

## The community objectives

The EPOS Thematic Core Service Multi-scale laboratories (TCS MSL) includes a wide range of world-class laboratory infrastructures. The length scales encompassed by the infrastructures included range from the nano- and micrometer levels (electron microscopy and micro-beam analysis) to the scale of experiments on centimeter sized samples and to analogue model experiments simulating the reservoir scale, the basin scale and the plate scale.

from MACRO- to MICRO- and NANO- SCALES



- The mission of the EPOS TCS MSL is to create a unique point for collaboration and exchange by:
- 1) Creating a coherent and well-organized network of solid Earth Science laboratories;
  - 2) Implementing dedicated Data Services and controlled vocabularies that will guarantee Findability, Accessibility, Interoperability, and Reusability (FAIR) of laboratory data with other solid Earth Science data;
  - 3) Developing a Trans-national Access (TNA) program that will increase European state-of-the-art solid Earth science laboratories attractiveness for researchers and contribute to increased researchers mobility, cooperation and exchange.

<p><b>Analogue models of geologic processes:</b></p> <ul style="list-style-type: none"> <li>a) analogue modelling results</li> <li>b) analogue material properties</li> <li>c) visualizing and data analysis tools</li> <li>d) animation/movie of models</li> </ul>	
<p><b>Paleomagnetic and magnetic data:</b></p> <ul style="list-style-type: none"> <li>a) directional data</li> <li>b) magnetostratigraphic data</li> <li>c) magnetic susceptibility</li> <li>d) paleointensity data</li> </ul>	
<p><b>Experimental data on rock properties:</b></p> <ul style="list-style-type: none"> <li>a) rock and fault properties</li> <li>b) capacity of rock systems for geo-storage</li> <li>c) crustal and upper mantle rheology</li> <li>d) volcanic ash and melts properties</li> </ul>	
<p><b>Analytical and microscopy data</b></p> <ul style="list-style-type: none"> <li>a) major and trace elements composition</li> <li>b) isotope geochemistry</li> <li>c) geochronology</li> <li>d) microscopy &amp; mineral composition</li> </ul>	

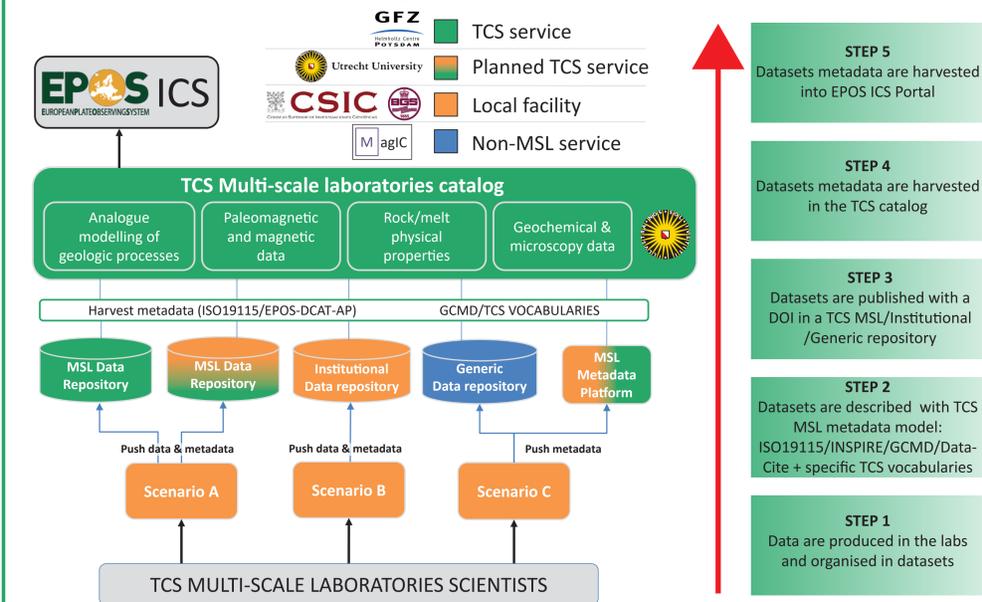
## Data Services

The TCS Multi-scale laboratories Data Services aim at the dissemination of scientific results in the form of datasets coming from experimental research, uniquely identifiable through publication with a DOI: citable, trackable, persistent and with metadata and data description for re-use and discovery.

