

## Earthquake Early Warning Rapid Response

### Where to be utilized?

- ✓ High seismic risk areas
- ✓ Regions with known active faults or fault zones
- ✓ Densely populated and urban areas
- ✓ Industrial facilities and lifelines

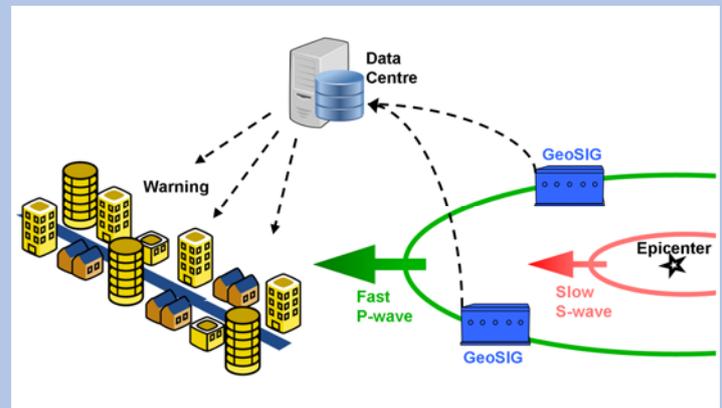
### What are the Features and Benefits?

- ✓ Detecting primary non-destructive waves as soon as an earthquake occurs
- ✓ Estimating the magnitude and location of earthquake
- ✓ Indicating approaching destructive waves
- ✓ Real-time operation within scientific reliability
- ✓ Rapid calculation of estimated damages after shake
- ✓ Thematic mapping for damage assessment and action plan (disaster management)
- ✓ Notification of user groups or involved parties
- ✓ Mitigation of risk due to earthquake exposure
- ✓ Automated decision making and emergency actions such as shutdown of facilities
- ✓ Continued monitoring for aftershock events
- ✓ Disaster awareness, prevention and management

### 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 rapid response systems coupled with an in-depth understanding of our instruments will provide you with an unparalleled advantage to achieve the best results for your requirements on time and on budget.



### Overview

Earthquakes are perilous and inevitable natural events, causing severe damage and loss of life.

There is no proven method to forecast the precise occurrence time of an earthquake nor its location or size.

Yet, utilising state of the art scientific methodologies as done in GeoSIG Earthquake Early Warning (EEW) solution, it is now possible to quite accurately assess the location and size as soon as an earthquake emerges using its non-destructive primary waves.

Thus, warnings about a potential strong shaking can be generated almost instantaneously, until destructive secondary seismic waves arrive.

Based on fast and reliable communication channels, this provides the crucial seconds to take measures which may help reduce catastrophic impacts of seismic events.

After an earthquake, GeoSIG Rapid Response (RR) solution provides analytic and thematic information on the aftermath of the earthquake in terms of shake maps consisting of observed ground motion parameters as well as estimated damage distribution.

### Our Services

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Advice

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Consulting

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Technical Proposal

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Financial Offer

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Planning

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Installation

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Training

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Maintenance

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## How does it work?

GeoSIG instruments provide an EEW option, which is based on and tested against the latest worldwide scientific developments. Currently available methodologies are:

- ✓ Japan Meteorological Agency (JMA)
- ✓ Elarms
- ✓ Presto
- ✓ TaucPd

Depending on specific project requirements, GeoSIG instruments are deployed within and around a seismic hazard region and continuously monitor ground motions.

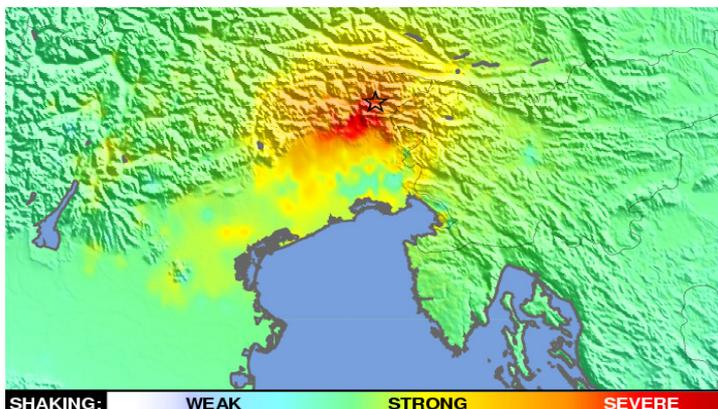
As soon as an earthquake emerges, the fast moving primary seismic wave is detected and analysed on the fly to generate and transmit a notification either directly or via a data centre (improved reliability using several stations) to a target vulnerable area before the arrival of the slower moving destructive seismic waves to that area.

Most beneficial warning is achieved for areas within 20 to 100 km distance from the source of the earthquake.

The notification can be used for various actions such as

- ✓ issuing an audio/visual emergency signal
- ✓ pushing alerts to mobile devices
- ✓ feeding data in decision making systems
- ✓ activating automated emergency reaction systems
- ✓ notifying emergency organisations and personnel and many more.

Once the earthquake event is completed, the continuously collected data is optionally analysed in an automated fashion by GeoSIG RR solution in a data centre within minutes. The results of the analyses are output in the form of shake maps as well as tabular reports that can be transmitted to disaster management organisations, decision makers and general public.



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

## Earthquake Early Warning Rapid Response

In many countries where high seismic risks are present, EEWRR systems have been in operation for many years.

It is all about mitigating risk and knowing that your investment in installing an EEWRR system can be a sound protection against earthquakes in particular in areas where such risks are high.



## Case Studies

Refer to our website [www.geosig.com](http://www.geosig.com) and learn more about our EEWRR projects.

- ✓ Ignalina Nuclear Power Plant, Lithuania
- ✓ TGV Méditerranée Railway, France
- ✓ Sakhalin II Oil and Gas Project, Russia
- ✓ Istanbul Metropolitan Area, Turkey

## Contact us

for a comprehensive consultation and discussion on your requirements:

Phone +41 44 810 21 50  
Email [sales@geosig.com](mailto:sales@geosig.com)  
Web [www.geosig.com](http://www.geosig.com)

**GeoSIG Ltd**  
Wiesenstrasse 39  
8952 Schlieren  
Switzerland