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SMM

Daily News

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Source: Bosch/Schiff&Hafen

"We need to adapt to the newer generation", said Arsenio Dominguez, IMO's secretary general, at the SMM's opening conference

"Better treatment" of people essential to solve recruitment crisis, declares SMM opening panel

Questions over recruitment of new talent were high on the agenda at the SMM opening conference, with panellists tending various theories as to how to address shipping's recruitment problems.

With the government bailout of shipbuilder Meyer Werft fresh in people's minds, not only European, but global shipbuilding was deemed to be under threat. "According to the data I have, within the next decade, 40% of people working in the shipbuilding industry will retire," said Magda Kopczynska, director general for Movement & Transport – raising an audible gasp of shock throughout the audience. ›

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DVV Media Group GmbH
Heidenkampsweg 73-79
D-20097 Hamburg
Phone: +49 (0) 40 237 14-100
Email: info(at)dvvmedia.com

PUBLISHING DIRECTOR:
Manuel Bosch

EDITORS:
Kathrin Lau (resp.)

CONTRIBUTING EDITORS:
Katharina Kütemeyer,
Paul Bartlett, Charlie Bartlett,
Andrea Mokosch

LAYOUT:
Christoph Jöns

DISTRIBUTION:
Markus Kukuk

PRINT:
v. Stern'sche Druckerei,
Lüneburg

Recruitment crises in shipbuilding and seafaring demands action Source: Bartlett/Schiff&Hafen

"We need something like 240,000 people coming in in the next ten years."

Alberto Maestrini, Fincantieri Chairman, told the audience that the fate of EU shipyards and equipment suppliers was more interlinked than Europeans typically realise. "In some countries, manufacturing is considered something low tech, where you just go for engineering and design, and then you have the rest of the build in Asia.

"If we follow that path, shipyards will soon die in Europe – but the component manufacturers will follow, because they go where the shipbuilders are."

A recruitment crisis is driven by shipping's 'image problem,' panellists suggested; most people only hear about it when things go wrong. "[Shipping] is seen from the outside world as the bad enemies producing a lot of smoke - that's not true," said Dr Uwe Lauber, chief executive of MAN Energy Solutions. "We have to work on our image."

Recruitment is facing a shortfall in every sector of the global shipping industry, with crew numbers suffering as much as shipbuilding. "Seafarers have died, vessels have sunk," asserted Dr Gaby Bornheim, president of the German Shipowners' Association (VDR). "We not only need to talk on the EU level, but also at the IMO level, because shipping is international."

"We need security and safety for our maritime and trade lanes. We can facilitate decarbonisation, but what we don't need are trade barriers."

A traditional response to a shortfall in crews has been talk of autonomous ships, a hot button issue several years ago. But discussion over autonomy was tentative at best this time around, with a long initial pause as panellists preferred not to offer their comments on the topic. After some prodding, it was unanimous that automation was, in the words of Hapag-Lloyd Managing Director Fleet, Captain Silke Lehmkoester, "...very far away."

"We also wonder: who is doing the cargo maintenance? Who will take care of a cargo fire, or a reefer that has broken down? The customer wants us to take care of their cargo. There's the operation sailing from A to B, but also maintenance, de-rusting and painting; it sounds very simple, but it's a huge part of what we do at sea."

A degree of positive change was observable, however. Captain Lehmkoester told the audience that today's industry benefits from better role models. "When I started, for sure not. If I'm looking at our company now and also in the industry, I see more and more role models. And I would like to emphasise here male and female."

The VDR's Bornheim pointed out that the proportion of female seafarers in the German fleet grew from 5.6% in 2022 to 7.1% in 2024. "What I can say is that 37% of trainees are female," she added.

But more work is needed, argued Arsenio Dominguez, the IMO's new Secretary General. "We need to change the way that we treat people, the way that we attract people," he said. "We are the ones that need to adapt to the newer generation … and actually treat people on board vessels the way that we treat people ashore.

"Internet communication – I mean come on. They are away from their families and friends. And we're still charging them for a connection?"

Canadian and German industry associations sign transatlantic MoU

A delegation from Canada today signed a Memorandum of Understanding (MoU) between the Canadian shipping industry association Ocean Technology Council of Nova Scotia (OTCNS), Association of British Columbia Marine Industries (ABCMI) and German Association for Marine Technology (GMS) for future collaboration. The MoU was signed at the Canadian pavilion in Hall B6, in the presence of SMM Exhibition Director Christoph Lücke.

Formalising the cooperation is a 'pivotal moment' Source: Bartlett/Schiff&Hafen

"It's a great honour to be here for the signing of this MoU," said Evelyne Coulombe, acting Canadian Ambassador to Germany. "This collaboration has been going for years, but it is great to be formalising it. It is at a pivotal moment that this signing is taking place.
As well as being home to renowned giants of the maritime space like Teekay and Seaspan, Canada boasts a rich marine technology and ship design scene, with Kraken Robotics, Robert Allan, and BluMetric.

"Our coastal communities have long relied on the sea for their livelihoods, and it's through initiatives like this that we can ensure a sustainable and prosperous future for communities on both sides of the ocean," said Coulombe.

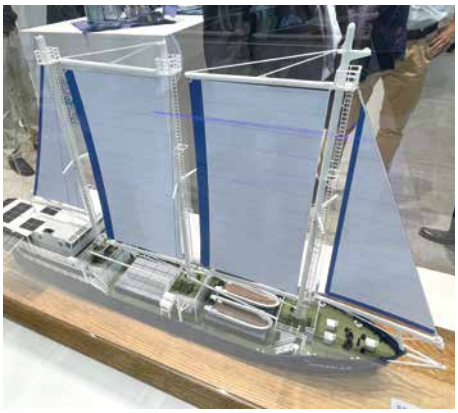
"SMM has always understood itself as a platform for exchange and cooperation, which is why I think today's event is a perfect fit," said Lücke.

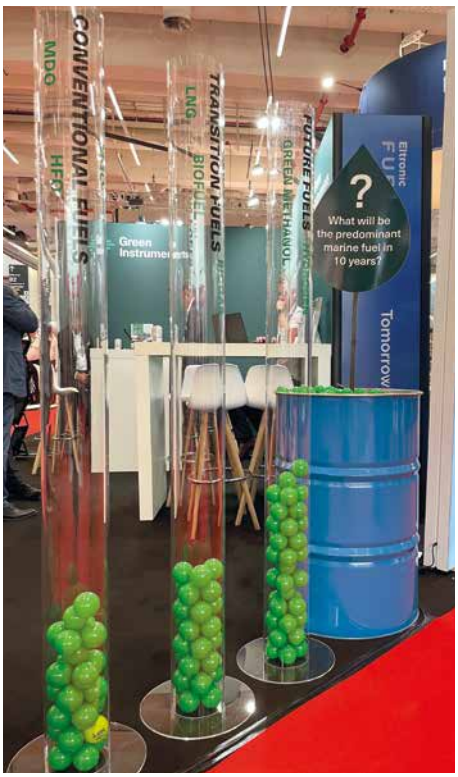
Canadian pavilion at SMM: Hall A6 / Stand 141

› DAILY VIEW

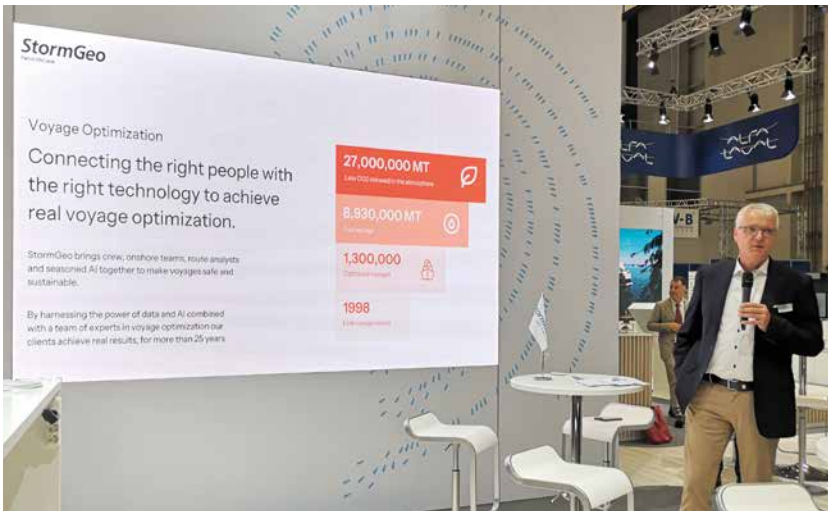
Don't miss the Daily View - our team of reporters will broadcast highlights from this year's SMM in an exciting daily video.

