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THE **MOTORSHIP** 100 YEARS  
**PROPULSION**  
& Future Fuels Conference

2021

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## Conference Programme

Radisson Blu Scandinavia Hotel, Copenhagen, Denmark

Powering shipping's emissions-cutting ambitions  
Propulsion stream | Alternative fuels stream | Technical visit

Two days of conference streams offering new and retrofit technical/fuel solutions to address upcoming regulatory deadlines from the IMO and EU.

Chairmen: Lars Robert Pedersen, Deputy Secretary General, BIMCO  
Martin Kroeger, Managing Director, German Shipowners Association – VDR

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## DAY ONE – PROPULSION & FUTURE FUELS TUESDAY 2-4 NOVEMBER 2021

**08:00** **Coffee & Registration**

**08:45-09:00** **Chairmen's welcome**

*Lars Robert Pedersen, Deputy Secretary General, BIMCO*

**09:00** **Gold Sponsor Welcome – DNV**

*Christos Chryssakis, Business Development Manager, DNV Maritime*

**09:10-10:30** **KEYNOTE PANEL: EU EMISSIONS TRADING SCHEME AND SHIPPING**

**Moderator** **Martin Kroeger, Managing Director, German Shipowners Association – VDR**

With pre-existing global agreements from IMO's MEPC72 meeting in 2018 to reduce greenhouse gas emissions by 50% by 2050, will the EU's proposal hinder or help?

*Claus W. Graugaard, Head of On-board Vessel Solutions, Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping*

**Virtual Attendance** *Charles (Bud) Darr, Executive Vice President, Maritime Policy and Government Affairs, MSC Group*  
*Wolfram Guntermann, Director Regulatory Affairs, Hapag-Lloyd AG*

**Virtual Attendance** *Christopher Fee, General Manager - Environment and Sustainability, Oldendorff Carriers*

**10:30-10:50** **Q&A**

**10:50-11:10** **Coffee break**

**SESSION 1** **ENERGY EFFICIENCY EXISTING SHIP INDEX (EEXI)**

**11:10** **Impact of CII and EEXI on uptake of alternative marine fuels**

*Christos Chryssakis, Business Development Manager, DNV Maritime*

Enforcement of EEXI and CII in 2023 will have substantial impact on both existing vessels and new building orders. In this presentation we explore the different approaches towards compliance.

**11:25** **Predictive evaluation of existing ships as low emission investments**

*Mike Konstantinidis, CEO, METIS*

The Microsoft Azure-powered METIS platform uses Artificial Intelligence and Machine Learning to combine real-time performance analysis with the proactive decision support to optimise ship efficiency.

**11:40** **Meeting the IMO GHG targets through EEXI and CII - The Shipowners' perspective**

*Chris Waddington, Technical Director, International Chamber of Shipping (ICS).*

The presentation aims to identify the targets, challenges and available pathways for owners and operators preparing their ships to meet the EEXI and CII requirements in the race to be compliant by the end of year 2022.

**11:55** **EEXI and CII - Insights and Solutions**

*Nicolas Duchêne, Chief Operating Officer & VP Technical, Verifavia & Verifavia Shipping*

Ship owners and managers are facing new challenges in meeting those requirements which will significantly impact the sector. These impacts, along with potential solutions, will be presented with the intent to clarify the path toward EEXI and CII compliance.

**12:10-12:30** **Q&A**

**12:30-14:00** **Lunch**

**SESSION 2: RETROFITTING THE FLEET**

**14:00** **Gate Rudder: a contribution to a better vessel performance**

*Dr Elias Boletis, Director Propellers and Transmission, Wärtsilä Propulsion*

The Gate Rudder can be integrated within the vessel propulsion system providing significant efficiency advantages. This is already manifested in a number of vessel applications. It also provides an excellent combination with wind assist propulsion, allowing very good vessel course keeping and manoeuvring capability.

**14:15** **Seawing Kite Project in trials with K-Line**

*Vincent Bernatets, CEO & co-founder, Airseas*

Airseas, an Airbus spin-off, has harnessed the aeronautical expertise of its parent company to create a kite system expected to be serialised for roll out by "K" Line.

**14:30** **Ms Amadea Retrofit**

**Virtual Attendance** *Rob Van Solingen, European Sales Director - Marine and Stationary Power*

A novelty power management system meeting IMO tier III without SCR and urea injection.

