

AI Knowledge Navigator for Norwegian Offshore Data

Jesse Lord ¹, Petter Dischington ²

¹ FabriqAI AS, ² Norwegian Offshore Directorate

The Norwegian Offshore Directorate, together with FabriqAI, is creating the Knowledge Navigator, a context-aware discovery portal for evidence-grounded synthesis across heterogeneous offshore data sources. The ambition goes beyond document retrieval; users of various levels of expertise converse in natural language with an assistant to either answer the question or retrieve the data required.

Subsurface, environmental and operational knowledge are available for interpretation and reuse across maps, reports, metadata, tables and figures. The tool is designed for different user groups with different information needs, from a curious citizen wanting to understand where exploration is planned, to an asset manager needing efficient access to regulatory requirements and supporting documentation.

The approach combines semantic search, geospatial filtering, toponym recognition and source-aware ranking to interpret user intent in its geological and geographic context. Queries such as reservoir quality near a specific well, emissions within a defined offshore area, drilling problems in a given formation, APA rounds in a specific region, or regulatory requirements linked to a project phase are translated into structured search plans that coordinate retrieval across multiple portals and document types. A key feature is the ability to ask clarifying questions when user queries are ambiguous or incomplete, allowing the system to refine scope and improve relevance before generating results. Relevant passages, figures and tabulated observations are linked back to their original sources.

Traceability is a core design principle. Rather than returning opaque summaries, the Knowledge Navigator shows where information comes from at the level of document, page, section and geographic object. This supports user validation and makes the output more useful in settings where transparency and accountability matter. The map-based interface also plays a practical role, since many offshore questions depend on location and on how names, areas and geological concepts are defined across sources. We present the tool in its current stage of development and discuss how geo-AI can connect unstructured documentation with spatially referenced knowledge in offshore workflows. The work points toward a new way of combining generative AI with distributed data sources, document repositories and map-based interfaces. It demonstrates how trustworthy AI, federated search and geospatial reasoning can support more efficient interpretation, clearer access to regulatory and technical knowledge, and better reuse of legacy information.