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Newsletter: December 2022

Secretary General's Message

Well, 2022 has been quite a year. It is likely to be one that when we look back on it we will remember it as being the year that a clear gear shift in the wind propulsion sector and perception in the market took place. This is in line with the Economist and Financial Times encouraging their readers to 'keep an eye' on our technology segment in their New Year editions one year ago.

There have been three key events that took place in the second half of this year that help to underline this shift;
In September, the SMM trade fair took place in Hamburg, hosting 27 booths from our members that were focused on wind propulsion solutions. The booth presence was also supported by a flurry of wind propulsion events at the trade fair including, GMEC, the WASP project conference and presentations made on various stages. This gave the industry a window to peer into to see the status of wind technologies and how they are starting to break into mainstream shipping technology solutions.

In October and November, I toured Asia for three weeks and it was increasingly obvious that the region is really waking up to the opportunity that wind solutions provide. Technology companies, shipbuilders and shipping lines across Japan, China, South Korea and Singapore are developing and installing systems. Also, production lines are being relocated to the region from Europe and gearing up to deliver larger standardised units. There is also growing interest in the region to fund pilot projects and undertake new research projects there. This all strongly indicates that initial Europe-centric early stages of development in the segment are now widening out into Asia.

Finally in the policy field, IMO MEPC79 took place in December which represented the culmination of lots of activities that IWSA has been undertaking, both on an international and European level. Wind propulsion is being included more in debates, not simply as a bolt on. The benefits of harnessing a free energy source using robust wind propulsion technologies are being appreciated far more as a readily available, zero-emissions solution that pays for itself. Moving forward into 2023, the EEXI and CII regulatory changes are pushing the efficiency considerations. The EUETS and Fuel EU Maritime deliberations have pushed that envelope even further and these are all lighting the touch paper on decarbonisation in the sector, with increasing recognition that wind propulsion is a 'no regret technology' toolbox.

2022 was a year in which we also passed a number of significant milestones. The chief milestone passed was the breaching of the one million deadweight tons of cargo that can be shipped using ships with wind propulsion systems installed. Today, that has reached 1.4 million dwt with 22 large ships installed, 2 wind-ready ships and a further 5/6 ships being delivered in coming weeks. This sits alongside the 10+ sail cargo vessels in operation, 10 small traditional rigged cruise vessels and numerous traditional sail cargo vessels in operation in less developed regions of the world.

There is still much work to be done: strengthening the support for the R&D pipeline, LDC/SIDS projects and networks, pushing for a fair share of subsidies and support commensurate to the significant level of zero-emissions energy provided by wind, standardising KPI's and testing approaches, improving regulatory assessment tools and so on. Therefore, 2023 will be busy and one of our key activities this year will be building IWSA capacity further to deliver on these.

Momentum continues to grow. This coming 12 months will see the number of wind-installed vessels double and it will be vital that industry partners, shipyards and the finance sector are ready to deliver as this scale. Economies of scale and the learning curve will start to bring down costs substantially, and we should be ready in 2024-5 to be delivering hundreds of rigs per year into the market and thousands by the end of 2030.

Gavin Allwright (IWSA Secretary General) secretary@wind-ship.org

Newsletter Sections

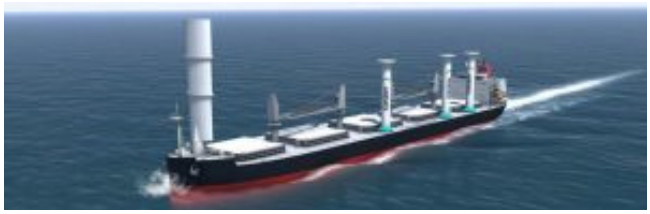
Mitsui O.S.K. Lines, Ltd (Japan)

In July the first wind challenger rig was installed on a 99,000 dwt bulker at the Oshima shipyard representing a key moment for the Wind Challenger team. That same month, Mitsui O.S.K. Lines (MOL) announced the success of a world-first demonstration experiment with Metro Weather Co., Ltd. on an MOL-owned experimental vessel equipped with Metro Weather's Doppler Lidar to navigate while grasping faraway wind conditions in real time. Read more

Also in July, it was announced that MOL DryBulk and the UK-based renewable energy company Drax Group had formed a partnership to reduce emissions and fuel costs associated with shipping biomass by deploying wind power technology on vessels. The newly built vessels will be fitted with MOL's Wind Challenger hard sail technology, with the first ship expected to be on the water as soon as 2025. Read more

In August, MOL announced that it would build a second bulk carrier equipped with the Wind Challenger hard sail system. The 62,900 dwt bulk carrier to be operated by MOL DryBulk will be delivered in 2024 and will transport wood pellets for Enviva. Read more. They also announced in that same month that they had entered into an agreement to start a joint study related to wind-powered propulsion of vessels by application of aerospace engineering technologies with MOL Tech-Trade (MOLTT), Tokai University and Akishima Laboratories. Read more

Mitsui OSK Lines have also released a new video that covers their delivery of the first Wind Challenger rig on the bulker *Shofu Maru*. Watch it here.

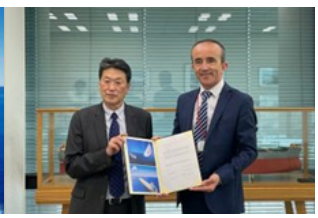


Airseas (France)

In July, Airseas confirmed an additional order of three Seawing kites from "K" line (Kawasaki Kisen Kaisha, Ltd) which brings the total number of vessels to be outfitted with the automated kite system to five. K Line already contracted Airseas for the installation of the wind propulsion systems on two of its Capesize bulkers. The additional Seawing units will be installed on three post-Panamax bulkers. Read more.

Also in July, Emirates Global Aluminium (EGA) and "K" line forged a partnership to decarbonise bulk cargo shipping which will include the development and implementation of new marine decarbonisation technologies suitable for EGA's bulk cargo shipping routes, including Airseas kite system. Read more

In December, Airseas published a new video of the sea trials of Seawing, on a vessel chartered by their customer, Airbus. On board the Louis Dreyfus Armateurs (LDA) vessel *Ville de Bordeaux*. The video has had over 17,000 views already.
Watch here



Econowind (The Netherlands)

In May, Econowind and Vertom Shipping announced their collaboration to install a new version of the wind-assist suction wings, VentiFoil. Units will be installed on the two general cargo vessels, MV Progress and MV Perfect, making it the first fleet order for Econowind. Read more

Then, in June, another installation of the eConowind VentiFoil system on Vertom's MV Anna, a 5,000dwt general cargo vessel took place. The twin 16-metre foils were installed in Rotterdam, marking the fourth VentiFoil installed vessel.

In July, it was announced that the Dutch-based consortium of 21 shipping companies, shipyards, suppliers, laboratories, colleges would receive an initial European subsidy of 1.4 million euros for the development of an initiative aiming to be at the forefront of the transition to large-scale zero-emissions shipping and digitised shipbuilding – including integration of eConowind wind propulsion technology, batteries and alternative fuels. Read more

In November, Conoship International had begun the construction of their next generation short sea shipping vessel at Gelibolu Shipyard in Turkey. This innovative, diesel-electric and wind-assist ready 3,600 dwt general cargo vessel is suited for sea-river operations.

Two more of these 3,600 dwt vessels will be constructed by Holland Shipyards Group, and they have also developed a 3,800 dwt variant of this vessel, of which three will also be built by Holland Shipyards Group. In addition, a 5,800 dwt new design concept is in development and will be brought to market soon. Read more...

