



Ship & Offshore



Schiff & Hafen

In association with



Daily News

No 1 | 3 September 2024



Every year's eye-catcher: the MMG-propeller in front of the main entrance

Source: HMC/Romanus Fuhrmann

An ocean of opportunity

SMM opened this morning to a global shipping industry facing an unprecedented mix of fortunes. Most shipping sectors are buoyant despite the impact of geopolitics and disruption to supply chains. Shipowners, meanwhile, face a future of fundamental change in ship operation, with new fuels and new di-

gital technologies developing at record pace.

A new era of transparency has dawned. A sector that has been accustomed, until recently, to a role as the silent backbone of world trade has instead found itself thrust into the headlines for various reasons.

The message for the maritime sector is clear, however. Like it or not, the industry must undergo fundamental change. And, for many, this presents a spell of great opportunity.

A lot has happened in the two years since the last SMM show. A crisis in the Red Sea has put merchant ships, quite >



SMM 2024

Visit ABS at Booth B3.EG.200

www.eagle.org/SMM24



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PUBLISHING DIRECTOR:
Manuel Bosch

EDITORS:
Kathrin Lau (resp.)

CONTRIBUTING EDITORS:
Katharina Küttemeyer,
Paul Bartlett, Charlie Bartlett,
Andrea Mocosch

LAYOUT:
Christoph Jöns

DISTRIBUTION:
Markus Kukuk

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From left: Christoph Lücke, Dr. Lars Greitsch, Claus Ulrich Selbach

Source: HMC/Romanus Fuhrmann

literally, in the firing line, setting a new precedent for shipping’s involvement in global conflict, and changing the way their owners do business – perhaps permanently. Ocean supply chains have been stretched to the limit but the global shipping community has risen to these new challenges.

Firm markets have led to a ship contracting spree which that has many shipyards booked for years. Shipbuilders can virtually name their price for containerships, gas carriers, and car carriers. As new contracting continues at record pace, customers vie for slots and prices rise further.

Meanwhile, as decarbonisation gathers pace, entirely new ship types are being developed. The first liquid carbon dioxide carriers are now under construction, for example, while the latest generation of wind turbine installation vessels bear almost no resemblance to their forebears. The regulatory environment is undergoing a transformation. Following measures to tighten emission regulations by the International Maritime Organization, the UN agency that takes account of the interests of some of the most exposed nations and island communities, new European regulations will introduce financial penalties for owners who continue to use traditional marine fuels and fail to adopt preventive strategies.

Like Hamburg’s weather forecast for the week, storm clouds approach. Unveiling its latest Maritime Forecast, DNV’s message for this SMM is a cause for concern: with so much else to deal with, decar-

bonisation is slowing down. The future fuels landscape remains murkier than ever, with new green fuels coming into and out of vogue as time goes on. There is, as is often said, no silver bullet.

Seeing the gap left by this uncertainty, shipping’s classification societies, equipment suppliers, and technology innovators are developing and introducing new innovative energy saving technologies for today’s newbuilds. Retrofit yards, meanwhile, work overtime to bring the existing fleet up to the latest standards, committing to the principle that it is better to improve a ship already built, if possible, than to replace it.

The power of the wind will be a key feature at this year’s event, with a wide range of wind-assisted propulsion systems on display. Mostly installed so far on existing ships, many vessels of the future are likely to harness wind power as a supplementary source of energy. Today, it is becoming increasingly likely to see a merchant ship with wind propulsion, just like the 1800s, but now with intelligent computer-control and exciting, futuristic geometry.

Expect to see AI mentioned more than once. Expect, too, discussion of onboard carbon capture, the means by which shipping might be able to meet with even the most stringent environmental regulations while driving down costs.

With the expertise of engine and equipment OEMs, open minds – and enough energy left over for a party or ten – let us finally understand what it means to be “Ready” for shipping’s future.

Welcome reception kicks off no ordinary SMM week

As many shipowners, builders, and industry suppliers packed into the Hamburg Maritime Museum and the venue ran out of space, many of the 950 invited guests raised glasses of champagne to ring in the opening of this year's SMM maritime week.

Claus Ulrich Selbach, business unit director Maritime and Technology Fairs, and Christoph Lücke, director of SMM, stood above a jubilant audience, and the double-act gave a characteristically lighthearted and warm welcome to audiences at what is set to be the largest-ever SMM, at the welcome soiree and buffet dinner bedecked by SMM and DNV flags.

The attending throng will have much to discuss over the course of the week. Just nearby, the Port of Hamburg is making a name for itself as a hub for shoreside energy supply to visiting cruise vessels. Meanwhile, alternative fuels including methanol and ammonia are higher on the agenda than ever before, and the question of powering commercial vessels



Floating galleons add to the maritime atmosphere Source: Bosch/Schiff&Hafen, Bartlett/Schiff&Hafen

with nuclear energy, too, is for the first time, coming under serious consideration.

The power of the wind will be a key focus of SMM for the first time since its 1963 beginnings. The question of shipyard retrofit capacity for the hundreds of vessels likely to have wind energy installations is likely to be a key talking point during the week.

Nothing about this year's event will be ordinary; with cargo vessels re-routing on a long journey round the Cape of Good Hope in a bid to circumvent the Red Sea disruptions, and some even beginning tentatively to ply the Arctic Northern Sea Route (NSR), SMM's attendants cannot afford to take anything for granted.



› DAILY VIEW

Don't miss the Daily View - our team of reporters will broadcast highlights from this year's SMM in an exciting daily video.

Watch it at

www.shipandoffshore.net

www.youtube.com/user/ShipOffshoreTV



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Communicate to decarbonise: ABS Sustainability Summit



Panelists agreed that efficiency gains can go straight to the bottom line Source: Philipp Trochim

Amid the various technologies and green initiatives under discussion at ABS' Monday sustainability panel – including carbon capture, ship aerodynamics, and ammonia fuel – the lost art of conversation appeared to be a prominent focus. The discussion was shot through with the message that better communication between stakeholders will be necessary to effect decarbonisation.

For Sebastian Ebbing, MPC Container Ship's group sustainability officer, a lack of communication between the shipping and port sectors is holding the industry back. "Decarbonising the industry is not an effort by Hapag-Lloyd, MPC

or V-Ships – it is an effort for the whole value chain."

Shipping lines must include ports in the discussion, Ebbing said. "Ports are the energy hubs of the future. My wish would be to have larger engagement by ports in this whole discussion."

Jannes Elfgem, head of Port Energy Solutions, Hamburg Port Authority, fired back that communication with stakeholders in the cruise industry had been more successful than merchant sectors, in getting decarbonisation goals met in respect of shore power. "We have a coverage rate of 80% of the [cruise] vessels which call the port of Hamburg. I think this is because the cruise industry finds it easier to communicate the

green story to their customers – maybe that's more difficult for 24,000teu container vessels to communicate why plugging into shore power is good for the end consumer."

Quizzed on 'smart-steaming', the fashionable efficiency measure in many discussions, panellists agreed that co-ordinating port calls between shipping lines ought to be a quick win for reducing shipping's CO₂ emissions. "Berth alignment is important," said Arne Maibohm, Hapag-Lloyd Decarbonisation director. "Currently we have two ships, one from us and one from Maersk, running over the ocean to try and hit one berth, and finding out a day before arrival that that berth is now occupied by a third carrier."

"We have been talking about just-in-time for so long now," agreed Matt Dunlop, group director of Sustainability and Decarbonisation at V. Group. "If we could switch that on tomorrow in our industry, can you imagine the efficiency gains we would have?"

"Perhaps we get the commercial teams involved in those discussions to make just-in-time happen. Not just slow steaming – efficient steaming. And again, there's no nuclear risks, no ammonia risks – just straight to the bottom line efficiency gain."

ABS at SMM:
Hall B3.EG / Stand 200

"Meet the Press" Lunch at SMM 2024

Every show day, the editors of Schiff&Hafen | Ship&Offshore will be available between 12:30 and 13:30pm for talks and discussions at the DVV Media booth Hall A1 / Stand 529.

Cold drinks and finger food will be served.

Schiff&Hafen **Ship&Offshore**

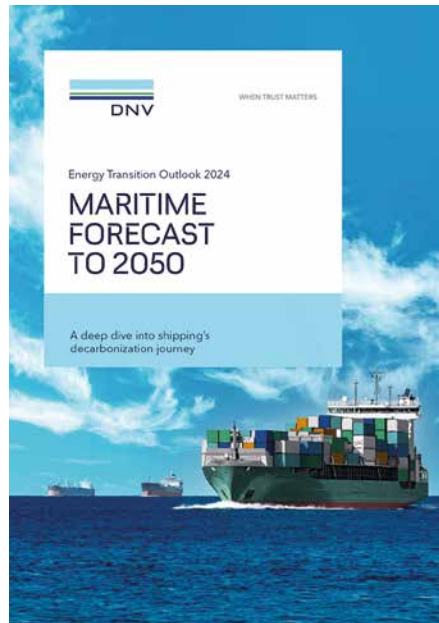


Onboard CCS to play a major role, says DNV

DNV anticipates that decarbonisation will generate huge costs for shipping, requiring companies to increase freight rates and pass on costs to end customers. The latest edition of DNV's Maritime Forecast to 2050 report puts the cost of decarbonising bulk carriers between now and mid-century at 69-75% more than business as usual; tankers 70-86%; with container shipping suffering the most, with a cost increase of 91-112%. These figures were largely influenced by the availability of biofuels bio-LNG, bio-MGO and bio-methanol, as well as nuclear energy, which played a large role in one of DNV's lower-cost scenarios.

Announcing the report in a press conference late last week, Eirik Ovrum, the study's lead author, said: "We see that under certain circumstances, biofuels, onboard carbon capture, and methanol could have significant shares of the future fuel mix. While in these two last scenarios, ammonia and hydrogen achieve higher shares. "No single fuel or technology dominates in any of these scenarios, though it should be noted that onboard carbon capture is present in all of them."

The maturity of onboard carbon capture and storage (OCCS) technology seems to have an outsize influence over DNV's projections, contingent on the availability of shoreside reception facilities at ports, and ultimately, underground CO₂ storage



Source: DNV

OCCS – an element of all fuel options

facilities. Carbon capture devices such as Value Maritime's Filtree use shipboard power, generated by a portion of extra fuel burned, to remove up to 30% of CO₂ from ship exhaust gas, allowing it to be stored on board.

