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TO NOV 2022 | Hamburg
24 | Germany

THE MOTORSHIP 43RD PROPULSION & Future Fuels Conference

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Conference Programme

Le Meridien Hotel, Hamburg, Germany

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

Two days of conference streams exploring compliant technology & fuel solutions to meet the IMO's 2050 milestone and EU's Fit for 55 proposed tandem regulation, specifically the journey to 2030 with Shorepower. This year the programme will also feature sessions on eFuels & Bio Fuels, Ammonia, Methanol and Multifuel engines. While providing industry leaders a space to network and knowledge share.

Chairmen: Lars Robert Pedersen, Deputy Secretary General, BIMCO
Reinhard Lüken, Managing Director, VSM German Shipbuilding
and Ocean Industries Association

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DAY ONE - TUESDAY 22 NOVEMBER 2022

08:00 **Coffee & Registration**

09:00 **Chairmen's welcome**

Lars Robert Pedersen, Deputy Secretary General, BIMCO

Reinhard Lüken, Managing Director, VSM German Shipbuilding And Ocean Industries Association

09:15-09:25 **Gold Sponsor Welcome DNV**

Rasmus Stute, Vice President - Area Manager, DNV

KEYNOTE PANEL: THE JOURNEY TO 2030 WITH SHOREPOWER

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

Under the Fitfor55 legislative package shore-side electricity has been given particular attention.

Requirements for shore-power infrastructure development under the Alternative Fuels

Infrastructure Regulation (AFIR), and for zero-emissions from ships at berth under FuelEU

Maritime, will give shape to a new ecosystem in Europe aimed at improving the air quality in EU

ports and supporting the Energy Transition/ decarbonisation in shipping.

Ricardo Batista, Policy Officer, Directorate-General for Mobility and Transport European Commission

Valter Selén, Senior Policy Advisor, ESPO

Martin Kröger, Chief Executive Officer, VDR German Shipowners' Association

Kai-Dieter Classen, Deputy Director External Affairs, Hamburg Port Authority

Wolfram Guntermann, Director Regulatory Affairs Fleet, Hapag-Lloyd AG

Torsten Schramm, President Maritime, DNV

10:30-10:50 **Coffee break**

SESSION 1 ELECTRIFICATION FOR BIG SHIPS

Moderator: **Reinhard Lüken, Managing Director, VSM German Shipbuilding And Ocean Industries Association**

10:50 **Charging for the future: The rise of hybrid propulsion systems**

Dr. Torsten Büssow, Managing Director, Electrical & Power Systems Business, Wärtsilä

The marine market is in a move. The decarbonization targets are changing the way we look at a ship propulsion system, that have been like this for decades now. What is the future operational profile?

What is the future power source? Will there be more than one? What fuels do we burn? All or these uncertainties you can address already today with a alternative propulsion systems, which will in most cases be hybrid. The presentation explains several hybrid systems we are building at the moment and summarizes our experience of 70 hybrid vessels from Wartsila.

11:05 **Enhancing energy efficiency of merchant ships through system-wide control**

Amodio Palmer, Development Engineer, WinGD

The presentation discusses the importance of integrating all the components of the hybrid ship's energy system on control level, so it functions as a coordinated whole. Particular attention is dawn on the two-stroke engine integration as a crucial factor for maximising the energy efficiency onboard.

11:20 **Turbocharging solutions to support the decarbonization journey**

Simone Bernasconi, Head of Global Product Line Upgrades, Accelleron

To support shipping's journey towards decarbonization, easy-to-implement turbocharger technology can play an important role in reducing the CO2 footprint of existing installations. But to achieve any significant impact, wide market adoption is key. Combining greater efficiency with a sound business case will be vital to maintaining a competitive edge in a low carbon world.

