

Voyage optimisation- collectively!

Fuel optimisation is a much talked about topic these days, but not many practical steps have been taken to incorporate it feasibly.

Full voyage optimisation can include -speed, weather, market conditions, virtual arrival, hull, trim and cargo heating.

Blue Water's small step forward in optimising fuel oil consumption in cargo heating has made a large impact in terms of fuel oil savings realised, the Mumbai-based company said.

Pioneering research & development of the cargo heating management system, Blue Water has been able to reduce fuel oil consumption and the corresponding emissions in cargo heating operations by more than 30% through simulation, planning & monitoring.

As of today, the company provides this service to a large number of tanker owners, operators, traders and oil majors. The annual fuel savings achieved by Blue Water for various tanker owners has shown an impressive increase from 17,440.3 tonnes to 32,536.4 tonnes.

Blue Water's continuous efforts and value added services has seen the company achieve 'Highly Commended' recognition at Lloyd's Middle East and Indian Subcontinent Awards 2014 (Dubai) in the Offshore and Energy category. Blue Water has also recently won Lloyds' List North American Maritime awards 2015 in the Technical Innovation category.

Inspired by the success of its cargo heating management solution, Blue Water has embarked on yet another fuel saving initiative - BOSS (Blue Water Optimum Speed Solutions).

With the lack of real interaction between vessel owners and charters, the potential savings through speed reduction often go unrealised. Blue Water saw an opportunity and endeavoured to bridge the gap through BOSS.

It is an intelligent speed simulation tool, which analyses the data of completed voyages using enhanced data mining techniques adapted to marine hydrodynamics.

BOSS simulates a voyage schedule based on the expected weather and market conditions. This allows the user to compare the voyage plan using various scenarios, such as

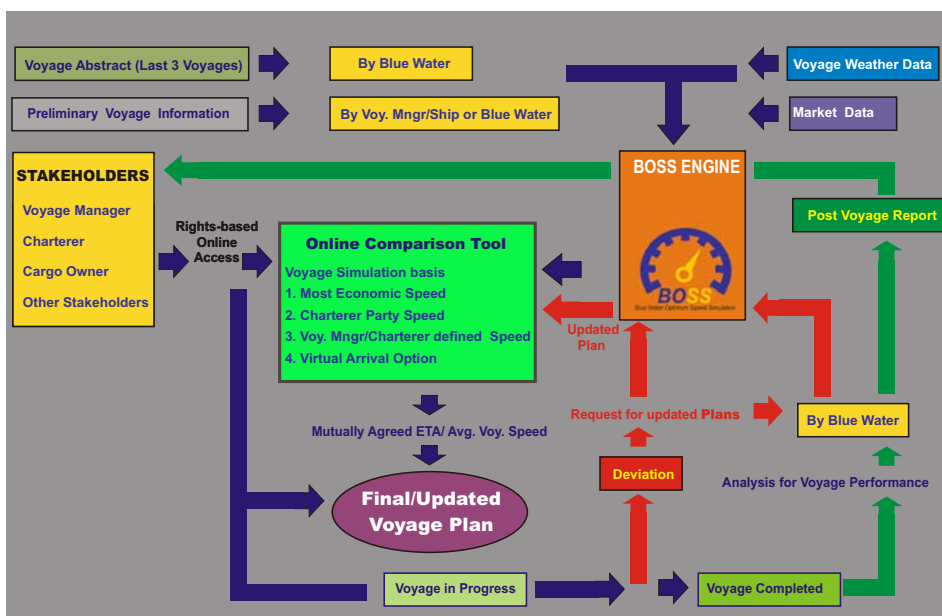
economic speed, charterparty speed, variable ETA, variable speed, /rev/min, etc.

Based on these comparisons, the parties involved can decide on a particular voyage schedule, which can potentially reduce fuel oil consumption and corresponding emissions by 15%.

At first glance, BOSS may be confused with

some voyage optimisation solutions already on the market. However, Blue Water explained that this system is unique and innovative in the following ways:

- 1) Online access to the system by shipowner, charterer, cargo owner, terminal and other stakeholders, secured through personal login credentials.



| Input | Software |
|--|-------------------------------|
| - Cargo Quality and Quantity | - E-Therm - Voyage Simulation |
| - Loading, Carriage and Discharge Temperature | |
| - Air and Sea Temperature | - Fossil - Fuel Estimation |
| - Weather Conditions | |
| - Type of Vessel and Tank Capacity/Arrangement | |
| - Boiler Operation, Performance and Efficiency | |
| - Fuel Oil Characteristics | - Heatbank - Operations Desk |
| - Statistical Vessel/Cargo/Voyage data | |
| Output | |
| - Cargo Heating Plan - Daily Fuel Consumption and Cargo Temperature Projections | |
| - Cargo Heating Operation Schedule | |
| - Alerts and Troubleshooting | |
| - Fuel Oil Consumption Apportionment (Owners and Charterers Account) - Cargo Heating Log | |
| - Cargo Heating Performance Indicator (CHPI) - An unique indicator for measuring performance | |
| - Post Voyage Analysis, monthly, Quarterly and Annual Reporting of all Cargo Heating Voyages | |

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- 2) 24 hour real-time data update basis changes in weather and market variables (freightage, demurrage, bunker prices, etc).
- 3) Add-on service like trim optimisation, virtual arrival, voyage performance audits.
- 4) Continuous monitoring, observation and recommendation by BOSS voyage analysts.

This service does not require any radical change in the technology or any investment and does not interfere with structural system fitted on board. It is a practical process that aims at operational optimisation and assists in decision making.

At the end of the voyage, the BOSS service also includes post voyage analysis providing complete documentation of actual fuel oil saved.

The BOSS team consists of experienced mariners (ex-Master's and Chief Engineers), weather analysts, marine commercial and financial specialists, data mining and software professionals, etc.

Being a full-fledged maritime service provider, Blue Water said that the company strongly believed in promoting its efforts toward a more 'greener' planet by highlighting a pollution free marine environment as one of its major goals.

"We take it as our responsibility to ensure that all our efforts are constantly focused on contributing towards reducing harmful emissions, fossil fuel consumption and any other forms of marine pollution," the company said.

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Book review

Navigating the Great Barrier Reef and Torres Strait

There has been much talk of safe navigation in the inside passages of the Great Barrier Reef, following a few high profile groundings.

As a result, Witherby Publishing has produced a comprehensive two volume Passage Planning Guide to be used while navigating in and around these areas off the Australian coast.

The Great Barrier Reef contains around 3,000 individual reefs, 900 islands and is more than 1,600 miles long. Only about 50% of the reefs have been properly surveyed, due to their almost inaccessibility.

The IMO declared the Great Barrier Reef a 'Particularly Sensitive Sea Area' in 1990, followed by the Torres Strait in 2005.

A 'regulated' vessel is only allowed to transit extensive areas of the reef passage and the Torres Strait with an Australian Maritime Safety Authority (AMSA) licensed pilot on board. 'Regulated' applies to all vessels of 70 m in length or over and all laden oil, chemical and gas carriers.

Along this vast coastline are several ports capable of handling large vessels, especially to the south of Cairns and the inside passage is well used by tanker traffic.

Both volumes are well illustrated with maps and pictures of landmarks, which are referenced to the maps. The different routes are explained in detail for both the Great Barrier Reef and the Torres Strait.

At £175, this guide does not seem expensive for the amount of information contained to help bridge teams navigate what are among the most hazardous channels in the world.

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