

**The time and space scales of planet Earth's geological processes are wide. From the picosecond to the million year, from the atomic distance to the continental dimension, understanding how the Earth responds to both human and tectonic activity requires research laboratories and equipment at a vast range in scales.**

The MULTI-SCALE LABORATORIES (MSL) TCS manages and harmonizes laboratory data at all relevant scales. The MSL community has access to over 90 laboratories throughout Europe. Among them are world-class experimental and analytical facilities, hosting, among others, electron microscopes, deformation testing machines and paleomagnetic instruments. Within EPOS, Multi-Scale Laboratories data are easily accessible, and ready to be used for new research focusing on georesources and geostorage, geohazards and Earth system evolution in general.

## **Services**

Ensuring central findability of MSL data published throughout Europe, at:  
the EPOS Data Portal  
the MSL Data Catalogue.

Data publication at GFZ Data Services and many other European repositories.

Laboratory sharing: a wide range in MSL laboratories and researchers actively welcome international researchers, for joint research that involves lab work.



The solid collaboration among European researchers is crucial to understand and quantify how Earth materials respond to human and tectonic activity, at all scales between the micro-scale, where controlling processes operate, to the kilometer-scale where the effects are observed. Hence, the multi-scale laboratories and data are key for realistic assessment of geohazards, or georesource exploitation.

**EPOS, the European Plate Observing System**, is a multidisciplinary, distributed research infrastructure that facilitates the integrated use of data, data products, and facilities from the solid Earth science community in Europe. EPOS ensures the long-term access to Solid Earth science data and services, with the goal of answering some of the most pressing societal questions concerning geo-hazards and those geodynamic phenomena relevant to the environment and human welfare.