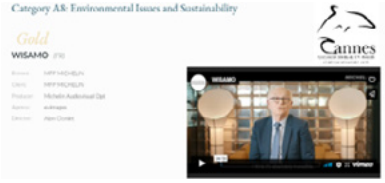
Anemoi Marine Technologies (UK)

In June, Lloyd's Register granted an AiP showing 29% reduction on EEDI for a SDARI-designed Oldendorff Newcastlemax with Anemoi Rotor Sails. Read more. In July, Anemoi announced its agreement with Berge Bulk to install Anemoi Rotor Sails on its bulker fleet. *Berge Neblina*, a 388,000 dwt Valemax ore carrier, and *Berge Mulhacen*, a 210,000 dwt Newcastlemax, will both be installed with 4 of Anemoi's 5x35m folding Rotor Sails. Read more. In October, Anemoi announced its collaboration with COSCO Shipping Heavy Industry Co., Ltd (CHI). Anemoi has also been awarded funding from Horizon EU (fulfilled by UK Research & Innovation) for its involvement in the Optiwise project. Read more.

Michelin (France)

Together with partner Compagnie Maritime Nantaise, the Michelin team has started to install their WISAMO wing technology on the Ro-Ro ship MN Pelican. This vessel will sail between Bilbao, Spain and Poole, England during which the WISAMO wing will be tested in real conditions. Read more

The WISAMO wing technology has also received a Golden award at the Cannes Corporate Film Festival, in the category "Environmental and Sustainability Questions". Read more



BAR Technologies (UK)/Yara Marine (Norway)

BAR Tech WindWings by Yara Marine (WindWings) are currently being built and assembled for an upcoming installation during the first half of 2023. The first vessel to undergo installation and deployment of two WindWings is Mitsubishi Corporation's 80,962 dwt bulk carrier *Pyxis Ocean* on charter with development partner Cargill, where one of those wings was funded by the European Union as part of EU Horizon 2020 Project CHEK. Read more ...

The CHEK project is moving ahead, in December it was confirmed that the final design of the BAR Technology WindWings has been completed and the automated software and control system solution for positioning of the WindWings according to the live local weather conditions is nearing completion. The WindWings are currently under manufacturing and assembly which will be ready for installation on a Kamsarmax bulker in Q1 2023. Read more...

Berge Bulk, BAR Technologies, and Yara Marine Technologies have also reached an agreement to install four WindWings onboard the 210.000 dwt bulk carrier *Berge Olympus* in June 2022. This second installation will take place in Q2 2023. Read more...

Norsepower (Finland)

Norsepower is now working with BHP and Pan Pacific Copper (PPC) to reduce greenhouse gas emissions from maritime transportation between BHP's mines in Chile and PPC's smelters in Japan. The parties are conducting a technical assessment and planning a retrofit installation of Norsepower Rotor Sails™ onboard the M/V Koryu, a combination carrier operated by Nippon Marine. The installation is scheduled for completion by Q3 2023, which is expected to make M/V Koryu the cleanest vessel in its category when measured for GHG emissions intensity.

Norsepower is also delivering two single Norsepower Rotor Sails™ onboard two newbuild liquefied natural gas (LNG)-powered, wind-assisted CO_2 carriers. The carriers are commissioned by the Northern Lights JV for Dalian Shipbuilding Industry Co. Ltd. The two liquified CO_2 carriers will be equipped with one 28m x 4m Norsepower Rotor Sail™ on each vessel. The units will be delivered in early 2023, and following further building, both the 130m long ships, each with a cargo size of 7,500m^3, are expected to be delivered in 2024. Read more

TOWT (France)

In September, TOWT announced that the first steel sheet of their inaugural 80m, 1,100 dwt primary wind general cargo vessel had been cut following the order of two vessels from the PIRIOU shipyard. This first step formally marks the beginning of the construction of this first vessel. Delivery is expected at the end of 2023. This vessel will be followed by a sister-ship in spring 2024. Read more

bound4blue (Spain)

In November, bound4blue and MMSL PTE. LTD., a wholly owned subsidiary of Marubeni Corporation based in Singapore, signed an agreement to install four suction sails on the *Crimson Kingdom* in 2023/24, being the first wind-assisted vessel owned by Marubeni. According to preliminary studies, the 229-metre Panamax bulk carrier will be retrofitted with four 26-metre-high eSAILs®, expected to be the largest suction sails ever built and installed on a vessel. After the installation, the vessel will be operated by MaruKlav Management Inc., which is a Panamax Pool company jointly owned by Marubeni and Torvald Klaveness Group. Read more. Also in November, Cristina Aleixendri, bound4blue's co-founder and COO, received the Seatrade Maritime Young Entrepreneur of the Year, Congratulations Cristina! Read more

Norwegian Ship Design Company (Norway)

In November, it was announced that Halten Bulk had received NOK 142 million in grants from ENOVA for building two hydrogen fuelled bulk vessels. The vessels will derive a large part of their energy from wind through the two large rotorsails. The vessels will be around 100-metres in length and have a cargo hold volume of around 8000 cubic metres, and they will trade along the Norwegian Coast and in the North- and Baltic Seas. Read more

Congratulations to Egil Ulvan Rederi AS, the Norwegian Ship Design Company and charterers Heidelberg Materials and Felleskjøpet Agri for winning a Motorship Award for the With Orca zero-emission hydrogen-fuelled bulk carrier project. Read more

Dealfeng (China)

Dealfeng, manufacturers of the WAP Rotor Sail technology have signed a contract with shipowner Haiyue to equip a new-build 5,000 dwt tanker with one 16m x 4m rotor sail on the bow. Dealfeng report that the rotor sail will deliver an estimate average yearly fuel saving of 6%. After the successful installation and operation of the rotor sail on this vessel, Dealfeng have voiced that they will quickly expand their market with a product quality guarantee, excellent cost performance, effective verification data, high fuel-saving efficiency and short ROI period. Read more

In August, Dealfeng won the first prize of Growth Enterprise at the 11th China Innovation and Entrepreneurship Competition (Tianjin Division). Read more

Chantiers de l'Atlantique (France)

In early December, Chantiers de l'Atlantique shared the success of the construction of its first large carbon-fibre mast with its partners Lorima, Multiplast - Groupe Carboman, AVEL robotics, CDK Technologies and SMM. Invented by Chantiers de l'Atlantique, SolidSail is a 100% composite, efficient and foldable sail. It is designed to propel the Silenseas, the future largest sailing liner in the world, under development at Chantiers de l'Atlantique, as well as sailing freighters. The Aeoldrive rig, which includes the SolidSail mast and sail is fully automated, its balestron is 360 degrees swivel and the masts can rotate or tilt 70 degrees to pass under the bridges. Read more

AYRO (France)

In June, the launch of the boat hull of the new ship Canopée specially designed to deliver the Ariane 6 rocket parts to Europe's Spaceport in Kourou, French Guiana took place in Stettin, Poland, where Canopée is currently being built by Alizés. This is a joint venture between Jifmar Offshore Services and Zéphyr & Borée. The vessel was designed by VPLP and will be equipped with four wing sails from AYRO. Watch Video

Smart Green Shipping (UK)

Smart Green Shipping announced its plans to bring its FastRig wingsails to global shipping from its new headquarters at The Crichton in Dumfries, Scotland in July with representatives from Scottish government, enterprise agencies, investors and the shipping industry at the launch event.

