



In good tradition, an MMG propeller was erected in front of Hamburg Messe on Friday. The eye-catcher next to the main entrance will be shipped to China for a retrofit project after SMM. Source: Lau/Schiff&Hafen

## SMM 2022: It's all kicking off

The shipping industry is gathering once again in Hamburg this week, reconvening after a four-year gap, following delays and cancellations due to the Covid-19 pandemic, to kick off the 30th edition of SMM. After such a long time away, maritime stakeholders are anxious to get

started, with over 2,000 exhibitors and some 40,000 attendees said to have signed up for the exhibition.

Much has changed since the last SMM event in 2018. As we revisit the state of the industry in 2022, our industry has

come out of the shadows in the public consciousness and is learning to become accustomed to a far greater degree of scrutiny from without.

With this extra attention has come a new understanding of the role that the maritime industry plays in upholding the stand- ➤



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Source: Lau/Schiff&Hafen

From left: Claus Ulrich Selbach, Business Unit Director Maritime and Technology Fairs, Lars Greitsch, Managing Director Mecklenburger Metallguss GmbH, Carin Steinbach, Deputy Project Director, and Bernd Aufderheide, Chairman of the board Hamburg Messe und Congress GmbH

ards of living to which many people across the world have become accustomed. It has also emphasised the essential role that shipping has played in providing aid, energy, raw materials, and supporting economic resiliency during the pandemic.

As SMM opens today, attendees behold an industry more open, more transparent, and more collaborative in its outlook. As veterans of serial crises, maritime stakeholders have become accustomed to providing solutions for problems not of their own making.

Shipping is more resilient, agile, and proactive than ever before, with eyes open to new technologies and ways of doing business. Looking to reinvest after two bumper years of profits, container lines are striking up agreements to improve their offerings to customers, attract new talent, renew their fleets, and adopt a range of new technologies to decarbonise their operations.

But as the show gets underway, it is impossible to ignore the economic chaos happening at its periphery. Gas prices in Europe have today reached levels 400% higher than a year ago, after Russia closed one of its main gas supply pipelines to Europe – the Nord Stream I – for an as-yet-undetermined period.

This has major implications for shipowners in LNG, product and tanker trades.

It is also upending the expectations of many shipowners who have invested in LNG dual-fuel vessels, but as yet, nobody knows for how long.

At the same time, DNV has chosen this week to unveil the latest edition of its Energy Transition Outlook (ETO), which is likely to address some of these uncertainties. There is little doubt that geopolitics are having an untold impact on energy transition progress but this vital process cannot be disrupted for long.

Meanwhile, visitors to the show will finally get a chance to see how engine manufacturers and other OEMs have been revving up their research and development to meet the challenges of the future. Green ammonia, and green methanol – two fuels hardly existing today – have come to be viewed as the fuels of tomorrow, and Wärtsilä, WinGD, MTU, and Germany's own MAN Energy Solutions will this week each share their own vision of how we will get there.

But it need not all be business. Breathing a sigh of relief after four long years away, participants will finally have the opportunity to reunite in person with old friends at several or many of the parties planned for after-hours networking and generating new business. One thing is for sure: there will be a whole lot to talk about.

# SMM the forum to reach across borders and help shape the future

“Welcome back to SMM – we’ve missed you!” announced Bernd Aufderheide, Hamburg Messe President & CEO, to a packed and jubilant audience at the Congress Center Hamburg (CCH) yesterday, formally opening the 30th SMM trade show.

“It was a small family to start,” remarked Senator Michael Westhagemann. But from humble origins in 1963, SMM has grown to epic proportions. Beginning with just 38 exhibitors in 1963, when the Association of Ship Engineers in Hamburg VSIH – hosted in what is now Hall B of the Hamburg Messe Exhibition Centre – audiences discovered how much the world’s flagship maritime expo has grown, now with 40,000 visitors, and 2,000 exhibitors from over 100 countries.

But its birthday was not the only respect in which this SMM was unique, Westhagemann remarked. “This SMM takes place at a time of change,” he said. “The situation in Ukraine is intolerable. This war has an impact on many communities in the world. At the same time, we are turning away from Russia as a supplier of natural gas, and this disruption in trade flows has implications for all of us manufacturers.

“These are not normal times. Nevertheless, we must reach across borders and keep the conversation going – and SMM is the place to do it.”



