



## Quarterly Newsletter December 2019 Secretary's Message

Happy holidays! It has been a very hands-on period for IWSA and our members, the embrace of wind propulsion in the industry continues to pick up momentum and we have had quite a number of key developments over the last few months. There have been multiple installations, project announcements and wind propulsion guideline releases from Maersk Tankers, Mitsui OSK lines (MOL), the Ariane Group, DFDS, the European Space Agency, Class NK & DNV-GL among others.

IWSA activities have also been well received around the world, with a very successful Asia tour which kicked off with IWSA chairing the MARIN-SSSRI Smart Shipping & Green Propulsion Seminar in Shanghai and concluded with IWSA keynote presentation at ClassNK Environment & Shipping conference in Tokyo after stops in Korea for the KORMARINE and the International Renewable Energy Conference in Seoul. Other IWSA events in the US, Canada, France, Germany, at IMO, COP25 and in the UK, including our first RINA/IWSA Wind Propulsion Conference, have also been well received along with a string of other industry conference presentations, reaching over 1,000 industry and policy participants.

The key message being delivered: Wind propulsion is credible, viable and momentum is building significantly in the industry. Wind-assist and even more so with primary wind propulsion solutions are a vital part of the shipping decarbonisation toolbox and critical if we are to meet ambitious targets quickly. Wind propulsion is a key facilitating component, as a Hybrid W.A.V.E approach:

**Wind-Assist Propulsion** (optimised to 20-30%+) --- **PLUS** ---

**Activity/Application** (operational changes 20%+: weather routing, speed, virtual arrival, training etc) --- **PLUS** ---

**Vessel** (optimisation 20-30% - size & design, EMS, energy efficiency tech, reduced power etc.) --- **PLUS** ---

**E-Fuel** (20-40% required – lower storage space, installation size/CAPEX, lower OPEX)

Wind propulsion developments are also gaining more notice among policy makers. The UK government released the Clean Maritime Plan in late July which assessed the global market for wind propulsion systems over the next 30 years, and this is estimated to grow from a conservative **£300 million per year in the 2020s to around £2 billion per year in the 2050s worldwide**. At IMO, the following official statement was delivered by Prof. Orestis Schinas, Permanent Representative of the Union of Comoros at the 31st session IMO Assembly on 27 Nov 2019 and was received very positively (full text download [here](#)):

*“...our Administration encourages the Member States to also consider proven wind-assisted power boosting devices as complementary technologies alongside the currently dominant combustion engines and as a vital tool in the move to a decarbonized fleet. There are currently multiple wind technology solutions becoming available for both large and small vessels and the regulatory effort is low, yet the benefits are high.”*

IWSA will be working with members to further develop submissions to IMO to reduce barriers to the uptake of wind propulsion solutions and this brings me to the final point, the need to build additional capacity. As momentum is building and the market interest is growing the demands on IWSA resources are increasing substantially and our strategy is to continue to build our regional hubs/clusters, build up our network support and utilise the resources of members more effectively in the future and through outsourcing more of the administrative work in the future. Your continued financial and capacity support is vital to continuing to enable the association to deliver professional services, programs and events.

**Wind Works**: How wind propulsion can help shipping meet the decarbonisation challenge. *Bunkerspot 2019*

## Newsletter Sections

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## 2. Project Updates & Wind Propulsion Developments

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### ARYO, VPLP & Zéphyr & Borée (France)



[AYRO/VPLP Design](#) has signed its first contract for an ocean transport ship equipped with their Oceanwings® wings with the Ariane Group to build a 121-metre-long RORO vessel for transporting components of the Ariane 6 rocket from Europe to French Guiana, slated for launch in 2022. The *Canopée* vessel will be built together with [Zephyr & Boree](#) and equipped with four Oceanwings® and it is designed to have the least environmental impact possible.