11:35 **Improving energy efficiency including electrical production for LNG fueled vessels.**

Natalia Zubenko, Business Development Manager, GTT

11:50-12:10 **Q&A**

12:10-13:40 **Lunch & Networking**

SESSION 2: DIGITALIZATION, DIGITAL EFFICIENCY AND THE FUTURE TECHNOLOGY OF THE MARITIME SECTOR

Moderator: **Reinhard Lüken, Managing Director, VSM German Shipbuilding and Ocean Industries Association**

13:40 **Shipping decarbonization and digital thread**

Mia Elg, R&D Manager, Deltamarin

This presentation focuses on showcasing a realistic pathway to decarbonized shipping with practical examples from our ongoing projects. We discuss about the related digital modelling and optimization methods and about their application and validation.

13:55 **The Digital Wave**

Gregory Puckett, Head of Group Digital, MAN Energy Solutions

In his presentation, Mr. Puckett describes the "digital wave" within MAN-ES. From connectivity, to cloud, from data to artificial intelligence. The digital wave is continuous, it is variable, it can be calm one moment, and stormy the next. Most interesting it will never not turn back.

14:10 **Digital tool to ensure engine efficiency**

Matthias Winkler, Managing Director, CM Technologies

Digitalisation for engine performance measurement including automated data transfer between ships and ashore. Important is the possibility to have all data at one place allowing access from everywhere at any time for anyone. Useful assistance for ship and shore personnel.

14:25 **The significance of data in achieving sustainable performance**

Pascal Reolon, Head of Digital Product Management, Digital division, Accelleron

A closer look at the analytics layer sitting on top of the electronic logbook and continuous operational data. How enhanced data provides deeper insights into key performance indicators and supports proactive decision making for managing decarbonization.

14:40-15:00 **Q&A**

15:00-15:30 **Coffee break**

SESSION 3: THE MOTORSHIP AWARD

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

15:30 **With Orca; Norwegian zero-emission bulk carrier project**

Michael North, Sales & Marketing Manager for Norway & Iceland, Lloyd's register

Earlier this year, Lloyd's Register awarded Approval in Principle to Norwegian ship owner Egil Ulvan Rederi AS for its zero-emission self-discharging hydrogen-fuelled bulk carrier, With Orca. The innovative vessel will be fitted with two large rotor sails and is planned to enter into a long-term transport contract with cargo owners Felleskjøpet Agri SA and HeidelbergCement. It was designed by Norwegian Ship Design.



15:45 **The Aurora Class - the future of deep sea shipping**

Henrik Andersson, Head of Sustainability, Höegh Autoliners

Designed to carry up to 9100 cars, the multi-fuel and zero carbon ready Aurora Class vessels will be the first in the PCTC segment to be able to operate on zero carbon ammonia, signifying a breakthrough in reaching Höegh Autoliners' ambitious net zero emissions target by 2040.



16:00 **Solutions for groundbreaking carbon-transport-and-storage project**

Kristian Mogensen, Promotion Manager, MAN-ES



16:15 Wärtsilä Two-Stroke Future Fuels Conversion platform
Stam Achillas, Head of Business Development & Sales, 2-Stroke Fuel Conversions, Wärtsilä & Patrick Rebecchi, Program Manager for Future Fuel, Wärtsilä
 A retrofit-optimised solution to convert existing 2-stroke electronically-controlled engines to run on either LNG, methanol or ammonia.
 The ground-breaking technology will be applied on a 13'000 TEU MSC containership to convert it first (2023) to LNG and later (2024) to ammonia.



16:30 NYK Line newbuilds with WinGD intelligent energy management set path to net zero
Amodio Palmer, Development Engineer, WinGD
 Four NYK Line vessels will meet IMO's 2030 target when they enter service next year, with WinGD integrating battery technology, energy management and LNG-fuelled engines. Such configurations will reduce the cost of using alternative fuels to decarbonise.



