



## The CDGP, Data Center for Deep Geothermal Energy

Marc Schaming (1), Alice Fremand (2), Nicolas Cuenot (3), Eléonore Dalmais (3), Jean-François Girard (1), Clément Grellier (2), Marc Grunberg (2), and Jean Schmittbuhl (1)

(1) Université de Strasbourg, CNRS, IPGS-UMR7516, F-67000 Strasbourg, France (marc.schaming@unistra.fr), (2) Université de Strasbourg, CNRS, EOST-UMS830, F-67000 Strasbourg, France, (3) ES-Géothermie, 5 rue de Lisbonne, F-67300 Schiltigheim, France

The Data Center for Deep Geothermal Energy (CDGP, Centre de Données de Géothermie Profonde, <https://cdgp.u-strasbg.fr>), set up by the LabEx G-Eau-Thermie Profonde (Strasbourg, <http://labex-geothermie.unistra.fr/>), has developed specific procedures to preserve, archive and distribute data acquired on geothermal sites of the Upper Rhine Graben. Legacy or more recent, academic or industrial, the data distributed by the CDGP consist of seismological and hydraulic data acquired during stimulation or circulation phases at Soultz-sous-Forêts pilot plant. They are gathered into "episodes": time-correlated collections of geophysical, technological and other relevant geo-data over a geothermal area.

Before publication, data are curated: most of data being old and/or industrial, a number of processing steps are undertaken in order to make them FAIR (Findable, Accessible, Interoperable, and Reusable). Data are converted into standardized (community-shared) formats and documented with metadata; DOIs are set for Episodes. A special care is given to Intellectual Property Rights (IPR). Agreements with industrial partners allow the CDGP to distribute sensible data to at least the academic community. Therefore, specific terms of use and procedures have been set up: an Authentication, Authorization and Accounting Infrastructure (AAAI) ensures the good distribution of data according to IPR, user's affiliation (i.e. academic, industrial, . . .) and distribution rules, either automatically or after approval from the data owner. A Data Management Plan (DMP) documents the workflows and procedures, and the CoreTrustSeal requirements are followed for a future certification.

The CDGP is not hosting data if they are available elsewhere: for instance, seismic signals are distributed by the seismological data center (CDS) of Strasbourg and the CDGP only works as a proxy: the latter has authentication and authorization in charge, and if a request is granted, data are directly distributed by the CDS to the user.

A similar but improved scheme is set for EPOS (European Plate Observing System) and more specifically to its thematic core service for anthropogenic hazards (TCS-AH, <https://tcs.ah-epos.eu>). As a local node, the CDGP provides XML metadata files that populate the metadata TCS-AH (and later EPOS) catalogue, and serves data on requests that are validated and authorized by the platform

The CDGP infrastructure has been customized to answer topics such as AAAI, IPR, distribution rules from industry and interoperability either with other repositories or with TCS-AH platform. The use of common and shared procedures and formats has always been a priority. Setting up common vocabularies to allow automatic discovery of data is our next step for even more FAIRness.