

Offshore conventional plays

4 Critical challenges every geoscientist faces



Imaging techniques in complex geological environments

Challenges

In regions like the Mediterranean, North Sea, and Southeast Asia, thick salt layers, complex turbidite systems, and intricate fault networks distort seismic data, making it difficult to accurately delineate reservoir boundaries and identify subtle structural features.

Solutions

- **Seismic Clarity in Complex Settings:** 2D/3D seismic interpretation workflows leverage advanced signal processing techniques to mitigate geological distortions and improve
- **Improved Reservoir Delineation:** Multi-attribute analysis and inversion techniques enhance identification of reservoir boundaries and structural features, supporting informed exploration and production decisions.



Integration of sparse well data with high-quality seismic data

Limited well control in deepwater basins complicates prospect evaluation and subsurface modeling, increasing exploration uncertainty.

- **Depth Seismic-Only Workflows:** Precise depth seismic to depth well conversions and well tying improve well-to-seismic correlation.
- **Effective Prospect Screening & Planning:** Seamless well and seismic integration improves correlation and map accuracy, reducing exploration risk in areas with limited well control.



Quantification of uncertainty in reservoir characterization

Heterogeneous lithologies and subtle hydrocarbon indicators introduce significant uncertainty in deepwater reservoir predictions—compounded further in data-limited environments.

- **Advanced Reservoir Characterization:** Synthetic seismogram generation and petrophysical modeling quantify uncertainties in rock properties and low signal responses.
- **Reliable Exploration Insights:** Robust probabilistic predictions reduce uncertainty, enabling confident exploration well planning and improving reservoir assessment accuracy.



Strategic exploration well planning in high-cost offshore environments

Offshore exploration wells require significant capital investments, making accurate interpretations critical to avoid costly drilling mistakes.

- **Real-Time Map Updates:** Integrates geological, geophysical, and petrophysical data—dynamically updating structural maps.
- **Optimized Drilling Decisions:** Real-time data updates and insights help refine well placement, and uncertainties and risks associated with drilling decisions.

Kingdom™ Software key benefits



Increased Operational Efficiency

Accelerates subsurface interpretations with AI and automation for quicker decisions.



Holistic Data Management

Seamlessly integrates geological, geophysical, and engineering data into a single platform.



Enhanced Accuracy in Interpretations

Facilitates precise modeling and analysis for reliable, data-driven decisions.



Optimized Resource Allocation

Maximizes ROI by prioritizing the best drilling opportunities.



Affordable and Scalable Solutions

Offers cost-effective, scalable solutions for all play types and sizes.