In October, the sail and hydrogen powered [Energy Observer](#) visited London and moored just by Tower Bridge. This test vessel features two scale versions of the AYRO/VPLP designed Oceanwings® rig and generated a lot of performance data during its recent voyages. IWSA was also pleased to see an IMO team came to visit the vessel along with IMO Secretary General Kitack Lim, who noted during his visit that the vessel is an important testbed for decarbonization technologies.

### Econowind (Netherlands)



[eConowind](#) and DFDS last month installed a prototype of the Ventifoil system from eConowind on the deck of the 128m, 7500dwt DFDS cargo vessel *Lysbris Seaways* and the unit will be tested for the next 3 months. [READ MORE](#) Further Ventifoil installations will be tested as part of the EU-backed WASP project (details below)

Congratulations are also in order for [eConowind](#) winning the prestigious Netherlands Maritime Innovation Award 2019 for their Ventifoil solution. Guus van der Bles, Director Development at Conoship International, and Frank Nieuwenhuis, Managing Director of Econowind BV, accepted the award. [eConowind Announcement \(Dutch\)](#) [Conoship Announcement \(English\)](#) The eConowind-unit also won the Neptune Awards at the Global Sustainable Shipping and Ports Forum in Copenhagen, Denmark in October.

## Norsepower (Finland)



Maersk Tankers announced the performance results of the year-long installation of two 30m x 5m [Norsepower](#) Rotor Sails on the Maersk Pelican, a 109,000 dwt LR2 tanker, confirming averaged yearly savings of 8.2% on fuel (& associated CO2 emissions) matching initial fuel saving expectations of 7-10% [READ MORE](#)

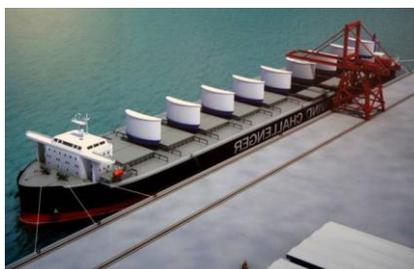
At MARINTEC Norsepower announced the completion of a joint development project with SWS (Shanghai Waigaoqiao Ship Building Co., Ltd) for an energy efficient dual fuel 300,000 dwt VLCC design that has gained Approval in Principle (AiP) from Lloyds Register and ABS and features six rotor sail installations. [READ MORE](#)



Norsepower has continued a busy few months by taking the important step of signing a service agreement with Wärtsilä to strengthen their global wind propulsion service network. [READ MORE](#)

In August, ferry operator Scandlines announced an agreement to install a Rotor Sail Solution on board the M/V Copenhagen, hybrid passenger ferry. [READ MORE](#). In September, announcement that OGCI Climate Investments has led an €8 million investment round in Norsepower, along with current investors [READ MORE](#)

## Mitsui OSK Lines (Japan)



Japan's shipping major [Mitsui O.S.K. Lines](#) and Oshima Shipbuilding have jointly obtained AIP from ClassNK for the hard sail system design. MOL and Oshima Shipbuilding will continue detailed design and implementation work for the Wind Challenger Project. The aim is to launch a newbuild vessel equipped with the retractable hard sail system within the next 2 years. A single sail installation will reduce fuel and associated emissions by about 5% (Japan-Australia voyage), and about 8% (Japan-North America W.Coast voyage). The long-term is to develop a widely accepted solution to achieve the IMO targets in combination with other measures to reduce GHGs by equipping vessels with multiple sails. [READ MORE](#)

## Classification Society Wind Propulsion Guidelines



DNV-GL announced early December the publication of a new Standard, the Standard ST-0511 on "Wind assisted Propulsion Systems" for ships. You can access this document via the DNV-GL homepage or following this [link](#), under which also possible later updates will be available.