16:45-17:00 Q&A

17:00 Conference close

17:00 Pre Dinner Drinks Reception

18:30 Conference Dinner - Gröninger Privatbrauerei Hamburg, Willy-Brandt-Straße 47, 20457 Hamburg, Germany
*Announcement of the Motorship Award winner,
 Presented by Nick Edström, Editor, The Motorship*

DAY TWO - Wednesday 23 November 2022

08:30 Coffee & Registration

09:00-09:15 Recap of day 1 by Chairmen
Lars Robert Pedersen, Deputy Secretary General, BIMCO

SESSION 4 MARKET BASED MEASURES

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

09:15 The Future of Bunker Fuels for world's Shipping Fleet
John Buckingham, Chief Mechanical Engineer, BMT

09:30 Exploring the carbon pricing mechanism
Sebastian Ebbing, Technical Advisor, Climate, Marine fuels, Innovation, Funding, German Shipowners' Association (VDR)

09:45 Development of IMO's Market Based Measure
Chris Waddington, Technical Director, International Chamber of Shipping
 With the coming into effect of the CII and EEXI requirements in January 2023, the first phase of IMO's workplan for GHG reduction will be in place. Within the second phase, IMO is now considering a Market Based Measure (MBM). This presentation will outline the various MBM proposals under consideration, and will summarise the remaining processes for finalisation of this measure.

10:00 MBM – Why Carbon Needs a Price
Merten Stein, Head of Shipping Advisory Hamburg & Dubai, DNV
 MBM focusing on maritime carbon emissions will come into play in EU by and are considered by IMO. But how will they impact shipping cost and what are the consequences for future fuels and technologies? Selected considerations and case studies will address key aspects to spark further thinking.

10:15-10:35 Q&A

10:35-10:55 Coffee Break

SESSION 5 FUTURE APPROACHES

SESSION 5.1 EFUELS & BIO FUELS

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

10.55 Power-to-X - Decarbonisation with Future Maritime Fuels

Daniel Chatterjee, Director Technology Management & Regulatory Affairs Head of the Green-and High-Tech and NetZero @ PowerSystems Program, Rolls-Royce

11.10 On the Way to Zero Emissions: Considerations for the Design and Operation of Fuel Treatment Systems

Franciska Kjellström, Global Application Manager, Marine Fuels, Alfa Laval
There is currently a high interest in biofuels including FAME and HVO as well as methanol. Ships can already bunker these fuels and engine combustion technology is available. We will discuss the impact of various new fuel types on the ship's fuel cleaning and fuel supply systems.

11.25 Avoiding stranded assets

Lex Nijssen, Senior Vice President and Head of Sales, 4-Stroke engines, Man ES
The various fuels in gaseous or liquid forms have impacts on fulfilling rules and regulations. In the presentation pathways to decarbonization are highlighted and the value of having options to adapt vessels to fuel supply developments.

11.40 Moving biofuels into the mainstream

Monique Vermeire, Fuels Technologist, Chevron
Biofuels can offer a carbon-free alternative to other non-fossil fuels, if considered on a lifecycle basis. Monique Vermeire will also discuss the impact of biofuels on NOx emissions and consider their operational and technical implications alongside the regulatory approach to their use.

11:55-12:15 Q&A

SESSION 5.2 SUSTAINABLE APPROACHES FOR THE FUTURE

Moderator: *Sebastian Ebbing, Technical Advisor,, Climate, Marine fuels, Innovation, Funding, German Shipowners' Association (VDR)*

10.55 Carbon Levy – Why Advanced Coatings will be Essential to Success in the Age of the Carbon Levy

Ulf Hansen, Senior Advisor, I-tech

11.10 Who can improve energy efficiency in ship operations and bring down emissions?

Rene Taudal Poulsen, PhD, programme director for BSc Program in international shipping and trade, Copenhagen Business School, Denmark
We study how a large network of decision-makers, including cargo-owners, commercial managers, ship operators, port stakeholders and public actors influence voyage planning and execution. We find that they often pursue commercial objectives, which undermine energy efficiency in ship operations.