Michael Westhagemann, Hamburg Senator for Economics, Transport and Innovation, delivering his opening address at SMM  
Source: Charlie Bartlett

The theme of this show, Westhagemann explained, would be maritime’s exploration into clean, zero-carbon fuels derived from green hydrogen, something currently under exploration at the Port of Hamburg, which is itself repositioning as a green hub. “The industry is on the way to climate neutrality, a task it has set for itself,” he said. “The prerequisite will be synthetic fuels based on hydrogen, made from renewable energy.

“The Port of Hamburg has great potential to be a hub for renewable energy. It is the most important rail port in Europe. But it [also] produces development and research.

“Hydrogen is a good example of this,” he continued. “The Port has strong companies in the petroleum industry and handles coal today. But with the help of our shore power system at Altona, Hamburg, has had cleaner energy on offer for shipping since 2020. By 2024, we will outfit all cruise and container terminals with shore power.

“We do not only want to react, but to look ahead and help shape the future. Use SMM to come together in the industry and inform yourselves, and develop solutions together. It simply works best face to face.”



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# DNV: Ukraine war to accelerate energy transition

Classification society DNV unveiled its latest Maritime Forecast, the shipping component of its Energy Transition Outlook (ETO) yesterday, attempting to address some of the uncertainty in energy markets as well as point the way forward and trajectory for decarbonisation.

Referring to current turmoil in the energy markets, Remi Eriksen, DNV Group president and CEO, declared: "Some say these shocks show how little value there is in forecasting. We disagree. The war in Ukraine obviously has painful short-term effects. This will accelerate renewables, as Europe seeks energy independence. It will make the transition slightly faster."

The ETO encompasses an extraordinary range of possible scenarios, reflecting a wide range of possible fuels and carbon reduction pathways on offer. In all, DNV has 24 scenarios for 2050. In half of them, fossil fuels have been phased out in favour of bio-based equivalents, with e-fuels



From left to right: Knut Ørbeck-Nilssen, CEO Maritime at DNV, Remi Eriksen and Eirik Ovrum  
Source: Charlie Bartlett

els including synthetic LNG (e-LNG), e-ammonia and e-methanol picking up the slack.

DNV noted that in the race between the two green e-fuels, ammonia and methanol, the latter appears to be winning. "The current technology

readiness levels of methanol fuel technologies are higher than for ammonia and hydrogen."

However, a vast amount of capital will be required to bring about a new fossil-free paradigm, the classification society warned. "Eight billion to

28 billion US dollars is needed annually in additional total investment on ships in a transition phase towards decarbonisation in 2050. The largest investments come in scenarios with high uptake of ammonia or methanol."

Eirik Ovrum, principal consultant at DNV Maritime and lead author of the Maritime Forecast to 2050, revealed that 5% of carbon-neutral fuels will be needed by 2030 to achieve the transition. "This requires collaboration across industries. We see that full decarbonisation by 2050 will entail more than double the cost of investment over IMO ambitions.

"If there is sufficient sustainable biomass, biofuels will be preferred. Carbon-neutral LNG and marine gasoil (MGO) will likely replace fossil versions. Ammonia and methanol will have to have a cost significantly lower than carbon-neutral MGO to compete," he said.

DNV at SMM:  
Hall B4.EG / Stand 221

September 6th-9th

## Meet the Press

Every show day at SMM

Between 12:30 and 13:30 at the DVV Media booth Hall A1 / Stand 529

Schiff & Hafen

Ship & Offshore



From left to right: Georgios Plevrakis, vice president of Global Sustainability at ABS, Kathrin Lau, Editor-in-Chief Schiff&Hafen, Sigurd Jensen, director Exhaust Gas Cleaning at Wärtsilä Marine Solutions, Michalis Agraniotis, senior manager Business Development at MHI EMEA, Ingrid Marie Vincent Andersen, head of Decarbonisation Sustainability at A.P. Moller-Maersk Source: Philipp Trochim/ PT Media Production

# ABS panel: scale, regulation, scrutiny needed for decarbonisation

Panellists on ABS' Sustainability Summit called for more robust regulation if the e-fuels economy is to gain sufficient traction, including better scrutiny of well-to-wake dynamics.

