

## **A unique Index to serve all INSPIRE data associated to a Borehole**

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### **Abstract**

Within EPOS Research Infrastructure community there was a great request of geological data and models to provide an efficient and interoperable access system for geological multi-scale data assets through the integration of distributed infrastructure components of geological surveys, research institutes and the international community (like ICDP /IODP ). The aim is to allow the integration of existing data and applications that can be related to a single borehole. To foster international collaboration, the standardisation activity initiated by EPOS Geological Information and Modelling Thematic Core Service, has been ported to the OGC umbrella: first with an ad-hoc meeting on Borehole then via the GeoScience DomainWorkingGroup currently being created .

The services that we have implemented, is based on international standards (such as INSPIRE, IUGS/CGI, OGC, W3C, ISO) in order to guarantee their interoperability with other EPOS Thematic Core Service as well as their compliance with INSPIRE European Directive or international initiatives (such as OneGeology). To simplify services deployment thus ease access to complex information related to a borehole, we have decided to implement a 'BoreholeIndex' based on GeoSciML BoreholeView simple feature specification (keeping in scope INSPIRE data model compliancy). Data are provided for searching, viewing, downloading and accessing more complex "real data" referenced from each individual record in the data entity indexes and made available at data providers' level This index is able to interconnect the simple visualisation of single borehole with several observation details provided by means of different international standards such as GeoSciML4.1 or GroundWaterML2 to interlink to geological stratigraphy, borehole construction details or using Inspire Environmental Monitoring Facility data specifications and guidelines for O&M & SWE to provide access to environmental observation. The purpose of this abstract is to present the implementation of the Thematic Core Services for Geological Information and Modelling, including scheduling of the development of the different components.