11.25 Wärtsilä 2-Stroke Radical Derating

Stam Achillas, Head of Business Development & Sales, 2-Stroke Fuel Conversions, Wärtsilä
A solution to significantly reduce an existing 2-stroke engine's emissions by modernising its combustion while preparing it for future fuels.

11.40 Hydrocat - the world's first dual-fuel CTV

Benjamin Weinacht, Managing Director, Compagnie Maritime Belge (CMB)
Hydrocat is the first crew transfer vessel operating based on dual fuel, i.e., diesel and hydrogen generating up to 50% of emissions.
Hydrocat is operated by Windcat Workboats which is part of the CMB Group.

11:55-12:15 Q&A

12:15-13:45 Lunch & Networking

SESSION 6 ALTERNATIVE FUELS

SESSION 6.1 AMMONIA

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

13.45 Technological considerations of ammonia as a marine fuel

Peter Sanders, Senior Process Engineer, Høglund
This presentation will examine the technological considerations that must be overcome on board a ship before widespread adoption of green ammonia as a marine fuel can begin, looking at the technical, operational, commercial, regulatory and environmental aspects such as health and safety (toxicity), materials elections (corrosiveness), engine requirements (combustibility), and emission prevention (engines and fuel system).

14.00 Ammonia as a Marine Fuel is Coming Closer to Materialization

René Sejer Laursen, Director, Fuels & Technology, Global Sustainability Center Copenhagen, ABS
Ammonia (NH₃) is identified as a zero-carbon fuel that can enter the global market relatively quickly and help meet the GHG reduction target for 2050 set by the IMO. Ammonia offers ship owners and operators a zero-carbon tank-to-wake emissions profile, regardless of the source of the fuel.
During this presentation you will hear more on the consideration of ammonia as a marine fuel option in both the near-term and long-term.

14.15 Development cycles towards ammonia-fuelled two-stroke engines

Dr Andreas Schmid, General Manager Technology Development, WinGD
Industry interest in carbon-free fuels has reanimated development towards ammonia-fuelled ship engines. In this presentation, Andreas Schmid will explore the many areas that engine designers and builders are working on to bring safe, reliable and efficient ammonia-fuelled engines to market.

14.30 Engineering the ammonia engine of the future

Kristian Mogensen, Promotion Manager, MAN-ES
The development of MAN Energy Solutions' first two-stroke ammonia engine is well underway. We share our learnings from designing and commissioning an ammonia fuel supply for our test engine facility, along with experiences from initial testing.

14:45-15.05 Q&A

15:05-15:35 Coffee Break

SESSION 6.2 METHANOL

Moderator: *Helge Bartels, Chief Operating Officer, Bernhard Schulte GmbH & Co. KG*

13.45 Methanol: A Future Proof Marine Fuel

Matthias Ólafsson, Chief EU Representative, Methanol Institute

14.00 Development of worlds 1st methanol engine for very large container ships

Dr. Gwang-Hyeon Yu, Senior Researcher, Engine & Machinery Division, Hyundai Heavy Industries
HiMSEN H32DF-LM, the first methanol engine for large container ship is developed recently. It shows stable operation both diesel and methanol mode during the type approval test, and ready for the market now.

14:15 Methanol's Role in the Race to Decarbonization

Daniel Barcarolo, Senior Sustainability Engineer, Global Sustainability Center Copenhagen, ABS
Methanol is one of the many fuel options being considered in achieving decarbonization because it offers several advantages including carbon neutral potential, existing infrastructure, and IMO Interim Guidelines. Due to its potential to reduce the CO₂ output from marine fuels, applications of methanol are drawing a wider interest from owners of oceangoing vessels, short sea shippers, ferries, cruises, and inland waterway vessels. During this presentation you will hear more on the consideration of methanol as a marine fuel option.

14:45-15.05 Q&A

SESSION 7.1 MULTIFUEL ENGINES

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

15:35 Will "multi-fuel" propulsion engines be the solution to solve the "future fuel" uncertainty?

