



## **Progress of SeaDataCloud with upgrading the Discovery and Access service and applying Linked Data**

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SeaDataNet is an operational pan-European infrastructure for managing marine and ocean data and its core partners are National Oceanographic Data Centres (NODC's) and oceanographic data focal points from 34 coastal states in Europe. Currently SeaDataNet gives discovery and access to more than 2.0 million data sets for physical oceanography, chemistry, geology, geophysics, bathymetry and biology from more than 650 data originators. The population has increased considerably in cooperation with and involvement in many associated EU projects and initiatives such as EMODnet.

Further development of SeaDataNet core services and marine data management standards are undertaken in the EU HORIZON 2020 'SeaDataCloud' project. This includes a strategic and technical cooperation of the SeaDataNet consortium with the EUDAT consortium of e-infrastructure service providers. SeaDataCloud runs for 4 years from 1st November 2016 and succeeds the successful SeaDataNet II (2011 – 2015) and SeaDataNet (2006 – 2011) projects.

SeaDataNet provides users discovery and access by user interfaces to the large federated pool of marine data resources which are managed and maintained by its 110 connected data centres. This CDI Data Discovery and Access service is being upgraded by introducing a central data buffer in the cloud which will be maintained by replication from the data centres. The buffer itself will be hosted and horizontally synchronised between 5 EUDAT e-data centres. Also additional quality control will take place on the central metadata and associated data in the userbuffer. Together with upgraded user and machine-to-machine interfaces this will improve the overall quality, performance and ease-of-use of the CDI service towards human users and machine processes.

Next to the CDI service SeaDataNet also maintains and provides users pan-European Directories of organisations, cruises, monitoring systems and projects as well as extensive vocabulary services for the marine domain. As part of SeaDataCloud the availability and access of these Directories and Vocabularies is being advanced by adopting the Linked Data principle. This includes mapping directories to established Linked Data standards, and setting up RDF resources with SPARQL endpoints to power machine-to-machine services and the semantic web next to the existing human user interfaces.

The presentation will give more details about the upgrading of the CDI Data Discovery and Access service, adopting the cloud, and the set-up of SPARQL end-points for the various SeaDataNet Directories and Vocabularies to provide Linked Data services.