

PRESS RELEASE

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Norsepower's Rotor Sail Solution Wins Prestigious 'Innovation of the Year' Award

Judges describe world's first renewable energy-powered vessel technology as "unlike anything else and...truly innovative"

Helsinki, Finland – 23 June 2016: Norsepower Oy Ltd., the developer of the world's first commercially viable renewable energy-powered vessel technology, has announced that it has received the 'Innovation of the Year' accolade at the 2016 Electric & Hybrid Marine Awards' ceremony, which took place at Electric and Hybrid Marine World Expo in Amsterdam, Netherlands, today.

The Electric & Hybrid Marine Awards is in its third year and recognises and honours the world's finest manufacturers, suppliers, engineers, innovations, and products, in electric and hybrid marine propulsion.

The Norsepower Rotor Sail Solution is a modernised version of the Flettner rotor – a spinning cylinder that uses the Magnus effect to harness wind power to propel a ship. When the wind conditions are favourable, Norsepower Rotor Sails allow the main engines to be throttled back, saving fuel and reducing emissions while providing the power needed to maintain speed and voyage time. Norsepower's Rotor Sail Solution is fully automated and senses whenever the wind is strong enough to deliver fuel savings, at which point the rotors start automatically – minimising crew time and resource. It can be used with new vessels or can be retrofitted on existing ships without off-hire costs.

The technology is the first data-verified and commercially viable auxiliary wind propulsion solution for the global maritime industry. To date, independent data analysis indicates that up to 20% fuel savings per year can be achieved on windy routes, with sufficient sized Rotor Sails, and appropriate service speed. In commercial operation aboard the M/S Estraden, a 9,700DWT Ro-Ro carrier, two small units of Norsepower's Rotor Sails have reduced fuel consumption by 6.1%. This saving has been measured and independently verified by NAPA, the leading maritime data analysis, software and services provider.

Commenting on the technology, the judges said:

"The rotor sail solution is unlike anything else and, as such, truly innovative. A very simple solution based on an older idea, it has the potential to deliver benefits in many applications" –Simon Enticknap, editor, Marine Business

"Reducing OPEX and emissions is one of the key factors for success in today's shipping. Using wind energy as a renewable source to generate electricity is a simple yet courageous and

promising approach to protecting the environment and cutting costs for ship owners" – Krischan Förster, chief editor, Hansa International Maritime Journal added

Commenting on the award win, Tuomas Riski, CEO, Norsepower said:

"We are extremely proud and honoured to have won this prestigious award. We strongly believe that the ability to harness the wind as an additional power source and enable a reduction in fuel consumption is the next natural step for the shipping industry. Our technology is paving the way for returning shipping to sail power as it looks to play its role in transforming to the low carbon economy."

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, with the Rotor Sail Solution certified to remain robust in all weather conditions. The Rotor Sail is typically delivered as part of a full-service solution that includes both delivery and maintenance of the hardware and software components.

Przemek Myszka, editor-in-chief, Baltic Press and Harbours Review concluded:

"Norsepower is making true the dream of harnessing the power of wind for the benefit of the shipping industry as well as the environment".

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Notes for Editors

- *Additional judges' comments:*
 - "A breakthrough innovation demonstrating that wind power is a practical and accessible technology for powering commercial vessels of all types" – Jack O'Connell, senior editor, The Maritime Executive
 - "This rotor sail is an unusual combination, harnessing wind power onboard commercial vessels. I like the thinking here, and the reduced fuel consumption results on the Estraden ship are impressive" – Doug Kelly, editor, Marine Technology, The Society of Naval Architects and Marine Engineer
 - "A 6% reduction in fuel consumption aboard the ro-ro Estraden shows that Norsepower's innovation will likely take hold and spread to other maritime sectors. A five-hour retrofit makes the rotor sail even more appealing for operators" – Rich Miller, managing editor, Professional Mariner and American Ship Review
- *Previous award wins / achievements:*
 - 'Most Promising Energy Startups in Europe' – Energy Week 2015 and 2016
 - 'Best Presentation Award' – Nordic Venture Forum 2014
 - 'Energy Efficiency Solution Award' – Ship Efficiency Awards 2015
 - Commended – Rushlight Awards 2015/2016
 - Top 25 Nordic Cleantech Open

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 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

Media Enquiries

Kwilole Chisuse-van der Boom

BLUE Communications

T: +44 (0) 7885 463 927

E: kwilole@blue-comms.com