Watch it at
www.shipandoffshore.net
www.youtube.com/user/ShipOffshoreTV





Source: Bosch, Lau/Schiff&Hafen



Looking for synergies between allegedly distant suppliers

Source: Bartlett/Schiff&Hafen

Alfa Laval brands StormGeo and Oceanbird steer into the wind

As well as exhibiting its air lubrication systems using a demonstration model which is intuitively easy to understand – in Lego form – Alfa Laval has brought together a number of suppliers under one roof, including weather routing service StormGeo, and a maker of rigid wing sails, OceanBird. As Till F. Braun, StormGeo Sales Manager points out, there are clear synergies between the two activities.

"Routing will be different in the future … because you will see different angles of the vessel moving toward the wind, depending on wind force and vessel speed. We have been supplied by the [sail] guys with diagrams showing the best efficiency of their wind propulsion systems. So we can then identify the optimum wind angle."

Sharing its market with rotor and suction sails, Oceanbird must make a case for its more straightforward wind propulsion technology, best understood as acting like an aircraft wing on its side. However, Alfred Rapaport, Oceanbird Performance Engineer, believes it has the advantage, for the same reason that planes do not use rotating cylinders to fly – aerodynamic drag. "When you are travelling at sea, you will encounter quite a lot of the wind from the bow due to the speed of the ship itself. So the performance in that quite narrow sector, sailing upwind, will be very important. That's where wing sails, in general, are quite good and efficient."

While sails are an attractive option for the retrofit market, analyses must be done to ensure that the deck of a vessel is strong enough to support not only the sail's weight, but also the perpendicular forces acting on the vessel. "It's definitely something we have to consider. I would imagine that basically all retrofits will see some sort of modification to the ship's structure."

With a hasty installation of any sail tech, Rapaport told DVV Media, there is a risk of "long term cracks and fatigue – structural damages. That's why this has to be dealt with."

Alfa Laval, Oceanbird, StormGeo at SMM: Hall A1 / Stand 226

Scania breakthrough yields more powerful engine with 8% efficiency boost

Scania has launched its "best ever" 13-litre inline-6 engine for the fast ferry and patrol vessel sectors, representing an 8% efficiency improvement in fuel consumption at the same power output compared with previous Scania engines in the same size bracket – translating, at full load, to a fuel saving of 6.7 litres per engine hour.

Generating up to 772kW, the engine, too, is capable of a higher maximum power output than those of a similar size, opening up the possibility of downsizing from a larger, heavier engine in some applications where a high power-to-weight ratio is required.

Scania foresees the engine being combined in a hybrid configuration with electric motors and batteries, in some cases. "So fuel savings with the new engine, or with the hybrid systems that can be much more sustainable … like authority vessels, which operate idle for long hours a day, and they can do that on electric … but still have the ability to use our powerful diesel engine when they need to go fast and catch those bad guys," said Scania Marine Key Account Manager Torben Dabrowski.

Scania pulls back the curtain on "piece of engineering art" Source: Bartlett/Schiff&Hafen

The engine leverages breakthroughs from Scania's truck business, where the 'Scania Super' engine has been recipient of various awards. As well as being more efficient running on conventional maritime fuels, the marine engine will be ready for any number of new alternative fuels including biodiesel and HVO, potentially bringing its CO_2 reduction to 90% or more, Dabrowski told DVV Media. Even greater gains are possible by coupling the engine with an electric generator.

"There are so many different things that have been improved on the engine," Dabrowski explained. "Close to 50% thermal efficiency … it's everything from having lower pressure in the oil system, higher pressure in the fuel combustion chamber, up to 250 bar."

Scania at SMM: Hall A3 / Stand 303

Source: Prellwitz/Schiff&Hafen

At the panel discussion 'Steering Future – the future of autonomous navigation in Germany', representatives from the maritime industry, the technology sector and science discussed the latest advances, challenges and opportunities in the development and introduction of autonomous vehicles. Participants were (from left) Kathrin Lau, DVV Media Group, editor-in-chief Ship&Offshore/Schiff&Hafen; Prof Dr Dirk Nowotka, Kiel University, Faculty of Engineering, Dependable Systems Group; Dr Phantian Zuesongdham, Hamburg Port Authority, head of Division Port Process Solutions; Andreas Mues, Anschütz GmbH, director Engineering; Manfred Constapel, Fraunhofer- Center für Maritime Logistik und Dienstleistungen CML, head of research Team Maritime Informatics; Sönke Stich, Gebr. Friedrich Shipyard, Sales Management/Technical Sales

OceanScore completed successful funding round

Hamburg-based OceanScore, a provider of emissions related data and compliance management systems, has completed an oversubscribed EUR 5 million funding round supported both by existing shareholders and new investors. The four-year-old company, which also has offices in Poland, Portugal and Singapore, will use the proceeds to develop its product portfolio and expand its network.

Earlier investors, including MSC and Peter Döhle have retained their shares, and another shareholder, theDOCK, has bought into the new round. New investors include Stolt Ventures, Motion Ventures, and Portline.

The new funds come at a key moment in the company's development. Its ETS Manager is already a popular choice among shipowners and operators as they manage their vessels' emissions in European waters. However, OceanScore has recently revealed how it will assist owners in the management of FuelEU Maritime which enters force in January and will penalise companies that continue to use conventional marine fuels.

Albrecht Grell, a joint managing director, recently stressed the need for a proactive strategy in managing Fuel EU Maritime which will hit owners of ships trading in, to, and from European waters will help. Hardest hit will be RoPax vessels, cruise ships, and container ships. However, pooling, banking, or borrowing emissions deficits or surpluses.

Following its 2023 seed funding round, OceanScore attracted clients including V Ships and Norbulk and recently revealed that the second quarter of 2024 was its strongest three months yet. Now, the new capital will be used to enhance and refine the company's emissions data management systems, expand customer service, and develop its global network.

The company's other managing director, Ralf Garrn, said: "We at OceanScore pride ourselves on superior data quality and customer service. The renewed support we are receiving from our investors allows us to step up our investment in these fields, amongst others integrating more data sources and advanced analytics capabilities."

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.

