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

Across two conference streams the event will focus on practical and technical developments in the fields of propulsion technologies and alternative fuels.

Chairmen:  Lars Robert Pedersen, Deputy Secretary General - BIMCO
            Reinhard Lüken, CEO, VSM, German Shipbuilding and Ocean Industries Association
DAY ONE  PROPULSION & FUTURE FUELS TUESDAY 19 NOVEMBER 2019

08:00  Coffee & Registration

08:45  Chairmen’s welcome
Lars Robert Pedersen, Deputy Secretary General, BIMCO & Reinhard Lüken, CEO, VSM - German Shipbuilding and Ocean Industries Association

OPENING SESSION  KEYNOTE ADDRESSES

08:55  Decarbonisation – boosters and blockers
Roger Strevens, VP, Global Sustainability, Wallenius Wilhelmsen

09:10  Zero-Emission Vessels Transition Pathways
Carlo Raucci, Principal Consultant, UMAS (University Maritime Advisory Services)

09:25  2019 update: emission projections from shipping
Jasper Faber, Aviation and Maritime Specialist, Manager Mobility & Transport, CE Delft

09:40  Discussion

10:10  Coffee & Networking

SESSION I  CUTTING CARBON, CUTTING COST TO MEET THE 2050 DEADLINE: SHIPOWNERS TACKLE EMISSIONS REDUCTION

10:40  PANELLISTS INCLUDE:
The road towards 2050; a ship-owners and designers perspective
Tomas Aminoff, Senior Consultant, Elomatic & Hideyuki Ando, Senior General Manager, MTI - NYK Group

Using LNG as a bridge to 2030
Wolfram Guntermann, Director Environmental Management, Hapag-Lloyd AG

Achieving a 40% reduction in emissions by 2030
Tom Strang, Senior Vice President, Maritime Affairs, Carnival Corporation & plc

Nordic Hamburg Shipmanagement
Oliver Tiedchen, Director of Shipmanagement, Nordic Hamburg Shipmanagement

EGC (Scrubber) + LP-EGR: A cost effective and hands-on approach for viable and future-proof green shipping
Tor Øyvind Ask, Fleet Director, Solvang ASA

11:30  Discussion

12:00  Lunch

SESSION 2  FUTURE FUEL SHOWCASE: HYDROGEN

13:30  PANELLISTS INCLUDE:
Enabling green hydrogen usage in current and future maritime power generation
Sebastiaan Bleunanus, General Manager, Research coordination & Funding portfolio, Wärtsila

As the industry ramps up efforts to meet and exceed the IMO 2050 targets on decarbonizing the marine industry, a lot of thought and discussion revolves around the utilization of green hydrogen made from renewable electricity. During this talk, different options for utilizing hydrogen to power ships will be compared from both a technical and economic perspective.

Are we ready for hydrogen? Preparing for the transition safely
Kolbjørn Berge, Senior Surveyor, NMA

Shipping needs to change, it has to change more in the next decade than it has done the last three decades. No stone should be left unturned to find the best solutions for achieving sustainable shipping. Stricter environmental requirements from regulatory bodies and the infrastructure which the regulations will necessitate will shape shipping in the future. This presentation will provide an overview of why shipping should change and how maritime authorities can facilitate this change.

Hydrogen fuel cells: integration and optimization for maritime use
Sami Kanerva, Senior Principal Engineer, ABB Marine & Ports

The issue of containment
Olav Hansen, Senior Principal Consultant, Lloyd’s Register

Hydrogen properties are in many ways extreme compared to those of LNG and conventional fuels. When developing hydrogen fuelled vessels the IGF-code requires that the safety shall be equivalent to that of conventionally fuelled vessels, and this is to be demonstrated through risk and explosion analyses. The presentation will focus on safety aspects related to various types of hydrogen storage on vessels, both compressed and liquefied (LH2).
## SESSION 3.1 DIGITALISATION