Class NK released its guidelines for Wind-Assisted Propulsion vessels in September – the guidelines are available for free download [here](#)

## Anemoi Marine Technologies (UK)



At MARINTEC, [Anemoi Marine Technologies](#) announced their partnership with Shanghai Waigaoqiao Shipbuilding (SWS) and LR as part of a Joint Development Project collaboration for the AIP of a new generation of Energy Efficient 180,000DWT Dual Fuel Capesize Bulk Carrier using the Anemoi Flettner Rotor System for wind assisted propulsion. [READ MORE](#). The company also announced the appointment of Kim Diederichsen as their new CEO task to take the company's propulsion systems to a global market. [READ MORE](#)



### Wind Assist Ship Propulsion Project (WASP): North Sea Region

The three-year project funded by the Interreg North Sea Europe programme, part of the European Regional Development Fund (ERDF) to the tune of €5.4 million has been officially approved and launched in October. The project 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 thus enabling wind propulsion technology market penetration and contributing to a greener North Sea transport system through harvesting the regions abundant wind potential.

Shipping partners include; Scandlines, Boeckmans Ship Management, Reederei Rörd Braren, Boomsma Shipping and Van Dam Shipping. Wind propulsion, shipping logistics and innovation experts will be monitoring and evaluating operations and developing pathways and applications to tackle the regulatory and business-related issues that are often major barriers to the uptake of new technologies. This expertise is drawn from Chalmers University of Technology, Katholieke Universiteit Leuven, Kühne Logistics University, the Danish Ecocouncil, Nord University, [SSPA](#), the European Federation for Transport and Environment, [HHx blue](#) and supported by IWSA and the Netherlands Maritime Technology Foundation. [READ MORE](#) + [Press Release](#)



### Smart Green Shipping Alliance (UK)

The European Space Agency Business Incubation Centre United Kingdom (ESA BIC UK) has awarded [Smart Green Shipping Alliance Ltd. \(SGSA\)](#) a grant that will help develop a system to more accurately calculate potential fuel savings for commercial vessels moving to wind propulsion. [READ MORE](#)



### Vindskip (Norway)

**Press Release: The Ship that's also a Wing: A cutting-edge auxiliary wind propulsion concept for ships has recently won a prestigious German design award.** [Vindskip](#), developed by company Lade AS, Ålesund, Norway, is the winner of the German Design Award 2020 in the category Excellent Product Design – Conceptual Transport. [READ MORE](#)



### Add Modules (France)

Main sail of mini-transat sailing boat equipped with [Add-Modules](#) system - performance measurements until end of 2019. The tests on small-size boat already highlight improved usage, stability & performance compared to a classic sail. In 2020, the company's objective is to equip larger surface sails for work vessels and merchant ships. A sail for a 20m mast (size closer to maritime industry needs), will be equipped early 2020: (i) Wind tunnel analysis: design shape of wing-sail. (ii) Raw materials studies/monitoring: larger scale sail. & life cycle criteria. First trials: March 2020. Video [link 1](#) & [link 2](#) (by Voiles & Voiliers)

### EcoFlettner (Germany)



Launch of new company/website based on ECO FLETTNER tech. developed by fourteen Partners and lead partner [MARIKO](#) in two Interreg projects with an installation on MV Fehn Pollux. All performance data evaluated by the Hochschule Emden Leer exceeds simulations/predictions: at wind forces of c. 4-5bft: +20% more effective and at wind forces of c.7-8bft: +40% more effective. [READ MORE](#)

### EcoClipper (Netherlands)



[EcoClipper](#) is introducing the prototype 500 cargo/passenger sailing vessel. Ecoclipper & Innovative design cooperative Sailvolution + broad advisory group to design a prototype cargo/passenger sailing vessel. The aim is to scale up the success of current sail cargo vessels offering worldwide emission free transport – target is environmentally conscious intercontinental freight market + long-distance transport of paying passengers. [READ MORE](#)

## 3. New Members & Registered Supporters

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We are delighted to welcome the following new members to the international Windship Association:



**Mitsui O.S.K. Lines** (Japan)  
Full Member - Japan's Largest Shipowner delivering the Wind Challenger Project.



**Nayam Wings** (Israel)  
Full Member - developing unique wing that produce high propulsive force.



**SSPA** (Sweden) – Full Member – Independent research institute based in Sweden.



**HHx blue** (Germany) – Associate Member – advisory & brokerage services for maritime industry.



**Green Marine** Association member (IWSA reciprocal arrangement) Environmental certification program for N. American marine industry.



