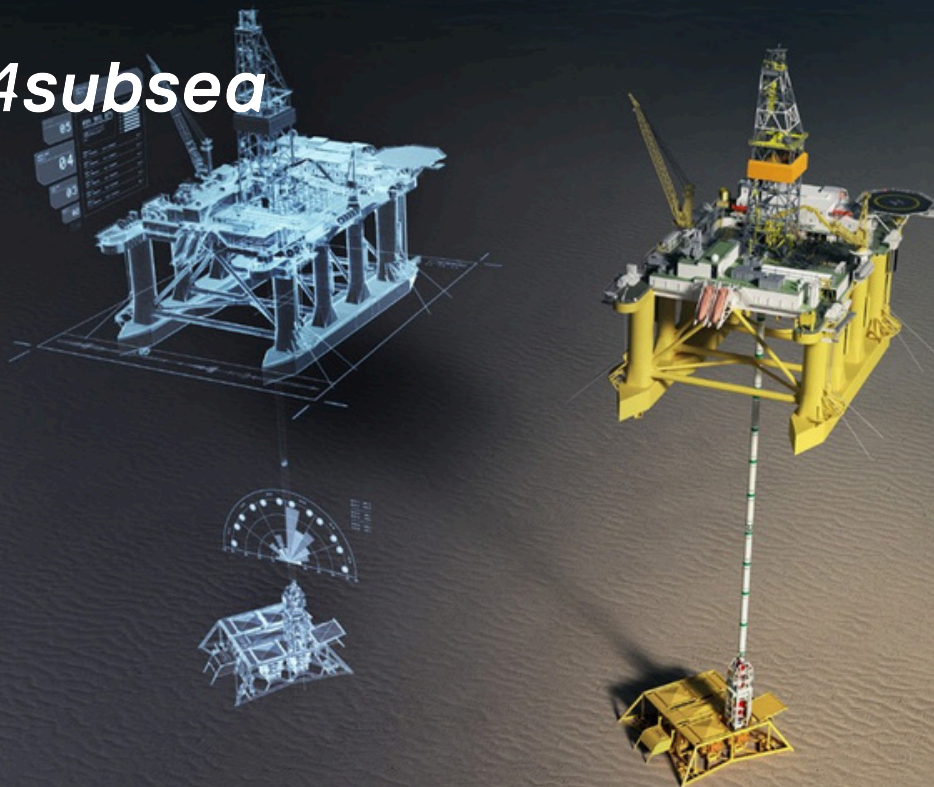




Riser Monitoring System (RMS)

Real-Time Decision Support for Increased Operability

Riser Monitoring System (RMS) measures motions and loads along the riser, BOP and wellhead to improve operational efficiency and reduce risk.

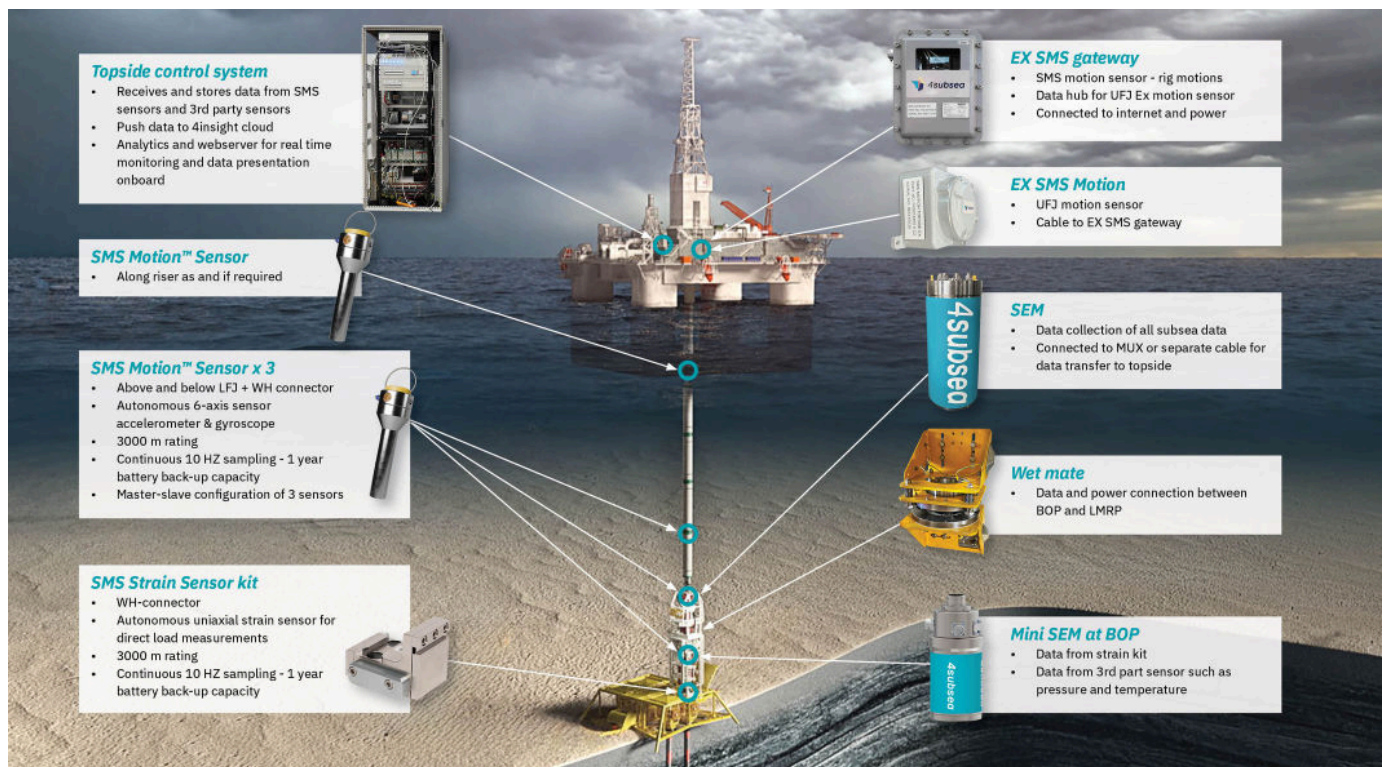
During drilling and well intervention, the riser, BOP and wellhead are exposed to highly dynamic loads caused by vessel motions and changing environmental conditions. Limited real-time visibility into these loads increases operational risk and can unnecessarily restrict operating windows.

