NOV Hamburg 2022 Germany





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.

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Reinhard Lüken, Managing Director, VSM German Shipbuilding

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### DAY ONE - TUESDAY 22 NOVEMBER 2022

**Coffee & Registration** 08:00

Chairmen's welcome 09:00

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

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

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

> 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.

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

Stefan Goranov, General Manager, Sustainability Solutions, 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.

Turbocharging solutions to support the decarbonization journey 11:20

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.

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

Natalia Zubenko, Business Development Manager, GTT

Q&A 11:50-12:10

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 MOTOR

Kristian Mogensen, Promotion Manager, MAN-ES



Book online at motorship.com/PFFBOOK or fax form to +44 1329 550192

#### 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

Stefan Goranov, General Manager, Sustainability Solutions, 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

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17:00 Pre Dinner Drinks Reception

Conference close

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

Jon 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 Nijsen, 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

Philip Chaabane, CEO of 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 decisionsmakers, including cargo-owners, commercial managers, ship operators, port stakeholders and public actors influence voyage planning and execution. We find that they often pusue 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

#### **SESSION 6.2 METHANOL**

Moderator: Lars Robert Pedersen, Deputy Secretary General, BIMCO

# 13.45 Technological considerations of ammonia as a marine fuel

Peter Morsbach is Vice President Sales
Operations at Høglund Marine Solutions
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 ammoniafuelled 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

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

**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

15:05-15:35 Coffee Break

#### **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

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.

Harriet Brice, Technology Manager - Marine

### 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 echnology 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 thee 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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- Place at conference dinner (22 November)
- Place at technical visit (24 November)

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