The company received a GBP 1.8M grant from Scottish Enterprise towards a research and development project with a total value of GBP 5M match funded by the private sector.

Over the course of a three-year project Smart Green Shipping is set to develop new concepts for shipping through renewable engineering of FastRigs along with the development of weather routing software and circular economy business models. The project will deliver a demonstrator on a commercial ship by 2023. Lloyd's Register has granted 1st stage AiP for FastRig technology. Read more

Beyond the Sea (France)

In October, Beyond the Sea launched their laboratory demonstrator "The SeaKite". The SeaKite is a catamaran towed by kite. Its automated SeaKite kite traction system operates with wings ranging from 50 to 200m^2. It provides a platform for experimentation as well as a full-scale demonstrator.

Sea trials have been initiated in the Arcachon basin and the Bay of Biscay over a period of several weeks. The first stage will be ancillary systems (hydro generators / ADV thrusters, ERMA power management), the second will be the 25m^2 wing and the third stage will be the 50m^2 wing. Read more

China Merchants Energy Shipping (CMES) (China)

In September, China Classification Society (CCS) hailed a major milestone after overseeing the delivery and naming ceremony of the first VLCC ever built in China deploying four x 40-metre rigid wing sails. The 307,000 dwt, 300-metre crude oil carrier M/V New Aden was built at Dalian Shipbuilding Industry Co (DSIC) and the owner is China Merchants Energy Shipping (CMES). Read more

Oceanbird (Sweden)

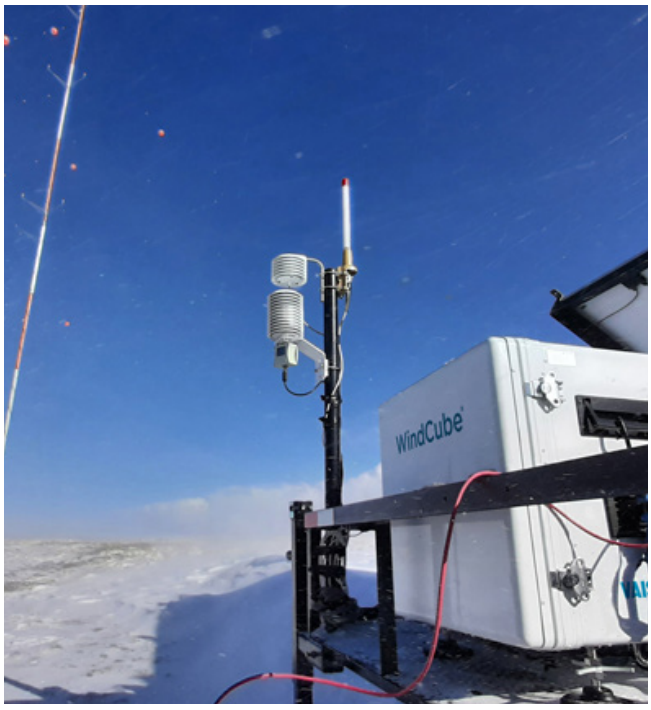
In December, Oceanbird moved into their next stage, bringing their extensive research into reality. We really like Mikael Razola, the Technical Director's quote; "We have created a lasting competence cluster, setting Sweden up as one of the key players in what we like to call a shipping revolution. The journey has just begun!" Watch video.

In June, Knud E. Hansen joined the project to design an Oceanbird wind-powered RoRo. Their detailed analysis of windship design in the early 2000's was an important milestone for wind-assist potential and highlighted technical and business model areas needing attention at the time. Read more...

Vaisala Oyj (Finland)

Vaisala have completed a case study together with MARIN and Econowind related to how MARIN is gaining performance and optimisation insights for wind-assisted propulsion systems with Vaisala WindCube Scan installed on the MV Ankie (that is using Econowind's VentiFoils). Read more.

They also published a blog post containing the main results of their wind-survey related to "Challenges and future needs of wind measurement technologies for wind-assisted vessels" Read more



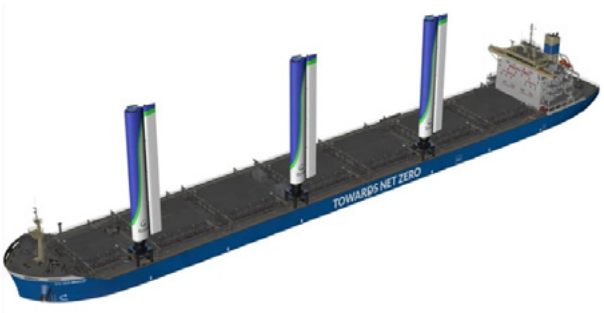
CRAIN Technologies (Centre de Recherche pour l'Architecture et l'Industrie Nautiques) (France)

An AiP was granted by Bureau Veritas in August for the CRAIN Suction Wing SW270. The classification society worked very closely with Crain Technologies from the earliest stages. The AiP was delivered in accordance with Bureau Veritas' Rule Note for Wind Propulsion Systems (WPS) – NR 206. Read more

GT Green Technologies (UK)

In August, GT Green Technologies and Pei Tech announced a new partnership to create technology-based solutions that combine the most promising developments in green propulsion, benefiting global shipping operations. Read more

GT Technologies also announced in November that they had secured grant funding following success at this year's Clean Maritime Demonstration Competition Round 2 (CDMC2). This funding from the UK Department of Transport will be allocated towards the development and launch of the company's proprietary AirWing™ propulsion solution currently in development. Read more



SubSea Sail (USA)

In September, SubSeaSail announced that it received a USD 1.15M Dept. of Energy SBIR Phase II funding to continue the development of an affordable, easy-to-deploy, autonomous vessel for environmental monitoring and resource characterisation around offshore energy installations.
Read more

Blue Wasp Marine (Netherlands)

In September it was announced that Blue Wasp Marine, Zéphyr & Borée and Groot Ship Design had arranged a project proposal for a 600-TEU container vessel with the Williwaw design utilising wind as dominant medium for propulsion. The project carrying the name Williwaw represents a design able to reduce CO_2 emissions by at least fifty per cent compared to conventional ships. Read more

Saillink (UK)

In September, Saillink undertook a successful pilot phase has been completed with first passengers on a sail passenger service from Boulogne-Dover that confirmed the technical feasibility as well as the interest, demand and enthusiasm, both from passengers and of the ports. Read more. Saillink is planning for the launch of first season to be in April 2023 between Dover & Boulogne-sur-Mer. They are receiving support Clean Growth UK Fast Track and are in the process of purchasing their first vessel and will soon publish a call for investors and crew. They also report positive progressions with port partnerships and negotiations.

