



Norsepower Receives €2.6M Funding To Develop The World's Largest Rotor Sail

Larger Flettner rotor will equate to significant annual fuel savings

Helsinki, Finland – 24 August 2016: [Norsepower Oy Ltd.](#), the leading provider of low maintenance, software operated, and data verified auxiliary wind propulsion systems, today announces that it has been selected to receive €2.6M in funding to further its research and development of the Norsepower Rotor Sail Solution technology. The new models of the technology will include the world's largest ever Flettner rotor.

Awarded by both the European Commission, and the Finnish Government's funding agency for Innovation, Tekes, the funding will be used by Norsepower to optimise its Rotor Sail Solution to deliver greater fuel savings and enhanced ROI. The new Rotor Sail models will be ideally suited for tankers, bulk carriers, large ro-pax, and full size passenger vessels where smaller Rotor Sails would be inefficient for achieving the most impressive fuel savings. The new models will be designed to be suitable for ships voyaging globally, including the Northern Hemisphere and Arctic regions that have not yet seen auxiliary wind propulsion despite having favourable wind conditions. The record-breaking Rotor Sail model is planned to be 30m in height and 5m in diameter, with a maximum main-engine equivalent power output of more than four megawatts (MW).

Funding from Tekes will also support the development and inclusion of multi-functional features within the system that may have otherwise not been possible, and will accelerate the new Rotor Sails' time to market. Additionally, the European Commission funding, which Norsepower has been selected to receive from the EU under its Horizon 2020 Framework Programme for Research and Innovation, will support manufacturing, assembling, land testing, fine tuning, and piloting of Norsepower's medium-size (24m in height x 4m in diameter) Rotor Sail model.

Commenting on the funding, Tuomas Riski, CEO, Norsepower said: "We are extremely grateful to Tekes and to the European Commission. Their decisions are a clear vote of confidence in Norsepower's ability to realise the commercial potential of our Rotor Sail Solution. We intend to use this recognition and the momentum we have now created to accelerate its development and create the world's largest Rotor Sail capable of bigger emissions reductions and better fuel savings."

The Norsepower Rotor Sail Solution, which can be installed on new vessels or retrofitted on existing ships without off-hire costs, is a modernised version of the Flettner rotor; a spinning cylinder that uses the Magnus effect to harness wind power to generate forward thrust. The solution is fully automated and senses whenever the wind is strong enough to deliver fuel savings, at which point the rotors start

automatically.

To date, independent data analysis indicates that up to 25% fuel savings per year can be achieved on routes with favourable wind flows, sufficient sized Rotor Sails, and appropriate service speed. The technology has proven commercial applicability, with two small units of Norsepower's Rotor Sails installed on board Bore's M/S Estraden, a 9,700DWT Ro-Ro carrier. Measured and independently verified by NAPA, the leading maritime data analysis, software and services provider, the Rotor Sail Solution delivered fuel consumption reductions of 6.1% for the Estraden.

Commenting on the technology, Jarkko Väinämö, CTO, Norsepower said: "Our Rotor Sails have the power to reinvent the existing market and make auxiliary wind propulsion a natural choice for merchant shipping. What is really exciting for us is the ability to leverage our existing knowledge and expertise to continue to offer an easy to use, hybrid propulsion solution that enables significant fuel savings and emissions reductions."

The Rotor Sails are typically delivered as part of a full-service solution that includes both delivery and maintenance of the hardware and software components. Each of Norsepower's Rotor Sails is made using lightweight composite sandwich materials, offering a simple, yet structurally sound, and hi-tech solution. In addition, Norsepower complies with the highest health and safety standards, making the Rotor Sail Solution robust enough for all weather conditions.

Please find a photo of the M/S Estraden, equipped with Norsepower's Rotor Sails [here](#).

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Notes for Editors

Norsepower will be exhibiting at this year's [SMM](#). Experts will be on hand to conduct a live demonstration of the Rotor Sail Solution in action using a scale model. If you're attending SMM2016, Norsepower invites you to visit their booth ([Hall A5, stand 301](#)).

The Norsepower Rotor Sail Solution is particularly suited to tankers, bulk carriers, ro-ro vessels and ferries.

About Norsepower

Norsepower Oy Ltd is a Finnish clean technology and engineering company pioneering the generation of renewable wind energy for the global maritime industry. **As the developer of the world's first** commercially viable renewable energy-powered vessel technology, Norsepower is the leading provider of low-maintenance, software operated, and data verified auxiliary wind propulsion systems.

For more information on the Norsepower Rotor Sail Solution, please visit www.norsepower.com

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