The 4Subsea Riser Monitoring System (RMS) provides continuous, real time insight into the integrity and behavior of the riser system. Using measurements from the rig, marine riser, flex joints, BOP stack, and wellhead, RMS monitors critical parameters such as motions, angles, and loads.

All data is collected and processed in the onboard RMS control system. A digital twin of the rig, riser, BOP and wellhead provides a live and intuitive visualisation of system status. This enables real-time operational decision support for both offshore and onshore teams.

KEY BENEFITS

- Supports safe optimisation of operating limits based on real-time measured loads
- Monitors structural integrity during operations to support safe use and extend asset life
- Maintains data capture during power or communication interruptions
- Provides onboard processing and visualisation for real-time operational decision support
- Seamless integration with third-party sensors and data providers
- Field-proven sensors with battery backup and local data storage for robust offshore performance
- 24/7 support by onshore team of experts



CONTINUOUS VALIDATION OF OPERATING LIMITS

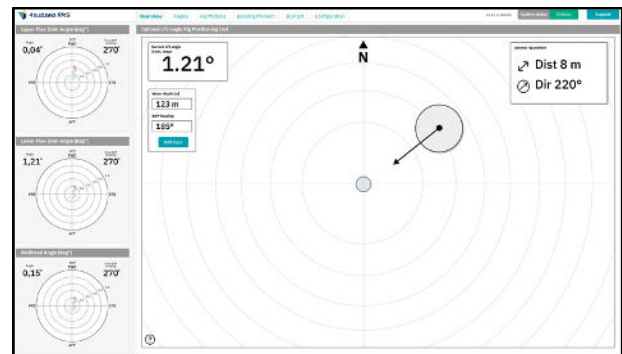
- RMS uses real-time data to continuously validate operating limits, enabling operators to: Lower operational risk
- Avoid overly conservative limits
- Maximise rig uptime and efficiency

When combined with 4Subsea's Subsea Wellhead Integrity Monitoring system (SWIM™), RMS provides a complete, real-time integrity assessment of the wellhead, riser, and associated equipment. The result is extended asset lifetime, improved safety margins, and higher operational efficiency.

OPTIMAL RIG POSITIONING - REDUCED RISK, INCREASED UPTIME

A key feature of RMS is the Optimal Rig Position module. The system provides clear guidance on how to position the rig to balance flex joint angles, wellhead loads and overall use of the operating envelope.

Optimal positioning significantly reduces the risk of key seating, equipment damage and unnecessary downtime, particularly during casing runs and heavy tooling operations.



FLEXIBLE AND ROBUST SENSOR INFRASTRUCTURE AND DATA HANDLING

In addition to 4Subsea's own sensors, RMS includes a versatile Subsea Electronic Module (SEM) that enables seamless integration with most third-party sensor systems. Data from topside sensors and external sources, such as weather forecasts, is collected and integrated through a dedicated data capture unit, providing a complete and unified operational overview.

Built-in battery backup and local data storage (up to 1 year) ensure reliable data capture and availability, even during power or communication loss. A backup data transfer solution via wireless ROV communication further ensures that no critical data is lost in contingency scenarios.

4Subsea is a leading provider of technology and services that help operators optimise energy production from subsea oil & gas fields and off-shore wind farms. We combine domain expertise with data analytics and digital services to maximise lifetime of assets, reduce operational cost and optimise future projects through data-driven design.

The company was established in 2007 and clients include the major energy operators as well as the large suppliers of subsea equipment. 4Subsea is headquartered in Asker, Norway with additional offices in Bergen, Kristiansand, Stavanger, Rio de Janeiro, Kraków and Aberdeen. 4Subsea is a company in the Subsea7 Group.

4Subsea - Share ideas, move forward

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