Terntank (Sweden)

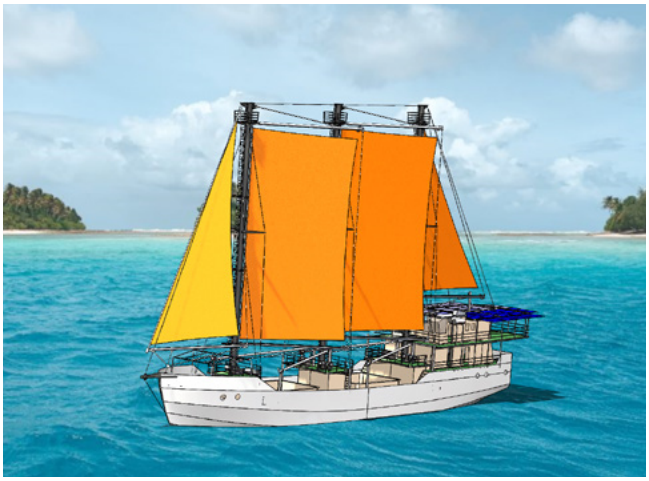
Terntank has ordered two wind-assist ready, 15,000 dwt tankers from China Merchants Jinling Shipyard, Yangzhou. The new vessels will have significantly reduced carbon footprint and environmental impacts in the supply chain with methanol-powered engines, wind-assisted propulsion, hybrid battery system, and on-shore power. The new builds are designed by Kongsberg Maritime and will be delivered in spring 2025. Read more

Hochschule Emden/Leer University of Applied Sciences (Germany/Marshall Islands)

Within the international climate protection project, Transitioning to Low Carbon Sea Transport, involving Germany's University of Applied Sciences Emden/Leer, the German society for international cooperation (GIZ) has ordered construction of one Pacific Island supply vessel with sail propulsion for largely climate-neutral ship operations. The construction contract was signed with the ship design office Kostec Co. Ltd. and the shipyard Asia Shipbuilding in South Korea. SDC Ship Design & Consult from Hamburg had been commissioned to develop the tender design.

The 460 GT/290 dwt newbuilding will be around 48-metres long and will be operated in the Marshall Islands. The ship will be equipped with an Indo-Sail rig that combines performance with easy operation and automation capability. The sail area of the three-master will be around 500m^2.

The project plan envisages the keel-laying in March 2023 and delivery including an intensive testing and training programme in the autumn of 2023.



Daewoo Shipbuilding & Marine Engineering (DSME) (Korea)

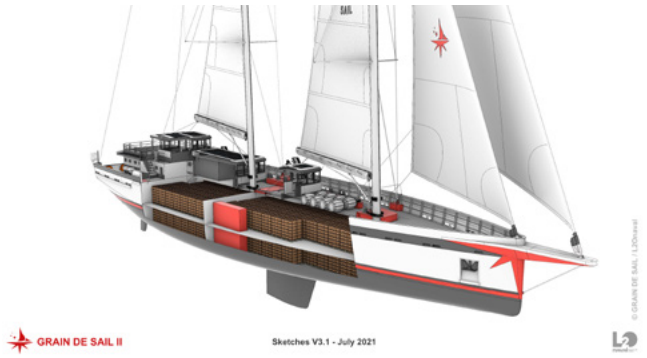
In September, Daewoo Shipbuilding & Marine Engineering (DSME) and DNV signed an MOU to establish wind-assistance propulsion systems including rotor sails. Both companies will jointly develop ship wind-assisted propulsion systems, including a rotor sail solution, fuel saving device technology, and will cooperate in promoting future-related businesses. Primary tasks include DNV's Type Approval Design Certificate (TADC) and technical support for DSME's future rotor sail system, and a joint study of a Wind Assisted Propulsion System (WAPS) on deep-sea vessels such as LNG carriers and VLCC. Read more

Nayam Wings (Israel)

NayamWings is developing a novel wind propulsion system for maritime vessels based on a rigid wing sail. They were invited by the Chief Scientist Office of the Israeli Energy Ministry to present the company in the COP27 Climate Protection Conference of the UN in Sharm El Sheik in Egypt. They presented a 3D model of a ship with the Nayam Wings system and a short clip of their product. Read more

OneSails (UK)

OneSails have confirmed that they have received the contract to produce the sails for Grain de Sail II and are very proud to have been chosen as the supplier. Grain de Sail II is a pure sailing freight vessel with over 350 tons of payload capacity. Delivery of Grain de Sail II is expected at the end of 2023.

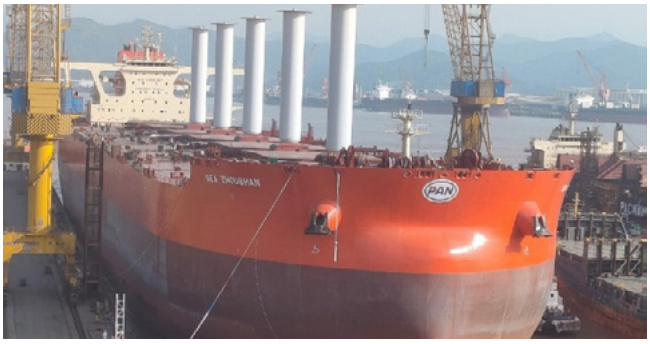


Fair Ferry (Netherlands)

On November 19, the Tall Ship Morgenster departed from Rotterdam (Netherlands) for Lisbon, arriving on December 3. This was the first leg of the "Journey to the New World" with which Fair Ferry takes travellers from Europe to America and back in a sustainable way. It offers travellers a low emission alternative to flying. From Lisbon, they will sail to French Guiana via the Canary and Cape Verde islands. After that, Suriname and various Caribbean islands will be visited, after which they will sail back to Rotterdam. Read more

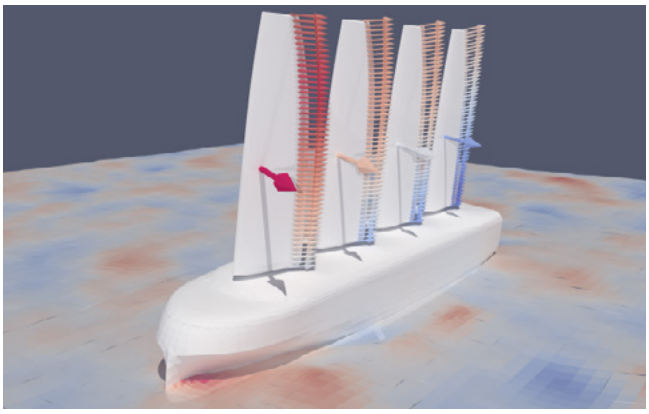
Vale (Brazil)

In December, Vale launched a contest for methanol-dual fuel VLOC's that will feature wind-assist systems (rotor sails) and in addition to other technologies. This is a request inviting shipowners to offer bids for contracts of affreightment for a new generation of its 325,000 dwt Guaibamax vessels. The call comes after over a year of operation for the MV Sea Zhoushan VLOC, installed with five tilting rotors sails supplied by Norsepower. Read more



SSPA (Sweden)

In July, SSPA announced that it was expanding its services in maritime wind propulsion and introduces the new business segment "Wind-Powered Ships". A special team of consultants, experts, and naval architects will support the maritime industry with independent guidance and assessments of wind-powered ships. Read more



Jiangnan Shipbuilding (group) Co., Ltd. (China)

In August, Jiangnan Shipyard launched their self-designed wind-assisted propulsion system 'Jiangnan Smart Sail' in China. The design is based on sails used on sand-proof flat-bottomed wooden boats (sand boats) first used in the area of Chongming, Shanghai. Jiangnan Shipyard is looking to form a modular design of the sail system to suit different sizes and types of vessels. Read more

North Windship Technologies

North Windship Technologies, the umbrella brand covering Southern Spars and North Sails activity in the windship marketplace, has delivered the wing for the fastest wind powered land vehicle on the planet, achieving a new world record on 11th December.