**Oceanic Research Institute** (Australia) –Supporter: Australia's only independent, Approved Research Institute for Ocean science (Registered Charity).

NOTE: IWSA also has reciprocal collaboration agreements with the [World Ocean Council](#) and [NAMEPA](#)

## 4. Other News & Announcements



**IWSA Asia Autumn Tour 2019:** Asia is a key market for shipping and central to the shipbuilding industry. While IWSA and our members have been actively engaged with the region over the past few years, we felt it was an important time to further raise the Wind Propulsion profile in the region in preparation for the increased interest in decarbonisation technology solutions for the world's fleet over the coming year. The tour was very successful and we had over 1,000 industry and policy participants at the

nine events that were held. Included: MARIN-SSRI Green shipping seminar + visiting IMO/EU MTCC Asia offices (Shanghai), International Renewable Energy Conference (Seoul), Kormarine 2019 (Busan), ClassNK Environment & Shipping Conference (Tokyo) + discussions with key stakeholders for development of North Asia wind propulsion hub.

Many thanks to supporters: [Chantiers De L'Atlantique](#), [eConowind](#), [Finoccean](#), [MARIN](#), [Peaceboat](#), [Mitsui OSK Lines](#), [Norsepower](#) & the [World Wind Energy Association](#)

### IWSA Europe: Atlantic Hub News - Things are moving forward around Nantes...

Emerging from the Europe Atlantic Hub, a group of 15 IWSA members held 2 workshops in Nantes on 19<sup>th</sup> & 25<sup>th</sup> Nov. All the participants are "pure players" deciding to accelerate the wind-ship sector momentum by working together. The core action is to blend local development and international networks. While IWSA is working very actively on the international stage, the local group will develop a local ecosystem to enable wind propulsion technology takeoff.



The local group will participate in the significant "les Assises de l'Economie de la Mer" event in

Montpellier and will have a say on the main scene to make Wind-ship sector's voice heard. Actions with local and national govt and civil society are planned and will be detailed in a roadmap in January 2020, Preparations for the next workshop are underway.



The UK Government's **Clean Maritime Plan (July 2019)** included a significant **Wind Propulsion solution element**, the first time that a major economy has officially recognized the significant contribution and

economic potential for the wind propulsion technology segment and included that into their plans to 2050. **Estimated market to grow from a conservative £300 million per year in the 2020s to around £2 billion per year in the 2050s worldwide** and thus assessed it as the second most important propulsion technology behind alternative fuel developments.



Further wind propulsion market information <http://wind-ship.org/the-market/>

CAREER4SEA – EUROPORT Awards: Congratulations to [Hamburg School of Business Administration \(HSBA\)](#)



receiving the **Educational Award** for offering maritime education, doctoral programme and application-oriented research. With its Digital Innovation Lab, HSBA has also created a platform to strengthen competitiveness in the age of digital era. Other short-listed nominees: Netherlands Maritime University, TU Delft, Warsash Maritime Academy and World Maritime University [READ MORE](#)

**Blueweek 2020** – featuring the **Natural Propulsion Seminar, Rotterdam** 25-29 May, aboard the beautiful SS Rotterdam. Call for papers: January 2020. Registration and detailed programme will be available on 20 January 2020. IWSA will continue the tradition of holding our **Annual General Meeting (AGM)** at this gathering: exact date/time will be announced shortly. Check Past Natural Propulsion Presentations [Archive](#)