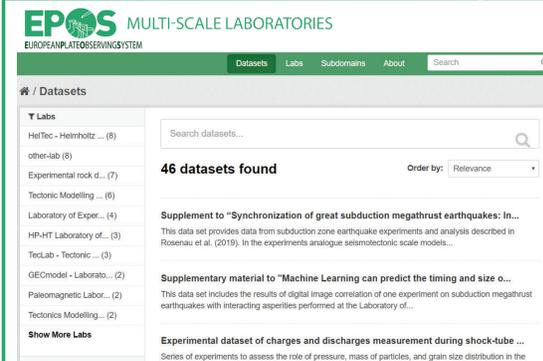
Datasets can be published in generic, institutional repositories or in dedicated EPOS Multi-scale laboratories repositories.

Datasets are described with the EPOS Multi-scale laboratories metadata model, which includes standard vocabularies (ISO19115/INSPIRE, GCMD, DataCite) and new controlled vocabulaires specific for: Analogue models of geologic processes, Paleomagnetic and magnetic data, Rock and melt physical properties, Geochemical data, and Microscopy data. Metadata includes licensing information.

## Sharing lab data

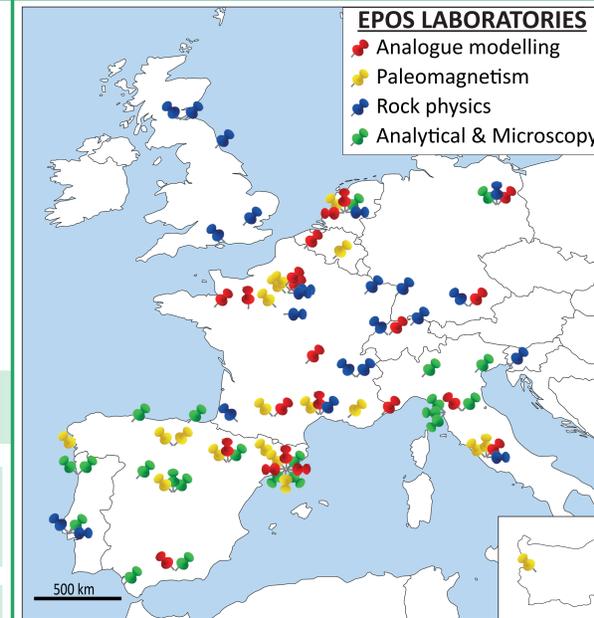


## Discovering lab data



Multi-scale laboratories datasets will be discoverable through the EPOS ICS Portal. Datasets can be discovered by directly accessing the **TCS Multi-scale laboratories catalog**. Here, datasets can be searched using filters such as domain specific keywords or research infrastructure. The TCS MSL catalog provides also a short description of each contributing laboratory. **TCS Catalog website:** <https://epos-msl.uu.nl/catalog>

## Trans-national Access (TNA)



**PHYSICAL ACCESS**  
visit the lab and perform your experiments with high-quality equipment

**REMOTE SERVICE**  
get your samples analysed by expert laboratory operators

**3<sup>rd</sup> TNA call open until April 21<sup>st</sup> 2019!**

Find out more:



We are developing and refining the EPOS-wide TNA Access Policy that harmonizes and optimizes access rules to European multi-scale laboratory centers.

An open call will be conducted on a regular basis to select hosting facilities and applicants for Trans-national Access activities on the basis of the science excellence criteria.

Two successful pilot calls were open in 2017 and 2018, which were partly supported by dedicated national funding and/or in-kind contribution from the participating laboratories.

## New opportunities for collaboration

The EPOS Multi-scale laboratories welcomes **new laboratories!!**

Share your lab data and become one of the EPOS Multi-scale laboratories data providers or **discover and use** new data for your research.

**Open your lab** or take advantage of the opportunity to be selected to **perform your experiments** at top European solid Earth science laboratories.

## Contact us

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www.epos-ip.org/tcs/multi-scale-laboratories