The wing was manufactured for Emirates Team New Zealand's purpose-built land yacht 'Horonuku' which travelled at an incredible 222.4 km/h across the Lake Gairdner salt flats in South Australia. The record has now been officially ratified by the World Land Sailing Organisation, Federation International de Sand et Land Yachting (FISLY).

The wing is 10 metres tall and made from prepreg carbon fibre. Emirates Team New Zealand harnessed Southern Spars' expertise in high-performance composite manufacturing to develop the wing structure, which was cured at high pressure in one of Southern Spars' largest advanced autoclaves. The team at SSNZ spent around 2,000 hours meticulously laying up and curing the wing, designed to push the boundaries of what's possible.

Now that the team has passed the previous record, they are confident that with more wind Horonuku has the ability go even faster.

Policy, Projects & Other News

The United Nations have made an effort to highlight the key marine and maritime issues in 2022. Over the summer UN World Oceans Day was celebrated, during which IWSA Secretary General stated: "There is need for all zero-emissions energy provision to vessels to be treated equally. The rising tide of renewable energy deployment needs to lift all ships, or more precisely 'all energy sources'. The high tide of decarbonisation will be a huge challenge for the entire industry, thus it is critical to use every tool we have available, especially those that are deployable immediately, such as wind propulsion systems." Read more...

UN Oceans Day was followed with the UN Ocean Conference hosted in Lisbon, Portugal three weeks later. IWSA had a booth there and participated in three side events. The largest one of those was entitled "Joining the dots between sustainable maritime logistics and planetary boundaries. The side event was attended by the RH, crown princess Victoria of Sweden, Ministers from Finland and Sweden, and other Distinguished Guests and contributors, we came to the conclusion that:

- The industry agrees that we need to act now
- Multiple enablers need to be put in place in combination
- Everybody needs to contribute with his/her share
- Put a price on carbon emission
- Establish COALITIONS of the DARING
- Question what, how, and why we ship
- Ensure that predictable regulative frameworks are established

Watch video

This event was organized by the Governments of Finland and Sweden, Seas at Risk, Ocean Care, Clean Shipping Coalition, Clean Arctic Alliance together with the Technical Research Center of Finland (VTT) and Research Institutes of Sweden (RISE) and IWSA.

In November, the headline breakthrough at COP27 was the creation of a loss and damage fund for LDC/SIDs which was a substantial achievement and could have a bearing on adaptation drives in the maritime sectors of those countries. This was not a meeting that had a lot of new maritime initiatives, unlike COP26 in Glasgow. While there were quite a number of maritime side events at COP27, these were highlighting progress and delivery and not announcing a substantial basket of new measures. One announcement was the collective Green Shipping Challenge that took a selection of showcase projects underway in the sector, Read more

We were encouraged by the address made by King Tupou VI of Tonga. As the 3rd most climate change vulnerable country there are many challenges facing the people of these beautiful islands and the King highlights that one critical issue along with securing fresh water is the need for sustainable maritime transport and he calls for the "..use of cutting-edge technologies that promote wind-powered, low carbon emitting modes of transport."

As an organisation, IWSA stands ready to support these developments and we have already called on EU members to support the building of a fleet of these ships in solidarity with the peoples of the Pacific islands and other SIDs and LDCs. We hope that this important message resonates with the heads of states and industry that gathered in Egypt and that 'delivery' remains at the top of the agenda.

Watch video

In June, MEPC78 was held at International Maritime Organization (IMO), the first MEPC gathering since IWSA was awarded full consultative status. It was sandwiched in between World Environment Day 2022 with the theme of 'Only One Earth' and World Oceans Day with the theme of 'Revitalization: Collective Action for the Ocean'. While these slogans can often be dismissed as platitudes, we all need to reflect on the severity and urgency of the situation, as our final window for action to avert 1.5c global heating draws to a close. While wind propulsion was not on top of the agenda, the structures to deliver decarbonisation across the fleet certainly were with EEXI and CII to come into force on 01 January 2023 and the debate on mid-term measures including Market Based Measures such as carbon pricing were coming to the fore. IWSA representation at this juncture is that we have the tools, skills and knowledge to do the job in shipping, we just need to match that with the level of ambition to eliminate carbon, all climate forcing emissions this decade and for shipping to step forward as a climate pioneer. To achieve that, IWSA members stand ready to play their part in delivering on that ambition.

As we reached December, MEPC79 and the Intersessional working that preceded it were marked by increased IWSA activity. This is an information document that aims to update IMO, national policy makers and industry stakeholders and to create a baseline to prepare the ground for further technical and regulatory submissions over the coming 12 months. This report was put together under the auspices of the European Sustainable Shipping Forum (ESSF) and is co-sponsored by Finland, France, Saudi Arabia, Solomon Islands, Spain, Union of Comoros and RINA and has been very well received. We would like to thank everyone involved for their input and feedback. IMO Wind Propulsion MEPC79/ INF 21 is now available from IMO Docs and downloadable MEPC 79-INF.21

The paper was presented as part of our side event during MEPC 79, with over 140 delegates present We had presentations from the WiSP project led by American Bureau of Shipping (ABS) & MARIN (Maritime Research Institute Netherlands) and Optiwise EU projects presented by Daniel Barcarolo, the WASP (Wind Assisted Ship Propulsion) project presented by Kaare Press-Kristensen, Union of Comoros IMO permanent representative Orestis Schinas, Cristina Aleixendri Muñoz from bound4blue and Mitsui O.S.K. Lines, Ltd. film of the Wind Hunter project.

IWSA also continues its engagement with the MTCC program, which received further funding this year and the IWSA Secretary General was asked to be one of the panellists at the IMO UN Oceans Conference in June. He also presented at the new IMO CARES project's first workshop. The R&D pipeline and the project development set up was discussed by Dr. Jose Matheickal's hardworking team and the foundation stage is generously sponsored by RSA Eng. Essam M Alammari. There were expert presentations from both fuel and non-fuel tech proponents and the project will help to convene and facilitate decarbonisation pilot and demonstrator projects in developing countries, something that aligns with many of International Windship Association members activities and important to ensure a fairer transition process going forward. We are looking forward to working together with the IMO CARES team and MTTCs to deliver on projects tailored for the regions and developed hand in hand with the communities and stakeholders they will be servicing and impacting. Read more...

On the 17-18 October, IWSA held a Wind Propulsion Photo Exhibition at the EU Parliament in Strasbourg. IWSA had a short presentation updating MEPs and staffers on developments in the sector and potential for growth just ahead of the votes on FuelEU Maritime. IWSA representatives also met with quite a few MEP's and many more received digital updates or visited the photo exhibit that was in a prominent position between delegation meeting rooms and the plenary session.

Negotiations are still underway between the three arms of the EU, however we anticipate a far higher level of consideration for wind propulsion systems in the final text (as compared with the initial drafts that were almost exclusively fuel centric), however getting wind fully integrated into this legislation will take more time and effort, and the review cycle will likely start swiftly after the passing of this regulation and IWSA will be involved in that process from the early stages. IWSA would like to extend thanks to the team at Association Windship, especially the SG Lise Detrimont for her efforts on putting together the photo exhibit and for the liaison work with the French MEPs that championed the cause.

2022 has been a very big year when it comes to maritime deliberations with shipping's impending inclusion in the EU Emissions trading system (ETS) and the drawn out negotiations around the Fuel EU Maritime Directive.

IWSA has been active at both the Parliamentary and Commission levels, providing updated information.