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

11:00 **GASMOS® - Monitoring of unburned gas in the crankcase of gas and dual-fuel engines**
Raphael Stein, Schaller Automation

11:20 **The truth of AR in maritime service. What service managers should do in 2024**
Martin Plutz, oculavis

11:40 **Redefining energy efficiency solutions for hydrogen powered ships in marine and inland waterways**
Daria Matignon / Stefan Krahn, HSL Technologies / Baumüller Anlagen-Systemtechnik

12:00 **Effects of membrane filtration on the emission load of EGCS water from various fuels**
Dr. Daniel Bell, Boll & Kirch Filterbau

12:20 **DIVMALDA – „Digitization and Verification of Marine Live Emission Data"**
Markus Haas, Sick, Global Industry

12:40 **WG 20's View on Maritime Batteries and Digital Twins**
Hinrich Mohr, GasKraft Engineering, CIMAC WG 20 System Integration

13:00 **A holistic view on the introduction of decarbonisation technologies on marine vessels**
Elias Boletis, RINA Consulting

13:20 **Ultra-low emission exhaust aftertreatment systems for existing and future fuels**
Dr. Daniel Peitz, HUG Engineering

13:40 **CIMAC working group exhaust emissions controls activities**
Dr. Daniel Peitz, HUG Engineering, Chair CIMAC WG 5 Exhaust Emissions Control

14:00 **The pivotal role of fuel supply systems in decarbonisation**
Andrea Sabbion, Alfa Laval

14:20 **Hybrid - the new standard in commercial marine**
Tobias Kohl, Rolls Royce Solutions

14:40 **CIMAC Guidelines on ISO 8217:2024**
Timothy Wilson, Lloyd's Register, CIMAC WG7 Fuels

15:00 **Using battery systems on board ocean-going cargo ships**
Syb ten Cate Hoedemaker, Maritime Battery Forum

15:20 **Scope and current activities of the Strategy Group**
Dr. Dirk Bergmann, CTO Accelleron, CIMAC Greenhouse Gases Strategy Group

15:40 **Replacement of lubricating oil separators with filter technology to reduce the CII rating on board ships**
Klaus Hüffelmann, HYDAC

16:00 **Measuring and Reducing Maritime Emissions: Achieve Compliance with Daphne Technology**
Dimitrios Kampanis, Daphne Tech

16:20 **PBST – we care for decarbonisation**
Jan Vit, PBS Turbo

16:40 **Future Fuel Pumps – What requirements are placed on fuel pumps?**
Sandro Tomaselli, Kral

Source: Meyer/VDMA

The International Maritime Organization's (IMO) new Secretary General, Arsenio Dominguez, attended the opening ceremony at SMM yesterday before viewing some of the technological innovation on display. He is seen here on the VDMA / CIMAC stand with Dieter Janecek, Federal Government Coordinator for Maritime Economy and Tourism at the Ministry for Economic Affairs and Climate Action.
Dominguez called at a series of exhibitors' stands, noting progress on tackling a range of challenges that are currently focus points at IMO's regular meetings in London, including the urgent drive to decarbonise and the potential for digital technologies to support maritime safety and efficiency.
Just a few days ago, he condemned the Houthi attack on the tanker, *MV Sounion*, as it made its way through the perilous waters of the Red Sea, laden with 150,000 tonnes of crude oil. Since taking the helm at the IMO, he has repeatedly expressed his grave concern over the plight of seafarers navigating ships through the Red Sea.

Special applications for extreme conditions

The sometimes extreme conditions at sea require special applications for the power supply on board. Monitoring systems are designed to prevent total failures and facilitate troubleshooting. Therefore, the German company Bender will present the RCMS150, a monitoring module that is suited for use in earthed electrical systems on board, at SMM 2024. It can monitor six channels simultaneously for residual currents, can be installed directly in control cabinets and offers a bus connection (Modbus RTU) to the ship's network. With the RCMS150, faults in the power supply can be localised quickly and easily.

In addition, the new GM401 generation of devices ensures a reliable shore power supply in the harbour. It permanently monitors the protective earth conductor (PE) of the shore connection in accordance with IEC 80005-1. The GM401 ensures that if the PE is interrupted by ship movements, tidal range or other influencing factors, the power supply from the shore is interrupted. This prevents the short-circuit current from being discharged via the ship's hull or gangway in the event of an electrical fault on board and putting passengers and crew in danger. The GM401 can be used for medium-voltage and low-voltage applications and can be easily mounted on the top-hat rail in the control cabinet of the shore connection.

Bender GmbH & Co KG at SMM:
Hall B6 / Stand 152


Sternschanze
TV Tower
Messeplatz
Tiergartenstr.
West Entrance
A3
A4
Central Entrance
Planten un Blomen Park
CCH – Congress Center Hamburg
TAXI
Sales Lounge
MariMatch
Airport Shuttle
West Entrance Airport
Lagerstr.
A2
A1
Open Stage
B1
Maritime Career Market
Underground Car Park CCH
B2
B8
B3
St. Petersburger Str.
DB
TAXI
Dammtor
Future Fuels Area
Karolinenstr.
B7
B4
Meeting Point B4
Meeting Point Skywalk
East Entrance
Meeting Point B7
B5
Marseiller Promenade
Digital & Security Stage
Bei den Kirchhöfen
AI CENTER
B6
MARINE INTERIORS @SMM
Cruise & Ferry Stage
U2
South Entrance
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
Production equipment, ship engineering and design
National pavilions
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 Navigation and communication
Hall B6 Electrical equipment, electric drives, automation, lights, sensors and indicators, software and IT
Marine technology
Hall B7 Shipbuilding materials
NEW
National pavilions
Hall B8 Shipyards, shipbuilding industry, navigation and communication, electrical equipment, automation, software and IT

WEDNESDAY, SEPTEMBER 4TH

11:00 **CLIA Cruise Investment Plan**
CLIA
Cruise & Ferry Stage / Hall B5

11:25 **Start-up Pitch Category I**
Maritime Start-ups Germany
Digital & Security Stage / Hall B6

11:40 **gmec: Financing Sustainable Maritime Operations**
Green Stage / Hall A4

12:40 **Unlocking the maritime energy transition – CO_2 shipping in focus**
DNV
Green Stage / Hall A4

13:00 **Towards Zero-Emission Passenger Transport**
Team Norway
Room Kopenhagen 2 / Hall B3.OG

13:00 **Merging two worlds - the electric direct drive from the powertrain perspective**
Geislinger GmbH
Cruise & Ferry Stage / Hall B5

13:10 **gmec: Decarbonisation through fleet efficiency**
Green Stage / Hall A4

13:15 **The Case for Cruise & Ferry Electrification**
ABB
Cruise & Ferry Stage / Hall B5

13:30 **Perspektiven für den Schiffbau in Deutschland**
IG Metall Küste
Open Stage / Speaker Slot / Hall B2.OG

13:45 **Energy Efficiency Solutions on Board**
CLIA
Cruise & Ferry Stage / Hall B5

14:00 **Innovations supporting waterborne greening and decarbonisation**
European Commission
Room St. Petersburg / Hall A4

14:00 **Heading towards autonomous navigation: advanced assistance systems to address crew shortages**
Anschütz GmbH
Stand 304 / Hall B6

14:00 **gmec: The future of seafaring: training, trends and retention**
Green Stage / Hall A4

14:10 **Start-up Pitch Category III**
Maritime Start-ups Germany
Digital & Security Stage / Hall B6

15:00 **Launch of T-BOSS propeller shaft solution**
Thordon Bearings / Blue Ocean Alliance
Stand 123 / Hall A4

15:00 **Why Excel Falls Short in Field Service Management and How to Move Forward**
Fr. Fassmer GmbH & Co. KG
Cruise & Ferry Stage / Hall B5

15:40 **„Use Case at the City of Cuxhaven – Production, Storage and the usage of green hydrogen on board of an Offshore Service Vessel“**
Ingenion GmbH
Green Stage / Hall A4

16:00 **Start-up Pitch Category IV**
Maritime Start-ups Germany
Digital & Security Stage / Hall B6

16:00 **Japan Green Challenges**
JSMEA Japan Ship Machinery and Equipment Association
Green Stage / Hall A4

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.OG
Digital & Security Stage / Hall B6

More information about the conference and panel programme:

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

New offerings for ship route optimisation

The technology company ABB Marine & Ports is looking forward to discussing the efficiency and reliability needs of shipowners today and the demands of tomorrow with visitors to its stand at SMM 2024. ABB representatives are available to discuss a wide range of vessel types and the services offered by the company, spanning from grid to propeller, and ship to gate. These include propulsion, electric and hybrid technologies, as well as various digital innovations.