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<th>Speaker/Role</th>
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<tbody>
<tr>
<td>15:30</td>
<td>Towards a data-driven marine solutions strategy</td>
<td>Inbar van den Burg, Regional Manager, Shell Marine</td>
<td>Data driven solutions can ensure that cylinder oils are available at the right time and location, and that their performance is continuously monitored, analysed and supported. Shell Marine’s integrated, data-driven strategy manages lubricant selection, delivery, in-engine condition and technical service needs, adapting to the owner’s most pressing operational concerns.</td>
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<tr>
<td>15:50</td>
<td>Tomorrow’s fuel treatment using smart automation and IoT solutions</td>
<td>Markus Hoffman, Global Application Manager - Marine Fuels and Lubricants, Alfa Laval</td>
<td>Protecting your engine to safeguarding your compliance and energy efficiency, we’ll see that you meet challenges of 2020 – and beyond. Reducing carbon dioxide emissions requires a ship to optimize engine wear. During his speech, Markus will cover Alfa Laval fuel line solutions including feed synchronization, fuel conditioning and more.</td>
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<tr>
<td>16:10</td>
<td>Enhancing vessel operations with data-driven insights</td>
<td>Steve Walker, Global Marine Equipment Builder Manager, ExxonMobil</td>
<td>ExxonMobil possesses a unique set of used oil analysis data from more than 500,000 scrape down samples, which can benchmark vessel performance based on engine type and operating conditions. This presentation will explain how this data is being used to offer a preventative maintenance service and the significant value it can deliver for operators.</td>
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<tr>
<td>16:30</td>
<td>Digitalization@Marine: Unlocking Business results with IoT</td>
<td>Patrick Mueller, Product Manager for Automation and Digitalization, Siemens</td>
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<tr>
<td>16:50</td>
<td>Q&amp;A – Moderated by conference chairman</td>
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## SESSION 3.2 LEGISLATION VS LONGEVITY – UPTAKE OF SCRUBBERS, ULSFOS AND LNG

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<tr>
<td>15:30</td>
<td>Scrubbers: implementation update from the Shipowner perspective</td>
<td>Poul Woodall, Director - Environment &amp; Sustainability, DFDS</td>
<td>DFDS freight ferry Ficaria Seaways just celebrated the first 10 years operation with a marine scrubber. Poul will be linking history to current day challenges facing the scrubber technology and sharing some of the significant results from the past 10 years of operation.</td>
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<tr>
<td>15:50</td>
<td>Future Availability of Compliant Product</td>
<td>Tracy Wardell, Business Development Manager, Intertek ShipCare</td>
<td>In this presentation we will seek to examine the potential scope for the development of 0.50% m/m sulphur blended fuels, how these fuels will vary from region to region, what we can expect in the way of handling characteristics etc.</td>
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<tr>
<td>16:10</td>
<td>Emissions from shipping: Yesterday – Today – Tomorrow</td>
<td>Tomas Aminoff, Senior Consultant, Marine Consultancy, Elomatic</td>
<td>NOx and SOx emissions have been targeted by regulations, not taking into account the consequences for global warming potential nor W-t-W emissions. With the target to cut greenhouse gases from shipping by half until 2050, the importance of the right fuel and technology choice will be more important than ever.</td>
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<tr>
<td>16:30</td>
<td>IMO 2020 compliance: the changes, choices and challenges involved in fuel selection</td>
<td>Eddie Fish, Market Development Advisor, ExxonMobil</td>
<td>ExxonMobil will share its insights into how the marine industry is preparing for the International Maritime Organization’s (IMO) global 0.50% sulphur cap and the fuel challenges that lay ahead. Fuel selection and availability, maintaining engine operation during a period of unprecedented change and the risks of non-compliance will all be covered.</td>
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<tr>
<td>16:50</td>
<td>Q&amp;A - Moderated by Ian Adams, Executive Director, Clean Shipping Alliance 2020</td>
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### DAY TWO: PROPULSION & FUTURE FUELS WEDNESDAY 20 NOVEMBER 2019

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<tr>
<th>Time</th>
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<tr>
<td>08:30</td>
<td>Coffee &amp; Registration</td>
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<tr>
<td>08:45</td>
<td>Recap of day 1 by Conference Chairman:</td>
<td>Lars Robert Pedersen, Deputy Secretary General, BIMCO</td>
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SESSION 4  INNOVATIVE PROJECT SHOWCASE

08:55  Introduction from The Motorship Editor, Nick Edström

08:55  Motorship Award Entry: Grimaldi Green 5th Generation

Dario Bocchetti, Corporate Energy Saving & Innovation Manager, Grimaldi Group
Grimaldi Green 5th Generation (GG5G) are the first examples of a new series of ro/ro hybrid ships, combining the most flexible loading capacity options with green technologies, featuring a list of innovative elements under patent/copyright with the objective of producing “Zero Emission in Port”.

