Mobil™ | POSEIDON™ SYSTEMS

Service profile

# Asset Intelligence for Wind



Integrated metallic debris, oil condition, and vibration sensing deliver end-to-end wind turbine drivetrain health monitoring—maximizing uptime and safety while minimizing maintenance efforts and costs.

## Description

Mobil™, in collaboration with Poseidon Systems™, offers a comprehensive drivetrain health monitoring solution purpose-built for the wind industry. This system integrates three critical monitoring technologies – metallic wear debris monitoring, online oil condition analysis, and vibration monitoring – to provide a complete, real-time view of gearbox and drivetrain health. These sensors continuously collect high-resolution data to detect emerging faults, trend degradation over time, and support accurate diagnostics across key drivetrain components.

By combining continuous sensing with advanced analytics, the system enables early fault detection, severity assessment, and remaining useful life (RUL) estimation—empowering operators to address emerging issues before they escalate. Its inline asset monitoring delivers key insights that enable timely action, protecting critical assets and reducing the need for operators to ascend the tower. These capabilities maximize gearbox and drivetrain life, minimize costly repairs, help safer maintenance, and significantly reduce unplanned downtime—ultimately lowering total cost of ownership and maximizing uptime.*

## Application

We work with you to help:

- Empower your Operation & Maintenance team with actionable information.
- Continuously track multiple critical parameters, including vibration, metallic wear debris, oil health, and water contamination through Poseidon Live.
- Optimize lubrication maintenance
- Implement a data-driven maintenance strategy to improve asset reliability
- Reduce reliance on offline oil analysis
- Provide data-driven insights for smarter turbine maintenance

## Potential benefits

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| | Early fault detection and real-time alerts |
| | Increased turbine uptime and reliability |
| | Reduced Operations & Maintenance costs* |
| | Operational efficiency for long-term equipment reliability |
| | Minimized manual intervention at height |
| | Improved planning through data-driven maintenance |

*Actual results can vary depending upon the type of equipment used and its maintenance, operating conditions and environment, and any prior lubricant used.

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**Deliverable:** continuous access to real-time lubricant and asset condition data via Poseidon Live™, a cloud-based monitoring platform. The system provides actionable insights on oil degradation, fluid contamination, and wear debris - key indicators for the performance and health of wind turbine components.

## Common opportunity areas

- High costs from unplanned downtime or reactive maintenance
- Limited visibility into lubricant condition between scheduled lab analyses
- Safety and logistical challenges of manual oil sampling at height
- Demand for real-time data to support predictive maintenance and maximize uptime

## Safety, health, and environment

The ExxonMobil™ supports corporate and site-specific safety protocols during installation and maintenance of real-time monitoring systems. In wind operations, the solution reduces the need for manual oil sampling in elevated or offshore environments, minimizing operator exposure to height-related risks, pressurized systems, and harsh weather. It also supports environmental goals by helping prevent spills and reduce lubricant waste through early detection of oil degradation and contamination.

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