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CDGP, the data center for deep geothermal data from Alsace

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CDGP (Centre de données de géothermie profonde, deep geothermal data center, http://cdgp.u-strasbg.fr) is set by the LabEX G-EAU-THERMIE PROFONDE to archive the high quality data collected in the Upper Rhine Graben geothermal sites and to distribute them to the scientific community for R&D activities, taking IPR (Intellectual Property Rights) into account.
Collected datasets cover the whole life of geothermal projects, from exploration to drilling, stimulation, circulation and production. They originate from the Soultz-sous-Forêts pilot plant but also include more recent projects like the ECOGI project at Rittershoffen, Alsace, France. They are historically separated in two rather independent categories: geophysical datasets mostly related to the industrial management of the geothermal reservoir and seismological data from the seismic monitoring both during stimulations and circulations.

Geophysical datasets are mainly up to now from the Soultz-sous-Forêts project that were stored on office's shelves and old digital media. Some inventories have been done recently, and a first step of the integration of these reservoir data into a PostgreSQL/postGIS database (ISO 19107 compatible) has been performed. The database links depths, temperatures, pressures, flows, for periods (times) and locations (geometries). Other geophysical data are still stored in structured directories as a data bank and need to be included in the database.
Seismological datasets are of two kinds: seismological waveforms and seismicity bulletins; the former are stored in a standardized way both in format (miniSEED) and in files and directories structures (SDS) following international standard of the seismological community (FDSN), and the latter in a database following the open standard QuakeML.

CDGP uses a cataloging application (GeoNetwork) to manage the metadata resources. It provides metadata editing and search functions as well as a web map viewer. The metadata editor supports ISO19115/119/110 standards used for spatial resources. A step forward will be to add specific metadata records as defined by the Open Geospatial Consortium to provide geophysical / geologic / reservoir information: Observations and Measurements (O&M) to describe the acquisition of information from a primary source, and SensorML to describe the sensors. Seismological metadata, which describe all the instrumental response, use the dateless SEED standard.

Access to data will be handled in an additional step using geOrchestra spatial data infrastructure (SDI). Direct access will be granted after registration and validation using the single sign-on authentication system. Access to the data will also be granted via EPOS-IP Anthropogenic Hazards project. Access to episodes (time-correlated collections of geophysical, technological and other relevant geo-data over a geothermal area) and application of analysis (time- and technology-dependent probabilistic seismic hazard analysis, multi-hazard and multi-risk assessment) are services accessible via a portal and will require AAAI (Authentication, Authorization, Accounting and Identification).