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Accelleron and HD HMS part-load optimization driving fuel savings on Hapag-Lloyd container vessels

- Container line records 5% lower fuel use on two optimized vessels
- Engine tunings and turbochargers tailored to current engine speeds
- Shipowner plans Engine Part-Load Optimization for eight more vessels

Baden, Switzerland. March 19, 2026. Accelleron and HD HMS (“HD Hyundai Marine Solution”) have conducted Engine Part Load Optimization (EPLo) projects on two vessels owned by leading container line Hapag-Lloyd. The 14,000 TEU *Basle Express* and *Essen Express* had main engine tunings and turbocharger components modified for lower engine loads, with sea trials and subsequent operations showing fuel savings of more than 10g/kWh—equivalent to 5% of overall consumption in specific load ranges.

Accelleron and HMS’s EPLo product ensures that vessels operating at engine speeds lower than their original design, for example to comply with energy efficiency regulations as well as to reduce carbon cost exposure, run as efficiently as possible. The two Hapag-Lloyd vessels had recently been retrofitted with hull and propeller enhancements to achieve required speed using significantly less power. With EPLo and turbocharger cut-outs, the vessels can still deliver required propulsion power when needed, while adding further fuel savings on top of those gained from their earlier retrofits.

The vessels were optimized in a highly efficient project, after previous technical evaluation, with commissioning completed just four weeks after the initial orders were placed. Following the positive results, Hapag-Lloyd will extend implementation for the remaining eight vessels in its Dortmund Express class fleet.

Hapag-Lloyd Director Fleet Innovation & Projects **Dr.Christoph Thiem** said: “Enhancing our vessels’ efficiency is a key pillar of our energy efficiency and decarbonization strategy. The measured fuel savings provide a clear competitive edge for our fleet, delivered within just four weeks after placing the order and realizing immediate benefits for our company.”

2/2 Customized upgrades, measurable benefits

Working with vessel lifecycle solutions provider HMS and Accelleron implemented a tailored EPLO solution that included turbocharger hardware optimization and main engine tuning to align with part-load operation. Fixed cut-out functionality was added to one turbocharger to further increase efficiency at part engine load.

EPLO improves engine efficiency at the most relevant power range for each vessel, optimizing turbocharger configuration and engine parameters to match today's slower operational profiles. As pressure to improve vessel competitiveness grows—and as regulatory frameworks such as FuelEU Maritime and the EU Emissions Trading System increasingly incentivize emissions reductions—EPLO has become an established upgrade solution for vessels operating at part engine loads.

Accelleron Senior Engine Expert **Thomas Häni** said: “This remarkable engine performance improvement, measured under real operating conditions, confirms the technical robustness of EPLO upgrades for vessel operating at part-load conditions. Working with Hapag-Lloyd and HMS, this project establishes a scalable retrofit approach that supports both operational efficiency and regulatory compliance across the container shipping fleet.”

San Min, Senior Vice President of Green & Digital Sales at HD HMS, added: “This EPLO solution is an innovative milestone that simultaneously achieves permanent engine performance improvement and immediate compliance with IMO regulations. To date, HMS and Accelleron have jointly secured EPLO solution contracts for more than 100 vessels with a wide range of shipowners worldwide. In particular, the recently retrofitted Hapag-Lloyd vessels demonstrated that, by completing the project in such a short timeframe, we were able to deliver a rapid Return on Investment (ROI), which was the key factor in driving high levels of client satisfaction.”

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Media resources

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For more information please contact:

Media Relations

Sandro Hofer

Phone: +41 79 644 76 55

Email: media@accelleron-industries.com

Accelleron Switzerland Ltd

Bruggerstrasse 71A

5400 Baden

Schweiz

<https://accelleron.com>