"We definitely need market-based measures – a carbon tax – to incentivise this," said Ingrid Marie Vincent Andersen, head of Decarbonisation Sustainability at Maersk.

"It will cost money," agreed Sigurd Jensen, director of Exhaust Gas Cleaning solutions at Wärtsilä. "It's not going to happen by itself -- we need regulations and we need incentives. A carbon tax seems very simple and well-structured to me."

Speaking from the Maersk perspective – that of going all-in on methanol – Ingrid Marie Vincent Andersen said: "I think that people make the assumption that anything with carbon in it is bad. But carbon-based fuels have an inherent advantage. They have a higher energy density and we have much of the infrastructure for handling them already in place."

It is possible to harvest carbon from biogenic sources, which is

carbon that would be emitted without human activity. This is in stark contrast to today's main form of hydrogen production, Andersen explained. "...if you look at how ammonia and hydrogen are produced currently, steam reforming – these processes ... they are actually worse for the climate," she said.

"It might be that some ship types can use hydrogen as a fuel type, but it's not going to be practical for larger ships. In the case of smaller ships, ferries, it might be practical. But there are some safety aspects of hydrogen that we have yet to understand."

"Carbon based fuels have some inherent advantages," agreed Jensen. "There are good reasons for using carbon-based fuel, as long as you can source the carbon in a sustainable way." Will handling future fuels be more complicated? "For sure," said Michalis Agraniotis, senior Business Development manager at MHI EMEA. "We are a technology company so we are active in different fields. In hard-to-abate sectors carbon capture can be applied in the maritime sector. We need to try and understand future types of vessels.

"Going one step beyond the discussion of using carbon-based e-fuels, we're trying to develop ideas where we can have hybrid ammonia and CO<sub>2</sub> carriers,

which can carry both, captured CO<sub>2</sub> on the return leg."

ABS at SMM:  
Hall B3. EG / Stand 200

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# VDMA meeting notes dramatic impact of geopolitics on maritime sector

The general meeting of the Mechanical Engineering Industry Association – VDMA Marine Equipment and Systems – on Monday, September 5th focused on key issues facing the shipbuilding and offshore supply industry. Participants agreed that the economic conditions prevailing across industry, energy, logistics, and global supply chains have rarely, if ever, been more challenging.

Claudia Müller, MdB, Maritime Coordinator of the German Federal Government, Dr. Gaby Bornheim, president of the German Shipowners' Association (VDR), and Ulrich Ackermann, head of VDMA Foreign Trade, discussed these issues with Martin Johannsmann, chairman of the Board of VDMA MES.

As energy prices rise further, a key topic for discussion was how companies can continue to compete effectively in the face of new price realities. How can the sector maintain progress on the essential task of decarbonising shipping in these unprecedented times.

The state and specific sectors must react with speed and agility. Companies operating in the global maritime sector must cope with these challenges. But is it possible to undertake reliable medium- or even long-term planning? How can Government and industry support each other in these times?

It quickly became clear that there are no simple answers to these and other broad questions. The bottom line is that united, close,

and continuous cooperation between all stakeholders is essential – on the one hand, to ensure that supply chains remain safe and secure for the world's people even in these difficult times. On the other hand, it is vital to safeguard and promote the sustainability of maritime transport through innovation and joint regulations.

This also involves assessing the reliability of suppliers worldwide, the maritime energy transition and propulsion systems of the future, the availability of green hydrogen, and the progress and new opportunities that are now available in shipping digitalisation.

Martin Johannsmann and Jörg Mutschler, managing directors at VDMA, were able jointly to introduce the newly elected Board of VDMA Marine Equipment and Systems at the General Meeting. Seventeen enterprise leaders are members of the Board for the period 2022- 2026.

The German shipbuilding and offshore supply industry, with about 63,000 employees in Germany, generates around EUR 11 billion a year, making it the largest sub-sector of the maritime economy. Exports make up 75%. Geopolitical developments are therefore a critical factor for the sector. Innovation, especially in climate protection, must ensure the future success of companies in the shipbuilding and offshore supply industry.

VDMA at SMM:  
Hall A1 / Stand 520 and  
Hall A3 / Stand 314

## > VDMA PRESENTATION PROGRAM

The Marine Equipment association VDMA is providing a programme of presentations held at VDMA main stand in hall A1. Attendance is free of charge. Experts will held presentations according to a fixed schedule and they will be available for individual discussion on the VDMA stand.