- 14:45**      **Twin Fin Direct electric drive propulsion system - Polarcus**  
*Jonas Nyberg, Managing Director – West, Berg Propulsion*  
 After over 60,000 hours of trouble-free operation for shipowner Polarcus, Berg Propulsion's Twin Fin direct electric drive propulsion system has been chosen by another shipowner for a large bulk carrier under construction in China.
- 15:00**      **BW LPG – Worlds first retrofit LPG two stroke engine**  
*Klaus Dahmcke Rasmussen, General Manager, Project Sales, MAN ES*  
 The successful conversion of the main engine aboard the LPG carrier, 'BW Gemini', from an MAN B&W 6G60ME-C9.2 type to an MAN B&W 6G60ME- LGIP dual-fuel type capable of operating on fuel oil and LPG.
- 15:15-15:35**      **Q&A**
- 15:35-15:55**      **Coffee break**



### SESSION 3: CURRENT AND FUTURE PROJECTS

- 15:55**      **First LNG Battery hybrid PCTCs**  
*Jan Thore Foss, Head of Ship Management, UECC*  
 LNG has proven advantageous for two United European Car Carriers (UECC) shortsea PCTCs in operation since 2016, and the company is now building a series of three further vessels that will be the first LNG battery hybrid PCTCs in the world.
- 16:10**      **Zero Emission Bulker Concept Design**  
*Graham Harvey, CEO, Windship Technology Ltd*  
 A diesel-electric ship design including solid aerofoils, solar panels, heat recovery and onboard CO<sub>2</sub> capture is being developed for tankers and bulkers, and British company Windship Technology is currently working towards Approval in Principle from DNV.
- 16:25**      **Intelligent control by exhaust recycling (iCER) – Reducing Methane slip by 50%**  
*Dominik Schnitter, Research and Development, WinGD*  
 WinGD's second-generation dual-fuel engine platform. WinGD unveiled a new technology designed to slash methane emissions and cut fuel consumption in its X-DF dual-fuel engines.
- 16:40**      **Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping**  
*Claus W. Graugaard, Head of On-board Vessel Solutions, Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping.*  
 The development of new fuels and powering solutions, as well as the correct alignment of regulatory and commercial incentives. While many are working to address these challenges separately, the centre is unique in its scope, and plans to make a contribution across each of these areas.
- 16:55-17:10**      **Q&A**
- 17:10**      **The Motorship Award Voting Opens**
- 17:10-18:00**      **Pre-Dinner Drinks Reception**
- 18:00**      **Voting for the Motorship Award Closes**
- 18:30**      **Dinner – Restaurant Allegade 10, Allegade 10, 2000 Frederiksberg, Denmark.**  
**Announcement of the Motorship Award Winner by The Motorship Editor, Nick Edström**



## DAY TWO – WEDNESDAY 3 NOVEMBER 2021

- 08:30**      **Coffee & Registration**
- 08:45**      **Recap of day 1 by Conference chairman**  
*Martin Kroeger, Managing Director, German Shipowners Association – VDR*

## SESSION 4 TODAY'S ALTERNATIVE FUELS

- 09:00** **The energy transition in shipping**  
*Charlotte Røjgaard, Global Technical Manager, Bureau Veritas*
- 09:10** **Marine engine fuel systems to approach Net Zero GHG**  
*Hartmut Schneider, Senior Manager Advanced Development, Woodward L'Orange GmbH.*
- 09:20** **World of Future Fuels and Blends**  
*Frank Hartevelt, General Manager Sales & Strategic Development, Fuel Gas Supply Systems at Wärtsilä*
- 09:30-10:00** **Panel discussion Moderated by Martin Kröger, Managing Director, German Shipowners Association – VDR**
- 10:00-10:20** **Q&A**
- 10:20-10:40** **Coffee Break**
- 10:40-10:50** **Keynote Panel (Part 2): EU Emissions Trading Scheme and Shipping**  
*Interview with Ngoc-Lan Lang, Policy and Legal Officer, European Commission – Directorate-General for Climate Action.*
- Nick Edström, Editor, The Motorship**
- 10:50-11:10** **Q&A**

