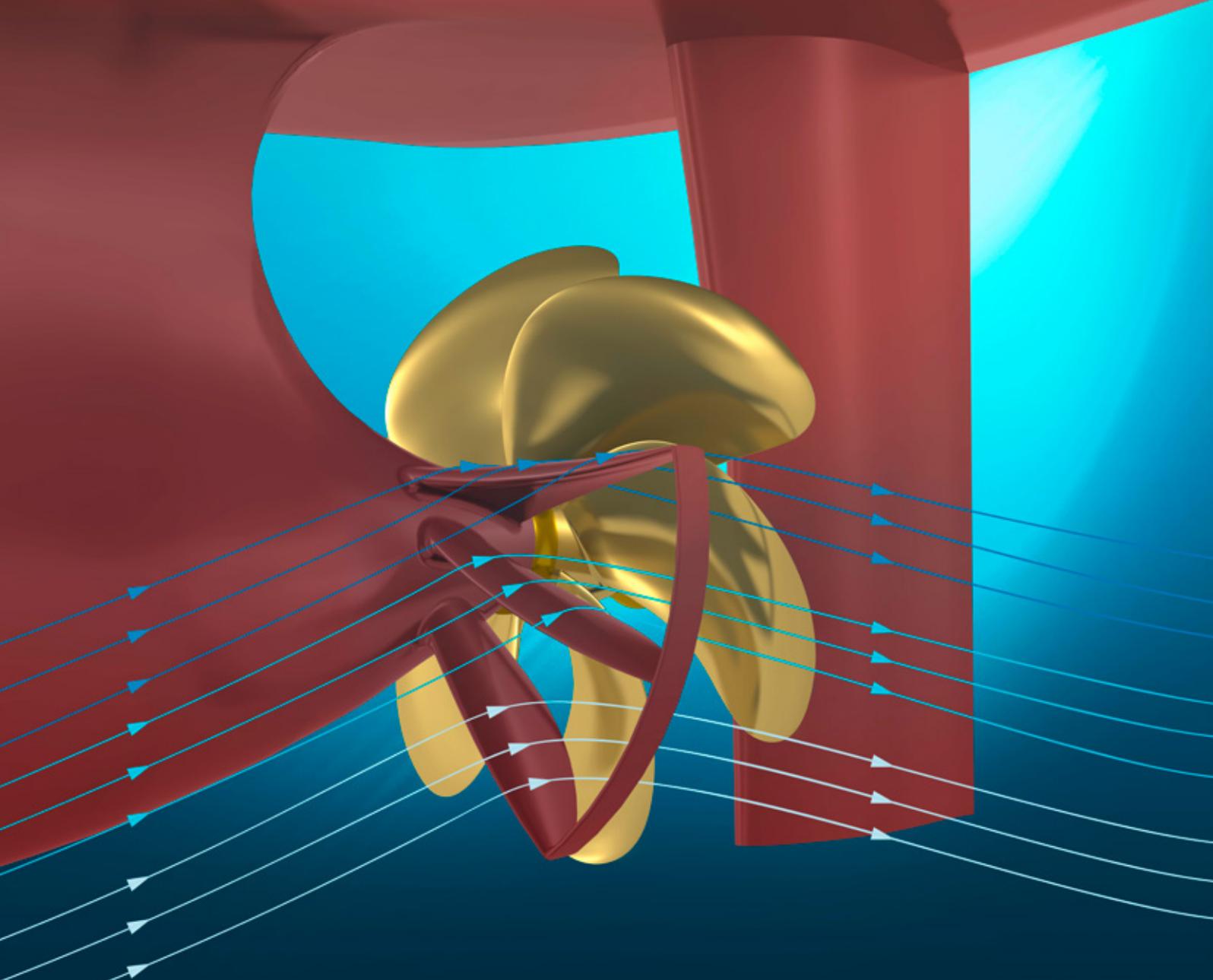




**WÄRTSILÄ
ENERGOFLOW –
INCREASE ENERGY
EFFICIENCY
AND REDUCE
EMISSIONS**



Vessel owners are facing the twin challenges of ensuring compliance with the IMO's Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Index (CII) measures while also needing to improve operational efficiency in order to remain competitive. Wärtsilä EnergoFlow is an innovative pre-swirl stator that improves a vessel's propulsive efficiency by creating an optimal inflow for the propeller, reducing both fuel consumption and emissions.

