

Automated Data Exchange to and from the National Data Repository in the Netherlands

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ABSTRACT

The exploration and production for oil and gas resources produces a vast volume of data (seismic surveys, borehole logs, well reports, production data, license data etc.). This information is stored in a National Data Repository (NDR). Reporting requirements, whether or not governed by law, steer the data exchange between operators and the NDR. Access to the information in the NDR's varies significantly around the world. In some countries the information is only available to a distinct group of (member) organisations in data rooms, where in other countries the information is publicly available via a web interface, sometimes even without charge. The Dutch NDR not only holds data related to exploration and production of energy resources, but also data related to groundwater and the shallow subsurface collected during the last century. Furthermore Geo(hydro)logical models created from these data are stored in the same NDR. The information is free for anyone to use (open data policy) via internet (DINOloket.nl). The importance of this database has been recognized by the Dutch government, leading to the upgrade of this system to a formal 'key' register governed by Law: 'Basis Registratie Ondergrond' (BRO). The main driver behind the BRO is improving the reliability of subsurface information, diminishing costs (single entry, multiple use) and reduce risks in (large scale) (infra)structure projects. This BRO in principle is a system that connects to systems of data providers (via a SOAP intake service 'is') and data users (via a SOAP dispatch service 'ds'). Since 2010 TNO is developing and building this key register. The register covers 26 data types within 6 data domains. The data models and exchange formats used are being developed with input from data providers and users. Business rules in the web services guarantee consistency to the data model, while the owner of the data has to make sure the data is correct. Since January 1st ,2018 the first 3 data types are live (technical system ready and legislation effective). This not only enables data providers and users to create a live connection between the key register and their own system, it also opens a whole new arena for software developers to create (commercial) added value applications on top of the data base. We believe that this will increase re-use of data tremendously and stimulate new economic activities related to (big) data exploitation: the new trend for the coming decade.