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The community objectives



from MACRO- to MICRO- and NANO- SCALES

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 micrometre levels (electron microscopy and micro-beam analysis) to the scale of experiments on centimetre sized samples and to analogue model experiments simulating the reservoir scale, the basin scale and the plate scale.

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 that will guarantee laboratory data harmonization for re-usability and interoperability 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.

	Analogue models of geologic processes: a) analogue modelling results b) analogue material properties c) visualizing and data analysis tools d) animation/movie of models	
	Paleomagnetic and magnetic data: a) directional data b) magnetostratigraphic data c) magnetic susceptibility d) paleointensity data	
	Experimental data on rock properties: a) rock and fault properties b) capacity of rock systems for geo-storage c) crustal and upper mantle rheology d) volcanic ash and melts properties	
	Analytical data on rock properties: a) major and trace elements composition b) isotope geochemistry c) geochronology d) mineral composition	

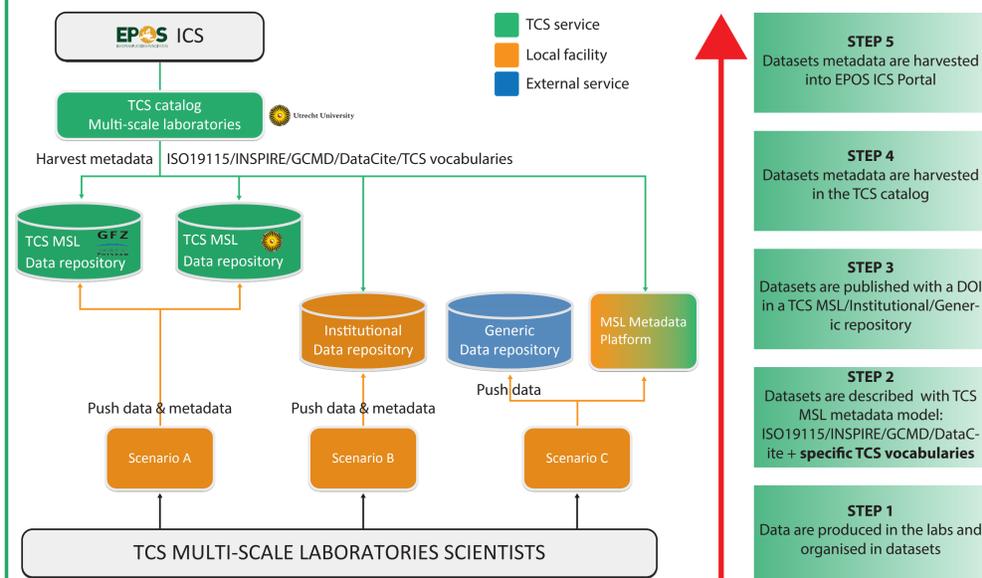
Data Services

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.

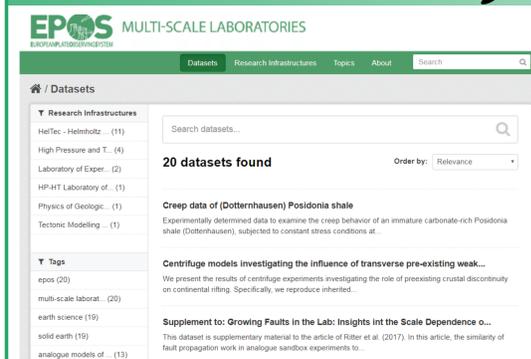
Datasets can be published in generic, institutional repositories or in **dedicated EPOS Multi-scale laboratories repositories**.

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 (elemental and isotope geochemistry, geochronology). Metadata includes licensing information.

Sharing lab data

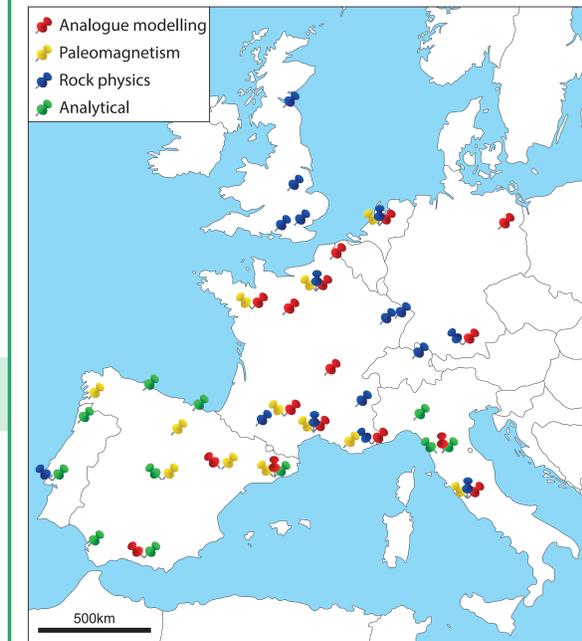


Discovering lab data



Multi-scale laboratories datasets will be discoverable in the EPOS ICS Portal. However, when in need for a more refined search, the user can directly access 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.
<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

REMOTE ACCESS
get access to computing resources to process the data you generated in the lab

We are developing a TRANSNATIONAL ACCESS POLICY defining harmonized and optimized access rules to European multi-scale laboratory centres.

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 thanks to dedicated national funding and/or in-kind contribution from the participating laboratories.

New opportunities for collaboration

The EPOS Multi-scale laboratories welcomes new partners!!

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

