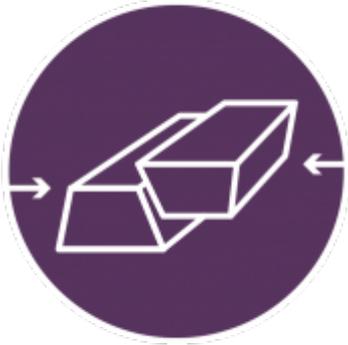


Near Fault Observatories



Overview

Understanding and analysing seismic faults and their activities can be critical for locating buildings, tanks, and pipelines and assessing the seismic shaking and tsunami hazard to infrastructure and people in the vicinity.

Near-Fault Observatories (NFOs) are advanced multidisciplinary research infrastructures based on integrated networks of multi-parametric sensors continuously monitoring the chemical and physical processes governing active faults and the genesis of earthquakes. These networks complement regional seismic and geodetic networks (typically with station spacing of 50-100 km) with high-density distributions of seismic, geodetic, geochemical and geophysical sensors located in the near-distance (typically within 10-20 km) of active faults where large earthquakes are expected in the future. It is projected that over the next decade, tens of such multi-disciplinary observatories will be installed in Europe, enabling substantial advances in our fundamental understanding of earthquakes generation processes and associated ground shaking. EPOS will implement a comprehensive set of services to support the installation of these observatories.

Objectives

- Provide continuous acquisition and storage of a long time-series of multidisciplinary data from existing and planned European NFOs;
- Introduce standards for multidisciplinary data products and related metadata for data discovery and access;
- Provide a distributed database (DB) populated by multidisciplinary and high-resolution data products ready to be used for scientific investigations and accessible via the [ICS](#) and [TCS](#) channels;
- Implement the in-situ infrastructures for the testing of real-time codes and procedures for monitoring and dissemination purposes;
- Assist new NFO in their design, installation and inclusion in EPOS;
- Strengthen the connections with other related EU and global initiatives devoted to the multidisciplinary monitoring and studies of active fault zones (GEO supersites, www.marsite.eu).

Our services ready for 2019

Virtual Access to data/products/services

Services relying on existing organizations (ORFEUS) and projects (MARsite2, EU NFOs3); Standard (seismic and geodetic) and specific (electro-magneto telluric, geochemical, geological, gravity, strain-tilt-meter and other multidisciplinary) near fault data and metadata, including borehole data (Level 0).

Virtual Access to dissemination and exploitation platform/s

Virtual Laboratory (online engagement and knowledge-sharing initiative) containing multidisciplinary products (Level 1, 2, 3) and services for describing the anatomy of active faults and the causative physical processes.