Rolf Stiefel, Regional Chief Executive, Bureau Veritas Marine & Offshore

The advent of multi-fuel systems is a key step towards 2030 and 2050 decarbonisation targets, yet a number of challenges must be addressed – from the safety and control of fuels with different properties, to storage, bunkering, infrastructure and regulatory considerations.

15:50 The Multi fuel engine, the main corner stone of a successful fuel transition

Maikel Arts, General Manager Market Innovation, Wärtsilä

The Multi-fuel engine technology enables the transition from fossil to renewable fuels through its built in technical feasibilities and economic viability.

Infrastructure and availability of green fuels need time to mature while Multi-fuel engine technology enables shipowners a safe transition journey starting already today.

16:05 Alternative Fuels – Preparing for the impact on marine lubricants

Harriet Brice, Technology Manager - Marine Engine Oils, Lubrizol

This presentation will discuss approaches to formulating effective marine cylinder lubricants for use with new alternative fuels. This requires gaining the best possible understanding of new engine designs, fuel and combustion characteristics and the challenges they may present.

16:20 What will a multi-fuel, low carbon future look like?

Eddie Fish, Market Development Advisor, ExxonMobil Marine & Aviation Fuels

The IMO's ambition to reduce international shipping's carbon footprint creates new challenges for the entire maritime ecosystem. To overcome them and lead the energy transition, advanced solutions will be needed to meet society's needs.

16:35-16:55 Q&A

SESSION 7.2 RETROFIT SOLUTIONS

Moderator: *Sebastian Ebbing, Technical Advisor, Climate, Marine fuels, Innovation, Funding, German Shipowners' Association (VDR)*

15:35 Combining efficiency technologies with wind to deliver results beyond compliance

Tuomas Riski, CEO, Norsepower

Norsepower's Rotor Sails improve environmental performance and reduce fuel consumption, especially alongside other clean technology solutions such as hydrodynamic hull optimisation or hybrid electric propulsion systems Regulation, including EU ETS, is driving shipowners to choose proven solutions, demonstrated by Scandlines' M/V Copenhagen.

15:50 The role of retrofitting in the Clean Fuel Transition

Jan P. Brugger - Co-Founder & COO, FuelSave

The use of hydrogen & methanol retrofit technology can help shipowners to meet IMO Tier III standards. An alternative to urea or ammonia, these solutions achieve substantial emission reductions and cost savings, whilst curbing OPEX.

16:05 Retrofitting to Methanol DF operation – an Owners experience

Claes Tretow, Project Manager Newbuildings, Stena RoRo AB

16:20 Economic and Ecological Considerations for Wind-Assisted Ship Propulsion Systems

Karsten Hochkirch, Head of Ship Performance Center, DNV

Wind propulsion is well known and has propelled ships for millennia. However, with the advent of fossil-fuel powered ships, wind energy lost its importance for cargo transport almost 100 years ago. Rising fuel prices and a society being more aware of the consequences of CO₂ emissions fuels the revitalization this energy source and a variety of wind assisted propulsion systems are on the market today. Key factors for success of wind assisted propulsion are discussed and a case study for a multipurpose vessel is used as illustration.

16:35-16:55 Q&A

16:55-17:10 Conference Wrap up with Moderators and Chairmen

Lars Robert Pedersen, Deputy Secretary General, BIMCO

Sebastian Ebbing, Technical Advisor, Climate, Marine fuels, Innovation, Funding, German Shipowners' Association (VDR)

17:10 Conference Close

DAY THREE - THURSDAY 24 NOVEMBER 2022 - TECHNICAL VISIT

Trip aboard the Damen Fire Fighting Vessel 3508 - Departing 09:00 returning 12:30

The hybrid service ships, with 315 kWh of battery capacity, are capable of working for extended periods, operating under electrical power. Built to a Robert Allan design, the 35.5m-long vessels have a maximum speed of 12 knots and are equipped to fight fires in the port area and within the city itself. They can also undertake other services, including water supply, rescue and recovery, technical assistance, and environmental protection.

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