Interreg North Sea Region WASP
European Regional Development Fund
EUROPEAN UNION

Project Duration
18 June 2019 - 15 Jan 2023

Total Budget: **€5,393,222**
EU funding: **€2,251,612**

https://northsearegion.eu/wasp

WASP News

Putting the Sail Back into Sailing

July - 2021

The WASP (Wind Assisted Ship Propulsion) project

Funded by the Interreg North Sea Europe programme, part of the European Regional Development Fund (ERDF) it brings together universities, wind-assist technology providers with ship owners to: research, trial and validate the operational performance of a selection of wind propulsion solutions on five vessels, thus enabling wind propulsion technology market penetration and contributing to a greener North Sea transport system through harvesting the regions abundant wind potential.

Rord Braren Installation

In late April, Rörd Braren became the fourth partner to install their chosen wind-assist system on board their MS Annika Braren, a newly built 86-meter-long. 5,035 dwt multi-purpose freighter, part of the Rörd Braren fleet.

Interview with Boomsma

The Boomsma team talk Wind Assisted Propulsion

Interviews with Johan Boomsma (CEO), Tessa Remery (Project Coordinator) and Oleksandr Pasatiuk (Ship Master) about the MV Frisian Sea installation...

Tharsis Preparation for Installation

Tharsis Sea-River Shipping and equipment provider eConowind are making the final preparations for the two 3 x 9m retractable TwinFoil units to be installed on the 88m, 2,364 dwt diesel-electric general cargo vessel, MV Tharsis in the next couple of weeks...

Rörd Braren Installs an Ecoflettner Rotor on the *MS Annika Braren*

In late April, Rörd Braren became the fourth WASP project partner to install their chosen wind-assist system on board their *MS Annika Braren*, a newly built 86-meter-long. 5,035 dwt multi-purpose freighter, part of the Rörd Braren fleet. The successful installation was undertaken at the SEC shipyard in Leer, Germany, along with all of the challenges that an installation during the COVID pandemic brings with it.

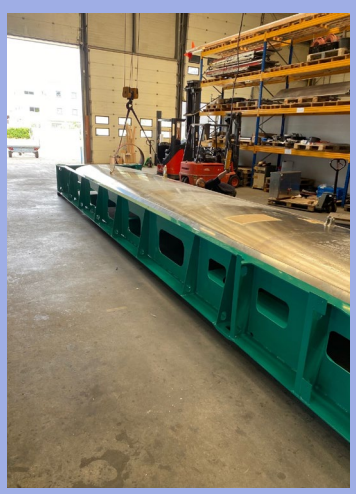
The rotor was supplied by Eco-Flettner, similarly based in Leer, with the type designation of "EF 18", signifying that the bow mounted system is an 18 x 3 meter rotor sail unit. The onboard weather station and automated operating system were both installed at the same time, while the foundation work had been completed a few months earlier.

The vessel will be operating throughout the North Sea region and being a relatively new vessel, the addition of the rotor sail makes her particularly environmentally friendly by saving fuel and reducing the ships emissions. This was one of the key draws for Rörd Braren when it came to engaging with wind-assisted propulsion systems and the WASP project and the early validated results are being eagerly anticipated by all involved.

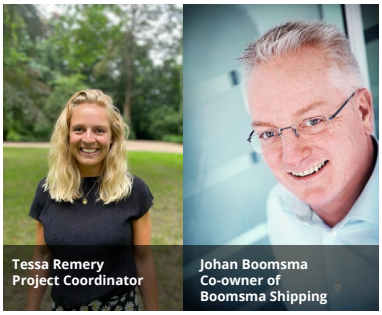
Read more...

Tharsis Prepares for Fifth & Final Installation

Tharsis Sea-River Shipping and equipment provider eConowind both based in the Netherlands, are making the final preparations for the two 3 x 9m retractable TwinFoil units to be installed on the 88m, 2,364 dwt diesel-electric general cargo vessel, MV Tharsis in the next couple of weeks. The installation will be the final installation as part of the WASP project and the results will be followed closely, especially due to the diesel electric drive configuration which sets this installation apart from the other bulk vessels in the project.



