

# Landmark study on VLCC quantifying real fuel savings from Trim Optimization and hull fouling impact assessment

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The Eniram study, the longest and most comprehensive of its kind, confirms potential annual fuel savings of \$482,000 (730 tons) per tanker – PLUS a further \$277,000 (420 tons) gains enabled via monitoring of hull fouling resistance

Helsinki, Finland – May 23rd , 2012 – Eniram Limited, the fast-growing Finnish provider of real-time decision support solutions for the shipping and marine industry, has exposed the extent of tanker fuel inefficiency in an unprecedented study of the impact of dynamic trim optimization and monitoring of hull fouling resistance on propulsion energy efficiency.

Eniram's landmark study focusing on the efficiency of Propulsion Energy on a 320 000+ DWT VLCC is , the most comprehensive of its kind due to the volume of data collected over 450 days at sea from attitude sensors positioned across the vessel. These sensors, along with dynamic data retrieved from operational vessel management applications, delivered the data to help the vessel operator assess the impact of sailing at non-optimal trim in terms of propulsion power consumption and fuel use.

It revealed the scope for savings of 2.6% in annual fuel costs for the vessel - translating to \$482,000 (730 tons of fuel) annually - through dynamic trim optimization alone.

Equally of note were the findings relating to the impact of added resistance due to hull fouling. Data collected in the Eniram study found that the impact of fouling on the VLCC grew by 2.9% during the study period alone. The average impact on propulsion power consumption was 1.5%, translating to \$277,000 (420 tons of fuel) annually.

Highlighting the significance of these findings, Henrik Dahl, CTO at Eniram, noted, "While cruise operators can usually predict the rate of increase in fouling because their routes are very predictable, tankers don't have this luxury as they typically cover a wide range of ocean regions. As a result, it has been hard until now for tanker operators to quantify the effect of fouling and the related impact on fuel consumption."

Data gathered on board can monitor the impact of fuel efficiency due to changes in hull resistance as a result of fouling, so that remedial action can be taken.

"The findings from our study provide valuable insight into tankers' operating efficiency at a time of continued high bunker prices and a volatile global economy impacting margins," Henrik notes. "Fuel represents the largest operational cost to shipping companies."

The current study monitored the impact of dynamic trimming on propulsion power consumption on a 320 000+ DWT VLCC tanker vessel. Similar Eniram studies are also being performed on several other VLCCs globally as well as container and cruise vessels.

To download a full copy of the VLCC Propulsion Energy Efficiency Study report, please visit

<http://www.eniram.fi/VLCC-tanker-study-order>

#### About Eniram

Eniram provides the maritime industry with innovative decision support systems to reduce fuel consumption and emissions as well as to support decision making with information analytics. Eniram solutions range from single onboard applications to comprehensive fleet analysis. Eniram has accumulated extensive knowledge from the shipbuilding industry, seafarers and software specialists. Eniram has created a product portfolio to truly assist the shipping industry by providing tools for the crew and naval operations to enhance vessel performance and operations. Eniram solutions enable the industry to deal with the challenge of getting the right information to the right place in real time. Based on Eniram's Vessel Management Platform, the company offers solutions in the areas of Performance improvement, Environmental savings and Information intelligence. [www.eniram.fi](http://www.eniram.fi)

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