Mon 25<sup>th</sup>: **Ocean Energy seminar**

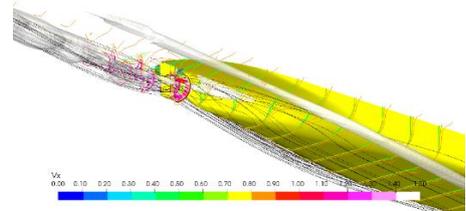
Tue 26<sup>th</sup>: **Blue Life seminar**

Wed 27<sup>th</sup>: **FORUM Future of Ocean Energy & Shipping + visit/dinner at MARIN**

Thu 28<sup>th</sup>: **Natural Propulsion seminar**

Fri 29<sup>th</sup>: **Zero Emission Ships seminar**

**Recent MARIN Research: Propellers, Seakeeping & Manoeuvring with Wind Propulsion** - During the Wind Propulsion conference in November at RINA in London, MARIN presented some of its recent research work. [Read More](#)



**IWSA Canada & United States Spring Tour – Extension:** We concluded our Canada and US activities this year with an IWSA Seminar graciously hosted at the Port of Montreal and an IWSA booth, presentations and panel at the ShipInsight conference in Stamford. Congratulations to Dasivedo Design for 2<sup>nd</sup> place in the Shark Tank for their innovative wind propulsion rail system and tig rig configuration.

Thank you to supporting organisations & sponsors : Port of Montreal, [NAMEPA](#),

[World Ocean Council](#) & [Green Marine](#) Sponsors: [Anemol Marine Technologies](#), [Dasivedo Design](#), [eConowind](#), [Inerj](#), [Magnuss](#), [MARIN](#), [Neoline](#), [Norsepower](#), [Peace Boat](#), [Sail Cargo Inc.](#), [Smart Green Shipping Alliance](#) & [Wind + Wing Technologies](#)



**Green Ship Technology: Wind Propulsion Forum** – 10 March 2020, Copenhagen, Denmark – this event will be held in association with International Windship Association. Key Themes for 2020: • Design and operation of wind propulsion

systems • Technical installation and retrofitting issues • Pathways to market • Case studies of shipowners' experiences and expectations. [AGENDA](#)

17th annual **Green Ship Technology (GST) Europe Conference** – 11-12 March 2020, Copenhagen, Denmark. IWSA is an official supporting organisation for the main GST conference too, IWSA members and supporters receive a special exclusive discount on tickets. For discount either quote '[FKT3642SPKEM](#)' at checkout or book through this [link](#) (discount automatically applied).





**New Articles & Publications:** A recent set of new wind propulsion articles highlighting the growing momentum in commercial wind propulsion, from small traditional vessels to large blue ocean ships.

[Wind Works](#) (Bunkerspot) - Article by IWSA, Secretary General

[Extra Power Sources & Systems](#) (ShipInsight) [Shipping Firms Look to Sail into the Future](#) (Agence France-Presse)

[Wind of Change](#) (Riviera) [Why the global shipping industry is returning to wind power](#) (Daily Telegraph, UK)

[Wind Power Returns to the Shipping Industry](#) (Jstor Daily) [Sailing Ships Cleaning Up Sea Transport](#) (Guardian UK)

[Dream Ships Could Turn the Tide for Trans Ocean Shipping](#) (Grist)

## 5. Key IWSA Programs 2019-2020+

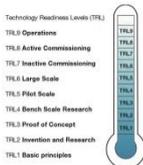
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**Wind Propulsion Market Report:** 30-page report on developments in the market, technology information & other technical information. + Short – 2-page Briefing paper for policy makers. Sponsorship & Advert space available + inserts for pamphlets. [Contact](#)



**IWSA Brochure:** We have produced a 24-page colour IWSA brochure – feat. 8 pages of general wind propulsion information & IWSA activity information + membership directory & advert space. Initial 1000+ print run & pdf version. Advert space available (next revision January 2020) + inserts for pamphlets. [Contact](#)



