Marine Industry Solution
Condition Based Monitoring (CBM) for Commercial Vessels

Reduce equipment downtime and optimize system performance.

Benefits:
- Enable continuous equipment monitoring
- A holistic view of equipment conditions
- Predict potential equipment failure to avoid unscheduled downtime
- Improve component/system reliability
- Lower total cost of ownership

The Challenges
Commercial shipping vessels must achieve consistent, long-term performance to be competitive in today's marketplace. Ultimately, a vessel's uptime depends on the reliability of the components in its system.

Keeping key shipboard equipment operational is particularly crucial at sea. However, despite the best efforts of the maintenance crew, problems may go undetected until major damage or failure occurs.

A critical equipment failure can force a ship out-of-service. And whether the stoppage is a few hours or several days, it can have a significant impact on profitability.

With an integrated, condition based monitoring solution – and a predictive maintenance strategy – you can address the challenges of unplanned downtime head-on.

Rockwell Automation
Safeguard Your Critical Assets
To achieve efficient operation, you must keep your complex ship systems up and running – and safeguard your critical assets.

From vibration monitoring of propulsion and maneuvering systems to oil analysis of oil-wetted machinery, our integrated condition monitoring solutions provide easy access to shipboard asset health information.

As a result, you can better protect costly equipment, predict maintenance requirements and maximize system availability.
Transform your reactive maintenance challenges into a proactive, shipboard strategy.

Condition Based Monitoring at Sea

Rockwell Automation condition based monitoring solutions are designed to transform your scheduled and reactive approach to maintenance into a proactive shipboard strategy.

Using the latest open digital control and monitoring technologies, our integrated solutions deliver the information you need to enable predictive, condition-based maintenance very cost-effectively.

Monitor Your Assets. Control Maintenance Activity.
Your most critical shipboard equipment – including diesel engines, gas turbines, pumps, electric motors, generators and gear boxes – contain specific points of failure that can be monitored. Elevated vibration, current or temperature levels in bearings, windings or cooling systems are often a sign that a component is near the end of its useful service life.

Our condition monitoring systems utilize advanced sensor technologies to detect these component changes and data analysis to evaluate the results in real-time.

Designed as stand-alone systems, our flexible solutions allow you to add condition monitoring units as your needs evolve. In addition, our solutions are built on open technology and can be integrated with your machinery control system. As a result, operators can review current component health status and alerts regarding developing mechanical or electrical problems at the machine or from the bridge.

Utilizing the diagnostic and prognostic information the system provides, your maintenance team can address maintenance concerns proactively – and before equipment failure occurs. And since maintenance can be performed in line with precise equipment requirements, unnecessary maintenance activities can be minimized as well.

Cost-Effective Technology—Marine-Certified
Built with commercial, off-the-shelf control and visualization technology, our condition monitoring systems for commercial vessels are marine-certified to meet your needs at sea. Our scalable solutions are configured to address the specific requirements of your ship – and incorporate the Allen-Bradley® XM® Series of intelligent I/O modules, CompactLogix™ controllers and PanelView™ displays.

A typical solution could include modules to monitor critical vibration levels, shaft speed and temperature within your equipment. Other sensors can be incorporated into the system to improve surveillance. These enhancements may include online oil analysis and data logging for historical purposes.

An integrated condition monitoring solution can also incorporate additional visual and audible alarm devices such as stack lights, warning beacons and signaling devices. Simply put, your system is designed to help you optimize operational readiness – and improve the reliability of your ship and voyage.

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