"I think this is a pathway that really needs to be developed," said DNV Maritime CEO Knut Ørbeck-Nilssen. "Major ports, national authorities ... need to step up." However, he implied that this expectation leaned toward the optimistic, pointing out

that "there are fewer than 100 projects for planned [underground CO₂] storage," and "none of them are targeted at maritime."

Ørbeck-Nilssen highlighted that the increased cost of shipping would have implications for end customers, given that "these costs cannot be absorbed by the shipowner or the ship operator," he said. Instead, "the cost has to be moved throughout the value chain and eventually end up at the consumer side as increase in the price of goods ... [and] will have some bearing on our personal lives as well."

Referring to the decline in interest in green methanol, Ørbeck-Nilssen told audiences that the "methanol happy hour" had ended. "The euphoria around methanol seems to have tapered off significantly, he said. "Some very significant drivers for methanol in the maritime industry seem to have pulled back from methanol ... [which] will naturally influence how others might see it."

Green methanol's biggest advocate, Maersk, seems to have revised its strategy in favour of LNG. A Maersk spokesperson told DVV Media recently that the company's position on fossil LNG "had not changed" and that the fuel was "not a lever for decarbonising shipping," but that the company "now consider[s] bio-methane to be a viable fuel pathway contributing to the transition."

DNV at SMM:
Hall B4 / Stand 221

9M
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becker
marine systems

OPTIMISING HYDRODYNAMIC PERFORMANCE

MANOEUVRING SYSTEMS

ENERGY-SAVING DEVICES

SERVICE & CONVERSION



VDMA members, shipping’s suppliers, have a key role to play in sustainable technologies

Source: Prellwitz/Schiff&Hafen

Climate and sustainability targets set the course

The maritime supply industry met for its traditional industry gathering in Hamburg on the day before the world’s leading trade fair SMM and set the tone for further discussions in the coming days with high-ranking guests from politics and shipping. The principal topic was the implementation of sustainability and climate targets for shipping, for which the maritime mechanical engineering industry, which is organised within VDMA Marine Equipment and Systems, develops and supplies systems and technologies. Issues that were addressed include:

- What contribution is the supplier industry making to the decarbonisation of shipping?
- What specific challenges do companies face?
- How can agility and sustainability be integrated into everyday operations?

Around 100 company representatives and guests came together at the International Maritime Museum Hamburg to hear the presentation by the Federal Government’s Maritime Coordinator, Dieter Janecek. With around 400 companies, a global turnover of over EUR 11 billion and around 65,000 employees, maritime mechanical engineering is by far the most important sector with the highest employment and turnover in the maritime industry. German suppliers also have a strong position worldwide and have been propagating a ‘maritime energy transition’ for years.

In conversation with Christoph Gessner, CPO Holding, it became clear that German owners and the supply industry are pulling together to achieve the climate targets. The International Maritime Organization (IMO) has set the strategic goal of achieving climate neutrality in shipping by 2050.

“Shipowners are not only investing in new-builds, but also in modernising and retro-

fitting the existing fleet. The IMO’s climate neutrality target is certainly a strong driver here, especially in the global service and spare parts business,” said Martin Johannsmann, chairman of the Executive Board of VDMA Marine Equipment and Systems (MES).

Judith Herzog, VDMA Environment and Sustainability, reported on what the implementation of sustainability goals means in day-to-day operations and for production. As an expert for the Corporate Sustainability Reporting Directive (CSRD), she supports VDMA member companies in finding their way through the extensive reporting obligations and, at best, in increasing their competitiveness.

The maritime industry meeting of the MES working group once again demonstrated the value of different perspectives, constructive discussion and, most importantly, the value of face-to-face meetings.

VDMA at SMM: Hall A1 / Stand 520

First real
live presentation
of IPS 40

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Programme: VDMA and CIMAC

VDMA Marine Equipment and Systems together with VDMA Engines and Systems and CIMAC have jointly put together an attractive programme. In addition to numerous short presentations at the 'Speakers Corner' this includes panel discussions with high-profile guests.

Panel Discussions:

13:30-14:30 Green Stage, Hall A4

Propulsion of the Future - what will power future global trade?

Speakers:

Dr Daniel Chatterjee, Rolls-Royce Solutions GmbH, Director Corporate Sustainability (ESG), Technology Strategy & Regulatory Affairs; **Sebastian Ebbing**, MPC Container Ships ASA, Group Sustainability Officer; **Diana S. Engelhard**, Unleash Future Boats GmbH, CEO; **Bjarne Foldager**, MAN Energy Solutions, Senior Vice President, Head of Two Stroke Business and Country Manager Denmark;

Fotini Ioannidou, Directorate General for Mobility and Transport of the European Commission, Director of Waterborne Transport; **Merten Stein**, DNV GL SE, Head of Shipping Advisory West Europe & Middle East

15:00 - 16:00, Digital & Security Stage, Hall B6

Smart Connectivity by MTP – Improvements for Shipping and Shipbuilding

Speakers:

Sven Jadzinski, GEA Westfalia Separator Group GmbH, Senior Director Sales - BU Separators; **Sven Ropers**, Siemens AG, Senior Sales Manager Digital Industries; **Claas Rostock**, DNV – Group Research & Development DNV SE, Principal Specialist, Assurance of Simulation Models; **Hauke Schlegel**, VDMA Marine Equipment and Systems, Managing Director; **Sascha Wühlrl**, University of Applied Sciences Flensburg, Research Associate

Presentations at the speaker's corner, Hall A1, booth 520:

15:00 CIMAC: NGO with consultative Status with IMO, Daniel Erdmann

15:20 Position Paper "On Enabling a Ship-wide Data Ecosystem", Dr. Marco Coppo

15:40 Filtration of alternative fuels (methanol/ammonia), Benjamin Herrling

16:00 Environmental Safety Regulations-Section - 14c Special rules regarding emission of nitrogen oxides (NOx) from ships in the world heritage fjords, Jürgen Müller

16:20 CIMAC Guidelines on ISO8217:2024, Timothy Wilson

16:40 Smart integration on board with the new standard MTP – Benefits for shipbuilding, shipping and marine equipment industry, Hauke Schlegel



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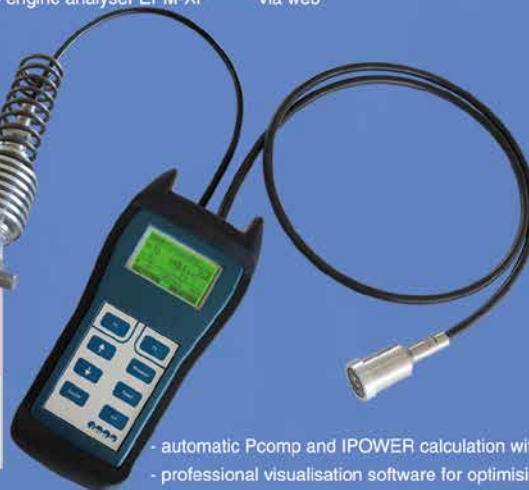
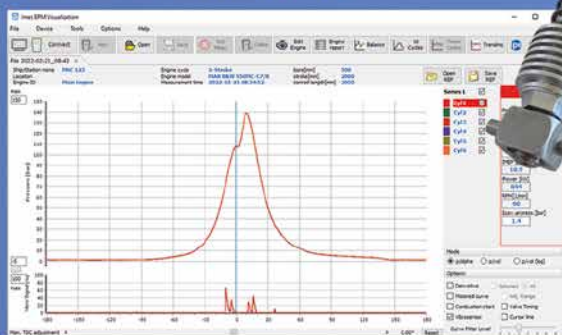
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- online software and firmware updates
- two additional function keys for an easier menu handling
- a larger and more comprehensive display



- automatic Pcump and IPOWER calculation without TDC sensor
- professional visualisation software for optimising engine operation
- direct data transfer to IPE - IMES Performance Evaluation software
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Hall A1 Ship operation equipment, environmental technologies
 ▲ Deck equipment, cargo handling systems

Hall A2 Pumps, valves, compressors, new fuel technologies

Hall A3/A4 Prime movers, propulsion systems and new fuel technologies

Hall B1 National pavilions

Hall B2 Shipyards, shipbuilding industry

Hall B2/B3 Maritime security and defence

Hall B3/B4 Shipyards, shipbuilding industry
 National pavilions

Hall B5 Marine interiors, heating, ventilation, air conditioning
 Safety equipment, fire protection, marine coatings, corrosion protection

Hall B6 Electrical equipment, electric drives, automation, lights, sensors and indicators, software and IT
 Marine technology
 Navigation and communication

Hall B6 Electrical equipment, electric drives, automation, lights, sensors and indicators, software and IT

Hall B7 Shipbuilding materials
 National pavilions

Hall B8 Shipyards, shipbuilding industry, navigation and communication, electrical equipment, automation, software and IT

Stages and Lounges: Sales Lounge, MariMatch, Open Stage, Maritime Career Market, Digital & Security Stage, AI CENTER, MARINE INTERIORS @SMM, Cruise & Ferry Stage, Meeting Point Skywalk, Meeting Point B7, Meeting Point B4.

Entrances: West Entrance, Central Entrance, East Entrance, South Entrance.

Other: Airport Shuttle West Entrance Airport, Future Fuels Area, Meeting Point Skywalk, Digital & Security Stage, AI CENTER, MARINE INTERIORS @SMM, Cruise & Ferry Stage.