**Awards Program:** Technology Readiness Level (TRL) Award Program for wind propulsion tech providers will be launched this year. Each designated level will be certified by transparent 3rd party assessment criteria + approved by expert panel. In addition, a small number of voting Awards will be run for research & contributions to the development of wind propulsion, etc. *Interested in getting involved?* [Contact](#)



**Short Film:** Professionally produced 3-5 min film with the goal of introducing wind propulsion tech and developments to the logistics and shipping industry, but also to the general public. Include: need for change, wind propulsion can deliver, tech, barriers/drivers etc. *Interested to help fund this project?* [Contact](#)



**Webinar & Podcast Series:** Quarterly webinars with leading expert panels discussing wind propulsion technology, the latest research, the market, policy barriers/drivers, logistics etc. Dates to be Announced



**Small Vessel Publication:** A 50+ page pdf report on the small cargo sail vessel sector, available technologies, economic/business plans, routes & cargos. Small vessel project profiles, updates + expert input. *Sponsors & contributors – interested?* [Contact](#)



**Education Program:** IWSA secretariat and members engage with University, Maritime training centres and School programs whenever possible – seminars, lectures, & project visits + providing materials for the wider education network. *Sponsors – interested?* [Contact](#)

## 6. Upcoming Events & Conferences

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A list of currently confirmed events that IWSA will be attending & supporting in 2020, additional ones TBC.

25-26 Feb	<b>Shipping Insight Conference</b> (London) - IWSA panellist
10 Mar	<b>GST 2020 Wind Propulsion Forum</b> (Copenhagen) - co-organising/official supporting org
11-12 Mar	<b>Green Ship Technology Conference</b> (Copenhagen)– IWSA presenting/official supporting org
24-25 Mar	<b>Envirotech</b> (Rotterdam) - IWSA presentation
30 Mar - 03 Apr	<b>MEPC 75, IMO</b> , London – IWSA attending + working group engagement before event
31 Mar – 02 Apr	<b>CMA Shipping Conference</b> (Stamford) – IWSA official supporting organisation
18-19 May	<b>Maritime Transport Efficiency Conference</b> , Geneva – IWSA presentation
25-29 May	<b>Blueweek</b> - featuring Natural Propulsion Seminar, SS Rotterdam, Rotterdam, Netherlands - IWSA co-organising and official supporting org + <b>IWSA AGM</b>
1-5 Jun	<b>Posidonia</b> (Greece) - IWSA attending
2-4 Jun	<b>Green Marine conference</b> (Montreal, Canada) - IWSA presentation
15-17 Jun	<b>INNOVSAIL 2020 Conference</b> (Gothenburg)– Commercial Wind Propulsion, Leisure & Racing Technologies - IWSA co-organising/draft assessment + <b>WASP Project Kick Off Event</b> (18 Jun)
8-11 Sep	<b>SMM Hamburg</b> - zero emissions booth + presentations forum - IWSA attending/promotion of members Possible GMEC conference presentation.
Oct	<b>GreenPorts &amp; Cruise Congress</b> – IWSA official supporting org & presentation/attending <b>MEPC 76, IMO</b> , London – IWSA attending + working group engagement before event
Nov	<b>Motorship Propulsion &amp; Future Fuels</b> – IWSA official supporting org & presentation
Dec	<b>UNFCCC - COP 26 Glasgow, UK</b>

## For Further Information

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For interview requests, membership info and IWSA events schedule, please contact IWSA Secretary, [Gavin Allwright](#)  
Registered supporter, assoc. & full members receive the full quarterly newsletter.

Check IWSA [Website](#) & Membership page for full list of members.

**Registered Supporter** – FREE ( individual/micro organisation - requested donation) // €100 - Company  
**Associate Member** (open to all that share our goals) - €300 // €500 (SME) // €2,500 (large organisations)  
**Full Member** (reserved for wind propulsion projects) - €400 // €1,000 (SME) // €5,000 (large organisations)

NOTE: All membership fees and additional contributions are used solely to fund IWSA programs, activities and events.

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