There are three key points IWSA has been making throughout this process:

Zero-emissions: These regulations will set a pathway towards zero-emissions (not just decarbonisation or net-zero), and that is needed before 2050 to align anywhere near of limiting global heating to 1.5C. That pathway needs ambition, and the 5-yearly revision process can review that upwards. However, the industry is calling out for higher ambition at the start – give us the goal, the benchmarks and we will deliver. The wind propulsion amendments being tabled to increase the wind reward and identify direct wind power as a significant tool are important steps to help accelerate the scaling of the sector. These will be a key signal to industry and finance that we need to accelerate the process now.

Economy: This is absolutely vital too. Wind propulsion developments have already generated hundreds of jobs in the EU, tens of millions in investment and this is growing daily. A 2016 EU report estimated up to 20,000 jobs would be created installing systems on just 15% of the fleet by 2030. These jobs in shipyards and coastal communities that often struggle to attract direct investment and would be a multi-billion euro market by the end of the decade. From a shipping industry perspective, the fuel savings alone from wind propulsion by 2050 delivered by a full rollout of wind propulsion across the fleet this decade would not only pay for itself (the only alternative propulsion energy source that can do that) but would also cover the EUR1.4-1.9 trillion required for full decarbonisation of the global fleet.

The Future: We all know that we need to do more. EU decisions will impact our deliberations at IMO level. 'Fit for 55' means reducing GHG emissions by 55% by 2030 in the EU, but that needs to be in all sectors and globally – we are far from this today. This goal needs to include all climate forcers and indirect GHG emissions. To reach this higher ambition, wind propulsion needs to be incorporated at the very heart of these efforts – a zero-emissions, benign energy source that is abundant, free and available globally today. If energy is delivered to a wind turbine, then electricity generated and used to create a gas/liquid which is then burned onboard a ship – that is designated a 'fuel' and receives well deserved incentives, government support and scaled financial backing. If that same wind energy propels the ship directly it is designated as a 'fuel efficiency measure' and receives far less attention. These artificial, illogical and damaging designations are holding back the drive to zero-emissions, wasting time we can ill afford.

October was a busy policy period, with the IWSA Secretary General attending the International Transport Forum of the OECD for their two-day Coastal Shipping Roundtable, discussing coastal shipping and decarbonisation which is a critical sector of shipping worldwide. Wind propulsion will need to be at the heart of the pathway to ensure a viable, resilient and economical transition and the final report from those deliberations will be released in the near future.

In November, the IWSA Secretary General turned the spotlight onto our Asian members and the developments in the region with three weeks of events, meetings, site visits and media and policy interviews. He had a busy schedule with stops in Singapore, South Korea and Japan along with a series of virtual meetings in China. This trip has helped to highlight the growth in interest and activity underway in the region.

We are seeing growing interest across the region from government policy makers, research organisations, naval architect organisations, academia and crucially, shipowners in search of solutions for CII, EEXI and longer term zero-emissions energy options.

These developments are set to only grow further in the coming months and the IWSA Secretary General looks forward to returning to the region next year.

The EU funded WASP project continues to deliver updates on their activities with Danish Shipping hosting the EU WASP project conference in May where the preliminary results from a new set of sea trials from multiple vessels with installed wind propulsion technologies were presented. The event held a set of lively discussions on those results, the benefits of wind propulsion technologies and these should be further promoted in the EU and worldwide.

This was followed by a webinar discussing 'Policy and Should Policy Makers Incentivise the Uptake of Wind Propulsion' and the SMM WASP conference. The project also had a photo exhibition during the IMO MEPC79 meetings and participated in the IWSA side event. Read more...

The project will be wrapping up in the middle of 2023, therefore we will be seeing a number of reports and findings being released in the coming months. The WASP final conference will be held as part of the International Academic Conference on Shipping Sustainability Solutions, from 02-03 March 2023 at the Kühne Logistics University (KLU), Hamburg, Germany
Read more...

The Optiwise HORIZON Project has been launched with the aim to holistically improve design and control of commercial ships with wind propulsion. The EU has granted funding for the Optiwise HORIZON Project, looking at how up to three different wind propulsion systems installed on a single ship could derive significant energy savings. Congratulations to the team and looking forward to helping to disseminate the results! Partners working together in this MARIN coordinated project are Core IC, SSPA, AYRO, Chantiers de l'Atlantique, Flikkema Innovation Management & Consultancy, Wärtsilä Netherlands, Università degli Studi di Genova, Euronav, Anemoi Marine (associated partner using British funding) and MARIN.
Read more...

The WISP Project has released their Blue Route. The WiSP2 Joint industry project started focussing on developing performance prediction methods for wind-assisted ships. As part of its earlier research into wind propulsion, MARIN already developed the prototype application BlueRoute, a public cloud based web service. Read more...

The 30th International Towing Tank Conference (ITTC) has established a 'Specialist Committee on Performance of Wind Powered and Wind Assisted Ships' and IWSA is engaging with the committee's work. There has already been a number of KPI workshops, and we expect this work to draw on work already underway in IWSA, WASP, WiSP, Optiwise and other projects.
The terms of reference are quite extensive and this well-established and IMO recognised expert organisation will have several deliverables, information on those can be found here.

September saw a successful SMM trade fair in Hamburg, and we were delighted to be part of this event with 27 members exhibiting, 50+ attending and 8 presentations focused on wind propulsion developments. The welcoming ceremony on Monday 5th September included a theatre piece featuring wind-assist. Also, it was great to see the backdrop image for the GMEC conference was wind propulsion technology. We also made it onto the front page of SMM bulletin on Wednesday 8th September. Read more

Among the many side events and other events, we also discussed wind propulsion developments at a packed external event hosted by JSMEA and featuring presentations from MOL, ClassNK and IWSA.

We created an unofficial 'wind route' guide which was be released in advance of the event to help visitors navigate to the wind related booths and events. Download that here

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A joint study has been announced relating to the application of wind propulsion on vessels and the optimisation of hull design. Mitsui O.S.K. Lines, Ltd. along with MOL Tech-Trade (MOLTT), Tokai University and Akishima Laboratories will look at applying aerospace engineering technologies to advance the earlier developed Ishin ship design and further cut emissions. Read more...

Two reports focusing on France and the Brittany region of France were released in English language. The first one is the White paper 'Wind Propulsion for Ships' from France-based Association Windship Download here. The second was released by Bretagne Développement Innovation looking at developments and opportunities.
Download or read online.

IWSA member, SSPA held a Wind Propulsion Showroom in November bringing together ship owners and ship operators with technology providers for a one-day event on Wind Propulsion in Gothenburg, Sweden. In the morning, SSPA's experts presented the latest regarding wind-powered ships and discussed how wind propulsion can help to improve fuel efficiency, EEXI ratings and CII values.

NEW BOOK: Trade Winds: A Voyage to a Sustainable Future for Shipping

Shipping goods on wind-propelled ships is probably a no-brainer for anyone receiving the IWSA newsletter. But what is life-like aboard a sailing cargo ship? Christiaan De Beukelaer decided to find out by joining the century-old two-masted schooner Avontuur in February 2020 as part of his research into the decarbonisation of the shipping industry. Then, of course, the pandemic happened. His planned three-week stint aboard the Avontuur turned into a five-month odyssey, which left the fifteen marooned together while hopping from port to port to load cargo and re-provision. The time at sea also made him reconsider the mission they were on. Does it really make sense for fifteen people to spend so much time at sea to ship a mere sixty-five tonnes of goods across the Atlantic Ocean? Or might the slow and laborious focus on craft and repair, which traditional ships require, teach us something about the uncertain climate future we collectively face? Long story short? Christiaan De Beukelaer's book "Trade Winds: A Voyage to a Sustainable Future for Shipping" appears on January 31st, 2023. You can pre-order your copy here. (NEWSLETTER30 will get you 30% off.)

