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E-research platform of EPOS Thematic Core Service "ANTHROPOGENIC HAZARDS"

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EPOS Thematic Core Service ANTHROPOGENIC HAZARDS (TCS AH) aims to create new research opportunities in the field of anthropogenic hazards evoked by exploitation of georesources. TCS AH, based on the prototype built in the framework of the IS-EPOS project (https://tcs.ah-epos.eu/), financed from Polish structural funds (POIG.02.03.00-14-090/13-00), is being further developed within EPOS IP project (H2020-INFRADEV-1-2015-1, INFRADEV-3-2015). TCS AH is designed as a functional e-research environment to ensure a researcher the maximum possible freedom for in silico experimentation by providing a virtual laboratory in which researcher will be able to create own workspace with own processing streams. The unique integrated RI is: (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 and (ii) problem-oriented, specific high-level services, with the particular attention devoted to methods analyzing correlations between technology, geophysical response and resulting hazard. Services to be implemented are grouped within six blocks: (1) Basic services for data integration and handling; (2) Services for physical models of stress/strain changes over time and space as driven by geo-resource production; (3) Services for analysing geophysical signals; (4) Services to extract the relation between technological operations and observed induced seismic/deformation; (5) Services to quantitative probabilistic assessments of anthropogenic seismic hazard - statistical properties of anthropogenic seismic series and their dependence on time-varying anthropogenesis; ground motion prediction equations; stationary and time-dependent probabilistic seismic hazard estimates, related to time-changeable technological factors inducing the seismic process; (6) Simulator for Multi-hazard/multi-risk assessment in ExploRation/exploitation of GEoResources (MERGER) - numerical estimate of the occurrence probability of chains of events or processes impacting the environment. TCS AH will also serve the public sector expert knowledge and background information. In order to fulfill this aim the services for outreach, dissemination & communication will be implemented. From the technical point of view the implementation of services will proceed according to the methods worked within the mentioned before IS-EPOS project. The detailed workflows of implementation process of aforementioned services & interaction between user & TCS AH have been already prepared.