The company's experts will be able to address inquiries about Azipod® electric propulsion, ABB Dynafin™, ABB Digital services, ABB Decarbonization services, and ABB's service network. A special focus will be placed on the ABB Ability™ Routeguard service, which is the latest addition to the company's diverse portfolio for maritime customers.

Source: Bosch/Schiff&Hafen

The Azipod: one of many products displayed

In June, ABB introduced Optimal Speed Routing functionality to its routing services. This feature enables vessel owners to optimise the vessel's route and speed simultaneously to manage fuel costs on a through-voyage basis. It is the first application in the market equipped to optimise track and operating speeds simultaneously against anticipated weather. This also represents the first upgrade to the ABB routing portfolio since the company acquired the shipping business of DTN Europe BV and DTN Philippines Inc in January. Optimal Speed Routing advises operators of any changes they should make to the vessel track or speed to avoid heavy weather, utilising the latest available meteorological information and real-time inputs like vessel daily hire costs, fuel costs, and user-defined vessel performance models. This advisory aims to minimise fuel consumption on calculated routes to cut costs and reduce emissions.

ABB Marine & Ports at SMM:
Hall B6 / Stand 329

New e-navigation and AI systems for smarter shipping

Based in Egersund, Norway, marine technology company Navtor acquired Voyager Worldwide last year to expand its offerings of e-navigation, performance monitoring and optimisation and smart shipping innovation. It now has products and services on over 18,000 vessels worldwide.

That acquisition was followed by the purchase of AI and IoT specialist Masterloop in June, supporting the team's drive towards data-driven applications for enhanced efficiency, performance and decarbonisation for shipowners and operators. The business growth has fed into products, services and ambitions at Navtor, as the company eyes lasting industry impact. At its core, Navtor delivers a connected digital ecosystem that unites ships, fleets and management teams, harnessing the huge power of data.

At SMM, visitors can experience digital logbooks, e-navigation applications, the evolving NavFleet (performance) platform, and the latest all-important S-100 developments from the expert team. Visitors will also find information about the GASS project – an AI-powered ship efficiency project that could save fleets 20% of their emissions in the future.

Navtor at SMM: Hall B7 / Stand 407

Source: AI Center

PETRA VORSTEHER & RAGNAR KRUSE

Initiators AI.Group and AI Center

Three questions for...

This is the first time that SMM has allocated a dedicated space to an AI Center. What can visitors expect here?

One thing is certain: AI is more than just ChatGPT. The AI CENTER at SMM proves this. This is where AI.HAMBURG shows the variety of solutions that AI can offer. The AI CENTER invites visitors to get involved with this fascinating technology and make it usable for ships, harbours, logistics, tourism and the whole world above and below the waterline. At the AI CENTER, visitors can experience AI productivity tools and their possibilities. The AI start-ups on site illustrate the innovation that AI brings to the world of the maritime sector. The AI CENTER of 2024 at SMM is the place for a whole bundle of AI-driven innovations. Incidentally, the respective AI solutions are actually already on the market, can be used directly, are affordable and do not need to be newly developed.

To what extent do you think AI will influence the maritime business?

AI will revolutionise the maritime industry in all areas. The technology supports companies in developing and implementing more sustainable shipping and in complying with the increasingly strict regulations of national and international bodies. But AI is not just a problem solver. AI can also improve sales and help with recruitment. AI provides valuable insights into operational details and inspires new ideas. It is a driver of fundamental innovation and change in the maritime industry. Services such as autonomous ships, detailed environmental monitoring, complex route optimisation, predictive maintenance and demand forecasting are inconceivable without AI support. That is perhaps the best thing about AI in the maritime industry: this is a journey that has only just begun, and we can expect more fascinating news along the way!

On Thursday, the winner for the AI for the Oceans Award will be announced at SMM. Can you briefly describe the set-up?

The AI for the Oceans Award is being presented for the first time this year by AI.HAMBURG together with the German Ocean Foundation and several other partners. Companies with the goal of protecting the oceans using AI were eligible to apply for the award. The three finalists blueOASIS, HUB Ocean and OceanOS now have the opportunity to present themselves at SMM, which takes place from 3 to 6 September. The final pitch is on September 05 from 15:10 PM at the Open Stage Hall B2. There will be two winners, one for the audience award and one for the jury prize of 10,000 euros, which is also linked to a LinkedIn campaign sponsored by the German Ocean Foundation. However, this is not the end of the three finalists' journey. They have also been invited to present their concepts at the Ocean AI Summit in Lisbon at the end of September. And the jury winner will have another opportunity to do so at the AI.SUMMIT in Hamburg on December 5th.

AI Center at SMM: Hall B6 / Stand 600

Navigating the path towards net-zero carbon cruising by 2050

The cruise industry is leading in the drive towards decarbonised shipping, fuelled by its commitment to sustainable operations, as well as climate-conscious passengers and global and local emissions regulations. Maikel Arts, Head of Cruise at Wärtsilä Marine explores ways in which cruise ship operators can make rapid progress on their decarbonisation journey.

Source for all Images: Wärtsilä

Operators can choose the most optimal route and speed for their vessel with Wärtsilä's Fleet Optimisation Solution

The cruise industry continues to grow, but with growth comes increased scrutiny, especially around the sector's environmental impact on the planet. For this reason, the cruise industry is laser-focused on achieving net-zero carbon cruising by 2050, with it already making positive progress towards this goal.

From an environmental perspective, the cruise market faces four clear challenges: public image, global emissions and waste regulation, location-specific emission regulations and navigating a developing maritime energy infrastructure.

There are many options available to the sector which can contribute towards addressing these challenges and achieving its goals of delivering net-zero carbon operations by mid-century.

1.) Use data to optimise operations

Reliable data and predictive insights can help cruise operators optimise energy efficiency at the fleet, vessel and voyage levels. Leveraging data can lead to improved performance, cost savings and a reduction in emissions – not to mention greater transparency over cruise ship operations.

For example, choosing the optimal route and speed for a vessel, according to weather, wind, waves and currents en route, can minimise the amount of energy expended during a voyage. Data can also be utilised to keep systems on board operating optimally. For example, engine maintenance planning that is optimised for efficiency (instead of the longest lifetime of parts) by utilising data insights can generate tangible savings with minimal cost. Examples include exchanging a filter or cleaning an air cooler at the right time can cut fuel consumption by around 2 percent – and data can tell you when that time is.

2.) Maximise overall efficiency

Technologies that improve the overall efficiency of a cruise ship can help reduce both emissions and costs. For example, hybrid propulsion systems, which combine batteries with conventional engines, can significantly cut fuel consumption and, consequently, emissions. Running a hybrid vessel can, in some cases, use up to 15 percent less fuel compared to its pure diesel-powered counterparts. This reduction in fuel usage translates directly into lower emissions, aligning with the industry's decarbonisation goals.

Generally, when cruise operators consider upgrading their installations with energy saving technologies, these should be analysed carefully in advance through data – driven simulations which use real vessel data. Wärtsilä's solution is called 'Fleet decarbonisation modelling' and the amount of accuracy that this method delivers, allow operators to select upgrade technologies that can help them achieve their goals. This is especially relevant when a combination of upgrades is considered such as, for example, a fuel conversion from diesel to methanol or a hybrid upgrade perhaps associated with a new design propeller.

It is essential operators ensure they have a 'first-time-right' approach and that all systems are in harmony with each other. By avoiding the risk for over-, or under-, performance of these upgrade projects, the benefit of investments are maximised, with the risk minimised.

