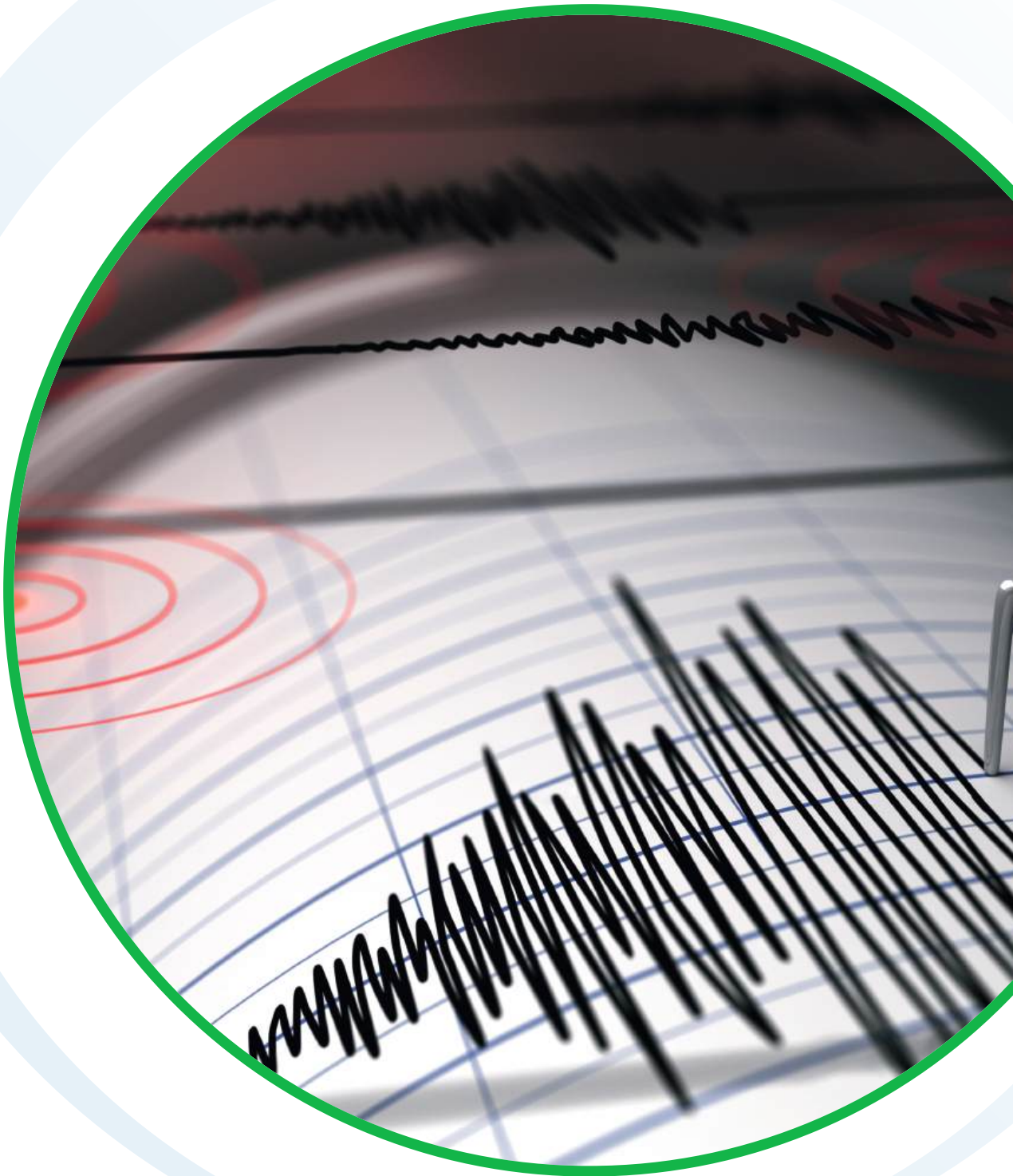




IDIS PERIPHERAL®

**EARTHQUAKE EARLY WARNING  
AND STRUCTURAL HEALTH MONITORING  
SYSTEMS**



# EARTHQUAKE EARLY WARNING (EEW) SYSTEM

# STRUCTURAL HEALTH MONITORING (SHM) SYSTEM

*Integrated solution for earthquake and structural monitoring of the rail infrastructures.*

## System Purpose

- Earthquake detection,
- Regional damage determination,
- Estimated ground shaking intensity,
- Emergency alerts for relevant authorities

## Applicable Systems

- High Speed Rail (HSR) Systems,
- Conventional Rail Systems,
- Urban Transportation Systems (Tram/LRT/Metro).

## System Purpose

- Real-time monitoring of the structure (tunnels, viaducts, bridges)
- Monitoring of the aging effects of the structure
- Monitoring post-earthquake health of the structure
- Structural health monitoring during railway operation

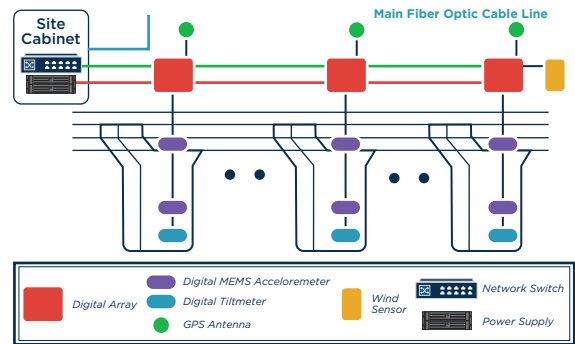
## Applicable Systems

- Viaduct & Bridge
- Tunnels
- Railways
- Motorways/controlled-access highways

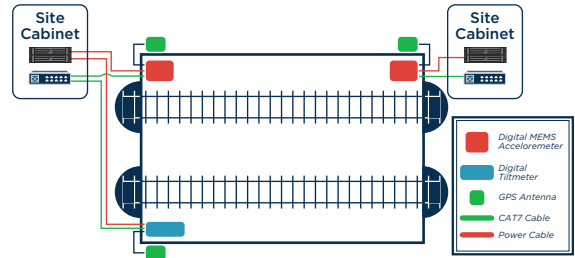


*EEW System detects the P and S waves of the earthquake and decides.*

## VIADUCT APPLICATIONS



## TUNNEL APPLICATIONS



### EEW Features

- To detect earthquakes,
- Determination of damage to the region where the earthquake will affect,
- To estimate the expected ground shaking intensity in the controlled area,
- To send the emerging emergency information to the relevant people and critical points.

### EEW Functions

- Data link to regional earthquake monitoring centers, fully compatible with Turkish Disaster and Emergency Management Presidency (AFAD),
- Integration with Centralized Traffic Control Systems (e.g., Siemens CTC on Sivas HSL)
- Integration with other systems/sub-systems

### EEW Advantages

- Structure based system design, according to seismic analysis from world-renowned experts.
- Custom software design & implementation
- Including a wide range and MEMS and Force Balanced Sensors, including YM IDIS MEMS Sensor.

### SHM Features

- Real-time monitoring of the building (Tunnel, Viaduct, Bridge),
- Showing the aging effects of the structure,
- Showing the usability of the post-disaster building,
- Structural health monitoring after train movements,
- Road and rail applications

### SHM Functions

- Trend reporting on structural health
- Integration with other systems/sub-systems

### SHM Advantages

- Custom software design & implementation
- Including a wide-range of MEMS Sensors, including YM IDIS MEMS Sensor.

### References

- Yerköy - Sivas HSL / Turkey