09:10  Motorship Award Entry: Hurtigruten is first to power cruise ships with dead fish

Naomi Ages, Head of Sustainability, Hurtigruten
As the first cruise line in the world, Hurtigruten will power their ships with liquified biogas (LBG), fossil-free, renewable fuel produced from dead fish and other organic waste. Cutaways from fisheries and other organic waste will soon be used to power Hurtigruten’s fleet of green cruise ships.

09:25  Motorship Award Entry: The First RoPax Ferry in the world with Zero-Emission Sailing Mode

Jonas Kjölsrud, Sales Manager, WE Tech Solutions Oy
The Hybrid Electric Propulsion ferry will be equipped with four generators that supplies energy for propulsion and electrical power demand in normal sailing mode. A Zero Emission Sailing Mode utilises battery banks only for vessel’s propulsion and electrical power demand and is initiated in harbour manoeuvring mode.

09:40  Motorship Award Entry: Gate Rudders

Adrian Miles, Managing Director, Stone Marine Propulsion
Gate Rudders are the result of a research and development project that has spanned several years to develop a rudder system for vessels which would have a significant positive effect on a vessels fuel consumption and, as a result, its emissions.

09:55  HyMeth Ship

Igor Sauperl, Project Coordinator, HyMeth Ship
The HyMethShip system will achieve a reduction in CO2 of more than 97% and practically eliminate SOx and PM emissions. NOx emissions will fall by over 80%, below the IMO Tier III limit. The energy efficient 4 of the HyMethShip system is expected to be more than 45% greater than the best available technology (renewable methanol as the fuel coupled with conventional post-combustion carbon capturing).

10:10  Q&A

10:30  Coffee & Networking - The Motorship Award voting opens

SESSION 5  FUTURE FUEL SHOWCASE: LNG

11:00  PANELLISTS INCLUDE:

LNG - Bridging the gap towards the 2050 future fuels
Rolf Stiefel, Vice President Sales, WinGD
LNG is the bridge which is leading the path towards a carbon-free future. Today’s proven LNG engine technology is the base from which the next generation of future-fuel-ready engines will evolve. How far can LNG take us towards this goal and what needs to happen between now and then?

Gas-fuelled frontrunners (will they take the lead?)
Georgios Plevrakis, Manager, Market Sector, LNG, ABS
This presentation will address the frontrunners of LNG and LPG as marine fuels and will be looking ahead at the fuels which are more probable to take the lead along the way.

LNG infrastructure ready to go green
Gunnar Helmen, Sales Manager Marine, Gasum
Gasum to update about the development in European LNG infrastructure and why focus on further development is a key to bring down the emissions from the shipping industry. LNG is the short term viable solution for the bigger part of the worlds shipping fleet and a necessity in development towards sustainable gas fuelled solutions.

Two years hands on experience with LNG as marine fuel
Christian Hoepfner, Managing Director, Wessels Marine GmbH
Switching fuel concepts by main engine conversions do make sense. That’s one conclusion after two years of operating the Wes Amelie. What has been achieved within the last two years, where do we stand right now and how do we transfer knowledge of our learning curve towards a zero emission transportation.

LNG as Fuel: solutions to meet the next years’ challenges
Julien Bec, Vice President, GTT
As IMO’s 2020 low Sulphur regulations are coming, Industry and system providers are facing the challenge of answering to the upcoming demand of LNG fuelled vessels. The presentation demonstrate how GTT is relying on its historical know-how but also on the need to improve and adapt the existing technologies and develop partnership with the other main players of the industry.

11:50  Discussion moderated by Christian Denso, Head of Communications, VDR - German Shipowners’ Association

12:30  Lunch - Voting for The Motorship Award closes
### SESSION 6  FUTURE FUEL SHOWCASE: AMMONIA

14:00  PANELISTS INCLUDE:

**MAN B&W Dual Fuel Engines**  
Kjeld Aabo, Director New Technologies, MAN ES

Ammonia could be a perfect choice for shippers seeking lower emissions if produced from sustainable energy sources such as hydro, thermal power or wind power. It will take time before such CO2 neutral ammonia becomes available on a scale that could make a difference to the emissions from the marine industry, but the trend is going in that direction, and we are definitely ready technologically.