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SMM 2024
 HALL B3 BOOTH 103



LEARN MORE



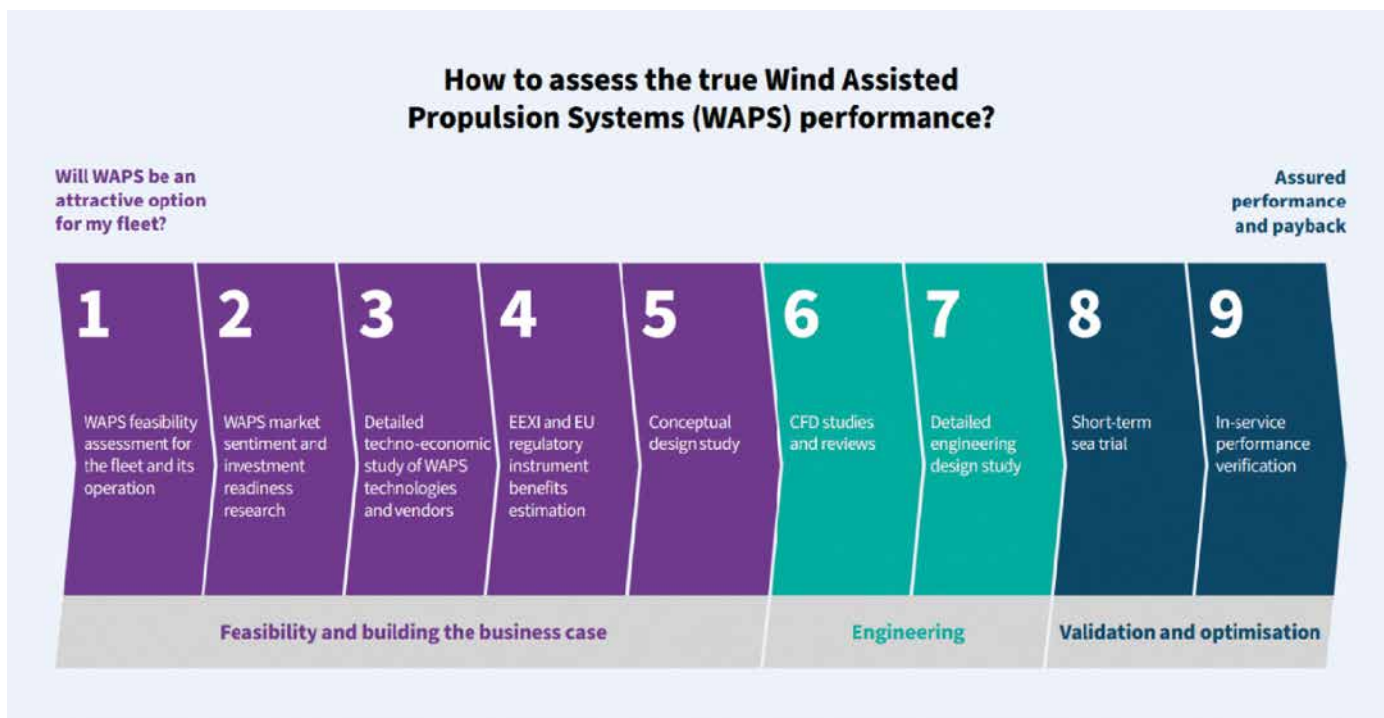
TUESDAY, SEPTEMBER 3rd

- | | | |
|---|--|---|
| <p>10:00 SMM Opening Ceremony and Pressconference
(by invitation only)
Room Chicago / Hall A4</p> | <p>12:00 Global launch: Maritime Forecast to 2050 report
DNV access to the event only after registration
Raum Kopenhagen / Hall A3</p> | <p>15:50 Energy transition in global transport and logistics
Deutsches Maritimes Zentrum e.V.
Green Stage / Hall A4</p> |
| <p>10:20 Steering Future – the future of autonomous navigation in Germany
CAPTN Initiative Christian-Albrechts-Universität zu Kiel
Digital & Security Stage / Hall B6</p> | <p>12:35 ABS Wavesight™ - Electronic Logbooks Drive Efficient and Sustainable Operations
ABS
Digital & Security Stage / Hall B6</p> | <p>16:20 Recent progress and confirmation in Wind Propulsion System, opening up new horizons for fuel saving in maritime shipping
OceanWings
Open Stage / Speaker Slot / Hall B2.OG</p> |
| <p>10:30 Future-Proofing Cruise Newbuilds: Designing for Flexibility and Energy Efficiency
Seatrade Cruise Review
Cruise & Ferry Stage / Hall B5</p> | <p>12:40 Alternative fuels in shipping – ways to achieve the maritime energy transition
Maritime Plattform (FuelEU Maritime, ETS, REDIII)
Green Stage / Hall A4</p> | <p>17:30 Wine o'clock
SMM experience – Network with other participants
Cruise & Ferry Stage / Hall B5
Green Stage / Hall A4
Open Stage / Speaker Slot / Hall B2.UF
Digital & Security Stage / Hall B6</p> |
| <p>11:00 Original Glückstädter Matjes
CM Technologies
Stand 220 / Hall A3</p> | <p>13:30 Stiftung Deutsche Seemannsschule Hamburg – We promote young seafarer and seafaring training schools in Germany
Stiftung deutsche Seemannsschule
Open Stage / Speaker Slot / Hall B2.OG</p> | |
| <p>11:10 The AI CENTER Lightning Talks at SMM Hamburg
AI Hamburg: The AI CENTER Lightning
Digital & Security Stage / Hall B6</p> | <p>13:30 Why are technology and fuel not ready to be deployed – or is it? An engineer and energy provider perspective.
River Cruise Europe/ European River Cruise Association
Cruise & Ferry Stage / Hall B5</p> | |
| <p>11:15 Damen Shipyards vision towards sustainability of the shortsea fleet of dry cargo vessels within Europe
Damen Shipyards
Open Stage / Speaker Slot / Hall B2.OG</p> | <p>13:30 TradeWinds Shipowners Forum
TradeWinds
Room Chicago / Hall A4</p> | |
| <p>11:40 What is holding us back to decarbonise? A policy, operators, and finance view.
River Cruise Europe/ European River Cruise Association
Cruise & Ferry Stage / Hall B5</p> | <p>14:45 Unravelling a complex landscape: digital technologies' role in environmental compliance
Lloyd's Register
Cruise & Ferry Stage / Hall B5</p> | |
| <p>11:55 Digitalization and Mental Health for Seafarers
Deutsche Seemannsmission
Open Stage / Speaker Slot / Hall B2.OG</p> | | |

More information about the conference and panel programme:



Selection, no claim to completeness, all information without guarantee.



Tipping points near as regulations drive return to wind

New analysis of the market and drivers for wind-assisted propulsion from Lloyd’s Register (LR) highlight their sizeable fuel savings potential – and crucial considerations for ship operators planning to install them.

Amid a surge in the number of vessels planning installations of wind-assisted propulsion systems (WAPS), challenges still remain if shipping is to realise the significant potential of one of its original power sources. Several of those challenges – as well as essential advice for those embarking on installation projects – are featured in LR’s WAPS Retrofit Report, released shortly before SMM.

LR’s analysis of the current market finds that uptake of WAPS is on the verge of a tipping point, expected to pass the 100-installation milestone in the next 2-3 years. There is some uncertainty on exact order numbers as the established industry data does not fully match disclosures from technology providers, considerably overesti-

imating the number of suction wing orders by, LR believes, including several ‘wind-ready’ projects that are not yet firm orders. However, it is clear that the shape of the market is evolving; more orders are coming from a wider range of vessel segments, often with more units per installation, reflecting greater confidence in the technology. The number of projects featuring WAPS from initial design, as opposed to the retrofits commonly used for pilot projects, also highlights growing confidence in the fuel-saving advantages and technical feasibility.

Dr Santiago Suarez de la Fuente, LR’s Ship Performance Manager, says: “Wind-assisted propulsion systems are increasingly being used by ship operators to reduce fuel consumption, meet energy efficiency regulations and minimise exposure to carbon costs. With 29 installations between 2018-2023 and 72 in the orderbook, LR’s new research report demonstrates that there is growing confidence in the available solutions.”

Gathering force

Beyond 100 installations, market forecasts indicate that orders will accelerate rapidly, notably in the bulk and tanker vessel segments, with analysis of top-end potential identifying nearly 14,000 candidate vessels over the next 26 years. Uptake is being driven by increasingly well-established savings in the face of energy efficiency and emissions regulations that impose significant stepped reductions in energy intensity, as well as dramatically increasing the cost of greenhouse gas emissions. Fuel reductions from WAPS technologies, like other energy efficiency technologies, also act to improve the viability of adopting zero- or near-zero emissions fuels to meet long term reduction targets.

However, notable challenges remain in the application of WAPS technologies. First is the uncertainty around actual fuel savings, with no standardised criteria for validating savings claims. The potentially hidden costs around WAPS – including the full scope of engineering work and operation-



al costs – also contribute to uncertainty around the business case.

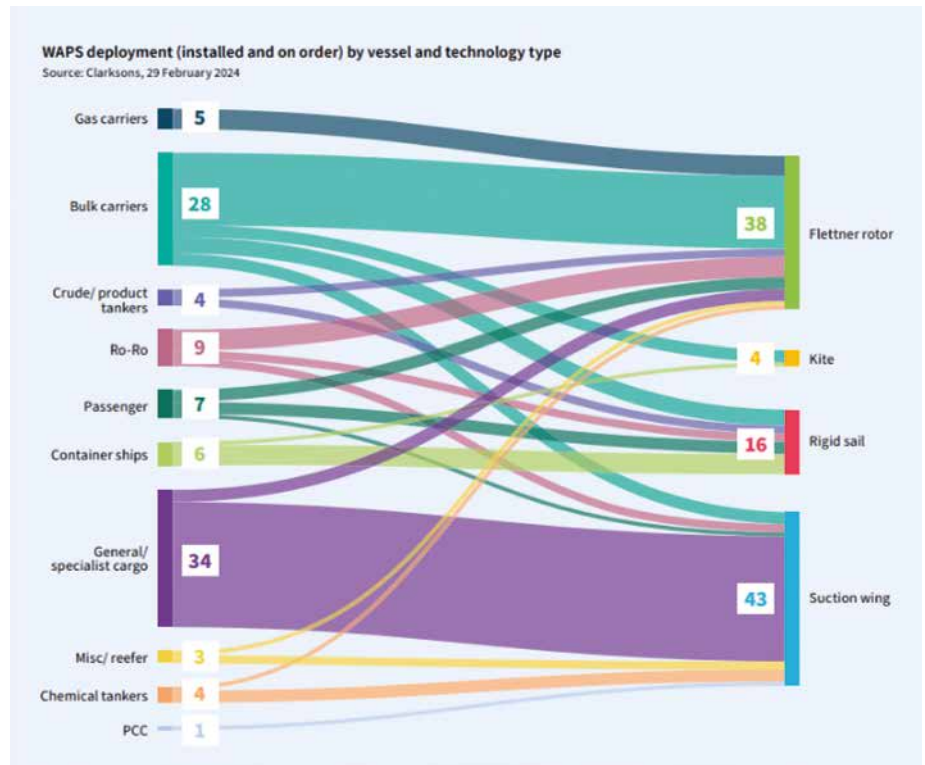
The ramp-up of the supply chain will be critical to meet rapidly growing demand. For technology suppliers to meet existing orders would entail them delivering around 2.5 times the number of units they have installed in the past five years. To achieve uptake on around 15% of the global fleet – as anticipated in the most optimistic forecasts would require a 75-fold increase on that level, requiring a dramatic increase in production capacity. Several suppliers are bolstering production capacity, but understanding how partners plan to deliver and maintain reasonable lead times amid the ramp – up will be a crucial question for shipowners.

