Engineering support bolsters innovative shipping technology

Silverstream Technologies' system cuts emissions and fuel costs

SILVERSTREAM TECHNOLOGIES

Silverstream Technologies has been at the forefront of innovation in shipping decarbonisation for over a decade and has developed a proven solution to improve efficiency and cut emissions. The company's mission now is to reduce global emissions by becoming a long-term innovation partner for shipping companies who want to create a more sustainable and profitable future.

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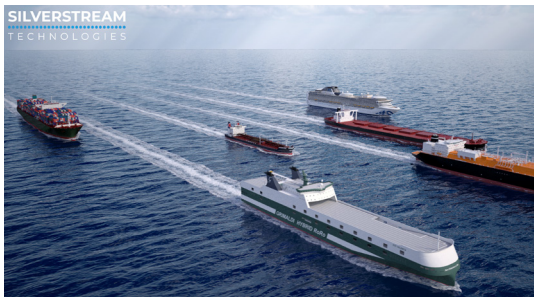


Silverstream works with the world's leading owners and yards

The challenge The biggest energy cost to a vessel's operation comes from the frictional resistance between the ship's hull and the water. Reducing this frictional resistance is therefore essential to improving operational efficiency, reducing the power required to achieve any given speed, and as such is fuel agnostic. Silverstream Technologies' air lubrication system creates a carpet of bubbles that coats the full flat bottom of a vessel, decreasing frictional resistance and dramatically reducing fuel consumption and associated emissions by 5–10% net, depending on a vessel's characteristics.

The safeguarding of the system relies upon, amongst other design features, measuring instrumentation from Endress+Hauser to guard against ingress of water in a start/stop sequence when operating the ship-side valve, and against a scenario of imbalance between the compressor compartment and atmospheric pressures.

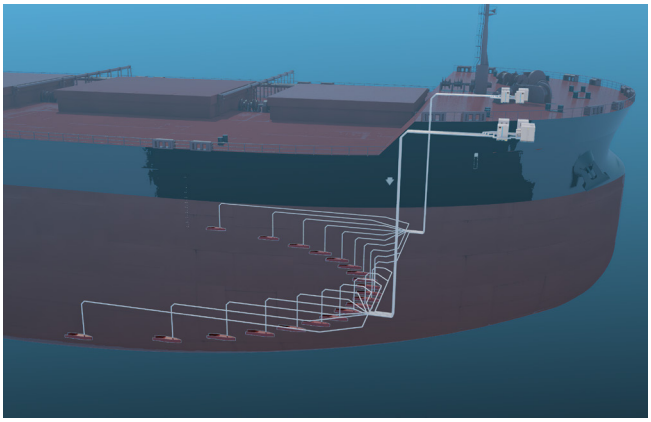
The solution Liquiphant FTL51 (for Atex applications) and FTL31 (for non-Atex applications) level sensors are used in Silverstream's piping system to detect if water has passed through the one-way valve designed to prevent water ingress. If water is detected, the overboard valves close to protect the compressors.

Pressure measurement is used within the vessel in the compressor room. If the Deltabar PMD75 differential pressure transmitters detect any substantial loss in pressure, the compressors will automatically shut down as a safety precaution. Endress+Hauser's RMA42 process transmitter relays the measured values directly into Silverstream's control system.

The benefits Silverstream was able to benefit from Endress+Hauser's expertise right from the start of the project. "They helped to mould what they can provide into the perfect solution for Silverstream," says Henry Liew, Operational Supply Chain Lead for Silverstream Technologies. "It's the service we get from Endress+Hauser that puts them far above anyone else we've contacted about sensors. They

were responsive and willing to help us out with a solution rather than just selling devices." Endress+Hauser's experts were also able to help with the logistics of supplying instrumentation to shipyards around the world. "They understood the whole supply chain and the problems we might face," says Henry Liew.

Silverstream plans to have 500 air lubrication systems in service by 2025 and is working on creating other clean technologies. "We're developing new technologies all the time, and if there are any similar needs for sensors, Endress+Hauser will be our first port of call," confirms Henry Liew. "If our product development team have any queries, they can feel confident in going to Endress+Hauser and getting the support they need."



Rendering of the Silverstream® System

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