

FUGRO VIRGEO®

Virgeo® is Fugro's cloud-hosted, web-based Geo-data engagement platform for accessing geospatial data and documents throughout the offshore wind farm life cycle.

INCREASED DATA VOLUME AND COMPLEXITY

The volume and complexity of Geo-data that is required for an offshore wind farm development through to operation has increased significantly over time. For example, current Geo-data acquisition for an average offshore wind project requires almost one million times more Geo-data volumes (30Tb) compared to 25 years ago (~3Mb). These large Geo-data volumes tend to be stored in siloed systems that lack the connectivity needed to support efficient, informed decision-making from key stakeholders.

GEO-DATA IN ONE PLACE

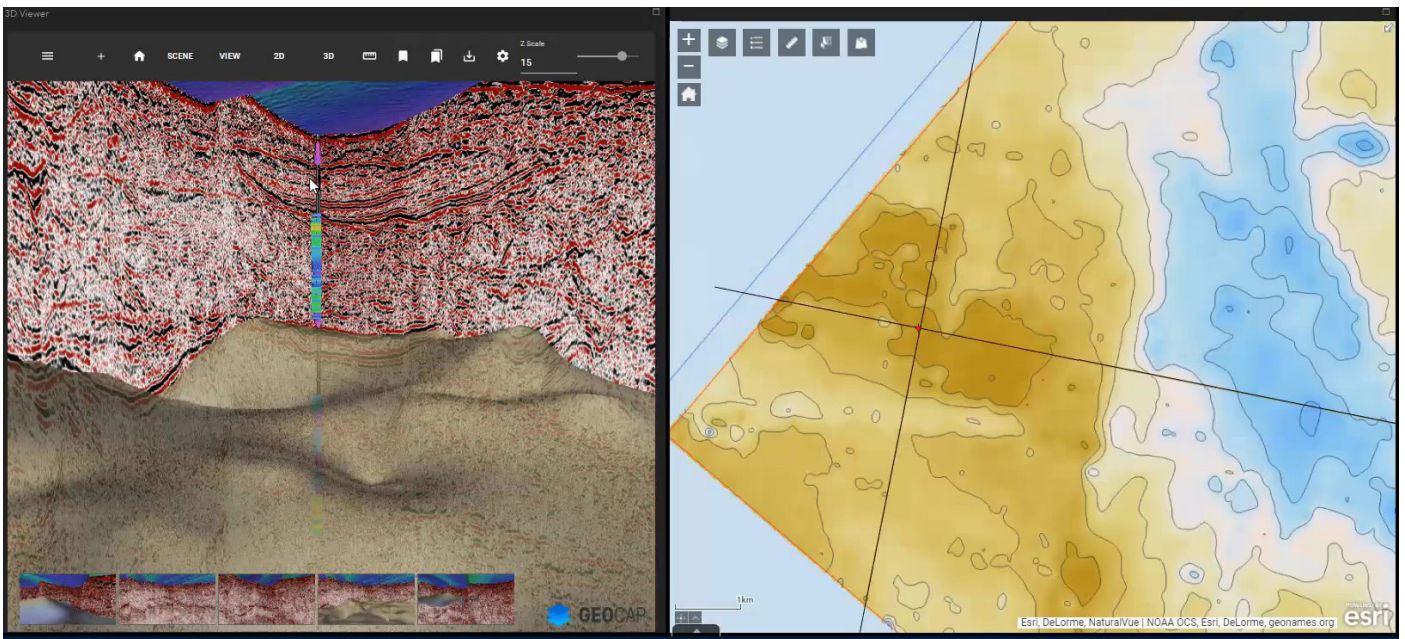
Virgeo® is a cloud-based information delivery, engagement and management platform that provides stakeholders with a single source for accessing and organising various streams of integrated, real-time data. Virgeo® can be implemented at any stage and provides the scalability and flexibility to support the entire life cycle.

EASY ACCESS

Virgeo® is accessed through a single sign-on and requires no experience with geographic information systems (GIS) or specialised software. Management of Geo-data within the platform provides version control and enhanced utility of the real-time and integrated Geo-data throughout the offshore wind farm life cycle.

BENEFITS

- Early insights and real-time results for on time milestone achievement
- Access to the latest Geo-data in one place provides context and enhances insights, derisking phases throughout the offshore wind farm life cycle
- Efficient management of teams and processes through the structured environment and single source of information, available for all selected stakeholders anywhere, any time



3D integrated ground model

CUSTOMISABLE SOLUTION

The web-based applications and dashboards accessible through Gaia.Hub are tailored to meet specific client and project needs. Applications provide the user with intuitive access to spatial data integrated with graphical data and videos. Features within the applications are supplemented by links to additional non-spatial content. Applications can be deployed for monitoring data collection on site as well as tracking results from Geo-data collection elsewhere (e.g. laboratory tests) and Geo-data analysis progress.

Near real-time dashboards provide a live interface for users to view data remotely and receive geospatial updates when Geo-data and insights are available. On-the-fly statistics and metrics can be generated for overall project progression. Data analysis dashboards provide an interactive interface to better extract meaningful trends and insights from the

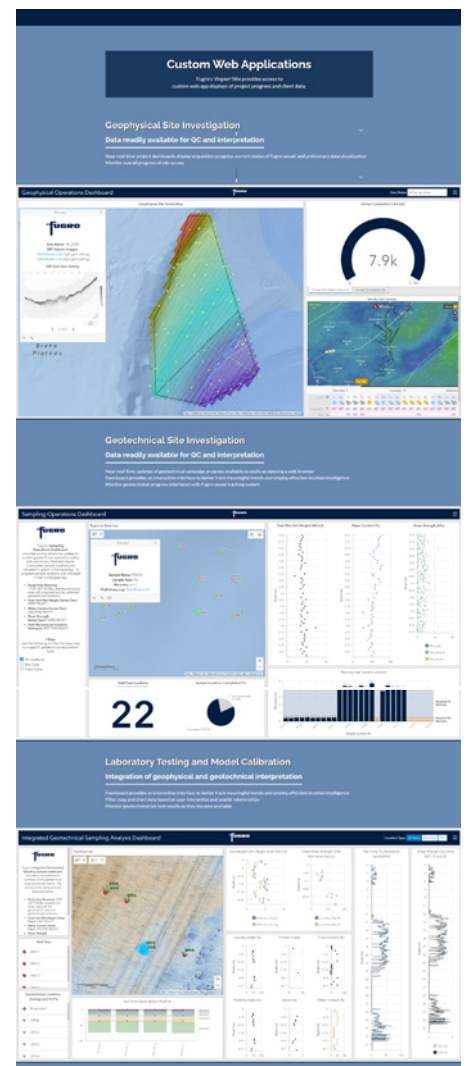
Geo-data. Dashboards and applications support activities throughout the asset life cycle, including:

- Geophysical survey operations
- Geotechnical site investigation
- Metocean monitoring
- Environmental investigation
- Cable route optimisation
- Integrated ground models and foundation design
- Engineering and geohazards assessments

INTEGRATED GROUND MODEL AND EXPERTISE

Our global in-house experts have access to extensive Geo-data knowledge from years of experience in site characterisation interpretation, planning and operating in offshore environments. They are specialised in integrating various site characterisation datasets into ground models which facilitate the identification, quantification and analyses of geohazards and constraints to engineering design.

Virgeo® incorporates specialised software to develop ground models which enables 3D visualisation of complex and variable conditions across the (planned) asset site. This helps users conceptualise conditions and constraints that impact (the development of) the offshore wind farm and mitigate potential risk.



Near real-time dashboard