

# Cadence Computational Fluid Dynamics: Lowering Fuel Consumption Through Robust Design Optimization (RDO) of Ship Propellers

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Even the smallest improvement in the design of the propellers can save ship operators millions of dollars across an entire fleet.. and make shipping a bit more sustainable.

Uncertainties embedded in operating conditions such as ship speed and rotational speed of the shaft, or uncertainties in the manufacturing process, which lead to geometrical variations in the propeller shape, can have a significant impact on the final performance of the propellers.

This case describes how Robust Design Optimization enables engineers to create designs that are less sensitive to these uncertainties, resulting in greener shipping and reduced fuel cost.

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