### VDMA German Engineering Federation - Marine Equipment and Systems

Hall A1 / Stand 520

**13:45 - 14:00 Uhr**

“Effizienz neuer Schiffsantriebssysteme”  
Stefan Krahn, Baumüller Nürnberg GmbH, Nürnberg

**14:00 - 14:15 Uhr**

“QSMN - Quantum Supported Maritime Just-In-Time Navigation”  
Dr. Wolfgang Mergenthaler / Daniel Jaroszewski, Frankfurt Consulting Engineers GmbH, Frankfurt/Main und Felix Paul, StoneOne AG, Berlin

**16:30 - 16:45 Uhr**

“Marktausblick Maritime Industrie: Highlights aus dem VDMA-Konjunkturspiegel 2022”  
Hauke Schlegel, VDMA Marine Equipment and Systems, Hamburg

### Green Transition Stage

Hall A4

**14:50 - 16:00 Uhr**

“Strategies to reduce greenhouse gas emissions in shipping”  
VDMA Session



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# Software reduces administrative effort

ClassNK provides a comprehensive portfolio of services that support the maritime sector in pursuit of zero-emission shipping.

The ClassNK MRV Portal, compliance-supporting software for IMO DCS and regional monitoring, reporting and validating (MRV), provides shipowners with functionality reducing the burden of preparing plans to achieve compliance. In August this year, ClassNK added new functionality for SEEMP Part III require-

ment which shipowners must comply with in 2022. This software enables the automatic calculation of required CII values from individual ship data stored in the Portal. Reflecting the information selected and entered by the user, it produces a plan for achieving stipulated CII ratings in the designated format. The generated plan can then be submitted for class approval.

Another recently launched tool for broader GHG emission management on top of compliance is ClassNK ZETA – Zero Emission Transition Accelerator – which

enables shipping companies and stakeholders to monitor CO<sub>2</sub> emissions accurately and simulate CII ratings. With data verified by class, ClassNK ZETA offers a high degree of reliability, while its user-friendly design facilitates the secure sharing of emissions information via a common platform. The system comprises four key features – Vessel Monitoring, Fleet Monitoring, Simulation, and Periodical Report.

ClassNK at SMM: Hall B2. GF / Stand 212

# Initiatives, projects and discussions

The German Maritime Centre (DMZ) is a Hamburg-based independent institution, whose work covers entire value chains in the fields of shipbuilding and marine technology, shipping, as well as ports and maritime logistics. The organisation draws on the maritime sector's innovative capacity and on topics of the future such as fossil-free, emissions-free propulsion systems, autonomous shipping, and recruiting young talents.

At SMM, the association will outline initiatives and projects, like technological change, sustainability and climate change, competitiveness, demographic change and young talents. In addition, DMZ presents the Maritime Map and the Maritime EU Funding Compass. Each day at 10:30 am, the institution invites delegates to a Brown Bag Breakfast and a keynote presentation, held by branch experts in German language. In the afternoon at 02:00 pm, there will be further discussions with guests from the maritime industry.

DMZ at SMM:  
Hall A3 / Stand 100



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## Main engine fuel sensor to be unveiled

Rivertrace, an oil-in-water and environmental monitoring specialist, will demonstrate its new SMART VISCO sensor for main engines at SMM in Hamburg. The sensor measures the temperature and viscosity of different grades of fuel oil before injection into large ships' engines. Its monitor incorporates an LCD display that indicates all relevant parameters and data is then reported via both analogue and digital systems.

The fuel oil's viscosity is an important measure because it provides a direct indication of impact on engine performance and efficiency, the company said. The resulting data can highlight any risk of engine damage while reducing maintenance costs and minimising emissions.



The SMART VISCO Sensor will be on display

With its digital capability, SMART VISCO can be integrated with the RIVERTRACE CONNECTED service. This collects and shares relevant data with ship managers to monitor and analyse trends both at an individual ship and fleet level. The service initiative also provides calibration com-

pliance and equipment performance data. Outcomes can be shared through an application programming interface (API) or viewed on a cloud platform.