Members, Partners, Projects & Collaborations

Announced Coalition Partnership
(May 2022)

IWSA Granted Full consultative Status
(February 2022)

European Sustainable Shipping Forum (ESSF) – Wind Propulsion Workstream (Apr-Dec 2022)

IWSA & Journal of Sailing Technology – Collaboration Agreement (May 2022)

New Members

Full Members

Steve Kozloff Designs
(USA)

Associate Members

DNV
(Norway/International)
Press release

MAURIC SA
(France)

Porcher Industries
(France)

RINA
(Italy/International)
Press release

Registered Supporters

Bureau Veritas Solutions Marine & Offshore
(France/International)

SkyData UAV
(USA)

Ocean Master Engineering
(Singapore)

Syroco
(France)

Individual Registered Supporters

Nelson Garcez (USA), Dr. Asokendu Samanta – Indian Register of Shipping (India), SLt Gaurav Tehlan – Naval Construction Officer, Indian Navy (India), Stefano Scarpa, CEng, MBA (UK), Vidal Denis (France), Kieron Moore (UK)

Classification Society Guidelines

There are an increasing number of publicly released guidelines and links to specific wind-propulsion classification documents:

Bureau Veritas Guidelines: Download
ClassNK Guidelines are downloadable from www.classnk.com
DNV Guidelines: Download
ABS Guidelines: Download
Lloyds Register Guidelines: sail assisted ships / rotors / masts spars and rigging
Russian Maritime Register of Shipping (RS): Download

Media Listings

Publications

IWSA Newsletter Back Issues: Download back issues of the IWSA public newsletter

May 2022 / December 2021 / April 2021 / October 2020 / April 2020 / December 2019 / July 2019 / February 2019 / October 2018

IWSA International Windship Association

Click a link to view our youtube interviews

ARONNAX PODCAST

11 episodes of the Aronnax Podcast that have featured stories about wind propulsion

9th March 2020 with Gavin Allwright, IWSA and Brian Boserup, Blue Technology Listen Here
1st April 2020 with eConowind Listen Here
11th May 2020 with BAR Technologies and AirSeas Listen Here
1st February 2021 with Roger Strevens re WW plans Listen Here
1st May 2021 with Orestis Schina HHX and intro to Danielle Doggett, SailCargo Inc. Listen Here
7th May 2021 with Daniellle Doggett SailCargo Inc. Listen Here
19th November 2021 with Di Gilpin, Smart Green Shipping Listen Here
2nd January 2022 with Bound4Blue Listen Here
1st April 2022 with Orca Listen Here
24th April 2022 with Syroco Listen Here
2nd November 2022 with Danielle Doggeet, Veer Voyage Listen Here

Articles & Interviews

Wind propulsion in shipping: Where we stand
Read more...

Singapore – CNA TV Interview
Read more...

IMO Wind Propulsion MEPC79/INF 21 Submission
Read more...

White paper 'Wind Propulsion for Ships' - France (English version)
Read more...

Wind-powered cargo capacity breaks through 1m dwt mark
Read more...

SMM Conference Daily
Read more...

Interview with IWSA Secretary General
Read more...

Brittany Region – Wind Propulsion Report
Read more...

Climate change could bring back wind as the future power source for ocean cargo ships
Read more...

Airlines And Shipping Companies Seeking Alternative Fuels
Read more...

The Future of Shipping Is ... Sails?
Read more...

Harnessing wind power for shipping looks promising
Read more...

To protect the ocean, some ships harness renewable energy
Read more...

The Winds of Change are Shifting
Download here

Owners drawn to wind-assist technology amid high fuel prices
Read more...

UN Ocean Conference Side Event – Joining the dots between sustainable maritime logistics and planetary boundaries - VIDEO
Watch here

IWSA Secretary: There is need for all zero-emissions energy provision to vessels to be treated equally
Read more...

Key IWSA Programs 2022+

Program	Date	Description	Opportunity
Accelerator Program	2023+	Large scale incubator – test fleet – installation program giving all tech members access to funding, tech and business support, training & research opportunities + retrofit/newbuild	Multi-stakeholder project currently being scoped. Working on full structure & funding proposals throughout 2022/23
Wind Propulsion Market Report	Q1 2023	20-30 page report on market developments tech info + 1-2 page policy Briefing paper – include findings from surveys.	Collaborative project between all stakeholders and being delivered as part of EU ESSF activities as a White Paper.
Member & Industry Surveys	Q1 2023	Series of industry/policy maker surveys IWSA, Shipping & Policy (IMO, EU etc.)	Research level questions and academic collaboration.
Expert Database	Ongoing	Setting up database - researchers/engineers, policy specialists & academics	Developed in coop with WASP project
Small Vessel Publication	Call for Papers 2022-23	50+ pg pdf report on small vessel sector, - tech, economic/business plans, routes & cargos, project profiles + expert input.	Leading publication on small vessel sail cargo and technical developments. Sponsorship and project segments available.
Documentary & Short Film	2023	Professionally produced 2-3 min short film intro wind propulsion tech & developments.	Designed for general & maritime audience. Sponsorship required
Webinar & Podcast Interviews	Webinar series 2022	Continued 'Listening to the Wind' interviews with IWSA members + selection of webinars this year with leading expert panels	Recordings will be made available for free on Youtube channel - Sponsorship available
Education Program	Ongoing	Univ. & School program – seminars, lectures, works groups & project visits + Produce educ. materials for wider network.	Expansion of ongoing program to maritime colleges, univs, high schools. - Sponsorship - materials production & events available.
Wind Propulsion Conference 2023	Q1 2023	RINA/IWSA associated Two-day conference – hybrid or in-person event	Sponsorship available: Contact Royal Institution of Naval architects directly
Wind Propulsion Multi-Stakeholder Working Group	Q1/2 2023+	Regular working group - 20-30 members from all external stakeholder groups. Covering all aspects of integrating wind in the industry and policy framework.	Funding required for research, work package support + dissemination.
Wind Propulsion Hub Development	2023+	Increased coordination of international hubs, national chapters, stakeholder engagement + funding outreach	Involvement & funding of set-up of additional hubs + increased regional/national impacts.
Project Collaborations & Advisory	2023+	GCMD Collaboration WiSP 2 – JIP headed by ABS & MARIN WASP – 3-year EU Interreg project World Wind Energy Association Waterborne EU IRENA: Coalition for Action – UN affiliated IMO & ESSF Status	Engagement in partnership, as representative or as supporting organisation/knowledge partner to further the aim of integrating wind propulsion solutions into the policy framework of commercial shipping and encouraging further pilots and demonstrator vessels.
Match-making Platform	Q1/2 2023+	Virtual events bringing together projects, OEMS, suppliers, finance and other stakeholders for introductions, discussions and activities around wind propulsion.	Platform will have regular meetings and events which will include a small fee and can also be sponsored.

Upcoming Events

16-17 February 2023– Wind Propulsion Conference 2023 – London, UK.

