

From National Data Repository to Digital Energy Cloud

Client: Ministry of Oil & Gas Oman

Since the 1990s, national oil and gas regulators have been building National Data Repositories (NDRs). Often described as digital *databanks*, the main objectives of a typical NDR are to preserve the data acquired by oil and gas companies during their work in country, and to promote investments in the country by using the data to reduce exploration, production and transportation risks.

TARGET worked with the MOG to support their innovative vision to transform an existing ‘passive’ National Data Repository into a ‘proactive’ *Digital Energy Cloud* for their country.

The starting point for the project was to construct a new standards-based master data repository to replace the existing databank implementation. The new repository service forms the hub at the centre of a growing collection of business services in the Oman *Digital Energy Cloud*. These are designed to reduce the cost but raise the overall levels of compliance with monitoring and reporting requirements set by the regulator.

Challenge

The previous databank solution was based on a proprietary application that archived the data submitted by the operating companies using a combination of industry standard formats (e.g. SEG-Y, SEG-D, DLIS, LAS, PDF etc.), and a proprietary data storage engine for well log data.

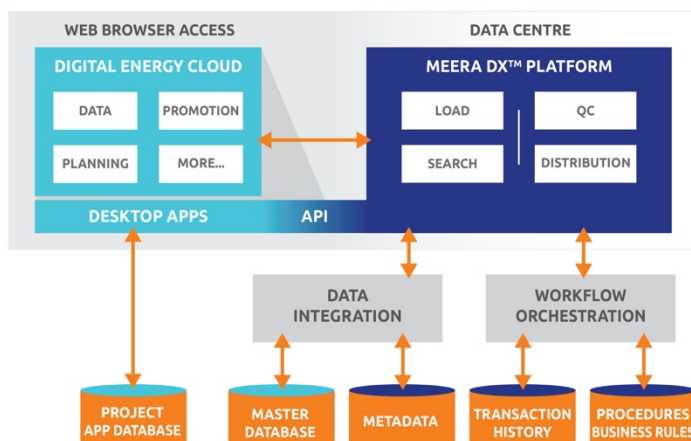
Solution

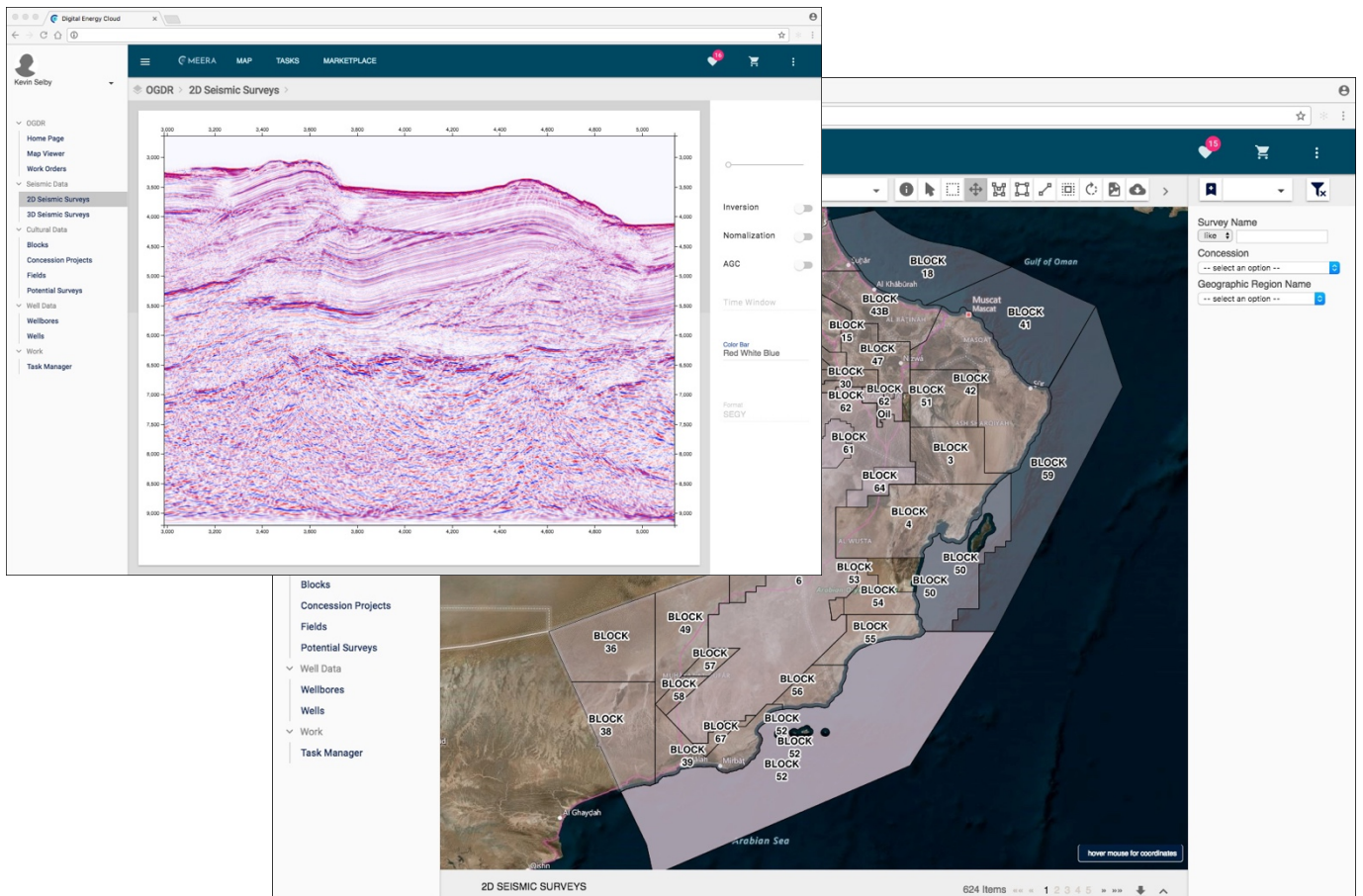
The support for industry standards allowed TARGET to export the data and metadata in non-proprietary format and cost-effectively migrate the previous databank contents to the PPDM data model. PPDM is a good choice for long term sustainability as it is widely used in the industry and actively maintained. The new service uses PPDM 3.9 as a common data model for storing or indexing all data. It provides a broad data model that fully covers the scope of data types needed by the NDR.

Results

