About GreenSHIP

GreenSHIP is the brainchild of Dr. Elangovan Muniyandy, M.E, Dr.Eng, who holds a doctorate in Naval Architecture from Japan. He along with a group of technical expert from different domain (CFD, Modelling, Database, seakeeping, ship operations and software) came together with a single minded devotion to work collectively to indigenously develop Ship Design and operation technology which has hitherto been the sole prerogative of many European and overseas companies.

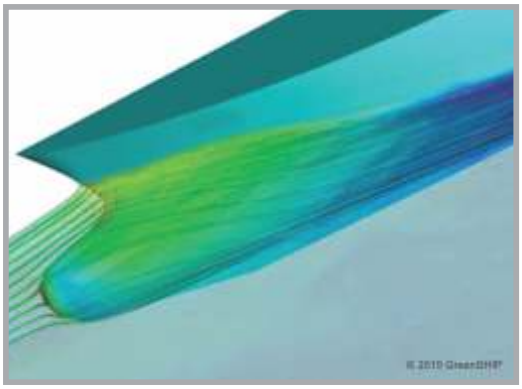
GreenSHIP objective is to develop technology that takes care of all aspects of ship design and operations. The company is also sensitive to the existing environmental concerns and wishes to do its bit by implementing designs and safe practices that are eco-friendly.

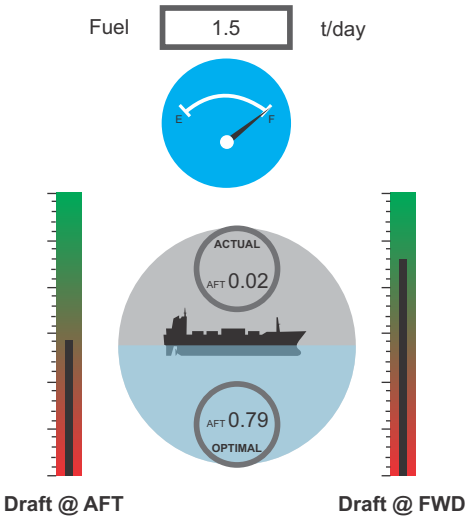
TRIM CURVE SERVICE

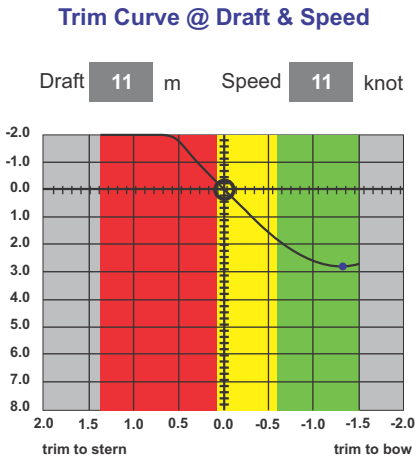
Trim Optimization Tool

The efficiency of any shipping vessel can be judged based on its adaptability to the changing environmental conditions and its inherent ability to fine-tune its performance accordingly. Most shipping companies are constantly on the look-out for effective and proven methods of reducing the expensive fuel consumption. Trim Optimization is the most efficient & guaranteed way of reducing fuel consumption by increasing propulsion energy efficiency.

Based on the loading conditions, the GreenShip software calculates the optimum trim value for varying speed ranges. This software helps Captain to identify the optimum trim for a particular draft and speed.







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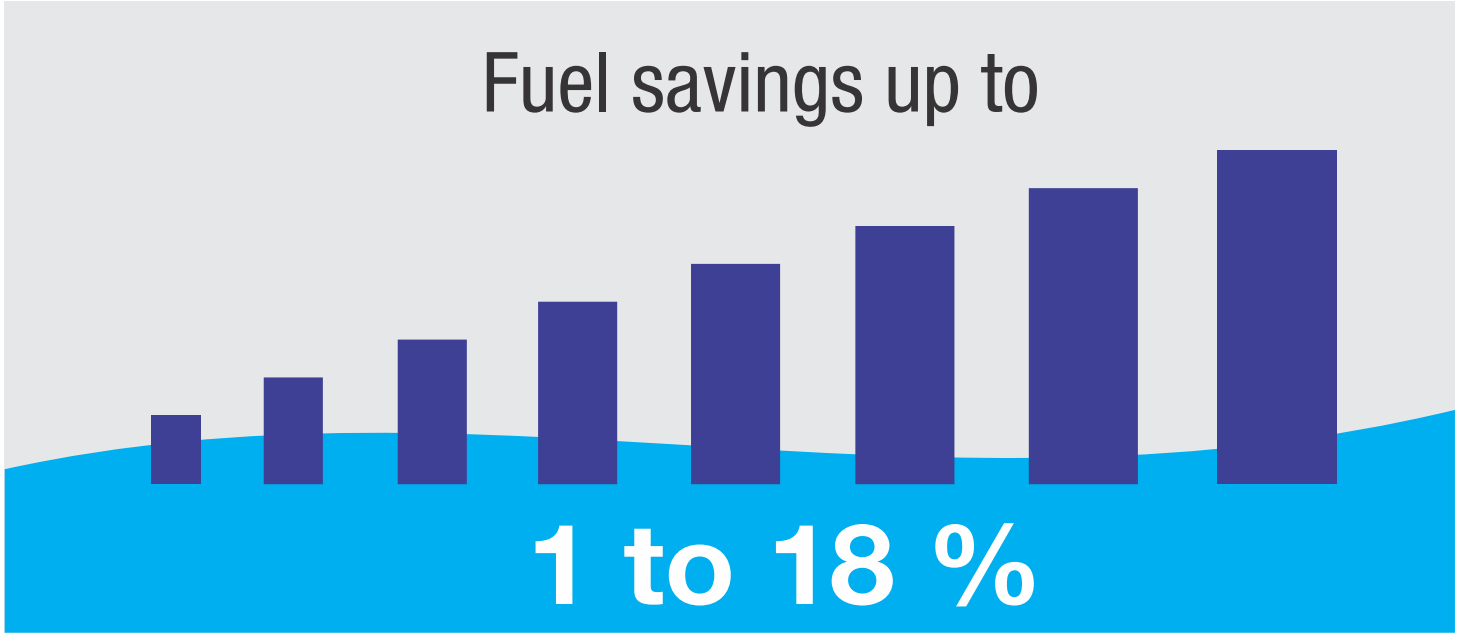
Trim Curve Generation Using CFD

To estimate the optimum trim in “Trim Optimization” software, trim curve needs to be developed for the vessel's operational profile (Draft, Speed and Trim) using CFD. Operational profile is discussed with customer to identify the range of vessel speed, draft and trim, which helps to estimate the required trim points. Though commercial CFD tool is issued for calculation, trim curve generation tool is developed by GreenShip to send the data to cloud and calculate the power required from the available resistance.

Considering need of number of trim points, cloud technology is developed to carry out CFD calculations which help to run the calculation in parallel. This reduces the duration to provide the trim curve data.



Ref: “Trim Curve Generation Using CFD for fuel saving” by Elangovan M., Jagadeesh S., and Jukka M., at Indian National Conference on Applied Mechanics (INCAM), IIT Delhi, 13-15 July 2015.

GreenSHIP Research and Technology
#204, SLR Residency, Gottigere,
BANGALORE – 560 083, India.

+91 80 4201 2748
admin@greenship.in

www.greenship.in