All in all, investing in technologies which improve the overall efficiency of a cruise ship will optimise fuel use and minimise vessel emissions.

3.) Future-proof with fuel flexibility

Whilst efficiency measures are key to supporting cruise operators with their sustainability goals, sustainable fuels – such

as Bio-LNG and Bio-methanol , and later on, their e-fuel versions– will be essential to achieving net-zero emissions by mid-century.

However, currently the cost, limited available quantities and insufficient supply infrastructure of sustainable fuels, present a challenge for operators. Green fuels hardly exist in the marine industry, and production facilities to produce these fuels and further distribution still need to be constructed and require significant investments. Not to mention that e-fuels will rely on an abundance of green electricity to run on which will be in high demand from other sectors as well. Whilst alternative fuels and transition fuels all offer options for significantly reducing emissions, upscaling of infrastructure and supply for these cleaner fuels are needed for widespread adoption to become feasible.

Due to the uncertainty around which alternative fuel is likely to become widespread in the future, both in its availability and cost effectiveness, operators of cruise ships must play a balancing act between long-term viability, immediate decarbonisation in the here and now and of course, Total Cost of Ownership. Forward-thinkers in the industry are already adopting engines capable of running on these future fuels with an increasingly large portion of fuel flexible vessels being ordered as newbuilds and for retrofit.

In the long-term, these vessels will be future-proofed against more stringent regulations, while simultaneously able to easily convert to whichever frontrunner fuel comes out on top in the next decade and beyond.

The flexibility offered by multi-fuel engines makes engines, such as the Wärtsilä 31DF engine, an ideal option for operators today

4.) Deliver maximum value throughout lifecycle

Ultimately, having the right solutions is the first step, but ensuring they perform optimally over their entire lifetime is key.

For operators, knowing when and how to adapt over a vessel's lifespan is critical for maximising the value and useful life of an asset. Increasingly strict regulation means ship owners need new technologies, retrofits and upgrades throughout the lifetime of their vessel to stay compliant whilst also maintaining profitability and competitiveness.

That's why Wärtsilä is focused on creating long-term partnerships with customers: providing knowledge, guidance and technological support throughout the lifecycle of a vessel. Our Lifecycle Agreements represent a partnership for the highest operational efficiency, and the experts supported by digital tools to ensure minimal interruption, as well as reliable and sustainable operations.

As the cruise sector continues to grow rapidly, it is key to ensure that fleet operations are safe, reliable and efficient. Our Lifecycle Services can play an important role here – in decreasing the risk of unplanned maintenance and costly downtime, improving performance to save fuel and reduce emissions, and through guaranteed performance targets and shared risk.

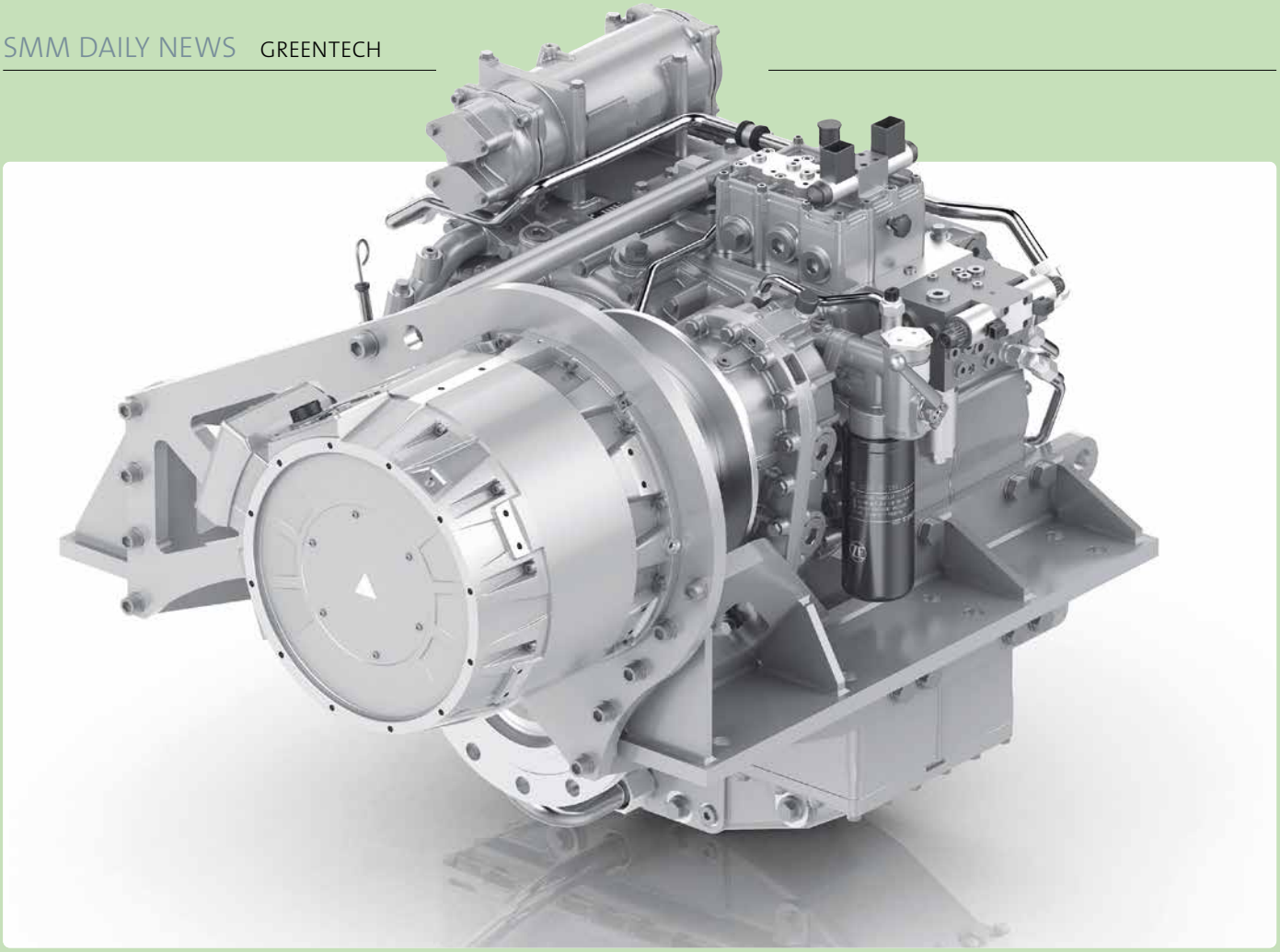
Wärtsilä at SMM: Hall B6 / Stand 433

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



Source for all Images: ZF Friedrichshafen AG

ZF Hybrid Module: Hybrid transmission ZF 3300 PTI with e-motor and unique support frame

Blue Seas, Green Technology: Hybrid Marine Propulsion Systems by ZF

Progress, much like the sea, is always in motion. ZF knows that the future of shipping belongs to clean and sustainable propulsion systems. Uniquely positioned as a global leader in maritime drive technology with decades of experience, ZF understands the demands of its customers and their markets like no other. That is why the company's comprehensive portfolio is designed to answer, and exceed, these demands. With the claim "Next Generation Propulsion," ZF systems help to reduce emissions, fuel consumption and operating costs. The company has continued to develop and expand its hybrid offerings to include optimal solutions for almost all applications and every type of vessel propulsion.