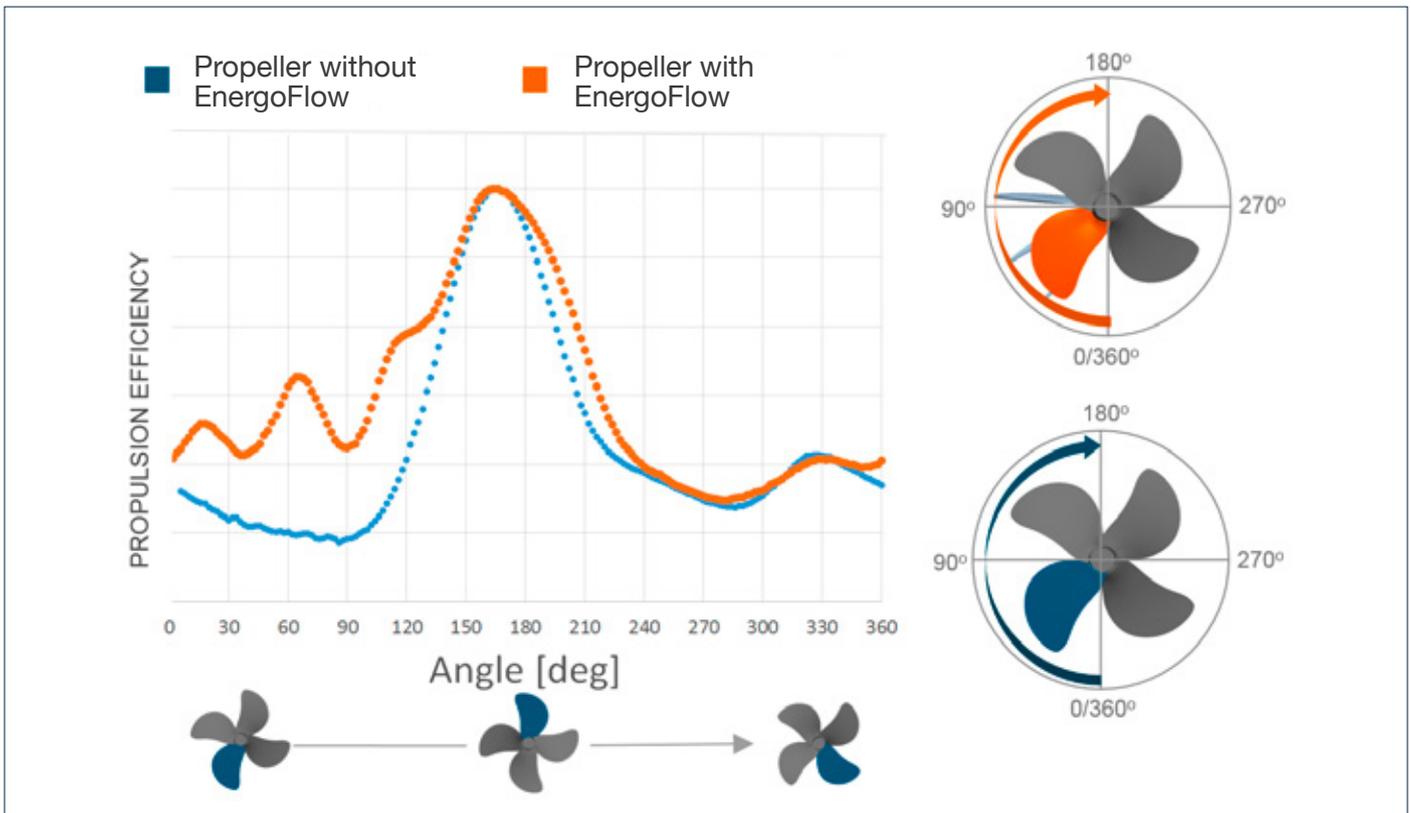
**Improve fuel efficiency
by up to 10%**

The Wärtsilä EnergoFlow creates optimal inflow for the propeller by guiding one side of the stern flow in the opposite direction to the propeller's direction of rotation, generating pre-swirl. The solution consists of multiple curved fins interconnected by a ring and attached

to the ship's hull to prevent the power losses that typically occur in a propeller's slipstream. The fins enhance the propeller's efficiency while keeping resistance at acceptable levels and the ring reduces the tip vortex while also levelling out the peak stresses that occur in severe loading conditions such as slamming.

KEY BENEFITS

- Improve fuel efficiency by up to 10% in combination with a new propeller design and Wärtsilä EnergoProFin
- Reduce NOx and CO2 emissions
- Take steps towards EEXI compliance through minimum speed reduction
- Improve vessel CII rating
- Fast return on investment of one to two years



Bulk carriers can achieve the highest fuel savings, in the range of 2–6%, while faster vessels such as container ships should see a 3–6% improvement. When combined with a new propeller design and the Wärtsilä EnergoProFin, the solution can enable savings of up to 10%.

Wartsila EnergoFlow is suitable for vessels with both Fixed and Controllable Pitch Propellers. For vessels with a Fixed Pitch Propeller where a new propeller is not included in the scope of supply, a Trailing Edge Modification for the existing propeller is included to maintain the pre-retrofit Light Running Margin (LRM). This modification includes hydrodynamic design as well as the execution of the propeller modification by experienced Wärtsilä service engineers. For vessels with a Controllable Pitch Propeller this is not needed.

Design and installation

Wärtsilä EnergoFlow is manufactured to withstand sporadic extreme slamming loads and long-term fatigue loads. The design methodology makes it possible to integrate stator fins in the hull structure in a class-approved way for both newbuilds and retrofits.

Scope of supply

- System design, supply and class certification
- Trailing Edge Modification (for fixed pitch propellers)
- Installation drawings and instructions
- Design interface with the shipyard or ship designer
- Supervision by Wärtsilä technicians during installation
- New, optimised propeller (optional)
- Scale models of EnergoFlow and/or propeller for tank testing purposes (optional)

Why choose Wärtsilä?

Wärtsilä is a leading OEM supplier to the marine industry with a global service and support network. Wärtsilä supports its customers throughout the entire lifecycle of the supplied equipment, and we strive to maximise the useable life of our customers’ equipment investments.



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