

SeaEngine - Engine Performance Monitoring



Monitoring specific engine values makes it possible to keep the engine in a better running condition, thus avoiding costly repairs and down-time.

SeaEngine provides measures for engine performance evaluation of key parameters:

- Engine condition
- Fuel oil consumption
- Lubrication oil consumption

The system provides functionality to capture and analyze engine performance in order to optimize the fuel oil consumption, improve the overall performance and component TBO.

Onboard data reporting

A Windows application, 'SeaEngine', will be installed on the vessel, by which the vessel should perform regular reporting, normally every 2 weeks, weather permitting.

A vessel-specific engine model is used both onboard and ashore for analyzing the results. The engine model includes the main characteristics of the engine and turbo charger specification in addition to shop test or sea trial benchmark values.

Main features

In general, the system consists of an onboard data reporting tool and a shore-based web-enabled database with reporting facilities.

Onboard Windows tool application for reporting the data related to engine performance test, i.e. engine power, fuel consumption, cylinder parameters, etc.

Following graphs are available onboard:

- Benchmark graph showing main parameters against benchmark values from shop test or sea trial
- Specific fuel oil consumption trend for measured and ISO-corrected values
- Maximum cylinder pressure trend
- Turbo Charger total efficiency trend
- Specific lubrication oil consumption trend

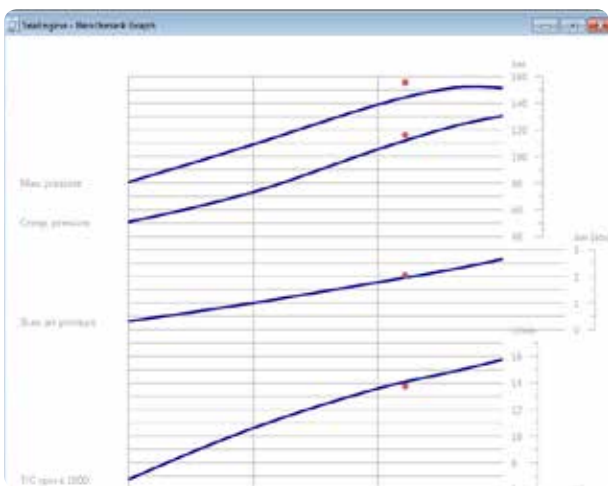
Transfer of data to shore-based database by e-mail.

Easy access to the web-based report facility with all stored performance data (password protected).

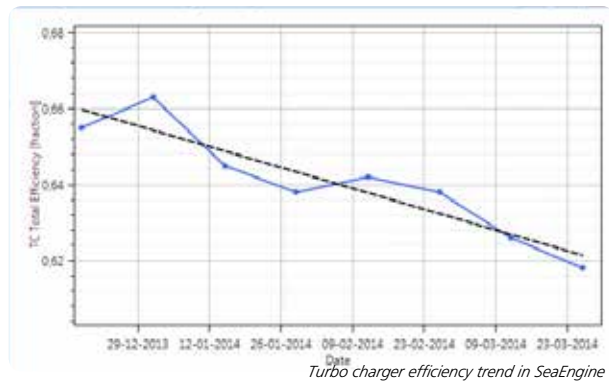
Quarterly evaluation made by engine specialist provided in PDF format.

The quarterly evaluation report contains trend analysis of main engine parameters and evaluation of what could be the reason for deviating values. It also contains comparison to the sister vessels, if any such are included in the service.

Beyond the SeaEngine built-in user assistance, additional technical assistance, trouble shooting and guidance is available from FORCE Technology.



Benchmark graph allows the user to compare the actual condition to reference values



System availability

The system is provided as a service to the customer at an annual fee per vessel.

The system features are constantly improved, for instance by adding new analysis reports. The new features are made available to the customers on a regular basis at no cost as they are considered an integral part of the service.

Setting up the SeaEngine system includes the following four steps:

- The customer forwards ship details to FORCE Technology
- FORCE Technology creates engine models and configures systems
- FORCE sends CD's with ship's reporting system to customer and grants customer access to the web-based shore application (www.Seatrend.dk)
- The ship's crew installs reporting system and commences reporting using the "send" functionality



Source: Leutert

Behind SeaEngine

SeaEngine has been developed by FORCE Technology.

We offer marine engine consultancy, services and products based on more than 50 years of experience.

The SeaEngine system is part of the SeaSuite product family with focus on SEEMP, fuel efficiency. The other products are SeaPlanner for onboard voyage planning, SeaTrend for hull & propeller performance monitoring and SeaTrim for determination of optimum trim.

Generation 2: Integrated data

SeaEngine is part of the SeaSuite onboard ship performance package from FORCE Technology. The modules in this package are offered both as stand-alone and in combination, thereby utilizing the data collected in the different modules.

For further information, please contact:
dkhydrodynamics@forcetechnology.com

Subject to change without notice

FORCE Technology • Division for Maritime Industry • Hjortekaersvej 99 • DK-2800 Kgs. Lyngby • Tel. +45 43 25 07 00 • dmi@force.dk • forcetechnology.com