



GeoSIG Solution Centre
Earthquake Early Warning
Emergency Shutdown

Where to be utilized?

- ✓ Critical industrial and public facilities
- ✓ High precision or delicate facilities
- ✓ Densely populated areas
- ✓ Schools and hospitals
- ✓ LNG Tanks, valves, chemical plants
- ✓ Lifelines and urban infrastructure

What are the Features and Benefits?

- ✓ Early warning and shutdown
- ✓ Mitigation of damaging exposure of sensitive industrial applications and production processes to earthquakes
- ✓ Rapid response action plan and damage assessment
- ✓ Assistance in taking specific decisions for safety measures
- ✓ Insurance benefits and increased asset value
- ✓ Possible reduction in maintenance and repair costs
- ✓ Assurance sustainability and safety of a facility
- ✓ Evaluation of structure's safety following a major event
- ✓ Achievement of compliance with local regulations

Professional Advice and Support
from concept to deployment

Our professional and experienced consultants are ready to provide you with the best impartial advice and support from the outset. Our knowledge of earthquake early warning, seismic monitoring and shutdown, coupled with an in-depth understanding of our instruments will provide you with an unparalleled advantage to achieve the best results for your monitoring requirements on time and on budget.



Earthquakes are capable of unimaginable destructive forces, causing severe damage and loss of life. Whereas seismic events by nature are impossible to control, it is possible to mitigate their effects on densely populated areas and on valuable assets, such as important infrastructures or critical and sensitive industrial sites.

GeoSIG offers tailored Early Warning and Shutdown Systems to notify the occurrence of a potentially damaging earthquake and thereby to mitigate the risk to facilities. A timely shutdown or performance of associated set of actions based on such notification may help minimise damage.

A GeoSIG system will provide you the crucial seconds to take measures which may help reduce the damaging impacts of a seismic event.

Contact us for a comprehensive consultation and discussion on your Earthquake Early Warning and Emergency Shutdown requirements.

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OUR SERVICES

Advice

Consulting

Technical Proposal

Financial Offer

Planning

Installation

Training

THE SMART WAY TO Manage YOUR RISK



How does it work?

In case of structures or small to medium sized facilities, a minimum of three units are permanently installed in or around the entity to monitor ground motions.

When an earthquake happens at a certain distance* from the monitored entity, the units can detect the indicative ground motions from the first arriving earthquake waves. Based on the acquired data, the strength parameters of the approaching destructive waves can be estimated by the units.

When these parameters exceed a given criteria, the units issue an alarm signal. A notification signal then is activated, using a 2-out-of-3 logic combination of these alarm signals, which will increase reliability and reduce potential false alarms.

The notification signal can be used for various actions such as activating an emergency shutdown system and, depending on the type of facility, closing valves (Pipelines, LNG tanks...), switching off critical machinery (Highly sensitive precision manufacturing...), parking hard drives (Data centres, server farms...), or halting whatever system or function could be severely damaged or compromised at high cost in the case of a strong ground motion.

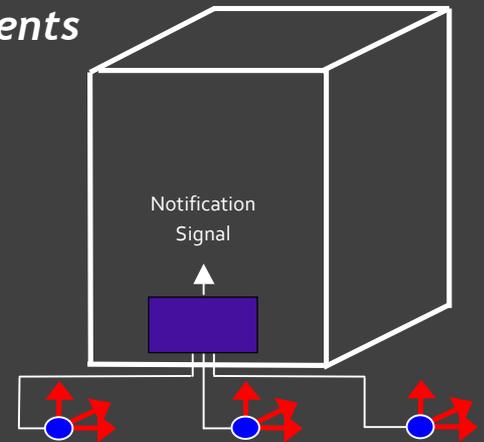
*: Due to the time required for data processing, the system can give useful notification signals only when the earthquake epicenter is 10 km or farther away.

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

Earthquake Early Warning and Emergency Shutdown

Requirements

Kit Example



Typical Setup:

For Earthquake Early Warning/Emergency Shutdown, a simple installation with the following equipment will be required:

- 3 off GMSplus Seismic Recorder with internal AC-73 Triaxial Accelerometer
- 1 off GXR-AIL 2-out-of-3 Alarm Logic
- Cable and Software

Capabilities

In many industries such as Nuclear Power Plants, Emergency Shutdown systems have been in operation for many years. It is all about mitigating risk and knowing that your investment in installing Earthquake Early Warning and Emergency Shutdown systems can be a sound protection against Earthquakes in particular in areas where such risks are high. As an owner or manager of a facility where lives and/or investment is at risk, it makes sense to consider what options there are for mitigating your exposure to earthquakes. This responsibility may be in the domain of facilities managers or owners who can initiate the feasibility and suitability of such systems for their assets.