As the service expands to cover new data types, new metadata is added to the system to incorporate the new data structures and relationships. The user interface and data management workflows are also driven by this same metadata, creating a ‘living system’ that can be adapted and extended onsite without requiring new software to support each change. The flexibility of the deployed solution is essential to keeping the total cost of ownership low, whilst ensuring that it remains aligned with the ever changing business environment.

INTEGRATED NDR PLATFORM





The customer uses the new cloud hosted services as a launching point for other services related to the industry that go beyond data banking to provide a common digitalised environment for a variety of stakeholders across the business lifecycle. The first additional service launched was the *Living Data Room* (LDR). This is an online service used to support data promotion as part of a licensing-round. Using the same user interface and IT infrastructure as the national data repository, master data from the repository is supplemented by added-value data, interpretation and reports, which are compiled into commercial data packages.

“The hydrocarbon-related data collected in the OGDR databank during the last 10 years, has added significant value to continuous oil and gas exploration and production efforts in Oman. Making this data available and easily accessible on the Oman Digital Energy Cloud platform will increase its utilisation among all the stakeholders and further enhance its additional value that otherwise would not be realised.”

*Siddiq H. al Balushi
OGDR Manager
Ministry of Oil and Gas*

Conclusions

Regulators are starting to construct online digital services that transform their traditional business model primarily to reduce the cost of hydrocarbon asset promotion and regulatory compliance, whilst at the same time improving levels of compliance. Innovative IT, and open standards-based data access are being combined to establish sustainable, integrated working environments that improve operational efficiency, stimulate collaboration between stakeholders, support good governance and safe, compliant working, as well as open the door for new entrants to identify new opportunities that generate additional in-country investment.

Contact sales@target-energysolutions.com for more information.