To date only around 16 yards have conducted WAPS retrofits, indicating that installation capacity needs to be far more widespread if future installations are to be met. While there are no showstopping capabilities for shipyards, planning projects will require careful consideration.

Maximising payback

One option considered is for a two-stage retrofit process, with WAPS foundations and cabling prepared during a scheduled drydocking – or even from newbuild – and the WAPS solution itself attached during a second docking or, in some cases, during an extended port call. Optimising installation timing to meet regulatory emissions reductions or to maximise payback will require some consideration, as will the alignment of project schedules to component lead times.

The report, supported by the International Windship Association (IWSA), offers



both a rallying call to the industry as well as a reality check on some of the outstanding factors that could inhibit uptake.

Gavin Allwright, Secretary, IWSA, notes: “There is a perfect storm brewing when it comes to reducing GHG emissions in shipping. New regulations, price challenges for existing and new fuels along with the growing pressure from cargo owners to reduce Scope Three emissions. These are driving the deployment of wind propulsion technologies, both as wind-assist and primary wind, retrofit and newbuild, however these systems need to be robust, safe and validated in order to build trust in the market and

lay the foundation for scaling these across the fleet.”

The complex considerations around WAPS technologies and the remaining uncertainties listed above mean that trusted expert advisory will be indispensable across the retrofit process, from exploring feasibility to technology selection, installation and validation of performance.

To learn more about how LR can support shipowners, operators, designers and technology providers in their WAPS projects, visit us at Hall B2, Booth #198 at SMM this week.

RETROFIT RESEARCH PROGRAMME:
Reduce your emissions with a range of retrofit solutions from engines to wind-assisted propulsion

Explore options to decarbonise your fleet at **SMM, Hall B2, Booth No. 198**

Book a meeting

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Source: Hoppe Marine GmbH

MARC ROHDE

Managing Director of
Hoppe Marine

Three questions for...

Hoppe Marine is celebrating its 75th birthday this year. Can you briefly talk about the milestones in the company's history?

The past 75 years featured so many highlights from technical milestones, inventions and patents to acquisitions and growth. It all started with our founder Hans Hoppe who shaped the industry after the Second World War with his precise measuring systems such as speed log and shaft power. In particular, the joining of Helmut Rohde in 1990 was a key milestone – one which stimulated the development of many new and innovative products. It was really his dedication that transformed Hoppe from a measuring company into a system and service supplier for complex fluid control solutions as well as a digitalisation and information service provider for all types of vessels.

Based on this vision and driven by innovation, Hoppe developed a wide range of products over the years ranging from Valve Remote Control, Tank Content Measuring and Anti-Heeling to Roll Stabilization, Performance Monitoring and various Information Service Solutions. Further milestones that mark our company's development were the integration of renowned brands and proven technology from Maihak and Flume in 2010, Interling in 2017 and S-two in 2023. In addition, Hoppe has grown globally with office openings in Korea (1996), followed by China (2010), Singapore (2018) and the US (2024).

We are proud to be the world market leader for roll stabilisation systems and complex automated ballast control systems for special vessels. Our strength is the combination of long-

term experience, innovative spirit and a holistic approach. We always seek the best solution for our customers, and we keep up the legacy of our founder by making shipping safer and more efficient with our products and services.

Are there any special celebrations planned as part of SMM and what can visitors expect at the Hoppe Marine booth?

On Thursday evening at 6 pm, we will host a party at our booth B6.136 with live music, drinks and snacks. Celebrating our 75th anniversary, it will be even bigger and better than last year. You are highly welcome to join us. During the exhibition days, we display the major milestones of our company's history with an aggregated interactive presentation, and we are there for everyone to answer questions and provide valuable inside information.

What do you consider the biggest challenges for the maritime industry and how does Hoppe Marine meet them?

Historically, the biggest challenge in the industry is the volatile business cyclical which requires a good sense of direction, courage and flexibility. 75 years of successful business prove that Hoppe has got those skills. Also shifts in the political landscape are often a challenge when you operate in an international industry. We try to position ourselves as diversely as possible so that a dip in one market can be compensated by growth somewhere else. The most talked-about challenge nowadays is the transformation of the maritime business into an environmentally sustainable industry. Shipping is essential for global wellbeing, and it must lead the way. We at Hoppe are driven to provide our contribution for a better and more efficient industry every day.

Hoppe Marine GmbH at SMM: Hall B6 / Stand 136

The power of the wind on show in Hamburg

The potential for wind power to propel shipping into a new era of energy efficiency is evident at this year's SMM as never before. A wide range of wind propulsion technologies are on show, suitable for small coastal vessels right through to some of the largest ships traversing oceans across the world.

Systems already installed on ships have now been saving fuel and cutting emissions for their owners for years. And, as tough new fuel-related regulations with penalties are implemented in key regions, the payback period for systems and their installation on new and existing ships is reducing all the time.

Gavin Allwright is secretary general of the International Windship Association (IWSA). Hamburg will be a key moment for companies involved in the sector, he says.

"So far this year, we have witnessed new project announcements, order confirmations, and installation celebrations almost every week. This is a sector of technology development and renewable energy use that is clearly embarking on a voyage propelled by the prevailing winds rather than one still being buffeted by headwinds," he declares.

This year's acceleration in wind power uptake is down to a number of factors. Systems have been fine-tuned and offer greater potential fuel savings. The prospect of new marine fuels costing far more than today's carbon-heavy oils boost the potential value of fuel savings. But per-



Surging interest in wind power technology is evident in Hamburg

Source: Deltamarin

haps most importantly, new regulations in the form of the IMO's carbon intensity indicator, the EU Emissions Trading System, and Fuel EU Maritime from next January are radically changing the economics.

Shipping companies trading in or to Europe will pay large penalties for burning traditional marine fuels from the beginning of 2025. And, experts say, doing nothing is not an option. All possibilities should be on the table, they say, and wind power for both new and existing ships presents a major opportunity.

By the end of July this year, no fewer than 45 ships of more than 3m dwt had wind power installations and a further ten were 'wind-ready', more than three times the total for 2023. No wonder, then, that IWSA members are keen to show off their wares in Hamburg – 37 of them are exhib-

iting at SMM and IWSA has produced an unofficial Wind Propulsion Route available at <http://bit.ly/3AIOALY>.

Meanwhile, members of ISWA are hosting a range of talks, product presentations and receptions at their stands. Details are available at <https://bit.ly/46Xd68e>. IWSA is also inviting SMM attendees to stand A3.108 to listen to a variety of presentations from IWSA members on Wednesday 4th and Thursday 5th September. Details are available at <https://bit.ly/4cC5jfv>.

On Wednesday 4th, the Windship Day conference will take place, hosted by MARIKO, Hochschule Emden Leer, Fraunhofer IWES, and Green Shipping Niedersachsen, on board the tallship, *SV Peking*.

IWSA at SMM:
Hall A3 / Stand 108

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Anschütz advances with autonomous navigation



Photo: Lau / Schiff&Hafen

The research catamaran *MV Wavelab* at its christening ceremony in February 2023

MV Wavelab, the research catamaran of the CAPTN initiative in Kiel, Germany, is out on the water every week, collecting data, training AI-based algorithms and testing new functions, sensors and systems for autonomous navigation. Aboard is a fully equipped Anschütz Integrated Navigation System (INS).

The INS processes all the data provided from sensors and systems and calculates a consistent picture of the maritime environment, the current navigation situation, and potential risks. It monitors and actively manages security, redundancies and configurations, as well as the status of the overall system.

“Anschütz’s INS is proving itself as the basis for a consistent, secure system for monitoring and controlling autonomous ships”, according to Daniel Sommerstedt, head of Research Projects at Anschütz. “We collect extensive data here every week and, above

all, gain experience with our systems, be it in the interaction between the ship and the remote operating centre, or in the evaluation of new information or functions with the help of experienced navigators.”

The INS allows the exchange of data with a shore-based Remote Operating Centre (ROC), including information on routes, obstacles and targets, to enable remote monitoring and autonomous navigation trials. The ROC is located on the Anschütz premises. It is equipped with a complete navigation system and several displays showing live images from cameras on board. The ROC also contains a complete digital twin of all the data that the INS transmits from the various existing and experimental sensors and systems on board.

“With track and speed control, we can already keep a ship safely on a planned route, and we can also use our radar to automatically track other vessels and detect when they’re about to collide,” said Sommer-

stedt. “In our current research phase, we are gradually extending the capabilities of the navigation system – for example, by developing innovative assistance systems that simplify the assessment of complex maritime situations and make navigation safer.” The development and evaluation of approved assistance systems and the further automation of the navigation system offer numerous advantages for shipowners. On the path to autonomous shipping, navigation assistance systems can help to compensate for crew shortages on board. They can also relieve the burden on the navigator by providing relevant decision support in critical situations by helping them to identify a situation more quickly and reduce human error.

Anschütz’s research is currently focusing on a support function for collision risk assessment on the foundation of a role- and model-based approach and in accordance with IMO Collision Regulations (Col-Reg). A function is being tested as an overlay of radar and ECDIS that continuously analyses available own-ship data, tracks information from the maritime situation picture and automatically assesses possible targets in accordance with ColReg. If a critical approach is detected, the user is alerted and given a recommendation as to whether the course can be maintained or whether an evasive manoeuvre is required.

The aim of the system is to reproduce the likely behaviour of the navigator. The system should be able to adapt to different types and sizes of ships and to the safety requirements of shipping companies.

“As an established manufacturer of navigation and bridge systems, we want to bring carefully tested, approved and commercially viable products and system solutions, such as assistance systems, to the market as quickly as possible”, said Sommerstedt. “The CAPTN initiative therefore is an excellent testing ground for maritime innovations in the field of autonomous navigation.”

