# EPOS Thematic Core Service Anthropogenic Hazards for SHEER project: maintain, process and manage your project research data

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The main objective of the "Shale gas exploration and exploitation induced risks - SHEER" project (Horizon 2020, call LCE 16-2014) is to develop a probabilistic methodology to assess and mitigate the short- and the long-term environmental risks associated with the exploration and exploitation of shale gas. To this end, the SHEER project makes use of a large amount of heterogeneous data of various types. This data, from different disciplines of science e.g. geophysical, geochemical, geological, technological, etc., must be homogenized, harmonized and made accessible exclusively for all project participants. This requires to develop an over-arching structure for high-level multidisciplinary data integration. The bespoke solution is provided by Thematic Core Service Anthropogenic Hazards (TCS AH) developed in the framework of European Plate Observing System Program (https://tcs.ah-epos.eu/, infrastructural projects IS-EPOS, POIG.02.03.00-14-090/13-00 and EPOS IP, H2020-INFRADEV-1-2015-1). TCS AH provides virtual access to a comprehensive, wide-scale and high quality research infrastructure in the field of induced seismicity and other anthropogenic hazards evoked by exploration and exploitation of geo-resources. TCS AH is designed as a functional e-research environment to ensure a researcher the maximum possible freedom for experimentation by providing a virtual laboratory flexible to create own workspace for processing streams. A data-management process promotes the use of research infrastructure in novel ways providing an access to (i) data gathered in the so-called "episodes", comprehensively describing a geophysical process, induced or triggered by human technological activity, which under certain circumstances can become hazardous for people, infrastructure and the environment, (ii) problem-oriented, specific services, with the particular attention devoted to methods analyzing correlations between technology, geophysical response and resulting hazards, (iii) the intercommunity social functions, e.g. brokering of projects, common workspace for the project shared by the project members, upload/download data and codes to the common workspace, tools for communication of project members. The SHEER project uses TCS AH e-infrastructure to manage interdisciplinary data from seven independent episodes and data products from own research. Since presently more than 500 users from 21 countries have registered to TCS AH, the SHEER use of TCS AH by leaps and bounds increases visibility of the project.