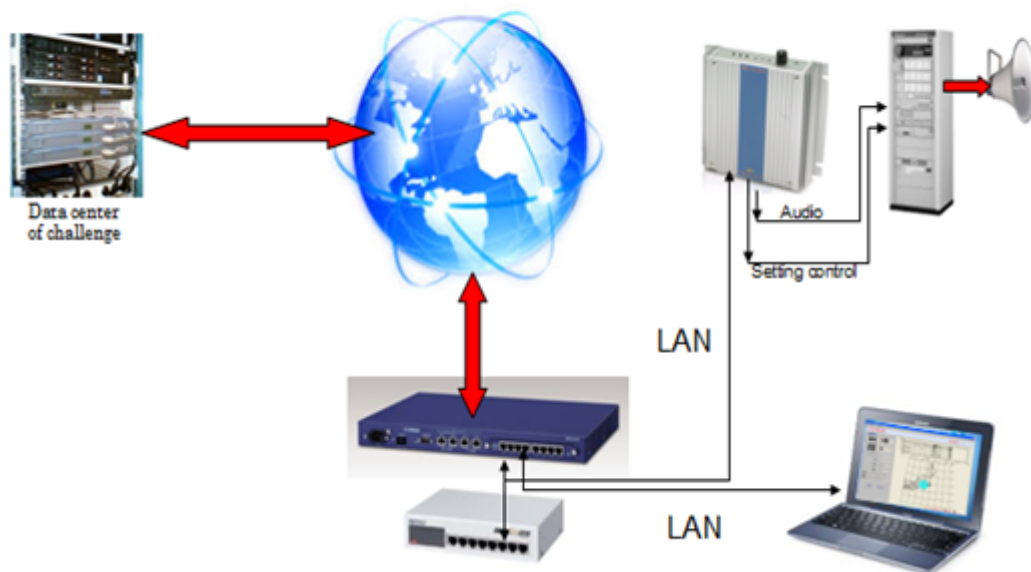


## CHALLENGE

### Earthquake and tsunami alarm system with built-in sensor

Detects P wave and issues an alarm before big shaking starts



#### Hazard

Earthquake Tsunami

#### Solution Purpose

Prevention & Mitigation

#### Solution Theme

Products & Goods Education & Training

#### Technology Subject

Machinery & Equipment Training & Exercises

### Advantages

EQ guard can work as a stand-alone. It is also possible to construct a regional earthquake·tsunami alarm system by making NW of EQ guard in short period. This system works without nation-wide dense seismometer network.

## Solution Illustrated

### SENSOR NETWORK EARTHQUAKE NEWS FLASH

Sensor detects P wave => Sends out alarm => Displays area map also

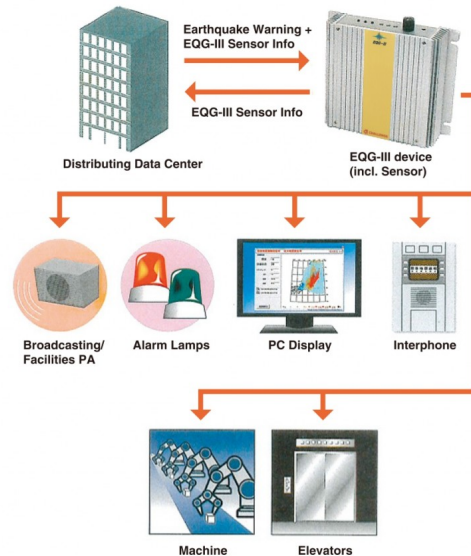
#### ALARM

Built-in accelerometer (MEMS Sensor) detects P wave and issue earthquake alert before the arrival of strong shaking by S wave. EQG-III has a specialized software to distinguish between earthquake and living noise generated near EQG-III, which prevents it issuing of erroneous alert.

- Accelerometer detects P wave **issues Alarm immediately**
- Alarm through server issues Alarm after 1 second



### DISCRIMINATING SEISMIC EVENTS FROM NOISE EVENTS



**EQG-III** Saves Your Lives!

It is a system configuration diagram of EQ guard.

## Background

Japan: The Japan Meteorological Agency's Earthquake Early Warning began distribution in 2007, and we are also distributing it. However, it is assumed that a direct earthquake may not be in time, and countermeasures are required. Our EQ guard has a built-in seismograph and is compatible with direct earthquakes.

Overseas: There is no organization that provides real-time epicenter information overseas, so Earthquake Early Warnings are not provided. Since the EQ guard has a built-in seismograph, it can issue an alarm by itself. If you install it near the epicenter, you can build a local earthquake early warning system. We are currently testing and deploying in 8 countries, and we are building the system within 3 months.

## Exposition of the Solution

When an earthquake occurs, the sensor built into EQG-III detects a minute seismic wave and immediately sounds an alarm. People can evacuate and save lives before a big shake comes. At the same time, you can shut down factories, oil facilities, nuclear facilities, etc. to prevent damage. It is the most advanced technology from Japan in the field of earthquake disaster prevention.

It has the following performance.

-Compatible with direct earthquakes: The sensor detects minute vibrations (P waves) and immediately

issues an alarm.

-Prevention of false alarms: Achieves a noise identification level of 0.1 gal.

• Notification in foreign languages: 11 languages ☒☒are available.

-Display the seismic intensity of each area on the map in real time: The seismic intensity of each observation point is displayed on the map in real time.

## Achievements of Examples

Japan: Many have been introduced in government offices, schools, kindergartens, nursery schools, welfare facilities, etc.

Overseas: Indonesia, South Korea, Turkey, Romania, Papua New Guinea, Kazakhstan, Ghana, India, Morocco, etc.

## Other References

EQ guard Product Description

Challenge Product Description

## Corporate Profile

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