

# Early warning against earthquake

Dozens of earthquakes occur around the world every day. Fortunately, most of them are too small to seriously jeopardise human activities. A severe problem arises only with a massive earthquake of great intensity.

The exact moment when a strong earthquake hits cannot be predicted yet. Therefore, it is even more critical to build a sufficiently fast, effective, and efficient warning system in endangered areas, bringing people valuable seconds to rescue their lives and property.



**Warning System**  
Medium



**Acoustic Coverage**  
Exterior

# THE BEST PREVENTION IS THE PREPARATION FOR A DISASTER BEFORE IT HAPPENS

## Description of the earthquake warning system solution

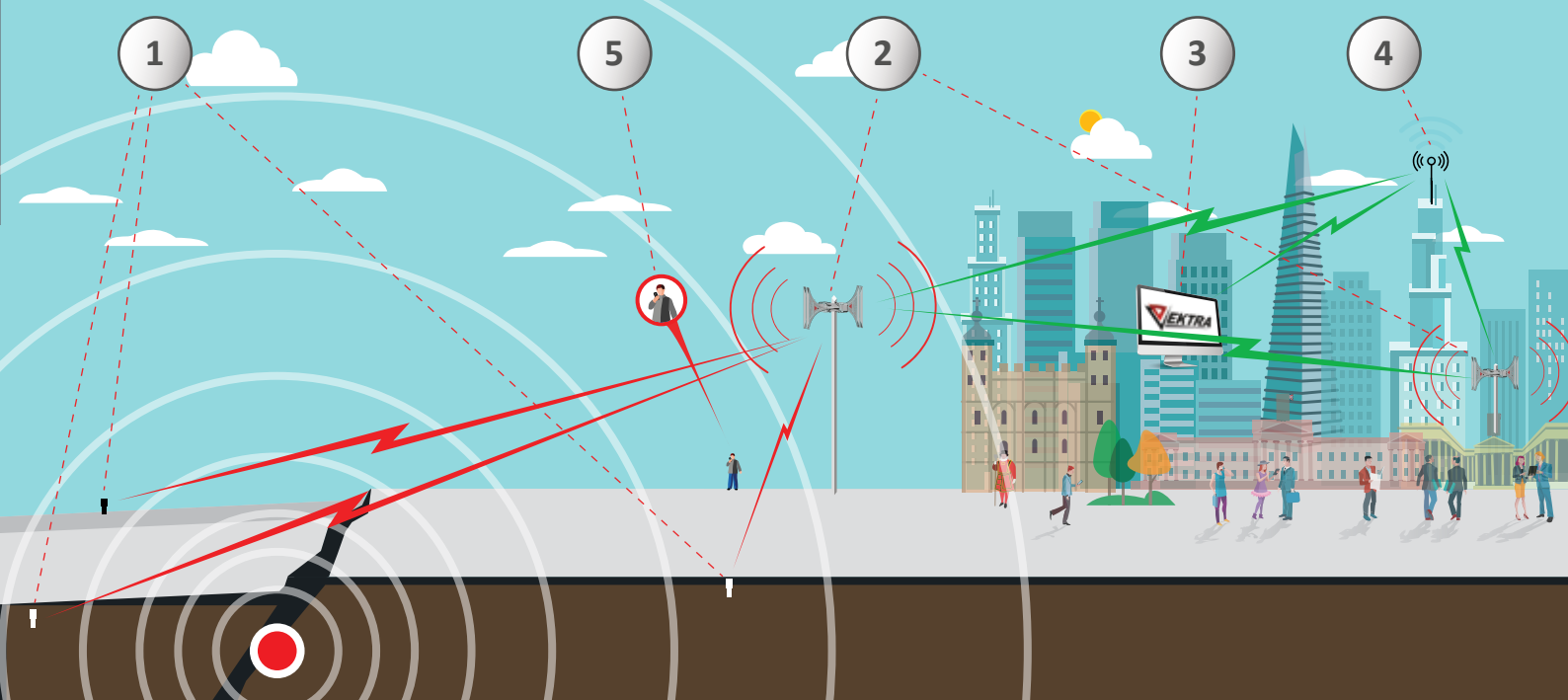
The basis of early earthquake warning systems is formed by **reliable seismic sensors** that can detect seismic waves and then, after the immediate evaluation, automatically activate a warning signal. It will provide people in the endangered area with valuable seconds for their rescue.

Seismic sensors are connected directly to an electronic siren, which is automatically activated in dangerous earth tremors. The system is automated and independent, so it works even in case of a power failure, which is a common side effect of earthquakes. Large systems are equipped with Vektra® software applications (SCADA, Warning, and Notification). When sensors detect dangerous earthquake activity (continuously monitored by Vektra® SCADA), all sirens are automatically activated (**Vektra® Warning**). Simultaneously, all first responders are notified by voice or text of the impending danger (**Vektra® Notification**).



## Advantages of the solution

- **Warning before an earthquake strikes**
- **Large signal coverage area**, with a penetrating warning tone
- Control of other SCADA devices, such as turning off the gas supply
- **Automatic evaluation and activation** of warnings and notifications
- **Smart operation** thanks to **silent siren tests**, remote self-diagnostics, and the system connectivity to third-party systems
- **Full independence** in the event of a power failure



1

### Specialised sensors

**Seismic sensors** are installed in the lowest parts of buildings (such as basements) and monitor seismic waves. When dangerous seismic waves are detected, the sensors immediately and automatically activate a warning system. They are connected directly to an electronic siren and transmit the acquired data to the control centre.

2

### Electronic sirens

After detecting dangerous seismic activity, electronic sirens immediately and automatically issue a warning signal. Their most significant advantage is that they cover a large area and deliver a warning message to the population in an endangered area as soon as possible. After the initial tremors have subsided, voice messages can be used to coordinate the affected people and assist in rescue operations. The electronic siren system can be activated individually or in groups from the control centre, independent of the commercial infrastructure. With solar power supply, sirens can be installed even in places without an external energy source.

3

### Control centre

Equipped with the OCP16 control panel or Vektra® software applications, **the control centre** automatically activates warnings and notifications in an emergency. The entire technology is highly secure and fully backed up. From the control centre, it is also possible to start the system in other emergencies and disasters.

4

### Communications infrastructure

Communications infrastructure provides high-speed communications between the control centre and other monitoring, warning, and notification systems. At the same time, it allows the connection of these systems with third-party systems.

5

### Notified persons

All responsible persons and emergency units are informed of an emergency by telephone or through SMS and are summoned to work and rescue operations.



**Telegrafia a.s.**  
Lomená 7, 040 01 Košice

[sales@telegrafia.sk](mailto:sales@telegrafia.sk)

[www.telegrafia.eu](http://www.telegrafia.eu)