Anschütz at SMM:
Hall B6 / Stand 304

Vale adopts wind power for second ore carrier

Japan's Mitsui O.S.K. Lines and Rio de Janeiro-based mining giant, Vale International SA, have announced the installation of two Norsepower rotor sails on board the 200,000dwt Capesize bulk carrier, *Camellia Dream*. The vessel ships iron ore from Brazil to the Far East and, combined with voyage optimisation technology, is expected to cut fuel burn and emissions by 6-10% on the wind-friendly route.

The shipowner has set up the 'MOL Group Environmental Vision 2.2' programme with a target of achieving net-zero greenhouse gas emissions by 2050. A key component of the project is to adopt clean energy and energy-saving technologies. This includes the installation of wind-assisted propulsion systems, the company said.

The first installation of a wind power system on a Capesize bulk carrier follows closely on an earlier deal in which the Vale-chartered very large ore carrier, *Sohar Max*, owned by



Two Norsepower Rotor Sails™ installed on board bulk carrier *Camellia Dream* Source: Norsepower

Oman's Asyad Shipping, has had five Anemoi rotor sails installed. The 400,315dwt is said to be the world's largest ore carrier.

The company has operated Valemax ships of about 400,000dwt since 2018 and Guibamax vessels of 325,000dwt since 2019. It is claimed that the ships are the most efficient of their respective types in the world.

As part of its Ecoshipping programme, the Brazilian miner aims to reduce Scope 3 emissions in its value chain by 15% by 2035. This includes chartered ships that are owned by third parties.

Norsepower at SMM:
Hall B1 / Stand 309

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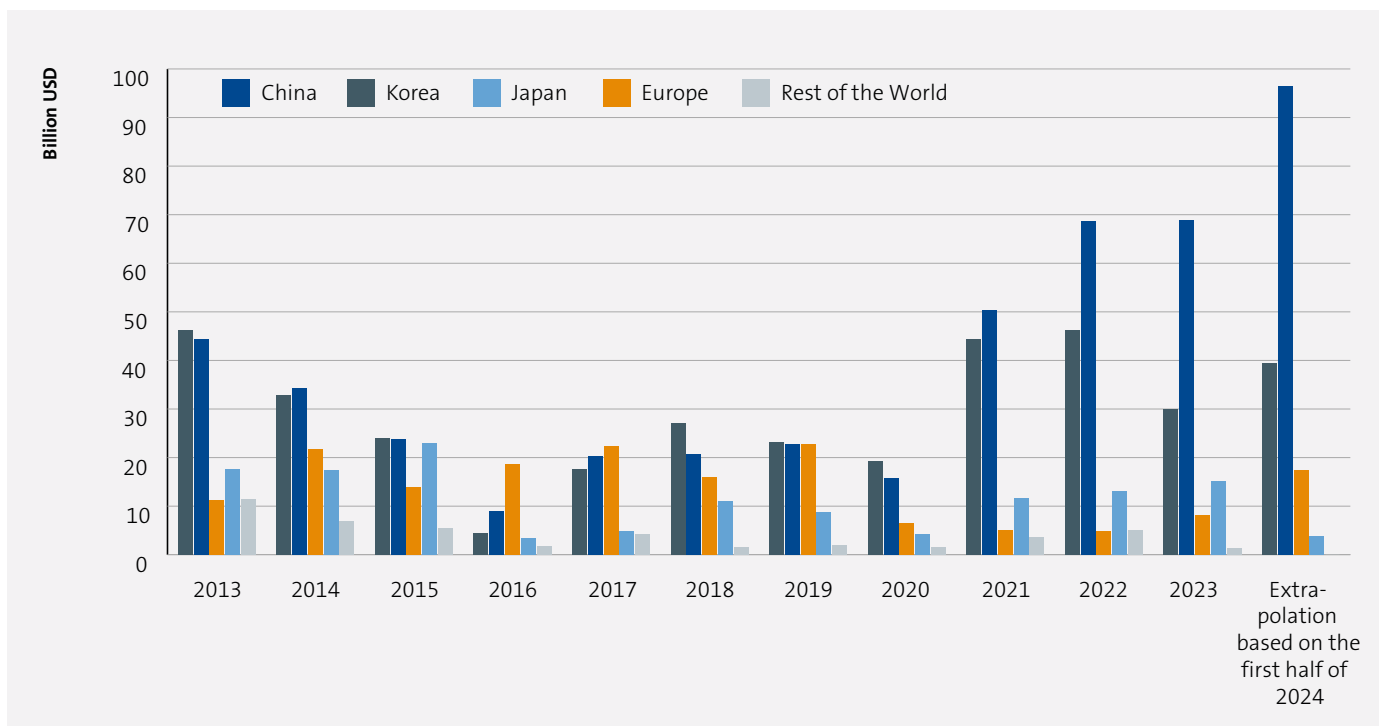
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In the first half of 2024, China’s incoming orders amounted to USD 48.2 billion. This is followed by Korea with EUR 19.7 billion. Europe is at EUR 8.7 billion. For Japan, Clarkson notes only EUR 1.9 billion
 Source: Clarksons Research/VSM

Shipbuilding on a roll despite uncertain economic outlook

Despite geopolitical tensions and economic uncertainties, global shipbuilding is once again experiencing a boom phase. However, Europe must face up to the challenge of reducing its dependence on China in order to preserve its maritime sovereignty, warns Dr Reinhard Lüken, managing director of the German Association of Shipbuilding and Ocean Industries (VSM) in the run-up to this year’s SMM.

The record volume of new ship contracts over the past three years has continued in the first half of 2024. Clarksons Research notes investments in new tonnage of over USD 80 billion in the past six months. Extrapolated for the full year, this would amount to an increase of a whopping 27% compared to 2023.

This may come as a surprise, as a number of factors could be cited which might limit the contracting of new ships at this time. Weak economic data from major econo-

mies, growing geopolitical risks, and full shipyard orderbooks that are pushing prices to record levels could well give reasons for doubt.

The strong increase in investment is actually not so much due to more ships being ordered, but to more expensive ones. The total order volume in compensated gross tons (CGT) has remained at a similar level compared to the previous year and the number of new units ordered has even fallen slightly.

Shipyards are facing significant cost increases which are being passed on to customers. In addition, the specification of more ships designed for actual and anticipated regulatory requirements such as a growing switch to alternative fuels is propelling prices.

However, the main driver of the investment hike is the portfolio composition in terms of ship types: demand for more complex units, offshore vessels, LNG

tankers, is proving to be particularly strong. Cruise ships have also made a significant contribution. On the other hand, bulk carrier contracts have dipped slightly. In any case, the most important prerequisite for strong demand is profitable customers. For many of the shipping markets, the signs continue to point to green. In the face of regulatory pressure, many shipping companies are convinced that they must act now as they are able to do so.

Some customers do complain about rising shipyard prices. Clarksons has noted a continuous increase in the general price index across all ship types and sizes since 2021, 5% since the beginning of this year alone. At the same time, however, the index is still below its peak in 2008.

Many shipyards in Asia continue to suffer under strong price pressure particularly from and within China and have reported poor results despite strong demand. As a matter of fact, average ship prices are

lower today than they were 16 years ago. Since then, inflation, rising labour costs and raw material prices, and significantly increased regulatory requirements, all of which are very costly to implement, may not be fully reflected in today's price levels.

Furthermore, the high capacity utilisation of the global shipbuilding industry is also unlikely to change in the foreseeable future. Ultimately, the technological shift towards climate-neutral shipping is forcing shipowners to modernise the entire global fleet by 2050. Anyone speculating on price reductions in world shipbuilding should be prepared for a very long wait.

Low-emission drives on the rise

A look at the global order backlog makes it clear that the trend towards alternative fuels continues unabated. At the end June 2024, conventionally fuelled vessels are still making up the majority of ships on order. However, no less than 35% of them will be ready to use LNG. An additional 9% are prepared for the use of methanol, while other fuel options, ammonia or ethanol included, account for 1%.

Cruise sector on course for recovery

Particularly reassuring from the point of view of the European shipbuilding industry: the cruise sector has bounced back with large orders. The Covid-19 pandemic did not have a lasting impact on the attractions of cruising. In 2023, almost 32

million people took a cruise – 7% more than in the pre-pandemic year 2019.

The industry association CLIA expects the number of passengers worldwide to increase by 10% in the next four years. This global growth is mainly due to increased demand in North America and Europe. The Asian region, on the other hand, has not recovered to the same extent. Last year, almost 40% fewer passengers booked a cruise there than in 2019 – in China it was 92% less.

Overall, though, the industry has overcome the pandemic well, considering the complete shutdown of business while high operating costs prevailed in ship operation, notably repairs and maintenance. All major players succeeded in safeguarding sufficient liquidity on the capital markets to which a temporary deferment on loan repayments by capital providers involved in ship financing made an important contribution.

Meanwhile, cruise lines are gradually reducing their high levels of debt. For some of the major companies, Standard & Poor's believes that a return to investment-grade status in the course of 2025 could be quite possible.

The positive development among the shipping companies is now also reflected in the ordering behaviour for new ships. Clarksons Research reports order intake for European shipyards of USD 8.7 billion in the first half of 2024. These figures do not yet include recent orders. European

shipbuilding is thus back in the picture and, by the end of the year, may even surpass the record ordering levels of the pre-pandemic years.

Important lesson for Europe

The reassuring development of new orders for Europe's shipbuilding industry should not obscure the urgent need for industrial policy action. Cruise ships, yachts and government vessels alone are not sufficient to ensure the lasting success of the shipbuilding industrial base in Europe.

The goal must be to be able to produce at least a significant proportion of the commercial tonnage required in Europe itself. Only then can a healthy capacity utilisation for the entire value chain and with it a safeguard to the entire maritime capability profile be guaranteed – a prerequisite for a technically sovereign Europe.

China's steadily growing dominance creates dangerous dependencies, which are particularly pronounced in the German market. According to Clarkson, 89% of the orders placed by German shipowners went to China. Diversification appears to be urgently needed against this backdrop of significant systemic risks. It should be in the interest of Europe as a maritime continent that more of these orders can be placed at yards within the region in the future.

VSM at SMM:
Hall B4 / Stands 207, 209



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Source: Piening

The use of biodegradable oil in CPP can attack metals. Piening has carried out many such overhauls for different brands

Green shipping running in line with cost savings

BY MATHIAS PEIN, CEO AND COB PIENING PROPELLER

Coming from the maintenance and service work on propeller hubs, Piening Propeller has developed a way of cost savings combined with green shipping. The use of biodegradable oil in controllable pitch propellers can have the effect of attacking metals and resulting in more rapid wear of components which often ends in extensive welding and machining works on hub and blade carriers.