## SESSION 5 FUEL STREAM I

SESSION 5.1 LNG'S EVOLUTION	SESSION 5.2 METHANOL
<p><b>Moderator: Martin Kröger, Managing Director, German Shipowners Association – VDR</b></p> <p><b>11:10 Future-proof shipping is available now</b> <i>Alexandre Tocatlian, Head of Product Line for LNG as Fuel Division, GTT</i> This presentation will detail the key points that a ship owner should address to be successful.</p> <p><b>11:25 LNG as a transition fuel</b> <i>Frank Hartevelt, General Manager Sales &amp; Strategic Development, Fuel Gas Supply Systems at Wärtsilä.</i> This presentation will be primarily focused on LNG as an enabler to start the energy transition, focussing thereby on how we can greenify the methane (hydrocarbon) route for shipping.</p> <p><b>11:40 LNG as fuel on Nordic 1,400 TEU Container Vessels</b> <i>Dieter Hilmes, Senior Sales Manager, TGE Marine Gas Engineering GmbH</i> The new design of the ethane fuel gas system for an Ethane carrier which is currently converted will be presented as a case study.</p> <p><b>11:55 Progress on LNG as a Marine Fuel</b> <i>René Sejer Laursen, Director, Fuels &amp; Technology, ABS</i></p> <p><b>12:10-12:30 Q&amp;A</b></p>	<p><b>Moderator: Lars Robert Pedersen, Deputy Secretary General, BIMCO</b></p> <p><b>11:10 Decarbonizing shipping and the role of green methanol.</b> <i>Berit Hinnemann, Head of Decarbonisation, A.P. Møller - Mærsk A/S</i> The presentation will highlight the technical features of this LNG powered new building series of 6 modern container vessels and will give an overview which alternative fuels can be used in the future.</p> <p><b>11:25 Methanol: A Future Proof Marine Fuel</b> <i>Greg Dolan, Chief Executive Officer, Methanol Institute</i> As shipping looks to address IMO's GHG emission reduction ambition, methanol is emerging as a leading alternative fuel. Methanol fueled ships are on the water today, available in ports globally, and easily bunkered.</p> <p><b>11:40 Technologies and new energy solutions for ships operating on methanol as fuel</b> <i>Lars Skytte Jørgensen, Head of Technology Development Energy Systems, Alfa Laval</i> Alfa Laval will present an expanding equipment portfolio for methanol. In addition to fuel supply, the solutions – existing and in development – will secure the energy recovery and management needed due to methanol's lower energy content.</p> <p><b>11:55 Methanol as fuel: classification and statutory requirements for the shipping Industry</b> <i>Olivier cartier, Vice President Technical Bureau Veritas Marine &amp; Offshore (Classification Society)</i> The presentation will focus on classification and statutory requirements to handle New Building or retrofit of ship in service projects wishing to use to methanol as a fuel.</p> <p><b>12:10-12:30 Q&amp;A</b></p>

**12:30-14:00 Lunch & Networking**



## SESSION 6 FUEL STREAM II

### SESSION 6.1 AMMONIA

**Moderator: Faig Abbasov, Shipping programme director, Transport Environment**

**14:00 Ammonia propulsion for deep sea shipping**  
*Peter H. Kirkeby, Principal promotion manager, Man ES*  
 This presentation will examine what technical solution MAN-ES is developing that can allow adoption of ammonia as a fuel in within the limits of ship designs and look into possible concepts for auxiliary systems such as fuel supply for the main engine.

**14:15 Ammonia as marine fuel - an update**  
*Naeem Javaid, Global Operations Manager FOBAS, Marine & Offshore, Lloyd's Register*  
 This presentation will compare the viable future fuels of shipping from technical, operational, commercial and environmental aspects. The presentation will look into the current readiness level of different fuels and what needs to be done to make these fuels available for international shipping. The presentation will also touch on any regulatory hurdles that needs to be removed for accelerated uptake of alternative fuels.

**14:30 Ammonia as Marine Fuel, A Lifecycle Analysis**  
*René Sejer Laursen, Director – Fuels & Technology, ABS*  
 In this presentation I will review ammonia as a marine fuel option in both the near-term and long-term and give insight into the lifecycle carbon footprint of this fuel option.

**14:45 Green Ammonia, a zero-carbon shipping fuel**  
*Christian Berg, Director Bunkering Market Development Scandinavia, Yara Marine Technologies AS*  
 With over 100 years of experience Yara's ammonia position is unique, with leading positions across production, trade and shipping.

**15:00-15:20 Q&A**

### SESSION 6.2 HYDROGEN AND FUEL CELLS

**Moderator: Lars Robert Pedersen, Deputy Secretary General, BIMCO**

**14:00 Development of MW-scale marine fuel cell systems**  
*Sami Kanerva, Senior Principal Engineer, ABB Marine*  
 ABB and Ballard Power Systems are collaboratively developing MW-scale hydrogen-driven fuel cell systems for large marine vessels. Key requirements and design aspects of large-scale solutions are reviewed with respect to experience on demonstrator projects for marine and other industries.

**14:15 H2 in Shipping – Fuel Supply, Engine Concepts, FGSS/Tanks and Ferry Use Case**  
*Alexander Feindt, Senior Energy and Maritime Manager, Man ES*  
 The order of the day for when and how to use hydrogen in shipping – which this presentation aims to do.

