



SC Connector becomes Norway's largest sailing vessel

Preparations for the retrofit of rotor sails and a battery pack to the SC Connector are currently taking place with the installation scheduled for Q4 2020. With a total height of 56 metres it will be Norway's largest sailing vessel. In good wind conditions, the sailing hybrid vessel will maintain regular service speed by sail alone.

"By fitting rotor sails to SC Connector, we are utilising available renewable energy. The wind forces are used directly for propulsion, without the transformation losses associated with other energy carriers. As a sailing hybrid, we expect to reduce the fuel consumption and CO2 emissions by 25%."

Johan Christian Hvide, CTO, Seatrans

First in the world

Sea-Cargo has developed a new and unique technology that allows the sails to be raised and lowered whilst sailing. This tilt feature is designed for the extreme conditions in the North Sea, and allows the vessel to get under bridges, overhead powerlines and into port.

The rotor sail solution

The sails are 35 metres tall and 5 metres wide cylinders. The vessel's total air draft will be 56 metres, 8 meters taller than the Statsraad Lehmkuhl, which is currently Norway's tallest sailing ship. The solution is a modernised version of the Flettner rotor; a rotating cylinder that uses the Magnus effect to produce propulsion from wind. With the battery pack from Norwegian Electric Systems we can avoid the use of auxiliary engines, which means that we can be 100% emission free during sailing and at quay.

Innovative cooperation

The two cylinders are manufactured by Norsepower and will be fitted to the ro-ro vessel SC Connector, which sails in a liner system in the North Sea; an area with favourable wind conditions - ideal for use of the rotor sail technology.

"We are delighted to be working with Sea-Cargo, not only as they are keen to demonstrate their commitment to maximising the propulsive power of wind to reduce emissions, but also for their cooperation and innovation in making tilting rotor sails a realisation. Rotor sails are particularly well suited to ro-ro vessels and working with Sea-Cargo to deliver a tilting rotor sail ensures we are providing an adaptable solution which fits with particular vessel requirements, specifically demonstrating vessels with height restrictions to benefit from the rotor sail solution."

Tuomas Riski, CEO, Norsepower

Considerable environmental impact

With a growing international focus on reducing CO2 emissions and other gases/particles - the ability to harness wind to generate energy, reduce fuel consumption and emissions is a natural next step for the maritime transport industry.

The goal of this project has been to design more environmentally friendly vessels by combining several existing technologies. In this case, we reduce emissions by 25%, which equals more than 1 million liters of diesel fuel annually. In addition to lower emissions, the project is customised to a future smart grid and prepared for shore power. The project has received funds from Enova for its environmental profile.

Currently, Sea-Cargo has large long-term agreements with the Norwegian export industry; therein Hydro Aluminum, Boliden and others. This project will contribute to reduce their footprint and make both Norwegian short sea shipping and Norwegian industry more environmentally friendly, thereby strengthening their position internationally.

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