WASP Newsletter Boomsma Interview



Why did you decide to join the WASP project?

Johan Boomsma, co-owner of Boomsma Shipping: The shipping community has to do its part on reducing emissions. WASP is definitely contributing to that goal as it saves fuel and therefore emissions as well. When we saw the first Ventifoil prototype some years ago we were immediately attracted by the idea of using wind like in the old days to assist propulsion. When Interreg funds became available to reduce the investment together with the desire as a company to contribute to developments that are reducing emissions we decided to be part of this program. As one of the frontrunners, we are able to learn and become part of development of the Ventifoil system too.

What made you select the Ventifoil system for Frisian Sea?

Tessa Remery, Project Coordinator: The decision was more or less made when we saw the prototype. After discussions with eConowind and they presented the research and first test results we decided to install the Ventifoils. The flexibility in use of these devices is a major benefit.

You chose an innovative solution with the Flatrack configuration, how does that work and what challenges has that solved?

Johan Boomsma: The first device was built in a container. One of our requirements was to be able to move the Ventifoils with our HC crane; only then we would we be able to keep the full operational flexibility for loading and discharging. We made some sketches and discussed them with eConowind and they then went ahead and adopted the concept and engineered it into the flat-rack configuration as it is now.

How was the rig installation process, did that go to plan?

Tessa Remery: When we installed the first devices we experienced some minor operational issues. The lifting by the HC crane was not ideal but after some adjustments this was improved and became more convenient. Also, we experienced that the wind measurement on the flat rack was not optimal as sometimes at lee the wind is disturbed and then the device is not operating at its maximum performance. This is of course why we are testing the device.

You have been operating for over six months now, can you share with us your team's thoughts so far?

Johan Boomsma: We are very positive on wind-assisted propulsion and it is not interfering with cargo operations. Also the crews are enthusiastic in using these new developments. The first conclusions on the operational results are promising. The fuel savings are there and we trust this will be improved if we are able to optimize the setting to the angle of the wind and when we are able to set sail in condition beyond wind force 7.

Are you considering installing this kind of system on your other vessels?

Johan Boomsma: We consider the Ventifoil system as an attractive solution and we are therefore also considering to install these on other vessels. After the first year we will evaluate the results, assess the improvements that need to be implemented and then make those decisions.

What do you consider to be the biggest barrier to the uptake of wind-assist systems in the North Sea and Baltic regions?

Tessa Remery: The traffic and routing systems are limiting factors for the efficiency of the system. Also, the number of port calls and in general short sailing distances are a disadvantage. In general, the systems have to become economically feasible.

QUESTIONS For the SHIP MASTER: Oleksandr Pasatiuk


Oleksandr Pasatiuk
Ship Master

What is your experience with the VentiFoils?

I have been working with the Ventifoils since they were installed on board the *MV Frisian Sea*. Despite this system being new for me and for my crew it is very easy to operate. eConowind did a good job providing us with various control tools and user-friendly software. I can say it is almost a "plug-and-play" system: we have to connect the Ventifoils to the ships power supply, choose the automatic mode and press "play" on the control screen. The software then automatically deploys the sail and selects the correct angle for the best performance.

What are the thoughts about the VentiFoils from the crew on board?

From the very early stage of installation work our crew has demonstrated sustained interest in this project. They were happy to participate and to help by any means. Since the Ventifoils have been installed our crew operate them with interest and they are alway happy when they can see the positive effect of system.

What do you consider to be the biggest barrier to the uptake of these wind-assist systems?

I think there are two main factors which reduce the efficiency of the system.

