainflow analysis
3. **Displacement:** Joints, cracks and differential settlements of foundations
4. **Tilt:** With reference to allowable limits
5. **Environment:** Wind speed and direction, humidity and temperature

We provide useful advice and a unique integrated approach that can help you achieve your

Monitoring Requirements

Kit Example

Typical Building

A five story building with a rectangular plan will require a simple installation with the following equipment:

- 2 x GMS Series Seismic Recorder with internal Triaxial Accelerometer
- 2 x GMS Series Seismic Recorder with internal Biaxial Accelerometer
- 2 x AC-71 Uniaxial Accelerometer

GPS, Wireless time sync, WiFi or Cable

Contact us for the cost of a Turnkey Solution

Analysis Capabilities

A typical setup as above will provide valuable information about the health of the structure. Thresholds for acceptable changes in the structure could be set to provide automatic notifications. After a natural disaster or heavy construction work around the structure, valuable information about the change in structural behaviour can be provided at an instant. Insurance claims due to any damages to the structures can be settled based on credible evidence.