One of the latest products in the hybrid portfolio is the new ZF 3000 NRD PTI transmission for waterjet vessels. With this hybrid transmission, ZF is not only extending its expertise for maritime drives to another field of application but is also completing its portfolio and now provides solutions for all ship propulsion variants (FPP, CPP, waterjets). The ZF 3000 NRD PTI is designed for a maximum output of 1,940 kW and

ZF 3000 NRD PTI: Hybrid transmission for waterjet vessels

7,560 Nm on the main unit as well as 250 kW and 1,500 Nm on the electric power take-in (PTI). The closely coordinated ratio covers the range i=1.093 to i=2.952. At the same time, the ZF 3000 NRD PTI can be coupled with electric motors thanks to its PTI. As such, vessels equipped with this transmission can also cruise in protected waters, ports or bays thanks to the low-emission and low-noise drive. Since the transmission unit is extremely quiet in this configuration, it also ensures more comfort onboard. In addition, the electric motor can also power the onboard equipment. With its compact design, it will also fit into small engine rooms, giving designers additional design freedom. ZF is working on further variants – the ZF 5000 NRD PTI and ZF 8000 NRD PTI – that can cover larger power output ratings.

Another novelty is the ZF 3200 A/V PTI, a new hybrid transmission available in a down-angle and v-drive configuration. The system is designed for a maximum output of up to 1,940 kW and a maximum torque of 7,560 Nm, while the power take-in (PTI) can be coupled with electric motors up to a maximum output of 500 kW. Previously, ZF only offered hybrid transmissions with a higher gear ratio in this power range – good for workboats, but not ideal for other applications. With this new transmission, the ratio range from i=1.351 to i=3.444 is now also covered. "This makes it the ideal solution for applications in fast ships with limited installation space," says Wolfram Frei, Head of Commercial and Fast Ship Sales at ZF.

On the PTI, the transmission ratio can be variably selected in a range from i=1.892 to i=4.240. "Depending on our customers' requirements, we can also realise different or additional ratios on the power take-off," adds Frei. This allows the gear ratios to be optimally adapted to the driving profile, for example for short-term boosting or manoeuvring. Thanks to ZF's many years of expertise in gear design, an additional drive unit, usually an electric motor, can be integrated very compactly into the transmission via a separate driveshaft. In addition to the compactness, this has the advantage that the permissible maximum power of the main drive does not have to be reduced in most variants in order to absorb the additional power of the electric motor. This solution for down-angle transmissions is unique on the market – and makes the ZF 3200 A/V PTI the ideal choice for a range of fast vessels, such as leisure yachts or coastguard boats.

ZF 3200 A PTI: New down-angle hybrid transmission with power take-in

Another innovation it the ZF hybrid module, which simplifies electrification of new and existing ship designs. The key feature of the overall solution is a newly developed supporting frame – which, unlike the usual setup, dispenses with the need for a separate base for the e-motor and for an offset-adjustment coupling. This plug-and-play approach, which is unrivalled in the market, reduces installation space and considerably simplifies the installation of the module and the maintenance of the e-motor.

ZF Friedrichshafen AG at SMM:
Hall A3 / Stand 219

Martechnic unveils new patent-pending test device

Family business at SMM: showcasing the MT Coolant Check Source: Bosch/Schiff&Hafen

Martechnic GmbH has been an expert in oil quality management since 1997. The family-owned business provides engineers and users with innovative technical applications for onboard proactive and preventive condition monitoring of fuel, lube and hydraulic oil as well as cooling water. At SMM 2024, Martechnic will be showcasing its patent-pending test device MT Coolant Check designed for regular assessment of the engine coolant quality in the global shipping sector and beyond.

Instead of traditional chemical-based, complex analysis of individual coolant parameters (chlorides, nitrite additives, pH etc.), the MT Coolant Check uses a chemical-free, environmentally friendly measurement method. To determine the anti-corrosion effect of the coolant in use, just one single test is conducted by means of the electrotechnical apparatus, with constant (corrosion-resistant) and working/changeable (corrosion-prone) electrodes in a simulated engine cooling system. All the evaluation is carried out automatically, delivering results in just 15 minutes.

By offering precise and timely maintenance recommendations, the test device helps avoid unnecessary coolant changes and wastage. Easily recyclable electrodes with no shelf-life limitations contribute to waste reduction, minimising environmental risks, especially to marine ecosystems, thereby marking a significant stride towards sustainable predictive maintenance in the maritime industry.

Martechnic GmbH at SMM:
Hall A1 / Stand 432

100 years of expertise in measurement and automation

Nuremberg-based Noris Group GmbH has been supplying innovative measurement and automation technology manufactured in Germany for 100 years. The comprehensive portfolio offers customised service for modern ship applications, which will be presented at this year's SMM.

Sensors for maritime applications ensure precise measurements Source: Bosch/Schiff&Hafen

This includes alarm, monitoring and control systems for engines, generators and auxiliary systems. These enable continuous monitoring and rapid response to critical machine conditions in order to maximise operational safety. Furthermore, the wide portfolio offers propulsion control systems that provide precise control and monitoring of drive units to enable accurate control and optimised performance. Additionally, the energy management and power management systems ensure optimum distribution and utilisation of energy on board to increase efficiency and profitability. The remote access and telemetry system enables remote machine data monitoring and offers innovative remote service for maximum flexibility and fast problem-solving. To round off the portfolio, Noris Group provides speed, temperature, and acceleration sensors for maritime applications, ensuring precise measurements under demanding conditions. Its automation applications for OEMs involve the integration of customised tools for engine and transmission manufacturers, optimised for specific requirements and operating conditions. Finally, the main switchboards for power distribution further enhance the comprehensive offerings of Noris Group GmbH.

Noris Group GmbH at SMM:
Hall B6 / Stand 316

Yesterday marked the first time that a vessel with a Wind Assisted Propulsion Systems (WAPS) appeared at SMM, with the arrival of the Amasus-owned *Eems Traveller* general cargo ship. The Dutch-owned vessel features two 17-metre tall eSAILs® (suction sails) from bound4blue, which were installed in just four hours at the Port of Bilbao last year. This unique technology is autonomous, robust, simple and market proven. eSAILs® create exceptional propulsive power, reducing main engine load, slashing fuel consumption and emissions, and simplifying regulatory compliance. See the vessel at Überseebrücke today and visit bound4blue at A4 stand 229 to discover more.

Source: bound4blue

Advanced control and cyber security systems

At SMM, Bachmann electronic will be presenting its expertise in open standards for maritime applications. Among other things, the focus will be on the integration of the various elements within a control system using module type packages (MTP), data distribution service (DDS) and open bridge architectures.

Among the new products to be presented at the trade show are the OTC1300 panel PC, an improved version of the GMP232 controller-integrated grid measurement and protection module, and the I/O system M100.
Bachmann electronic will also showcase the 2.0 version of its Smart Power Plant Controller (SPPC). The updated product includes extended control processes and supports the integration of various energy sources in an overall system, for example for supplying energy to a ship.
Cyber security will be another focal point of the company's presence in Hamburg: the OPC UA server of the M200 controller now offers end-to-end encryption, making old standards such as FTP obsolete. This makes it more resistant to hackers carrying out cyber-attacks on ships, port or offshore facilities, Bachmann said in a statement.

Bachmann electronic GmbH at SMM:
Hall B6 / Stand 307

Source: Bosch/Schiff&Hafen

Experience expertise in real time at the stand of Bachmann electronic

Terasaki to enable power from shore

At this year's SMM, Japanese Terasaki Electric Group is presenting a number of its key products, including Terasaki Shore Connection (AMP system), a system that switches off the ship's generator after docking and supplies the required amount of power from shore.

It will also highlight the integrated control and monitoring system TERANET50X, which minimises the impact of equipment failures by distributing standard components and integrating them over a dual-loop ethernet network. Further key products being showcased include the medium voltage switchgear HS50, which maintains high safety standards while improving various current ratings and reducing the depth dimensions. Additionally, the ACB TemPower 2 offers a wide full lineup from 800A to 6300A, with the same panel cut-out for all models, simplifying switchboard design. The compact ACB TemPower PRO, ranging from 630A to 1600A, is 49% lighter and 48% smaller in volume compared with previous models.

