

# PRESS RELEASE

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## Flying the Flag of Decarbonization to Gain a Competitive Advantage

**09/29/2022** ---- Our maritime industry is facing an immense challenge to decarbonize international shipping, and the Liberian Registry has in recent years actively participated in innovative ship design joint industry projects (JIPs) with focus on innovative design features, new technologies and alternative fuels. Over the last 3 years we have participated in over 30 JIPs and we expect this to further increase.

The nature of these JIPs are groundbreaking and varied from testing and verification of 2nd generation bio-fuels, hydrogen and ammonia fueled vessels, 40k m<sup>3</sup> CO<sub>2</sub> Carrier design, 40k m<sup>3</sup> LNG FSRU, Liquid Hydrogen Carrier and to new materials for gas cargo and gas fuel tanks as well as verifying the effectiveness of underwater hull air lubrication system and other innovative technologies and design solutions.

Our latest groundbreaking JIPs was with LR Shipdesign AG, Movena Group and ClassNK. The focus was on assessing the performance improvements of LR Shipdesign's innovative aft ship hull form that in principle can be applied to all ship types and sizes and can contribute with significant performance improvements leading to reduced fuel consumption and GHG emissions.

In the specific project the Liberian Registry attended several model tests at HSV A in Hamburg, Germany, to witness, assess and validate the performance improvement for an already optimized 76k bulk carrier design. The aft ship hull form was modified to reflect the innovative

LR Shipdesign aft ship hull form together with optimized propeller and rudder. The conclusion for the HSV A model testing was that, at the vessel's service speed, the innovative aft ship hull form demonstrated a 6.7% efficiency improvement in addition to 3 rpm less for the main engine than the original design with same service speed. The 3 rpm less is approximately a further 3% efficiency improvement, i.e., in total an estimated 9.7% efficient improvement. This innovative aft ship hull form will significantly improve the EEDI and CII performance.



Photo from the Approval in Principle granting ceremony during SMM in Hamburg, Germany, September 8, 2022. From right to left: Mr. Roland Lindinger (CEO of LR Shipdesign AG), Dr. Volkmar Wasmansdorff (MD/Exec. Partner of Movena GmbH) and Thomas Klenum (Executive Vice President, LISCR).

This and all the other JIPs we have participated in provides the Liberian Registry with an invaluable insight into a large range of feasible solutions to support decarbonization of international shipping. The uniqueness of our insight is that it focuses on optimization and decarbonization through all three main elements, namely alternative fuels, innovative design features and new technologies.

To comply with the new EEXI (Efficiency Existing Ship Index) and CII requirements that will enter into force November this year and effective from 1 January 2023, many shipowners may opt for the easiest solution to install an engine power limitation (EPL) or shaft power limitation (ShaPoLi).

In some cases this may be the best solution, but in most cases it will most likely not be the optimum solution as the vessel hull form is optimized for a specific service speed and equally important, the main engine also optimized for a specific rpm, e.g., 85% MCR. Therefore, while EPL/ShaPoLi may help to demonstrate compliance with EEXI and CII, then the vessel's overall efficiency may actually be reduced.

Additionally, the fact that applying the EPL/ShaPoLi solution will inevitably slow down the global fleet, which inadvertently will create a demand for more vessels on the water to transport the same amount of cargo. Therefore, increased GHG emissions from additional ship new constructions and increased world fleet that in turn will increase port congestions with longer port wait times, etc. The overall conclusion could potentially be that applying the EPL/ShaPoLi solution will ultimately result in higher GHG emissions and less efficient vessels.

Liberian Registry is a flag Administration and not ship designer, however as mentioned earlier our participation in ship design JIPs together with ship designers, shipyards, classification societies, engine manufacturers, innovative technology companies and shipowners provides us with invaluable insight into a large range of solutions to decarbonize international shipping, while at the same time enhance the vessels competitiveness and demonstrate compliance with the regulatory framework.

Alfonso Castellero, CEO of LISCR states: "Liberian Registry has proven that international collaboration between key quality stakeholders is the recipe for success to unlock the potential to decarbonize international shipping. Going forward, we are dedicated to elevate our JIP concept to new heights to further benefits of all our cooperation partners including shipowners/operators."

- The Liberian Registry has a long-established track record of combining the highest standards of safety for vessels and crews with the highest levels of responsive and innovative service to owners. Moreover, it has a well-deserved reputation for supporting international legislation designed to maintain and improve the safety and effectiveness of the shipping industry and protection of the marine environment. [www.liscr.com](http://www.liscr.com)

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