The International Windship Association is delighted to be teaming up again with RINA to deliver the 3rd Wind Propulsion Conference on 16-17 February 2023. This will be held at the IMO headquarters in London.

This conference has a technical paper foundation as you might expect, but we will also have discussions on the key aspects of wind propulsion and the huge potential for decarbonising the fleet.

(Call for papers closed)

Read more...

17-21 April 2023 - Blue Forum: Natural Propulsion Seminar – Palma de Mallorca, Balearic Islands, Spain.

This year the event will be held in in Palma de Mallorca in meeting facilities in the harbour of Palma. International speakers will share their expertise and projects at local and global levels. Since 2012, the BlueWeek has filled its mission to propose a unique and independent international platform for sharing developments, inspiring innovation, giving confidence in change, finding partnerships and meeting the community that makes the energy transition happen.

IWSA is helping with the content of the programs of the seminars & workshops in 2023.

Registration costs 75 euros per day, of which part will partly cover catering and the rest be rewarded to local initiatives to mitigate the emission footprint of participants travelling to the BlueWeek.

The seminar program will cover technical sessions on the following days:

- Tuesday, 18 April - Natural Propulsion & Zero Emission Shipping
- Wednesday, 19 April - Blue Forum with presentations and debates around the local Balearic initiatives to connect Sustainable Energy, Transport and Ocean Protection, as well as international initiatives
- Thursday, 20 April - Ocean Energy & BlueLife, including a workshop on the multi-use of ocean space

The organiser's also offer the possibility for participants to organise their member meetings for projects related to sustainable maritime development and renewable energy. If you are interested, please contact the organiser.

This event will include a visit to the solar powered green hydrogen plant in Lloseta. this is a production plan for more than 300 tonnes of green hydrogen per year, which is planned to be used for part of Palma's bus fleet, for port services in Palma, and for tourist establishments and industries.

Call for contributions for this event is open. Read more...

02-03 March 2023 - International Academic Conference on Shipping, Sustainability & Solutions – Hamburg, Germany

This conference is being held by the Hapag-Lloyd Center for Shipping and Global Logistics (CSGL), Kühne Logistics University (KLU) and in conjunction with the WASP project's final conference.

Abstract deadline: 05 February 2023

Read more...

29-31 May 2023-Innov'sail 2023 Lorient, France

Innov'sail is organised by Ecole Navale, the Cité de la Voile-Eric Tabarly, the Eurolarge Innovation programme supported by Bretagne Développement Innovation and will be held in Lorient, France.

Every three years since its creation in 2008 by the Cité de la Voile-Eric Tabarly and the Ecole Navale, INNOV´SAIL International Conference on Innovation in High Performance Sailing Yachts and Sail-Assisted Ship Propulsion has brought together the world's leading experts in the field of sailing research.

Over three days, the conference will provide an international forum for the presentation and discussion of the latest scientific and technological research and its application in the complex field of sailing on the topics of wind assisted ship propulsion as well as competitive sailing. Read more...

01-02 June 2023 – Wind for Goods - Nantes, France

This event is dedicated to wind-powered maritime transport. It offers the chance for attendees to discover solutions and innovations that contribute to the decarbonisation of freight transport, and to discuss the key challenges of this sector which aims to preserve the environment. Read more...

21-23 March 2023 – 38th CMA Shipping, Connecticut, USA – IWSA official supporting organisation

The conference will center around Collaboration for Transition - key topics will included: Decarbonization, Green Shipping, Digitalization and Big Data, Bunkering, Seafarer Wellbeing, Cybersecurity, Finance, Domestic Policy and Strategy, Energy Transition and Route Optimization.

Please use the following as your discount code link: Click here

IWSA member $300 discount code is: FKT3879IMIWSA

Conferences & Events Presented at in 2022:

Conference/Event Name	Location	Month
Chinese Marine Safety Agency	Shanghai, China	December 2022
International Conference: Scaling Decarbonisation Solutions - Reducing Emissions by 2030 – 'Wind Propulsion Scalability: Opportunities & Challenges'	Rotterdam, The Netherlands	December 2022
Sustainable Shipping Conference "Development of Wind-Assisted Ship for Decarbonisation" –	Tokyo, Japan	November 2022
Green Shiptech. China Congress 2022	Shanghai, China	November 2022
COP27 Conference – Peaceboat Press Conference	Sharm el Sheikh, Egypt	November 2022
Global Grain 2022 Conference	Geneva, Switzerland	November 2022
International Chamber of Shipping Board	London, UK	November 2022
Korean Society of Naval Architects	Busan, Korea	November 2022
Thrust and Kinematics Sub-Committee of Japan Society of Naval Architects	Online	November 2022
Stephenson Harwood – Wind Propulsion Event	Singapore	November 2022
Innoday2022 - LNG & Alternative Fuel	Online	October 2022
EU Parliament Photo Exhibition	Strasbourg, France	October 2022
OECD	Paris, France	October2022
STEERER Final Conference	Antwerp, Belgium	October 2022
Association Windship AGM 2022	Nantes, France	September 2022
SeaTech 2022	Brittany, France	September 2022
MTE Conference	Geneva, Switzerland	September 2022
STEERER Green Shipping Expert Group	Brussels	September 2022
Renewable Energy Webinar – 2022 - The Global Meet on Renewable and Sustainable Energy (GMRSE2022)	Online	August 2022
IMO CARES – MTCC Pacific Webinar	Online	August 2022
Global Maritime Decarbonisation Center	Singapore	July 2022
UN Ocean Conference 2022 – "Joining the dots between sustainable maritime logistics and planetary boundaries" Side Event	Lisbon, Portugal	June 2022
UN Ocean Conference 2022 – IMO CARES & Africa Side Event	Lisbon, Portugal	June 2022
Electric Hybrid Conference – Hybrid Wind Propulsion Seminar	Amsterdam	June 2022
3rd Decarbonizing Shipping Forum	Hamburg, Germany	June 2022
EU Parliament Intergroup on 'Climate Change, Biodiversity and Sustainable Development', "Boosting innovation for the future and sustainability of our ocean – The road to Lisbon" – Webinar	Online	June 2022
Natural Propulsion Seminar 2022 (Blueweek)	Rotterdam, The Netherlands	June 2022
IMO CARES – Caribbean Webinar	Online	June 2022
EU Maritime Days 2022	Ravenna, Italy	May 2022
World Maritime Forum	Copenhagen, Denmark	May 2022
WASP Project Conference hosted by Danish Shipping	Copenhagen, Denmark	May 2022

Membership & Membership Fee Structure

IWSA welcomes all membership enquiries from companies/ individuals that support our objectives. The associate and supporter categories are open to all, while the Full member category is reserved for those heavily involved in the sector. For further details: contact Gavin Allwright secretary@wind-ship.org

Annual Membership Fees (No VAT) – 01 January 2023 – 31 December 2023

Full Member – Large (more than 250 employees) – €5,000
Full Member – SME (more than 10 employees) – €1,000
Full Member – Individual/micro organisation/NGO (up to 10 employees) – €400

Associate Member – Large (more than 250 employees) – €2,500
Associate Member – SME (more than 10 employees) – €500
Associate Member – Individual/micro organisation/NGO (up to 10 employees) – €300

Registered Supporter – Company – €100 (donation) // Individual/micro organisation/NGO – FREE + donation*

*NOTE: Supporter – No Charge – [Voluntary 'membership fee' to cover costs is welcome – €50 or donation