Terasaki Electric Group at SMM:
Hall B6 / Stand 320

Vestdavit sees growing demand for boat-handling systems in offshore wind

Vestdavit, a Norwegian company with a long track record of innovation in boat-handling systems through continuous product development in core naval and coastguard markets, is now seeing increasing uptake of its systems in the offshore wind industry.

Vestdavit is increasing its davit deliveries to the offshore wind market Source: Vestdavit

The Norwegian davit supplier has supplied over 80% of offshore wind operators with a range of boat-handling systems designed for safety and reliability in variable sea states.
"The proven longevity and user-friendliness of our systems are further key factors behind increasing davit demand from offshore wind," said Vestdavit's managing director Rolf Andreas Wigand.

In Hamburg, Vestdavit will showcase Mission Bay, a handling system with an inboard hangar for automated deployment of craft from either side of a vessel, which has been adopted in the offshore cable-laying segment.

Vestdavit at SMM: Hall B5 / Stand 334

SIEM Ship Management chooses BIO-SEA systems

BIO-UV Group has won a three-ship order for BIO-SEA ballast water treatment systems from Siem Ship Management for the three car carriers, *Siem Copernicus*, *Siem Curie*, and *Siem Socrates*. The latest contract for B02 BIO-SEA systems follows BIO-SEA B-Series units installed on about a dozen SIEM Ship Management reefer vessels since 2021.

The 3,205-CEU *Siem Curie* and *Siem Copernicus* were built by Mitsubishi Heavy Industries and delivered in 2009 and 2010. The *Siem Socrates*, with capacity for 4,900CEU, was delivered in 2010.
"Our ballast water treatment systems deliver a safe, sustainable solution to protect marine biodiversity and prevent invasive species from developing across oceans," said Laurent-Emmanuel Migeon, BIO-UV Group CEO. "We are delighted that our ongoing highly successful partnership with Siem Ship Management, in which we have supplied BIO-SEA systems for reefer vessels, has continued with the latest order for retrofitting BIO-SEA B-Series equipment on three car carriers."
The BIO-SEA B-Series is an ultraviolet chemical-free system approved by the IMO and the US Coast Guard. Benefits include zero by-product, zero active substances, and zero induced corrosion in pipes or ballast tanks.

BIO-UV Group at SMM:
Hall A1 / Stand 114

EPE: water treatment systems and hull protection

With more than 45 years of experience in environmental protection, EPE (Environmental Protection Engineering) provides innovative applications for sustainable maritime operations.

The company is well-known for its water treatment technology, including the Poseidon Fit bilge oil-water separator and the Triton Fit physicochemical sewage treatment plant, which EPE will present at this year's SMM. EPE also designs and manufactures cathodic protection tools under the trademark 'Polcor', which include aluminium and zinc sacrificial anodes, as well as copper-aluminium and copper-iron antifouling anodes to prevent marine growth on hulls, minimise drag, and enhance efficiency. EPE's new cadmium-free anodes are its most environmentally friendly yet.

EPE is well-known for its water treatment technology, including the Poseidon Fit bilge oil-water separator Source: EPE

To tackle carbon dioxide emissions from shipping, EPE offers a decarbonisation portfolio that includes Amio Coriolis Flow Meters for accurate fuel consumption data and improved CII ratings, and NaviPULSE VFD Upgrade to enhance the energy efficiency of various components. These applications reduce energy consumption, emissions, maintenance costs, and extend equipment lifecycles. EPE's latest addition, the ASIO range of navigational-support tools, includes a doppler speed log, echo sounder, and anemometer, promoting efficient and sustainable navigation.

EPE - Environmental Protection Engineering S.A. at SMM:
Hall A1 / Stand 218

Saint-Gobain Marine unites innovative brands

Saint-Gobain Marine is bringing together international brands to help build maritime projects.

It has a specific area of expertise based on years of sector experience, whether insulation, flooring, glass, walls and ceilings, valve packages, or other applications. Saint-Gobain Marine is focusing on sustainability, comfort (visual, acoustic, thermal), durability, design, fire safety, security and optimising total cost of ownership and installation. By joining forces, the company provides a wide range of sustainable shipbuilding materials for different applications, while aligning IMO regulations.

Visitors can meet the participating brands of Saint-Gobain Marine (Isover, Vetrotech, Weber, Kaiman, Saint-Gobain Sully and HKO) this year in Hamburg in hall B7, stand 200.

Saint-Gobain Marine at SMM:
Hall B7 / Stand 200

Wago: DNV-approved edge controlling technology

Source: Bosch/Schiff&Hafen

Wago GmbH & Co KG, connection and automation technology supplier, will present its Wago Edge Controller at this year's SMM.

The Wago Edge Controller has DNV approval and is offering support for collecting and evaluating all data in the marine environment, such as oil consumption or lighting control. With this product, Wago provides maritime users an edge device with high-performance control and data processing with cloud functionalities. The Edge Controller can also be programmed via CODESYS, supports container technologies, such as Docker®, and has various interfaces from the control environment.

Wago GmbH & Co KG at SMM:
Hall B6 / Stand 318

Stauff to display noise reduction clamps

Walter Stauffenberg GmbH & Co KG (Stauff) will showcase its innovative clamps for shipbuilding in Hamburg.

The Stauff NRCs (noise reduction clamps) are ideal for vibration-damping and noise-absorbing installation of tubes. The clamps have a specially shaped two-part elastomer insert that effectively reduces vibrations and minimises noise. The special contour of the insert makes it possible to attach tubes with different diameters for each clamp size, which opens a variety of application options.

Stauff has been expanding the range of available materials to allow for the increasing complexity of hydraulically operated systems. Clamps made of flame-retardant materials in line with international guidelines and standards or products with different shore hardnesses, for example, are offered for absorbing vibrations as well as to ensure a high level of structural integrity. The "2+5 system" from Stauff additionally reduces the installation space for the hydraulic line system, which can have significant advantages in the shipbuilding environment. The system enables efficient fastening of multiple lines with different diameters on a single weld plate, offering a space-saving and flexible solution. In addition to other product highlights, the manufacturer will present the Stauff Bond System, which enables secure attaching of the Stauff clamps, particularly in areas where welding is not possible or only with great effort.

Walter Stauffenberg GmbH & Co KG
at SMM: Hall A1 / Stand 213

Digital assistance systems to support assembly and logistics processes

At SMM 2024, Sikla GmbH, Wilhelm Sander Handel GmbH and the Institute of Production Management and Technology at Hamburg University of Technology will be presenting an innovative tool for a smart and easy-to-use application for assembly and logistics processes.

The aim is to use digital assistance systems to support workers in maritime pipe assembly using an enriched CAD model, to supply superordinate production levels with up-to-date information and to trigger and control external supply processes based on progress. This technology supports the worker in documenting the pipes and equipment components to be installed and in selecting and correctly positioning the holders based on the actual local conditions. By integrating the information into a web-based platform, the construction progress as well as the as-built status can be tracked in real time along the entire maritime supply chain. This enables precise monitoring and targeted control of material and logistics processes.

Digitised worker assistance for the installation of pipe supports Source: Sikla GmbH

Sikla GmbH at SMM: Hall A2 / Stand 209

Innovative fire-fighting tools and safety gear take centre stage for Viking

Viking Life-Saving Equipment is a specialist in maritime, offshore and fire safety, providing and servicing safety and fire-fighting equipment for passenger and cargo ships, offshore installations, fishing vessels, the navy, helicopter services, fire departments and leisure yachts.

Visitors to Viking's stand at SMM can find out more about new developments in fast rescue boats and enclosed lifeboat design, PPE, including fire suits, immersion suits and life jackets, or discuss the full-scope Shipowner Agreement concept. Over 20,000 commercial vessels have their safety needs managed under the agreement with the supplier.