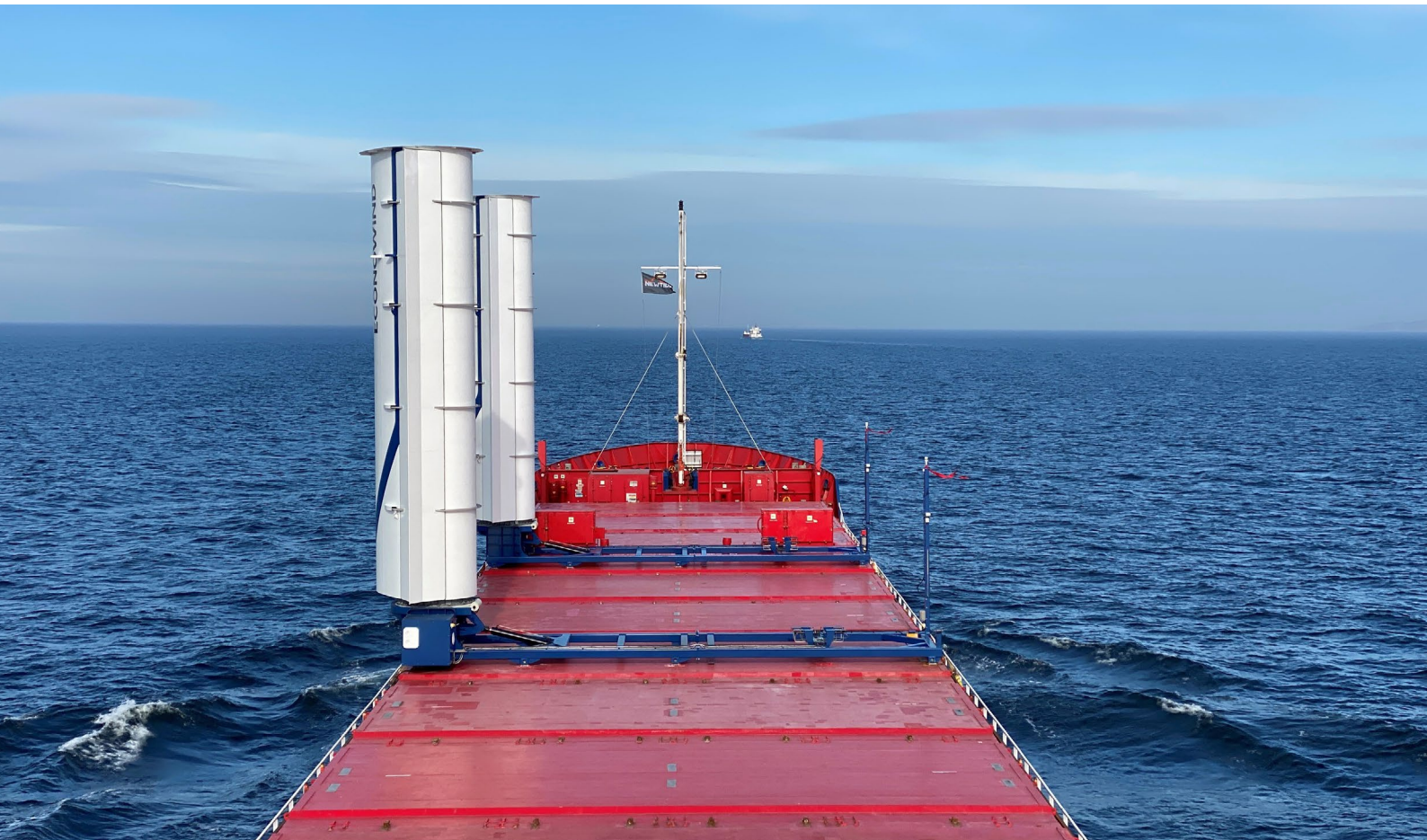
First of all, the efficiency of the system depends on its dimensions but it is difficult to build wind-assist systems on board without affecting the navigation and operation of the vessel (visibility from the bridge, stability, cargo operations, etc.).