**14:30 Key aspects of Hydrogen Vessel Design**  
*Milinko Godjevac, Senior Integration Advisor, Future Proof Shipping*  
 Based on the ongoing retrofit process, numerous technical, commercial and procedural aspects for efficient design of hydrogen vessels are presented.

**14:45 Progress and priorities in ship design for fuel cell technology**  
*Jan-Erik Räsänen is currently Head of New Technologies at Foreship Ltd*  
 Fuel Cells have emerged as a realistic complementary technology to help ships meet future GHG emissions regulations. But fast-tracking their development to supplement or even replace combustion engines demands decisiveness on scaling-up options and on low carbon fuel content choices.

**15:00-15:20 Q&A**

### 15:20-15:40 Coffee Break



## SESSION 7 FUEL STREAM III

SESSION 7.1 WIND-ASSISTED PROPULSION	SESSION 7.2 ELECTRIFICATION
<p><b>Moderator: Gavin Allwright, Secretary, International Windship Association</b></p> <p><b>15:40 Setting the scene for wind propulsion</b> <i>Gavin Allwright, Secretary, International Windship Association</i></p> <p><b>15:55 Wind-powered ship performance – the tools and trades</b> <i>Virtual Attendance Mikael Razola, Project Manager - WPCC Research Project, Wallenius Marine &amp; Sofia Werner, Senior Researcher &amp; Manager Strategic Research Hydrodynamics, SSPA</i></p> <p><b>16:10 Introduction of Guidelines for Wind-Assisted Propulsion Systems for Ships</b> <i>Virtual Attendance Motoki Sakagami, Marine Engineer - Technical Solution Department, ClassNK</i> Wind technologies as ship's auxiliary propulsion has advanced steadily. This presentation addresses the safety requirements and challenges of wind-assisted propulsion systems from classification society point of view.</p> <p><b>16:25 The application of Rotor Sail technology and optimising fuel and emission reduction</b> <i>Nick Contopoulos, COO, Anemoi</i> In this presentation we will explore how Rotor Sail technology works, its application in commercial shipping and across various sectors, in addition to the practical and technical aspects related to Rotor Sail performance and installation.</p> <p><b>16:40-17:00 Q&amp;A</b></p>	<p><b>Moderator: Martin Kröger, Managing Director, German Shipowners Association – VDR</b></p> <p><b>15:40 The road to zero-emission shipping</b> <i>Kim Strate Kiegstad, Vice President Sales, Corvus Energy</i> This presentation will explain how technology develops to enable more and more vessels to reduce emissions from their operations, how one can prepare for future technology and the harmony between batteries and fuel cells.</p> <p><b>15:55 Enhancing Safety Standards of Energy Storage Solutions (ESS)</b> <i>Sven Thy Christensen, Vice President Business Development, Shift Clean Energy</i> This presentation will explore Shift Clean Energy storage technology (the first to be certified for this new standard) and demonstrate the value of liquid cooling, as opposed to air cooling to avoid thermal runaway.</p> <p><b>16:10 Battery Powered Vessels, lessons learned</b> <i>Sverre Eriksen, Principal Expert Risk &amp; Safety, Systems Engineering, DNV</i> With more than 300 vessels built and 200 on order with battery or battery hybrid propulsion. What have we learnt so far and what can we expect moving forward?</p> <p><b>16:25 Maximising system efficiencies through enhanced integration</b> <i>Dominik Schneider, Vice President, Research and Development WinGD</i> The intelligent integration of electrical devices on a merchant vessel with a 2-stroke engine at its core and shows how to improve overall system performance of up to 10% with direct effects on operational expenditure and greenhouse gas emissions.</p> <p><b>16:40-17:00 Q&amp;A</b></p>

**17:00 Conference Wrap up with Moderators and Chairmen**  
*Lars Robert Pedersen, Deputy Secretary General, BIMCO*  
*Martin Kröger, Managing Director, German Shipowners Association – VDR*  
*Faig Abbasov, Shipping programme director, Transport Environment*  
*Gavin Allwright, Secretary, International Windship Association*

**17:30 End of Conference**

## DAY THREE – THURSDAY 4 NOVEMBER 2021 – TECHNICAL VISIT

**Trip on Scandlines MV Copenhagen - Departing: 04:15 - Estimated arrival back to hotel: 14:00**

The rotor sail on M/V Copenhagen is based on the almost 100-year old concept of the Flettner rotor technology. It is a 30-metre tall, rotating cylinder, which by using the Magnus-effect contributes to pushing the ship forward. A rotor sail has the optimum effect when it is windy and the wind comes from the side. The route between Gedser to the north and Rostock to the south is almost perpendicular to the prevailing wind from the west or the east. This gives favourable conditions for using rotor sails on the crossing.

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