Piening has carried out many such overhauls for different customers on different brands of CPP (picture 1). The solution in the design of the Piening Controllable Propeller (PCP) comes with the use of composite components in all highly stressed bearings (picture 2).

By using composites, the reconditioning of hubs and blade carriers is not necessary; only the components themselves have to be replaced. The hub does not have to be removed to undertake service works. And after all that, what is most important for the shipping industry: the costs for reconditioning will be decreased, which in turn lowers dock time, dock costs, downtime. Furthermore, it is possible to use just water as hydraulic medium instead of oil, avoiding the risk of environmental pollution. This offers significant benefits for customers and the highlight is - to do something for the environment on the one hand and save money on the other.

The Piening Controllable Propeller

As for operational efficiency and minimal maintenance, the PCP's blades are designed for simplified assembly and disassembly and can be mounted from the inside or outside of the hub.

> REFERENCES (PARTIAL)

- ▶ Two five-bladed PCPs of type PCP 5-705 with a diameter of 2.5m were retrofitted to the hopper dredger *Thor R*, owned by Danish operator Rohde-Nielsen.
- ▶ A two-bladed PCP 2- with a diameter of 1.7m for the 50m-long Polish Navy Ship *Iskra*.
- ▶ Several PCP 5 made of stainless steel, operating ice-breakers in Poland
- ▶ 4 x 2 five-bladed PCPs of type PCP 5-700 with a diameter of 2.750mm for a power of 4,600 kW each, installed on 4 OPVs (86m) for the German Federal Police and being built at FASSMER Shipyard.



Source: Piening

The design of the PCP comes with the use of composite components

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It is made of identical components for left- and right-turning propellers, thus reducing the number of different parts that the user has to work with and remember.

PCP diameters range in size from 1.1m to 5.4m and across a power range spanning 300-10,000 kW, depending on application and customer requirements.

The “PCP - Piening Controllable Propeller” complies with stringent, global green shipping regulations.



PCP retrofit to *Thor R*

Source: Piening

DNV GL approval

The composite materials have been comprehensively tested in complex test procedures at Piening facilities on a 650mm PCP hub supervised by the classification society DNV. The applied loads correspond to an output of 3,300 kW at 440 revolutions per minute.

After more than two million executed pitch setting cycles, which were carried out under permanent full load, DNV confirmed an outstanding result in terms of wear resistance. Based on this, the classification society approved the use of these components for controllable pitch propeller designs in July 2016.

Piening Propeller at SMM: Hall A3 / Stand 226

› PIENING PROPELLER

The company Otto Piening GmbH located in Glückstadt/Germany was founded in 1929.

Over recent decades it was recognised for the construction and manufacturing of complete drive lines with fixed pitch propellers as well as for customer service, maintenance and repair. Now the company has launched its

own concept and design for controllable pitch propellers. The main focus aims to integrate into the new design all of the company’s past experience, gained over recent decades with the products of Piening Marine Technic SL and ZF Marine Group, as well as with service and overhauls for other original equipment manufacturers.

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New self-unloading bulker design unveiled



Illustration of the self-discharging 5,600dwt dry cargo vessel

Source: Thecla Bodewes

Netherlands-based Thecla Bodewes Shipyards has launched a novel design for a self-discharging 5,600dwt dry cargo vessel, powered by a diesel-electric drivetrain, dubbed *Gadus*. The vessel features an excavator positioned on a moving platform, allowing it to reach into any part of the ship’s cargo hold to retrieve and unload cargo.

Functioning like a geared bulk carrier, the *Gadus* could mark a significant improvement in operational flexibility, by allowing the vessel to be unloaded anywhere that a quayside is available, rather than re-routing to the nearest port with suitable handling equipment. Decarbonisation experts agree that getting cargoes closer to their end destination using the most fuel-efficient

possible means – shipping by sea – rather than by road transport could play an outside role in reducing global carbon emissions.


Thecla Bodewes indicates that this self-discharging capability will apply to a wide range of bulk cargoes, and reduce the length of port stays – a critical requirement of the IMO’s CII regulations – as well as the fees associated with length of time at berth and use of quayside equipment. Meanwhile, the *Gadus*’ diesel-electric propulsion system is designed to optimise fuel consumption and reduce emissions.

The design is modular, and can be increased in size to reach 7,000dwt with a cargo hold capacity of 10,477m³. Work has also been carried out to prepare the design for initial installation or later retrofit of battery banks and wind assisted propulsion systems.

“We are thrilled to introduce this innovative 5,600dwt dry cargo vessel to the market,” says Wilco Smit, project developer at Thecla Bodewes Shipyards. “Our team of naval architects and engineers has worked tirelessly to create a vessel that not only meets the current demands of the shipping industry but is also prepared for the future. With its advanced self-discharging capabilities and its readiness for sustainable retrofitting, this vessel sets a new standard for efficiency and environmental responsibility in maritime transport.”

Thecla Bodewes Shipyards at SMM: Hall B7 / Stand 511





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Monitoring rope tension in real time has significant security benefits

Source: Lankhorst Ropes

Real-time data on rope tensioning

Synthetic and steel wire rope supplier, Lankhorst Ropes, will be demonstrating Sureline, the first system to provide crews with real-time rope tension data during mooring and towage operations. Manufactured by Sensor Technologies, the Sureline remote rope tension sensor improves crew safety and enables long-term monitoring of rope

tensioning for more accurate rope retirement planning.

Lankhorst Ropes has partnered with Advantec Maritime Safety to make Sureline available worldwide. The Lankhorst Ropes initiative is in line with maritime industry efforts to increase crew safety through developments such as OCIMF's Mooring Equip-

ment Guidelines MEG4 guidelines and the IMO's Guidelines for Inspection and Maintenance of Mooring Equipment. The Lankhorst Ropes stand at SMM will also feature the Tipto Winchline together with Euroflex and other mooring and towage ropes manufactured by Lankhorst in Europe.

Lankhorst Ropes at SMM: Hall A1 / Stand 108



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Cyber security climbs agenda in Hamburg

An event that will take place this morning will explore digital innovation in shipping. Daniel Ng is a co-founder and CEO of Cyber Owl, a business that focuses on cyber risk. He explains why the subject needs close attention.

Ng, who will moderate one of the panels, reveals that the event will be split into two parts. Experts from the German and international shipping community will discuss the challenges faced by shipping companies against a backdrop of accelerating innovation. Then the start-ups in the sector will be given short slots to present their innovations spanning issues including decarbonisation, vessel system safety, and crew safety.

The event is supported by a range of partners. He cites the close involvement of Lloyd's Register (LR) and Flagship Founders (FF), a Berlin-based maritime tech company that promotes the digital development in shipping as 'a massive opportunity'.

FF is backed by German shipping companies including Peter Döhle Director, Johann Diercks, Nils Aden, managing director at the Harren Group, the Head of Digitalisation at Hapag-Lloyd, Florian Heinemann, the CTO of V.Group and the CEO of Fernride, a start-up building electric, autonomous trucking systems for port terminals. Venture capital funds including TMV, Motion Ventures, Innoport, and HHLA Next will also participate.

Ng explains that cyber security is often forgotten in innovation, or viewed as a negative



Daniel Ng

Source: CyberOwl

subject. In fact, he says, it is a sector that is still in the early days of digital innovation.

"Shipping is only just starting to get the basics in place," Ng declares. "We conducted research with law firm HFW and maritime innovation research firm Thetius, and found that cyber breaches have cost shipping companies an average of USD 500,000.

"Where ransom was paid on ransomware, the average was USD 3.2 million. This is up by almost 200% on the previous year. Yet one third of shipping companies still only spend around USD 100,000 a year on cyber security. There's a lot more that needs to be done," he states.

There is progress, however. Ng cites an initiative involving LR, ClassNK, RINA, Cyber Owl, and the Singapore Shipping Association, that is focused on developing a cyber maturity scorecard. This will enable companies to measure their systems.

Meanwhile, the International Association of Classification Societies has launched the new rules, UR E26 and E27, which became mandatory for newbuildings from July this

year. They provide clear requirements on the security controls that are required.

Worryingly, however, Ng reveals that Germany is one of the major shipping hubs that is lagging behind other peer regions. There have been limited initiatives recently, he says, following the 2020 publication of guidelines in "IT-Grundschutz Profile for Shipping Companies Minimum Protection for Ship Operations".

For companies embarking on the cyber security journey, Ng says that the start point is to determine whether embracing a digitalisation strategy is a core business priority. Maritime digital experts, such as those at LR, can help advise on this.

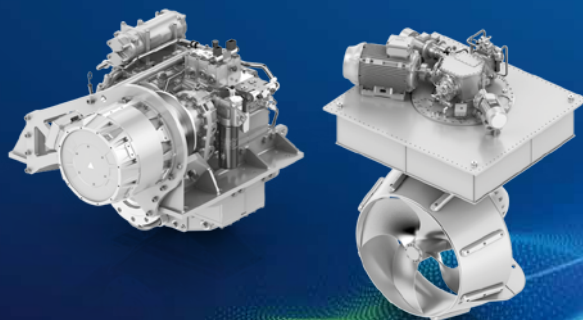
However, there is no need for shipping companies to have their own in-house systems. Larger operators will inevitably have IT departments with security experts. But many hundreds of smaller owners and operators may have only a couple of IT personnel with no specific expertise in cyber security.

"There are enough suppliers of cyber security now, with presence in Germany," Ng says. "Shipping companies can tap into a more cost-effective model to improving their cyber maturity without building large in-house expertise."

Smaller companies are also pooling their expertise, he notes, adding that there are a range of free resources to support such companies. One such is Cyber Owl's free annual cyber emergency response exercise, held in Hamburg in collaboration with partners including HFW, the UK P&I Club, and Navigate Response PR.