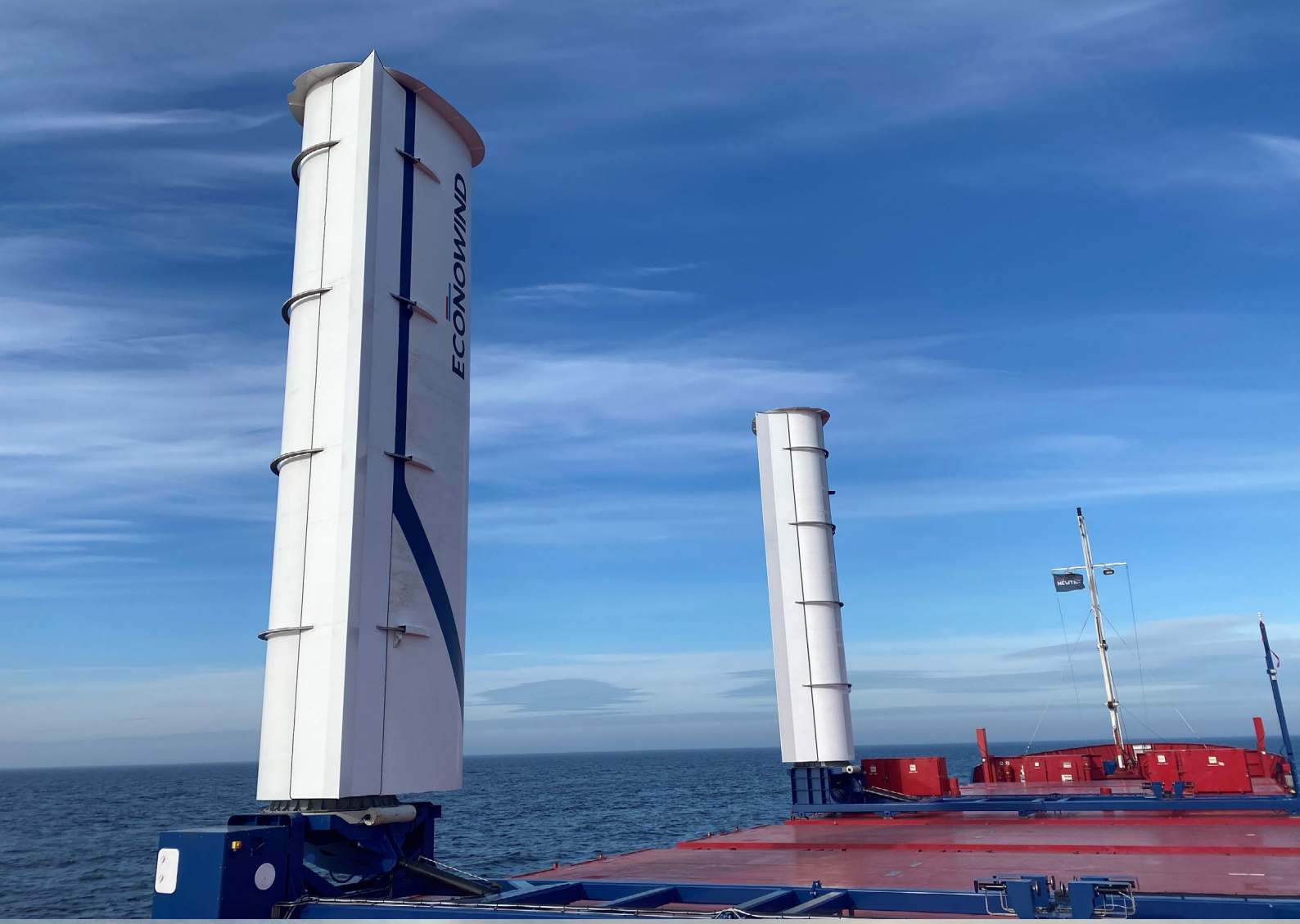
And second, the efficiency of the system depends on relative wind directions but the vessel has to reach her destination and it is difficult to maintain an optimal course. Also, the existing routing in the region (traffic separation schemes, recommended routes) and intensive traffic make it difficult to use the system with maximum effect during all of the voyage.

