

PRESS RELEASE



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Ricardo to present innovative approach to marine propulsion design at ISME, Tokyo

At the International Symposium on Marine Engine (ISME) to be hosted in Tokyo on 15-19 October, Ricardo will demonstrate how simulation and optimization technologies originally developed in the automotive sector can be used extremely effectively in the design of future low cost, low emission marine propulsion systems

The paper to be presented by Ricardo sets out the results of a study carried out by the company's marine propulsion experts, in which some of Ricardo's state-of-the-art computer aided engineering software was used to evaluate the environmental and commercial performance of different marine propulsion system architectures under a range of different usage scenarios.

The work focused on the requirements of a typical harbour tugboat operating in a medium-sized European port. The general characteristics of the vessel were assumed as a length of 35 m, beam of 14 m, and draft of 5 m, and providing a bollard pull of some 50 tons. Two alternative propulsion system configurations were considered for this vessel: a high efficiency conventional mechanical architecture, comprising two diesel engines powering respectively a port and starboard propeller by direct drive via a gearbox; and a hybrid electrical propulsion system based on two natural gas engine generator sets providing power to battery banks, with separate electric motors driving each propeller.

"The study demonstrates the value of applying CAE simulation tools at the very earliest stages of vessel design or of repowering," commented Ricardo director of industrial engines Simon Brewster. "By assessing the likely usage profile, these tools



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can enable the early assessment of detailed considerations of environmental performance, capital and operational expenditure requirements and likely return on investment. Later in the process, the same tools can be an invaluable aid in optimizing the design of the chosen propulsion system configuration.”

Ricardo’s presence at ISME follows the announcement in June that the company was to be a founding member of the Global Industry Alliance (GIA) of the International Maritime Organization (IMO). The GIA is a unique initiative which aims to identify and develop innovative solutions to promote the uptake of energy efficiency technologies and operational measures in marine industry, addressing common barriers to this; publicize advances in technology development and positive initiatives by the industry champions; initiate a global industry dialogue, and implement capacity building and information exchange activities. Together, the partners in the GIA will work together with IMO and other organizations to create opportunities that positively influence industry practices to bring about business and environmental benefits, while taking advantage of private sector strengths including R&D knowledge and practical experience. In doing so, they aim to overcome key barriers to transitioning shipping towards a low carbon maritime future, focusing on a number of priority areas including energy efficiency technologies and operational best practices, and alternative fuels and energy carriers.

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NOTES TO EDITORS:

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