



SETTING THE STANDARD

# Asset Lifecycle Management (ALCM)

SETTING THE STANDARD - ASSET LIFECYCLE MANAGEMENT - OCTOBER 2024

**Seadrill** 





The West Neptune's main well crown block sheave is complete with the driller's side sheave sensor visible. Seadrill can monitor vibration and RPM of the sheaves, assessing their condition and remaining life for continuous, disruption-free operations.

## Introducing Asset Lifecycle Management (ALCM)

Seadrill's ALCM program is an industry-leading maintenance strategy that optimizes offshore drilling equipment performance and reliability. By leveraging advanced data analytics and Condition-Based Monitoring (CBM), ALCM dynamically calculates the remaining useful life of capital equipment assets, identifying premature wear and enabling data-driven maintenance scheduling around ongoing operations. This innovative approach maximizes equipment uptime, extends service life and ensures Seadrill's clients benefit from enhanced operational efficiency.



### Why ALCM?

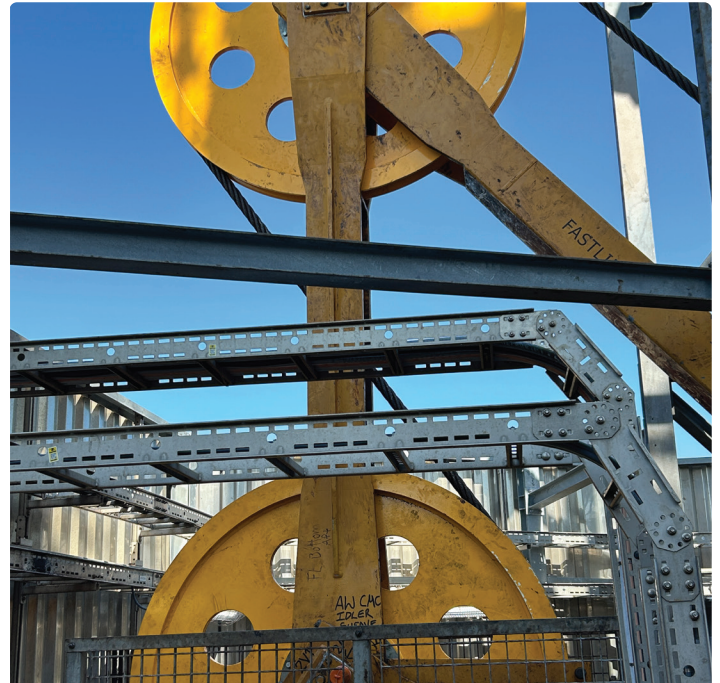
**Industry Standards:** Modern offshore drilling and hoisting equipment are designed to operate for ten years, doubling the legacy period advised by the American Petroleum Institute (API) Recommended Practice 8B standards.

**Original Equipment Manufacturer (OEM) Insights:** After five years, OEMs recommend maintaining the five-year inspection interval on primary load path equipment. Inspections showed equipment in 'as new' condition, leading to the development of Design Life Utilization (DLU) to measure remaining useful life, compliant with API standards.

**Innovative Tools:** Digital platform tools like PLATO, RimDrill, and Maximo Enterprise Asset Management (EAM) collect operational data to support design life analysis, ensuring accurate wear correlation and maintenance scheduling.



The West Auriga's mainwell TDX-1250 equipped with Nanoprecise IoT vibration sensors.



The West Auriga's auxwell crown mounted compensator idler sheaves with Nanoprecise IoT vibration sensors installed.

## Benefits to the Client

**Enhanced Safety:** CBM identifies potential equipment failures before they occur, preventing incidents and ensuring a safer working environment. Automated data collection reduces manual sampling, lowering safety risks for the offshore crew.

**Operational Efficiency:** ALCM minimizes downtime by scheduling maintenance based on actual equipment condition and usage, rather than fixed intervals. This leads to higher equipment availability, improved operational performance and lower total client cost per well.

**Data-Driven Decisions:** Cloud-based analytics and real-time data transmission enable quick, informed maintenance decisions, enhancing efficiency and reducing operational costs.

**Reduced Environmental Impact:** By extending the operational life of equipment, avoiding unnecessary maintenance and optimizing maintenance schedules, ALCM reduces waste and the need for new materials.

## West Neptune Drillship Trial

**Vibration Monitoring System:** A proof-of-concept fixed vibration monitoring system was installed on the West Neptune drillship in August 2023. This system automates data collection using state-of-the-art Industrial Internet of Things (IIoT) technology, improving data accuracy and reducing resource requirements.

**Key Features:** The system includes wireless, battery-powered sensors that provide real-time data transmission, significantly enhancing equipment monitoring capabilities. This installation demonstrated improved fault detection and reduced crew workload.

**Future Expansion:** Based on the success of the initial trial, plans are in place to expand the system fleet-wide, with additional monitoring for critical equipment like mud pumps.





Seadrill is setting the standard in deepwater oil and gas drilling. With its modern fleet, experienced crews, and advanced technologies, Seadrill safely, efficiently and responsibly unlocks oil and gas resources for national, integrated, and independent oil companies.

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