The fact that our vessel already uses a wind-assist system in the North Sea and Baltic regions demonstrates that people are willing to find solutions and to remove any barrier and to solve any problem.

We chose an innovative solution with the Flatrack configuration, how does that work and what is your experience/what challenges has that solved?

I think it is a brilliant idea to use the flatrack configuration. The Ventifoils can be folded down in case of bad weather, during sailing in narrow fairways or in congested traffic. The ability to move the system using the ships gantry crane makes the system portable and it almost does not affect cargo operations in the port at all. Of course, there is always room for improvement but the current configuration already works well. If it is necessary to land units ashore for maintenance or improvement it will be very easy to load them on trucks to deliver then to a workshop and then back to the vessel.




ECONOWIND


ECONOWIND
ECONOWIND

New Leadership team joins WASP

WASP welcomed a new leadership team to the project, Kasper Uithof and Jacqueline Brouwer. All partners send their thanks to Danitsja van Heusden-van Winden who shepherded the project through the initial development period.

Jacqueline Brouwer
Project Management for WASP
Reeleaf consultancy

"I am delighted to assist the NMT organisation and all WASP partners in their Interreg North Sea Region project journey and will gladly dedicate myself to making this inspiring project and the WASP cooperation a success"

Experienced project manager for EU funded international projects working for Reeleaf Consultancy in the Netherlands. Background in sustainable development and innovation. Experienced facilitator and trainer. Worked as a civil servant for several Dutch ministries (climate change, spatial development) and as National Contact point for the Interreg North West Europe programme.

Kasper Uithof
Innovation Manager
Netherlands Maritime Technology

"As someone who came into the project at a later stage, I've been very impressed with the involvement of all partners in the WASP project. Everyone is very eager to show the maritime world what value Wind Assisted Ship Propulsion can bring to the table. I'm very much looking forward to working together with the project team in the remaining months to deliver those reliable and promising results."

Kasper holds master's degrees in both maritime technology and management, and found the perfect way to combine them as Innovation Manager within NMT. He is now involved in multiple sustainability and digitalization projects in the maritime industry, and brings cross-sectoral project management experience to the WASP project.

WASP Policy Briefing

In June, we had the release of the second WASP policy briefing paper on the Socio-economic benefits of wind technologies for ships. The policy paper has been widely disseminated to IMO delegations, EU departments and all EU transport ministries among others.
Modern wind technologies (rotors, suction wings, sails, kites etc.) can provide a large part of the power needs for new and existing cargo and passenger ships, reducing fuel consumption and the connected emissions significantly. However, market and non-market barriers (lack of information, conservative industry, business structures, externalities, focus on short term profit etc.) block the uptake of wind technologies. Thereby the related socio-economic health and climate benefits remain unrealised maintaining the existing market failure. The EU Interreg program for the North Sea Region has funded this policy brief as a part of the WASP-project: Wind Assisted Ship Propulsion.

Headline points include:

- Societies around the North Sea gain around $3,200 due to avoided health damage every time wind technologies save one ton of marine fuel oil (0.1% sulphur).
- Societies around the North Sea gain $500,000-800,000 per year due to avoided health damage every time larger ships in the area are retrofitted with wind technologies.
- On top of health benefits, fuel savings by wind technologies result in less climate change, reduced marine acidification and less damage on crops, the built environment and ecosystems.
- The rising number of market-driven installations of wind technologies clearly illustrates that just the fuel saving (at the low current fuel oil price) makes some wind technologies favorable.
- Outside the North European emission control area benefits of wind technologies will be even greater.
- Reducing CO_2-emissions and air pollution from the existing and future fleet.
- Reducing the price gap between fossil fuelled ships and zero emission shipping.
- Reducing the investments and time needed for full decarbonization of shipping.

Download

Webinar

On the 22 April, WASP held a Wind Propulsion Webinar alongside and in collaboration with the WiSP project that followed with a regulatory workshop.