Rivertrace managing director, Martin Saunders, commented: "Monitoring environmental discharge has been at the core of Rivertrace's ethos for over three decades. However, in recent years we have also embraced digital transformation and provided solutions to automate and analyse the data by making our services smarter, and by connecting into the marine digital ecosystem. The SMART VISCO probe extends our offering to encompass on-board monitoring and expands our environmental solutions to include minimising greenhouse gas emissions, as well as our oily water pollution prevention system."

Source: Rivertrace

Rivertrace Ltd at SMM: Hall A1 / Stand 118

## High potential for universal S-100 data standard

The future of shipping is underpinned by digital innovations, enhanced satellite connectivity at sea, optimised data and new standards, supporting the next generation of navigation. The UK Hydrographic Office (UKHO) aims to be at the forefront of this digital transition, continuing to provide the assured and globally trusted Admiralty Maritime Data Solutions that seafarers depend on.

This week at SMM, UKHO demonstrates that an increasingly digital mar-

itime industry will be shaped by the International Hydrographic Organization's new universal S-100 data standard, enriching future maritime products and services. S-100 will also enable fleet operations and supply chains to work in closer harmony and unlock a new level of access, transparency and support in near real-time.

The new standards will dramatically reduce the time that vessels need to wait for important navigational and safety updates, improving safety at sea

and supporting enhanced voyage optimisation and weather avoidance. The UKHO is actively supporting this new era for marine navigation and plays a leading role in advancing the development of the digital standards by working with providers and partners to test product specifications, build the safety case, improve the user experience and realise the potential of the S-100 standard.

UK Hydrographic Office at SMM: Hall B6 / Stand 303

Meet us:  
Hall B4, Booth 101

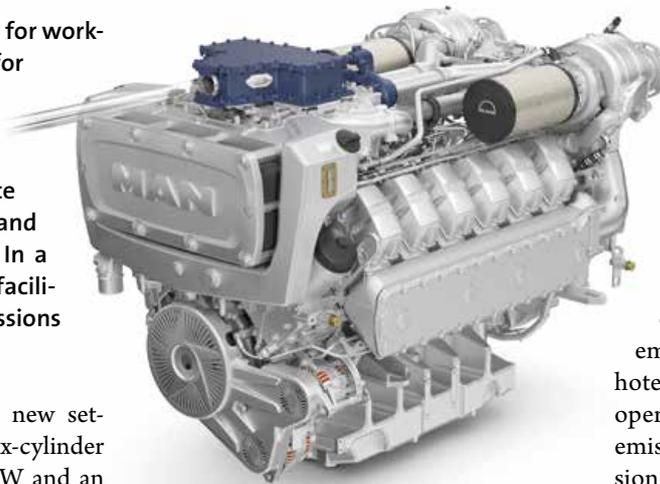
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# Focus on carbon-efficient workboats

Sustainable propulsion options for workboats will be the key focus for MAN Engines at this year's SMM. The company will be releasing details of its MAN Smart HYBRID Experience range which enables sailing and anchoring without emissions. In a dual-fuel configuration, it will facilitate substantially reduced emissions when using hydrogen as fuel.

The company will present the new setup based on its D26 in-line six-cylinder engine with an output of 184 kW and an aftertreatment system. This arrangement can provide power output of up to 809 kW (1,100hp), the company said. The MAN Smart HYBRID Experience was launched last year, initially for yacht applications. However, since it can be combined with any of the company's marine engines in the V12, V8, and R6 ranges, it can also be used to upgrade the out-



In a dual-fuel configuration, the MAN Smart HYBRID Experience range will facilitate substantially reduced emissions when using hydrogen as fuel  
Source: MAN Engines

put of engines used in light, medium, and heavy-duty workboat applications. This enables overall system outputs for each driveline ranging from 147 kW to 1,838

kW (200 hp to 2,500 hp), the company revealed, and degrees of hybridisation of up to 71% of total output.

The new setup can be configured to meet a wide range of operational requirements – for ferries, pilot craft, patrol boats and other service vessels and workboats. Different operating modes, including zero emission, diesel-electric, crossover, hotel, boost and diesel, enable efficient operation, greater range, and access to emission control areas, thanks to emission-free operation, as well as additional power as a power boost. In hotel mode, the high-voltage battery of the plug-in system can be used, MAN Engines said, and is charged by an integrated shore connection, or by diesel engines or generator sets when the vessel is under way.

