

# Wärtsilä Remote operational support for 2-stroke engines



Modern two-stroke engines are becoming increasingly complex in order to meet the demands of greater energy efficiency and more stringent emission regulations. This complexity, combined with the widening crew skill gap, poses serious cost and operational risks for vessel operators. Wärtsilä ROS solves these challenges by acting as a virtual member of the crew, available 24/7 to provide expert remote support and guidance for troubleshooting and maintenance using specialist diagnostic tools.

## ROUND-THE-CLOCK SUPPORT FROM WÄRTSILÄ EXPERTS

Advances in marine satellite communication with large bandwidths available at low costs have enabled remote support services to be delivered in real time via a vessel's internet connection. Wärtsilä ROS allows our experts to connect directly to the vessel's systems and employ advanced diagnostic tools to support crew with troubleshooting activities and rapid fault resolution. Furthermore, the solution can help minimise OPEX and lifecycle costs by enabling preventive interventions that can avoid the need for expensive repairs and on-site visits later.

## KEY BENEFITS

- Real-time 24/7 expert support for rapid troubleshooting, guidance and fault elimination
- Minimised earnings loss from vessel off-hire or unplanned downtime
- Reduced need for costly on-site visits
- Minimised OPEX and lifecycle costs through timely interventions and countermeasures
- Improved support for crew reassures vessel owners of enhanced reliability



With Wärtsilä ROS, our experts can communicate with the crew in real time via a live video link, or review footage shot by crew members on a mobile device. The solution uses augmented reality technology to support rapid resolution of problems, and requires no hardware or software investment – the crew simply install the app on their devices. Over 130 vessels around the world already rely on Wärtsilä ROS to provide remote operational support.

### TECHNICAL CONCEPT

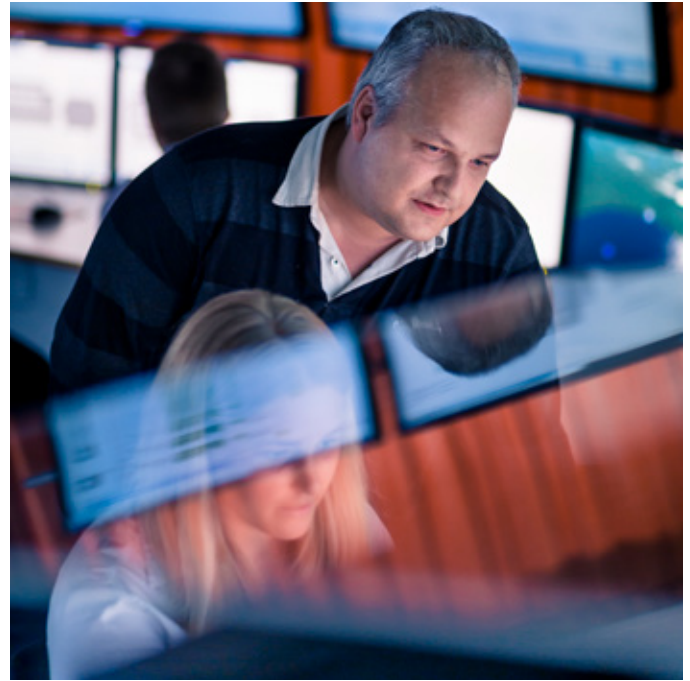
Wärtsilä ROS is available for all electronically controlled Wärtsilä/WinGD two-stroke and Wärtsilä four-stroke engines.

For older RTA-series engines we can perform an in-depth evaluation to determine the optimal solution for the installation in question.

The onboard data acquisition system continuously records engine and related plant data. The crew can view data and trends in real time or review historic data – the system has sufficient capacity to store data for up to six months. The data is also transferred daily in a non-aggregated form to the Wärtsilä cloud, where it is permanently stored.

When the crew activate a remote support request, a Wärtsilä expert can connect to the ROS system onboard the vessel to analyse live and historic data. They can also use the system's chat function to discuss the issue with the crew. If required, the expert can remotely perform deep diagnostics using UNITOOL or advanced troubleshooting using the Wedge analytics tool.

Wärtsilä ROS uses the same data acquisition platform as Wärtsilä Condition based maintenance (CBM) services. This means that as a ROS customer you can take advantage of the benefits of CBM – including continuous engine health analysis, optimisation and predictive maintenance – for a marginal extra cost.

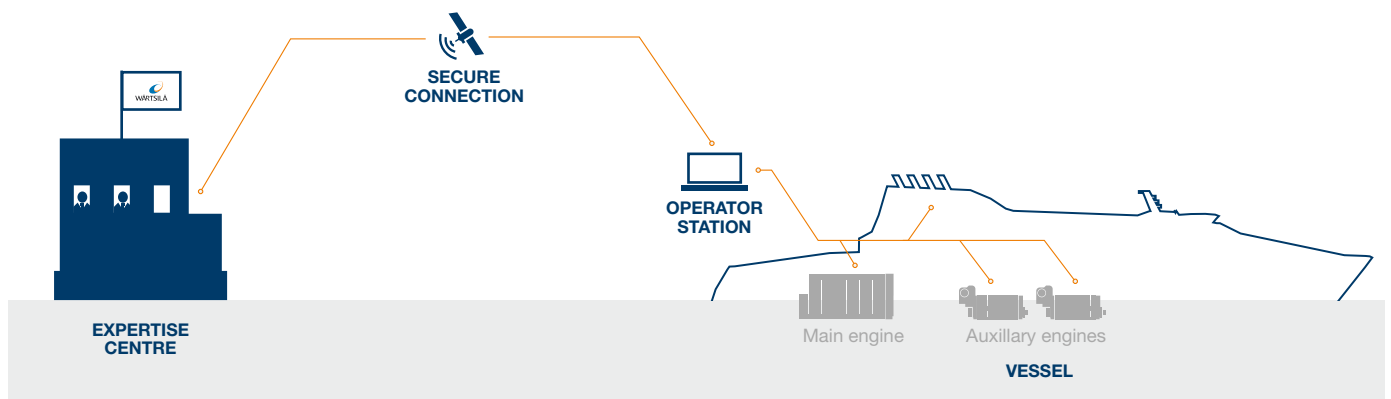


### SCOPE OF SUPPLY

The scope for a turnkey installation typically covers:

- Supply and installation of cabling to connect each main engine local panel to the engine control room, as well as cabling from the AMS
- Hardware: ROS PC with communication box, including routers and all necessary equipment
- Software: installation and configuration of software for data collection and onboard data visualisation
- Installation and commissioning: installing equipment, checking signals, validating communication and remote connection

### REMOTE OPERATIONAL SUPPORT



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