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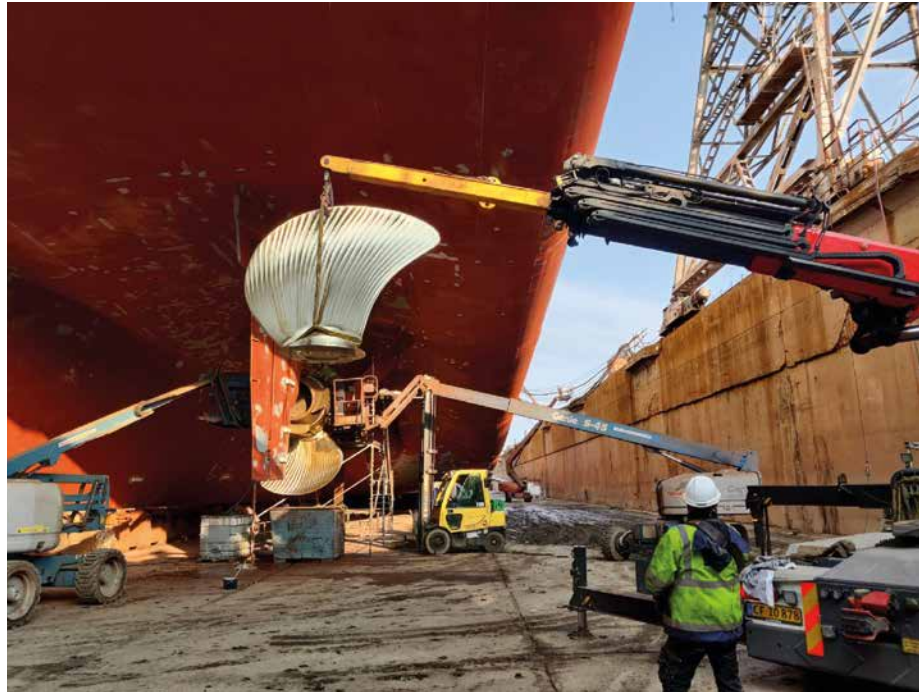
Berg Propulsion repowers CMA CGM vessel

Many operators use slow-steaming to improve fuel efficiency. Due to the inverse square law, a speed reduction of just a few knots can generate an outside reduction in fuel consumption. But shipping lines are discovering the process can be more complicated, as hull lines, bulbous bows and propellers are optimised for speeds far above this, dating from the time when the ship was designed.

Sweden's Berg Propulsion has helped container giant CMA CGM, along with shipowner Reederei Rambow, overcome this tendency on the 868-TEU feeder vessel *Henneke Rambow*. After conducting a performance review of the vessel, Berg retrofitted the ship with new equipment at the system and machinery level, to service the vessel's lower speed and more efficient operating profile.

"Existing propeller blades were replaced with profiles that are hydrodynamically optimised for the vessel's full operational profile," explained David Sakandelidze, Account Manager, Energy & Efficiency, Berg Propulsion. "The ship's control systems have also been upgraded to include Berg's advanced MPC800 propulsion unit with Dynamic Drive. Including a retrofit to the vessel's four-stroke engine, the integrated solution enables optimal propeller operations at all shaft speeds."

Despite having been sidelined in the years following the pandemic, the feeder fleet, proportionately older than most larger



Source: Berg Propulsion

Hydrodynamically optimised propeller blades ensure efficiency at all speeds

vessels, has proven invaluable in compensating for Red Sea disruptions in recent times. The appetite for investing in improving these vessels' efficiency and flexibility is growing.

"The vital role smaller container ships play in global logistics can sometimes be overlooked, but in this case the enhanced performance is extraordinary, with our data indicating that the overall post-project efficiency gains are substantial," said

Magnus Thoren, Account Manager, Energy & Efficiency, Berg Propulsion. "By taking care of the total propulsion solution, Berg has worked as the service and technology partner with CMA CGM as charterer and Rambow as a well-known owner so that a valuable asset remains highly competitive."

Berg Propulsion at SMM:
Hall A4 / Stand 316

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LR issues its first CCS notation



Value Maritime's Filtree system installed on the *Pacific Cobalt*

Source: Value Maritime

Lloyd's Register has issued its first carbon capture and storage notation for a system installed on board the 49,886dwt mid-range chemical/products tanker, *Pacific Cobalt*, owned by Eastern Pacific Shipping (EPS). The Emission Abatement Carbon Capture & Storage (EACCS) class notation provides assurance that any safety risks relating to the Onboard Carbon Capture & Storage (OCCS) system supplied by Value Maritime and installed on

board the 2020-built tanker have been mitigated and the system operates effectively and reliably.

The Filtree OCCS system can remove and capture up to 40% of the CO₂ from the ship's emissions and is combined with a sulphur oxide (SOx) exhaust gas cleaning system. Value Maritime claims that the system flushes 99.9% of SOx and 99% of particulate matter from the exhaust gas, using

sea water. The remaining gas, mainly CO₂, enters the OCCS system where it rises and comes into contact with the chemical, amine.

The low temperature of the exhaust gas enables some of the gas to bind to small particles of amine. The gas, which then behaves like a liquid, is then pumped into a storage tank and stored until it can be landed ashore and replaced with clean amine.

Nick Brown, CEO of the classification society, said: "This class notation for an OCCS is the first for Lloyd's Register and the first for a vessel of this size. Eastern Pacific Shipping is a pioneer in onboard CCS and this installation demonstrates its commitment to reducing emissions in its operations in line with IMO ambitions. This class notation will further support OCCS installations on ships, giving industry confidence in the technology's ability to support shipping's decarbonisation goals."

Eastern Pacific Shipping's CEO, Cyril Ducau, commented: "*Pacific Cobalt's* retrofit with Value Maritime's exhaust cleaning and carbon capture system was an important milestone in EPS's sustainable shipping journey. Our partnership with LR and Value Maritime showcases a collective commitment in achieving the industry's emissions reduction targets, decarbonising shipping."

Lloyd's Register at SMM:
Hall B2 / Stand 198



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Patrol boats for 'blue light' authorities are developed in-house



Source: Tamsen Maritim GmbH

Tamsen Maritim unveils new patrol boats

Rostock-based Tamsen Maritim GmbH will present its portfolio as a repair and newbuild shipyard at SMM 2024. In the repair sector, the company specialises in government, search-and-rescue and special ships as well as medium-sized units of the German Navy.

The shipyard can handle up to 1000 tonnes, including minesweepers and na-

val tugs. Tamsen Maritim have on display, among other things, two types of patrol boats developed in-house that were specially designed for state 'blue light' authorities such as the fire brigade, police and customs. The 23m-long vessels were delivered to the German Directorate General of Customs last year and are specially designed for the Wadden Sea. A 17m-long patrol boat, also designed

by the company's design and project team, will follow this year for the Mecklenburg-Vorpommern state fisheries authority. Following the acquisition of two minehunting boats, the shipyard is also planning to develop a further export business segment.

Tamsen Maritim GmbH at SMM:
Hall B4 / Stand 311

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Half a century of Hydrex innovation

Antwerp-based Hydrex has come a very long way since it was set up by Boud Van Rompay fifty years ago. Established in May 1974 as a startup diving company in his home office, Rompay now manages the company's global network from a 5,000m² headquarters in Antwerp.

Working from home didn't last long and soon the company moved to a small rented office and warehouse belonging to an Antwerp ship repair firm. A few years later, Van Rompay invested in office accommodation in Antwerp, now the location of the greatly expanded Hydrex headquarters.

"The early warehouse included a dive tank to practice underwater welding and other repair work," he explains. "I felt we needed to have direct access to the water ... it allowed us to do all kinds of experiments."

The company grew rapidly, undertaking projects in both Antwerp and Rotterdam and steadily expanding across the Netherlands. The company then targeted the rest of Europe before going worldwide in the 1980s.

Van Rompay explains that in those days, ships arriving in port with a problem – a condition or a defect – invariably had to go to drydock. But with its underwater expertise, the Hydrex team demonstrated

that this expensive delay was often unnecessary.

"We said no, you don't have to go to drydock ... we can repair this for you in situ during discharge and loading. I had an underwater welding certificate from the start." The company's business model saved its clients both time and money.

But it soon became evident that underwater welding techniques were not an option for some repairs. To fix damage to shell plating, for example, a dry environment was needed and so the company developed the technique of using cofferdams.

"We didn't know we were the first back then," Van Rompay admits. "In 1979, we used our first cofferdam on the general cargo ship, Lunar Venture, and that was it. This was the first major repair with no Condition of Class, no need to drydock the ship for follow-up repairs. Since then, we have built a very large number of cofferdams – in the early 1990s, we had three to five cofferdam interventions each week. In this way, we could consistently keep ships out of drydock."

Using cofferdams and adapting diving bells into so-called habitats for dry work enabled the company to offer a wide range of other underwater repair services. These included stern tube seals, bow thrusters,

shell plates, and damaged propeller blades. In 2002, Hydrex developed and introduced a cold straightening machine.

As the company continued to develop and grow over recent decades, it has offered new technologies including systems to tackle pollution in ports, rivers and estuaries. And that laid the ground for the company's next major expansion.

"We saw this serious problem with pollution," Van Rompay explains. "We knew we had to stop the toxic emissions that were causing it. We realised that one of the major sources was the heavy metals and other toxic materials used to limit biofouling on ships. At one time, hundreds of thousands of tonnes of toxic materials were leaching into seas, oceans, and ports each year."

Over the years, a range of biocides used in antifouling paints have been banned, and those in use today are tightly regulated. Van Rompay and his team chose a different strategy. A hard coating that improves with each underwater cleaning was their option, and the company's technical experts set about developing Ecospeed, a non-toxic coating system that provides long-lasting hull protection and is claimed to improve over time.

The condition of ships' hulls has never been more important. Underwater fouling adds hull resistance and requires more power for a given speed, raising fuel consumption and emissions, a key factor driving new fuel regulations in a growing number of regions.

"In the immediate future, the super-performing ship will save 30-50% of fuel with a super-smooth hull, Van Rompay declares. "We are now building and testing new ways to carry out ultra-fast cleaning without the use of divers. Prototypes have been tested and are very promising. This will allow us to clean any ship in less than an hour, even a 400m-long container ship 20m deep in the water."

"I can safely say there are big things coming to the shipping and offshore market: better protection, no more pollution, better fuel savings. Much has been achieved, but there is more to come," he predicts.