The webinar featured presentations from all of the key WASP work package leaders including: Dr. Vasileios Kosmas (Senior Researcher, Kühne Logistics University) covering the latest developments in the policy and viable business work package, Prof. Dr. Joshua Lacey (KU Leuven, Department of Mechanical Engineering) discussing the engineering side of the project and Sofia Werner (Manager Strategic Research - Hydrodynamics at SSPA) delivering the latest information on the operation of wind propulsion technologies and performance measurement along with an overview presentation of the WASP project from Gavin Allwright (Secretary General of the International Windship Association). The webinar was hosted by Craig Eason, Editor of Fathom World.

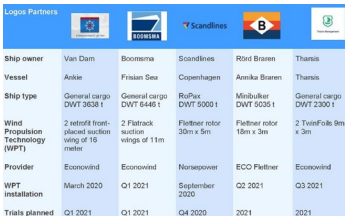
Download Recording

Newsletter Back Issues

June 2020

January 2021

Other News



Check out the WASP Fleet tracker

Series of WASP project articles in SWZ Maritime

Very important work is currently underway by the EU commission to deliver the FuelEU Maritime proposal and considerable effort has been made on the part of WASP and others within the wind propulsion community to ensure that this proposal includes not only 'Fuel' but all 'Energy' sources, including wind propulsion. While the release of the proposal had been delayed as it underwent substantial revision, the proposal has finally been released this month and wind-assist propulsion is included in the document. Download

As all of the 'Fit for 55" proposals are reviewed, continued efforts will be made, with WASP policy briefs and links to other WASP project deliverables being sent to both the EU Parliament and relevant commissioners.

This approach was reflected in the adopted text of the European Parliament resolution of 27 April 2021 on technical and operational measures for more efficient and cleaner maritime transport, which includes specific reference to wind propulsion in articles 21, 25 and 27

21. Calls on the Commission, shipowners and ship-operators to ensure the implementation of all available operational and technical measures to achieve energy efficiency, in particular speed optimisation, including slow steaming where appropriate, innovation in hydrodynamics optimisation of navigable routes, the introduction of new propulsion methods, such as wind-assist technologies, vessel optimisation and better optimisation within the maritime logistics chain;

25. Calls on the Commission to integrate alternative propulsion systems, including wind and solar, into the upcoming FuelEU Maritime initiative; calls on it to assess the current initiatives and projects concerning sail freight transport and to ensure that propulsion systems for transport are eligible for European funding;

27. Calls on the Commission to provide support under its European funding programmes, in particular the Horizon Europe and InvestEU programmes, for research into and deployment of clean technologies and fuels; highlights the potential of electricity from additional renewable sources, including green hydrogen, ammonia and wind propulsion

Read more...

Recent Events

Webinar

Kühne Logistics University held a webinar 'The Uptake of Wind Propulsion Technologies (WPT) in the Maritime Industry' on the 6th May 2021. Mr. Gavin Allwright (Secretary General, International Windship Association), Mr. Marko Möller (Manager Special Projects, Scandlines), Mr. Jarkko Väinämö (Chief Operating Officer, Norsepower) and Dr. Vasileios Kosmas (Senior Researcher, Kühne Logistics University) discussed among other issues the current status quo and future potential role of WPTs in the maritime sector as well as the business, technical and operational considerations of WPTs.

View Webinar

WASP at the EU Maritime Days 2021

European Maritime Day 2021 took place virtually from Den Helder, The Netherlands on 20 & 21 May, co-organised with the City of Den Helder, the Province of Noord-Holland and the Ministry of Infrastructure and Water Management. The European Maritime Day (EMD) Conference is the annual two-day event during which Europe's maritime community meet to network, discuss and forge joint action on maritime affairs and the sustainable blue economy.
To show what Interreg programs and projects, like WASP, can do to make the maritime sector more sustainable, INTERACT created a special video to highlight WASP and other Interreg projects on Maritime Cooperation.

