Integration of European boreholes data and their dissemination through international interoperable standards

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The Geological information and modelling Thematic Core Service (TCS) of EPOS is designed as an efficient and sustainable access system for geological multi-scale datasets for EPOS.

The TCS develops and benefits from the synergy between the existing data infrastructures of the Geological Surveys of Europe (EuroGeoSurveys / EGDI) and the large amount of information produced by the research organizations and the international drilling community.

The integration of distributed infrastructure components allows a broad range of resources including: geological maps, borehole data, borehole associated observations (borehole log data, groundwater level, groundwater quality…) and archived information on physical material (samples, cores), geological models (3D, 4D), geohazards, geophysical data such as active seismic data and other analyses of rocks, soils and minerals.

In this presentation, we focus on the European Borehole Index and the work done since the beginning of the project, first to specify an interoperable data exchange mechanism based on international standards (such as INSPIRE, OGC) implemented by all TCS data providers. Then to collect this information from the data provider, quality check and disseminate it from the TCS Central Node as a service provider to the EPOS community using the same interoperable standards.

We will develop on the problems encountered to manage large amount of data and the solutions we tested and applied.

We will present how the Borehole Index was specified in order to guarantee its compliance with INSPIRE European Directive and how the OGC community was engaged to improve and promote technologies for geoscience data description and sharing through its Geoscience Domain Working Group.

In addition, we will present expected workflows for the integration of other existing and new data such as 3D/4D models and how our work fits in EPOS system to create an efficient and comprehensive multidisciplinary research platform for the Earth Sciences in Europe and abroad.