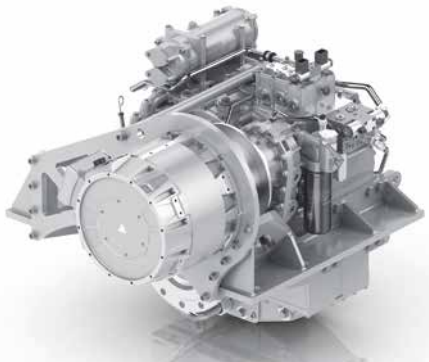
Source: Hydrex

In 2022, a 45-ton cofferdam was designed to repair a bulk carrier after a severe grounding

Hydrex at SMM:
Hall B7 / Stand 703

ZF highlights new hybrid transmission and high-efficiency thruster

The German company ZF Friedrichshafen AG is presenting its latest innovations in the field of marine propulsion technology at this year's SMM. These include the new ZF 3000 NRD PTI for waterjet applications. This new hybrid transmission is designed to save space and weight and is designed for a maximum output of 1,940 kW and 7,560 Nm on the main unit and 250 kW and 1,500 on the electric power take-off.



ZF's hybrid module will be on display Source: ZF

The hybrid module, an overall drive solution that simplifies the electrification of new and existing ship designs,

will be also on display. The key feature is a newly developed support frame that

centres the electric motor to the hybrid transmission and enables a plug-and-play approach, which is unrivaled in the market.

The Rotating Thruster Contra (CRP) from ZF can also be seen in full size on the stand. This thruster series is characterised by high-efficiency and low-noise operation, according to ZF. In an L-drive configuration, the ZF CRP Thruster is also available as a purely electrically driven system in an L-drive configuration.

ZF Friedrichshafen AG at SMM:
Hall A3 / Stand 219

Hempel claims up to 21% emissions savings with Ultima coating

Denmark's Hempel has just launched a new hull coating, Hempaguard Ultima, which can yield not only fuel savings of up to 21% following a drydocking, but also a positive influence on a ship's IMO EEXI and carbon intensity indicator (CII) ratings, the company claims.

Specifically targeting the market for slow-speed vessels, Hempaguard Ultima builds on the performance of Hempaguard X7, a biocide-based coating with some 4,000 installations, including on stationary assets

such as vessels used for storage and offshore units such as floating storage, production and offloading (FPSO) vessels.

Hempaguard Ultima combines this with the company's recently-released biocide-free silicone topcoat, Hempaguard XL. Doing so can drastically improve the long-term hull performance and duration between drydockings, maintaining a smooth surface into the fifth year of a drydocking cycle and negating the need for mid-cycle cleans.

In addition, Hempel claims that Hempaguard Ultima can benefit from as

many as 160 days of fouling-free idle time, negating one of shipowners' major concerns during an era defined by irregular schedules, congested ports, and long intervals at anchorage. The company draws on key metrics to support its coatings claims. These include a speed loss of just 0.9% after a spell in service, and a claimed improvement in out-of-dock speed of 6% – the difference in speed following maintenance.

Hempel at SMM:
Hall B5 / Stand 216

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The Speicherstadt: the world's largest historic warehouse district

Source: Mediaserver Hamburg/Jörg Modrow

Welcome to the most beautiful city in the world!

That's what the people of Hamburg like to call their city, and they're right. Yes, it can be! Germany's second largest city has many clichés: bad weather, cool people, unaffordable rents and the Reeperbahn as the world's most sinful mile.

But Hamburg is also: bright sunshine, breathtaking architecture, lots of greenery, a wealth of (sub-)culture and, last but not least, a vibrant cosmopolitan spirit. With Germany's largest port, it is one of the country's most prosperous cities with a very high standard of living. Life on the water is what makes Hamburg so special, with the Alster and Elbe rivers always within reach. The maritime spirit pervades the entire city – especially during SMM, but also in everyday life.

Hamburg basics - Part 1 Harbour tours

For those who can never get enough of ships, a harbour tour is a good way to get a

feel for the city's pulse. The public water taxi HADAG-line 62 is probably the most popular ferry in town. Originally a means of transport for commuters, it is now a cheap alternative to the traditional harbour tour. The ferry departs every 15 minutes from bridge 3.

It takes a picturesque route down the River Elbe, stopping at many popular sites along the way: the Fish Market with its many restaurants, the iconic Dockland Building and the Cruise Centre Altona, and the Oevelgönne Museum Harbour, where the Elbe beach invites you to sunbathe, stroll and watch the ships. The ferry then crosses the Elbe and stops on the other side at Finkenwerder, where it begins its journey back up the river.

Elbphilharmonie

The Elbe Boulevard, designed by Zaha Hadid and arguably the most beautiful coastal flood defence structure ever built, takes you to Hamburg's cultural landmark – Elphi, as it is affectionately known. Built over an old brick

warehouse, its glass roof resembles a raised sail and offers some of the best views in the city. The spectacular architecture is the work of Swiss architects Herzog & de Meuron.

The concert hall, designed by Japanese star acoustician Yasuhisa Toyota, is said to be one of the most acoustically advanced ever built and attracts the world's leading orchestras and musicians. Since its opening in 2017, Elphi has established itself as an audience favourite. Concert tickets sell out quickly, and many come just to experience the stunning architecture.

Speicherstadt

A short walk from Elphi is the world's largest historic warehouse district. Built on 3.5 million oak stacks, quartermasters stored coffee, tea, spices and cocoa here until the 1990s. At dusk in particular, the historic brick buildings with their bizarre Gothic turrets and gables create a romantic, dimly lit atmosphere. The area is home to many tourist attractions, including the amazing "Miniatur

Wunderland”, the largest model railway in the world, voted the most popular tourist attraction in Germany. Just a few steps away is Deichstraße, an old merchant’s street that is now home to the last remaining ensemble of old Hamburg town houses and many excellent restaurants and pubs.

Green Bunker

Since this summer, Hamburg has a new attraction. The roof of the old World War II bunker on Heiligengeistfeld in St. Pauli has been under construction for five years. The result is a gigantic structure with a roof garden, restaurants and a hotel, which has already made it onto Time magazine’s list of ‘World’s Greatest Places’.

More than 4,700 trees, shrubs and bushes adorn the former anti-aircraft bunker, which became the ‘Media Bunker’ in the 1990s, a meeting place for creatives and night owls, that now houses advertising agencies, a gallery, a media academy and nightclubs. The new ‘mountain path’ leads around the square colossus via ramps and stairs, 560 metres up to the roof, where fantastic views over the city await.

Useful links

Hamburg Tourist Guide Association (hamburger-gaestefuehrer.de): A special way to discover the city in all its diversity is to go on a tour with a knowledgeable guide. The association of professional tour guides in Hamburg offers more than 70 tours in over 18 languages.



Hamburg harbour: feel the city’s pulse

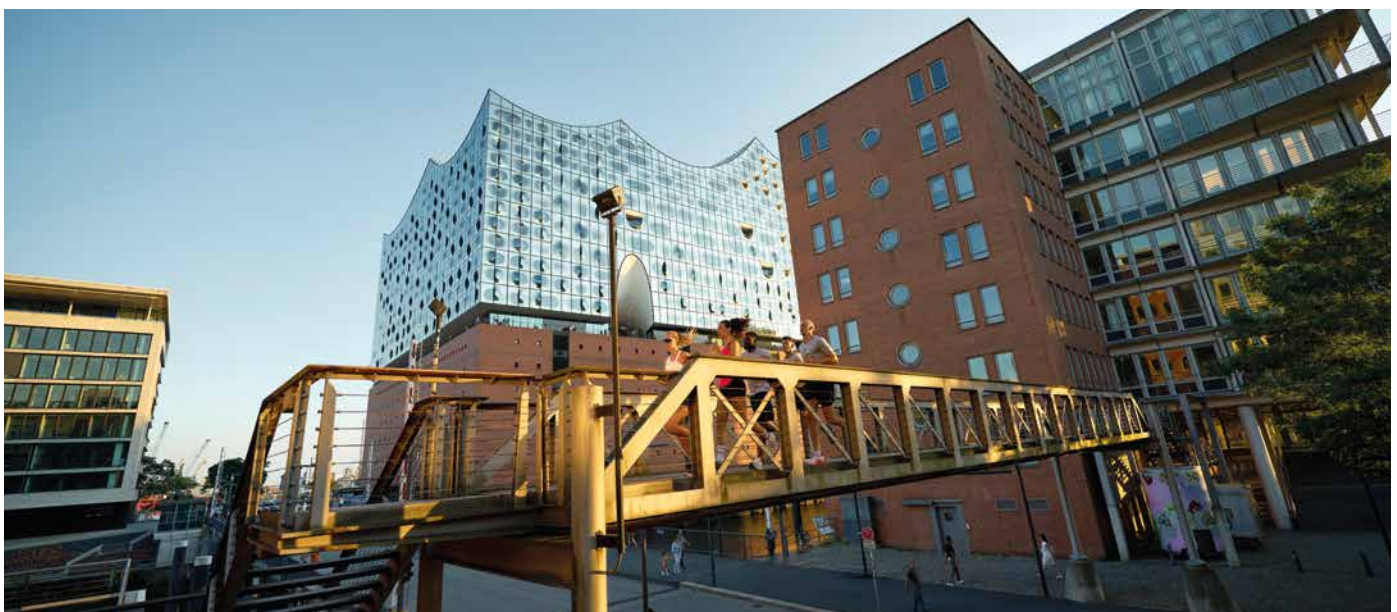
Source: Mediaserver Hamburg/Christian Brandes

HADAG ferries (hvv.de): With a standard HVV public transport ticket, you can use any of the seven harbour ferry lines. These depart regularly from Landungsbrücken to various piers along the Elbe. Price: from EUR 7.50 for a 9am Day Ticket.

Elbphilharmonie (elbphilharmonie.de): Guided concert hall tours can be booked online in English or German. Price: from EUR 20. If you just want to enjoy the view from the Plaza, you can buy tickets online or on the spot for guaranteed entry (EUR 3) or try your luck for any remaining free tickets on-site between 10am and 11.30pm (last entry).

Miniatur Wunderland (miniatur-wunderland.de): Long queues are common, especially during holiday periods and weekends. This is probably the easiest way to avoid them: check the waiting time forecast on the website and arrive at a time when little or no waiting is expected – usually after 9pm.

Green Bunker (hamburgbunker.com): Access to the roof garden is free and no tickets are required. However, only 2,000 people can enter the bunker at any one time. Queues can be long, especially at weekends. Open daily from 9am to 9pm.



The Elphi, as the cultural landmark is called in Hamburg: its glass roof resembles a raised sail

Source: Mediaserver Hamburg/Christian Brandes



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