Earlier this year, Viking extended its range of marine evacuation systems with the acquisition of Undertun – a combined walkway-slide unit that also stores the inflatable life raft in a structure integrated into the shipside. Featuring its own power source and activated by a single user, Undertun is designed for ferries operating in sheltered waters.

Viking also continues to win strong orders for HydroPen™ – the drill-and-spray firefighting device for containers in the stack. In response to growing numbers of EVs moving by ship, meanwhile, the company has agreed to distribute leading technologies such as Bridgehill fire blankets and recently launched marine fire suits that include professional-grade outer shells and moisture barrier protection against water penetration and steam burns.

Viking Life-Saving Equipment at SMM: Hall B1 / Stand 504

Danelec launches Remote Operational Performance Test

Danish digitalisation specialist and manufacturer of voyage data recorders (VDR), Danelec, unveiled a new Remote Operational Performance Test (OPT) at SMM yesterday, designed for enhanced VDR compliance. The OPT system, which adds functionality to the company's remote services suite, Safety Insights, will enable ship operators to carry out mandatory VDR performance tests remotely, relieving ships' crews of the task but still maintaining SOLAS compliance.

The Remote OPT, software-as-a-service, simplifies the workflows required under current regulations, stating that all VDRs installed after July 1, 2014, must support an OPT. This test, usually carried out by the shipboard engineering team annually, or after sensor and VDR maintenance work, is essential to ensure that all VDR data is recorded correctly.

The Remote OPT enables managers and technicians to initiate and complete operational performance tests from shore. It relieves ships' crews of responsibility for the testing process and also ensures that all relevant documentation is accessible ashore. The system reduces demands on seagoing personnel, ensures that vessels maintain their operational licenses, helps to avoid VDR downtime, as well as potential sanctions including fines or even port detention.

Remote OPT is the latest addition to the Safety Insights suite, which features remote services designed to improve safety and reduce operational expenses, such as real-time VDR health monitoring, remote configuration, and instant access to recorded data for incident investigation. Meanwhile, the browser-based Danelec platform ensures accessibility to Safety Insights from any device without local installation.

Danelec's Christian Kock, EVP Safety, said: "The launch of Remote OPT expands our advanced portfolio of services for configuring, maintaining and testing VDRs from shore, reflecting our commitment to providing shipowners with tools to enhance compliance and operational efficiency. By enabling remote VDR performance testing, we are helping to reduce the workload on crews and ensure that our customers' fleets remain compliant and operationally sound."

Danelec at SMM:
Hall B6 / Stand 525

Cooperation to build new frigates for the German Navy

Source: Bosch/Schiff&Hafen

Oliver Burkhard, CEO of thyssenkrupp Marine Systems, and Friedrich Lürssen, a principal shareholder in naval shipbuilding group, NVL, signed an agreement yesterday to cooperate on the construction of F127 frigates for the German Navy.

The vessels, needed to supersede the country's ageing F124 frigates, will be based on thyssenkrupp's MEKO A-400 AMD concept, specially developed to meet the requirements of defence frigates for the German Navy. NVL Group (Naval Vessels Lürssen), launched in 2021, is an independent, privately owned group of North German shipyards, formerly known as Lürssen Defence.

Source: Mediaserver Hamburg/ Andreas Vallbracht

Need a little time out? The large park areas of "Planten un Blomen" are located right next to the SMM exhibition grounds

Hamburg: green and entertaining

Chill and relax

Did you know that Hamburg is the greenest city in Germany? With almost a fifth of its area covered by meadows, woods, parks and water, and a strict approach to land management, Hamburg actually ranks 9th in the world – well ahead of Berlin (18th) and Munich (24th).

Planten un Blomen

Directly opposite the main entrance to SMM is the green lung of Hamburg Central, "Planten un Blomen" (Low German for "Plants and Flowers"), with well-tended flowerbeds, herb gardens, and the largest Japanese garden in Europe, a meeting place for the local cosplay scene. Another highlight: the colourful water-light concerts on the park's lake every evening at 9pm.

Alster

The Outer Alster in the centre of Hamburg is probably the most popular place for walkers and joggers. The 7.5km riverside path is varied and offers plenty of greenery, stylish villas and iconic views. There are plenty of cafes along the way, or you can take one of the hop-on, hop-off water taxis (alstertouristik.de, tickets available on board).

Shopping and Nightlife

Luxury labels, shopping in a Hanseatic atmosphere and specialist shops: many of Hamburg's luxury shops and large flagship stores can be found on the shopping streets of Jungfernstieg, Neuer Wall or Grosse Bleichen. The Colonnaden, close to the Jungfernstieg, is a real boulevard: historic buildings line the quiet pedestrian precinct and exude an almost Mediterranean flair. Here you will find stylish boutiques, specialist shops, restaurants and cafés.

Spitalerstrasse and Mönckebergstrasse are the main shopping streets, with large department stores alternating with shops selling well-known brands. Mönckebergstrasse is also home to the Levantehaus, a shopping arcade with exquisite shops. Not far away, the Europa Passage, designed by star architect Hadi Teherani, offers a comprehensive shopping experience with 120 shops on five floors and a fantastic view of the Inner Alster.

Across from SMM, the Karoviertel on Marktstraße is less than ten hectares of jewellery shops, boutiques, cafes, restaurants, bars, record stores and now souvenir shops. If you are looking for something really special and unusual, you will find it here – from well-known and trendy fashion designers to new, unknown but all the more individual fashion labels directly from Hamburg.

In the nearby Schanzenviertel, fashion and culture create a creative flair that is particularly noticeable on Susannenstraße and Schulterblatt. The density of trendy shops is high, the range is hip, alternative and inviting to explore.

St. Pauli is a must for night owls. As well as the colourful hustle and bustle of the Reeperbahn, the Schanzenviertel, St. Georg, Eimsbüttel and Ottensen are all worth exploring. They all have trendy bars, iconic pubs, vibrant clubs and hip live music. The only thing you might miss is sleep ...

The Jungfernstieg beside the Inner Alster belongs to Hamburg's main shopping areas

Source: Mediaserver Hamburg/Andreas Vallbracht

› HOW TO GET AROUND

Hamburg offers many ways to get from one place to another.

HVV (hvv.de): Hamburg's public transport system sells daily and weekly tickets to explore the city by bus, underground, suburban train and ferry. The 9am group ticket is particularly good value for up to five people. Price: from EUR 14.10.

Bike rental (stadtrad.hamburg.de): Hamburg with its well-developed network of cycle paths is best explored by bike, for example with the StadtRAD bike-sharing system. More than 3,500 bikes are available at over 290 stations, including cargo pedelecs. Price: from EUR 0.10 per minute, max. EUR 9 per day.

Car-sharing: There are a variety of car sharing providers in the city. Free-floating providers – where cars can be rented and parked on the spot – include Share Now (share-now.com), Miles (miles-mobility.com) and Sixt Share (sixt.de/share), with different pricing models.

Ride-sharing (moia.io): The MOIA shuttle responds to requests from several people travelling in the same direction – a shared taxi optimised by an algorithm. Prices are between those of a taxi and public transport.

e-Scooter: There are several e-scooter sharing services that allow you to travel short distances on your own, including Lime (li.me), Tier (tier.app), VOI (voiscooters.com) and Bolt (bolt.eu). It is not compulsory to wear a helmet, but it is recommended. In road traffic, the same rules apply as for cyclists.

The Inner and Outer Alster are located in the heart of Hamburg. With their walking paths, cafés and opportunities for water sports, the two lakes form an important local recreation area for the city.

Source: Mediaserver Hamburg/ Andreas Vallbracht, Julia Schwendner

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