Watch Video

Seminar: Wind Assisted Propulsion Challenges and Perspectives

On 17 June, WASP representatives participated in the EU SEArica (Seas, Rivers, Islands & Coastal Areas) Webinar – Maritime Transport: Going with the Wind – Exploring the Potential of Wind Propulsion to Contribute to the Green Deal.
There were presentations and a panel discussion including Scandlines talking about their rotor sail installation, Kühne Logistics University discussing business models and International Windship Association giving an overview of the wind-assist developments, including WASP. The event was opened by MEP Jan Christoph OETJEN, SEArica Vice-Chair in charge of Maritime Transport. With the participation of MEP Catherine CHABAUD, SEArica Vice-Chair in charge of Climate & Governance, MEP Deirdre CLUNE, SEArica Member and MEP Petros KOKKALIS, SEArica Vice-Chair in charge of Blue Economy, Maritime Industries and Ports.

Download Recording

Educational event:

In April, Prof. Dr. Michele Acciaro and Dr. Vasileios Kosmas from Kühne Logistics University together with Prof. Dr. Roberto Rivas Hermman and Dr. Ning Lin from Nord University gave a joint lecture on the role of eco-innovation and Wind Propulsion Technologies in the maritime industry to MSc students of the Logistics and Supply Chain programme of the Kühne Logistics University.

Report Delivered

May saw the release of the 46-page report "Scenario development for wind propulsion technology adoption: A theoretical model for agent-based modelling". This report forms part of the policy and viable business work package authored by Prof. Dr. Roberto Rivas Hermann, Dr. Ning Lin and Dr. Mark David Siatta from Nord University.

Read more...

Upcoming Events

1. **WASP Seminar Series -** The second moderated WASP webinar 'Engineering' will be live early September.
2. **RINA Wind Propulsion Conference,** 15-16 Sept, London UK – Hybrid event Register here
3. **Motorship's Propulsion & Future Fuels Conference,** 2-4 November, Hamburg, Germany – WASP presentation & Technology Learn more
4. **COP26 –** 1-12 November, Glasgow, UK - We are planning activities for the Green Zone to showcase WASP installations - TBC

Article

A Comeback of Wind Power in Shipping: An Economic and Operational Review on the Wind-Assisted Ship Propulsion Technology, Todd Chou, Vasileios Kosmas, Michele Acciaro and Katharina Renken, published in Sustainability journal 2021, 13, 1880. Published: 9 February 2021
Download

Wind-assisted ship propulsion (WASP) technology seems to be a promising solution toward accelerating the shipping industry's decarbonization efforts as it uses wind to replace part of the propulsive power generated from fossil fuels. This article discusses the status quo of the WASP technological growth within the maritime transport sector by means of a secondary data review analysis, presents the potential fuel-saving implications, and identifies key factors that shape the operational efficiency of the technology. The analysis reveals three key considerations. Firstly, despite the existing limited number of WASP installations, there is a promising trend of diffusion of the technology within the industry. Secondly, companies can achieve fuel savings, which vary depending on the technology installed. Thirdly, these bunker savings are influenced by environmental, on-board, and commercial factors, which presents both opportunities and challenges to decision makers.

Read more...

Partners & Contact

1 NETHERLANDS MARITIME TECHNOLOGY
2 GREEN TRANSITION DENMARK
3 HHX .blue
4 IWSA International Windship Association
5 KLU KÜHNE LOGISTICS UNIVERSITY
6 KU LEUVEN
7 NORD University
8 Scandlines
9 Scheepvaartbedrijf van Dam
10 B
11 BOOMSMA
12 SSPA Your Maritime Solution Partner
13 CHALMERS UNIVERSITY OF TECHNOLOGY
14

To learn more about WASP, visit:
www.maritimetechnology.nl

Netherlands Maritime Technology
Boompjes 40
3011 XB Rotterdam
Tel.: +31 (0) 88 44 51 035
Mobile: +31 (0)6 420 10 710