**Assessment of ammonia as an alternative fuel in shipping**  
Christos Chryssakis, Business Development Manager, DNV GL

Ammonia is a carbon-free fuel and can be part of the solution towards reaching IMO's greenhouse gas reduction targets in 2050. In this presentation an assessment of ammonia as a marine fuel is given, including its environmental benefits, as well as safety, technical and regulatory challenges that have to be overcome to make it a viable solution.

**Safe, efficient and reliable floating pipelines**  
Paul Flaherty, Director, Fleet and Technical Operations, Navigator Gas

Ammonia has been carried regularly as a cargo on vessels since the 1960’s. The trade has an excellent safety record, despite the safety challenges of carrying ammonia by sea, especially its toxicity. Based on current experience, the availability, environmental and compliance benefits of using ammonia as a fuel, far outweigh the safety and technical challenges.

14:30  Discussion

15:10  Coffee & Networking & Announcement of The Motorship Award winner by The Motorship Editor, Nick Edström

### SESSION 7

#### SESSION 7.1  POWERING SHIPPING WITH ALTERNATIVE FUELS

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<tbody>
<tr>
<td>15:40</td>
<td>Methanol as future pathway to a low- and zero-carbon emissions profile</td>
<td>Eelco Dekker, Chief Representative Europe, Brussels, Methanol Institute</td>
<td>Methanol addresses the SOx and Particulate Matter emissions problem but also offers a future pathway to a low and zero-carbon emissions profile, allowing shipping to be part of the solution to global warming.</td>
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<td>15:55</td>
<td>Ethane as fuel, a class perspective</td>
<td>Mark Penfold, Manager, Global Gas Solutions, ABS</td>
<td>This paper discusses the technology and use of ethane as a fuel in the main engine, including the associated ethane fuel gas supply system, with a focus on the slow speed high pressure engine technologies offered to the market.</td>
</tr>
<tr>
<td>16:10</td>
<td>Wind Propulsion: Primary Renewable Energy Coming of Age?</td>
<td>Gavin Allwright, Secretary General, International Windship Association (IWSA)</td>
<td>This presentation highlights the various technologies available, market potential and opportunities for the segment along with an update on new projects and commercial installations currently underway.</td>
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<tr>
<td>16:25</td>
<td>Propelling vessels in a decarbonized future with internal combustion engines</td>
<td>Dino Imhof, Head of Turbocharging Solutions, ABB Turbo Systems Ltd</td>
<td>A globally aligned strategy for the marine sector is essential to abate greenhouse gas emissions. With hydrogen-based fuels, internal combustion engines remain the most energy-efficient, reliable and cost-effective solution for deep-sea shipping.</td>
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<td>16:40</td>
<td>Economic assessment of current fuel choices and transition to decarbonisation</td>
<td>Naeem Javaid, Global Operations Manager FOBAS, Marine &amp; Offshore, Lloyd’s Register</td>
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<tr>
<td>16:55</td>
<td>Q&amp;A</td>
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#### SESSION 7.2  ELECTRIFICATION SOLUTIONS: BATTERIES AND HYBRIDISATION

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<tr>
<td>15:40</td>
<td>Battery hybrid systems</td>
<td>Daniel Chatterjee, Director Technology Management &amp; Regulatory Affairs, MTU</td>
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<tr>
<td>16:00</td>
<td>Electrifying the merchant fleet</td>
<td>Jan-Erik Rosanen, Head of New Technologies, Foreship Ltd.</td>
<td>Can an industry raised on the internal combustion engine expect the same ‘one size fits all’ solution from zero emission alternatives? Foreship provides a reality check for shipping’s lower carbon future, using CO2 profiling to evaluate available technologies, and recommends new flexibility in designing tomorrow’s ‘electrified’ merchant fleet.</td>
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<tr>
<td>16:20</td>
<td>Fleet upgrade: a move to the alternatives</td>
<td>Claas Rostock, Head of Department - Safety &amp; Systems Engineering, DNV GL</td>
<td>This presentation will discuss options for hybridisation and challenges that come with them, and what DNV GL sees as a probable fuel mix going forward.</td>
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<tr>
<td>16:40</td>
<td>Q&amp;A - moderated by Christos Chryssakis, Business Development Manager, DNV GL</td>
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17:10  Conference Close & Announcement from The Motorship Editor, Nick Edström

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**DAY THREE PROPULSION & FUTURE FUELS THURSDAY 21 NOVEMBER 2019**

Technical visit - Becker Marine Systems LNG Hybrid Barge

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