The future of shipping lies in having the technological expertise to measure vessel performance in order to achieve optimal fuel efficiencies and support regulatory demands. Given the increasing fuel costs and environmental pressures on compliance, freight rates are now very close to operating costs, leading to razor-thin margins, and, in many cases, operating losses. It is not surprising that given the confluence of business conditions in the maritime industry, companies are finding themselves in troubled waters and many facing extinction unless vessel management is accompanied by a more intelligent approach to achieving operational efficiencies.

It is only a few years ago, in part spurred by fuel price hikes and regulations, that the industry, that still transports 90% of the world’s goods, woke up to the importance of energy-efficient solutions that also help environmental compliance. Operators have started to appreciate intelligent data management systems on real-time platforms and integrated performance monitoring to expedite operational efficiency and downsize the operational costs of a vessel.

There is a wise saying in Buddhism: “what you are is what you have been” but “what you will be, is based on what you do now”. Buddha lived around 500 BC, hence if we think that performance management is a new concept, we are definitely wrong.

A ship’s performance is calculated by the efficient running of its machinery, hull, propellers, in line with overall safety and emission control. Good planning, speed management techniques and smart routing are being adopted by the crew to get closer to the ideal performance of a vessel’s operations. Practical and accessible technology is helping ship’s crews to monitor and align the core key performance indicators (KPIs) of vessels, and overall operations.

Monitoring vessel performance is about identifying an accurate operational baseline to help crew make informed decisions to achieve optimum vessel efficiency. The data collected is compared against the performance benchmark of similar ships of similar age across the ship owner’s fleet or across vessels in a comparable class. Benchmarking allows owners to compare and contrast performance over a period of time in order to achieve better results.

Real time data can provide insights into the impact of hull performance, propeller friction, antifouling, engine loading and vessel trimming to achieve optimum voyage performance. These and many other readings are measured in the context of the prevailing weather conditions and sea state and also, crucially, against vast amounts of historic data that Eniram has collected over some years. This vast data store has been compiled from 5 million signals per day, produced during thousands of ocean-going hours, on 100 plus vessels of different types, allowing operators to benchmark their efficiency against the average or peak performance of other vessels and fleets. Where performance isn’t up to scratch, Eniram’s software delivers guidance for the adjustments that need to be made to instruments, speed and fuel use in order to fine-tune efficiency. Real time KPIs allow crews to concentrate on the important tasks including reducing reporting errors, promoting analytical observations and ensuring a superior level of transparency between the onboard crew and the onshore staff through real visibility and actions.

Needless to say, unless all areas of a vessel are being operated efficiently, the vessel as a whole is not fit for optimum performance and this is where the individual vessel monitoring comes in. Moving ahead fleet performance can be monitored in real time allowing base lining and benchmarking of the operational performance of individual vessels.
Different influencers of performance such as trim, sea state, squat, hull and propeller fouling, draught, speed, wind etc., are measured accurately in real time to minimise the limitations of these factors. An organisation achieves tremendous information to help them make wise commercial, technological and QHSE decisions. Monitoring the operational performance of a vessel and its efficiency gives transparent decision making capability into whether a vessel should continue to be operational or whether to invest in a new build - always bearing in mind the regulatory demands with regard to emission control. Strategic decision making on hull modifications, hull coating, dry docking, propeller modifications and fuel saving measures implemented during dry dock can be gauged with extensive data collected in real time.

Having said that, ability to collect, analyse and act upon real-time data, taking account of all dynamic conditions, is the key. Operational excellence of a fleet depends on accurate real-time data without much human interface, transparency in data collection and analysis, and expertise of the crew in managing onboard execution and onshore follow-up.

In a nutshell, data in real time is the key to maximum savings, which is based on continuous benchmarking and fine-tuning of influencing factors on an ongoing basis.

Integrated bridge system centenary

German marine electronic equipment manufacturer Raytheon Anschütz says that it has now sold more than 100 integrated bridge systems. The 100th IBS, a Synapsis Bridge Control system, will be installed in a newbuild heavy lift ship for Dutch company Jumbo Shipping. It was sold to the Brodosplit yard in Croatia by Raytheon Anschütz Croatian representative Crocon. The Raytheon Anschütz Synapsis series complies with the latest IMO performance standards for integrated navigation systems.

WAVE RADARS

DIRECTIONAL WAVE AND CURRENT MONITORING

SM-050 WAVE AND CURRENT RADAR
Microwave Doppler Radar of High Accuracy.

WAVEX
Wave and Current Extractor for Marine Radars. Type approved by DNV.

DIRECTIONAL WAVE AND CURRENT RADARS ARE WELL SUITED FOR:
- Offshore structures and vessels.
- Catamarans and high speed vessels.
- Naval and merchant vessels.
- Research and service vessels.
- Shore installations for ports and coastal stations.

NON-DIRECTIONAL WAVE AND CURRENT RADARS ARE WELL SUITED FOR:
- Offshore structures and vessels.
- Catamarans and high speed vessels.
- Naval and merchant vessels.
- Research and service vessels.
- Shore installations for ports and coastal stations.

OIL SPILL DETECTION

OIL SPILL DETECTION BY MARINE X-BAND RADARS, A NEW SYSTEM BASED ON PROCESSING OF DIGITIZED RADAR IMAGES

MAIN FEATURES:
- Early detection of oil spills.
- Enables 24 hours a day skimmer operations.
- Prediction of oil spill drift.
- Flexible user interface.
- Add-on to the WAVEX system, providing additional sea state information.

AREAS OF USE:
- Stand-by and oil recovery vessels participating in oil spill clean up operations.
- Coast guard vessels for oil spill monitoring.
- Oil rigs, FPSOs and tankers for oil spill monitoring.
- Oil terminals and refineries for oil spill monitoring in the terminal area.

Developed in cooperation with NOFO – Norwegian Clean Seas Association for Operating Companies

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Oil Spill Detection by Marine X-Band Radars, a New System Based on Processing of Digitized Radar Images

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