MAN Engines at SMM:  
Hall A3 / Stand 211

# New filters series for UV ballast water management systems

At the SMM booth of Canada's marine technologies, the spotlight will be set on cross-border knowledge transfer and networking. With the largest Arctic Ocean territory and the longest coastline in the world, ocean technologies are an important driver of Canada's economy.

Visitors will meet the delegation of Canadian companies and several key stakeholders from Canada's ocean tech sector at the trade show. Moreover, they are invited to attend the following events:

> On Tuesday, September 6th at 6:00 pm, a harbour cruise will take off – hosted by the Province of British Columbia.

> Wednesday, September 7th will be the day for Canada's innovative marine capabilities presentation. In Room "Kopenhagen 2", at 10:00 am, British Columbia Ferry Services Inc (BC Ferries) will present its plans for the construction of the compa-

nies' Major Class ferries to be built within the next decade. In addition, there will be presentations from seven Canadian companies on their products and services.

> In the afternoon of Wednesday, September 7th, from 4:00 – 6:00 pm, a Canada

Reception will be held – giving visitors the opportunity to deepen and extend their knowledge and to develop new project ideas.

Filtersafe Ltd. at SMM:  
Hall B6 / Stand 141



The Filtersafe team shows the new Manta series filters at its booth

Source: Filtersafe Ltd.



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For more information visit us at the SMM - hall A4 booth no. 211

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## TUESDAY, SEPTEMBER 6th

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| <p><b>11:00</b>    <b>DESIGNING CRUISE SHIPS 2022 – New Directions and Insights</b><br/>ArtLink<br/>Hall B5 / Cruise &amp; Ferry Stage</p> <p><b>11:00</b>    <b>BOS Power Solutions &amp; Servogear: A new era of propulsion</b><br/>NCE Maritime CleanTech<br/>Hall B7 / Stand 102</p> <p><b>11:15</b>    <b>Discover3Dprinting Seminar</b><br/>ACAM Aachen Center for Additive Manufacturing / Formnext<br/>Hall B6 / Digital Transition Stage</p> <p><b>11:30</b>    <b>Simplified ESG Roadmapping for the Inland Waterways</b><br/>IG RiverCruise<br/>Hall A4 / Green Transition Stage</p> <p><b>11:30</b>    <b>s-Planner – Optimal Routes, Reduced Emissions</b><br/>StormGeo<br/>Hall A1 / Stand 226</p> <p><b>12:00</b>    <b>Navigating the maritime future seminar</b><br/>UK Hydrographic Office<br/>Meeting Room B6.4</p> <p><b>12:00</b>    <b>DNV’s ‘Energy Transition Outlook 2022 – Maritime Forecast to 2050’ launch event</b><br/>DNV<br/>Hall B3 / Conference Room Kopenhagen</p> <p><b>12:00</b>    <b>Alma Clean Power: Delivering Fuel Cells to Deep Sea shipping</b><br/>NCE Maritime CleanTech<br/>Hall B7 / Stand 102</p> <p><b>12:30</b>    <b>Hydrogenious LOHC Maritime: The safest H2-solution for zero-emission shipping?</b><br/>NCE Maritime CleanTech<br/>Hall B7 / Stand 102</p> <p><b>12:30</b>    <b>ABS Coffee and Conversation – Insights into Onboard Carbon Capture</b><br/>ABS &amp; Affiliated Companies<br/>Hall B3.GF / Stand 200</p> | <p><b>13:00</b>    <b>Ship of the Year award ceremony</b><br/>Norwegian Maritime Exporters<br/>Hall B7 / Stand 300</p> <p><b>13:20</b>    <b>Collaboration for a wider adoption of Energy Efficiency measures</b><br/>Danish Export Association<br/>Hall A4 / Green Transition Stage</p> <p><b>13:30</b>    <b>ABS Coffee and Conversation – Manufacturers and Suppliers</b><br/>ABS &amp; Affiliated Companies<br/>Hall B3.GF / Stand 200</p> <p><b>13:30</b>    <b>The Next Hot Topic: Estimating CII for Asset Redelivery</b><br/>StormGeo<br/>Hall A1 / Stand 226</p> <p><b>13:50</b>    <b>Marispace-X: The European Federated Maritime Dataspace</b><br/>north.io GmbH / GMT<br/>Hall B6 / Digital Transition Stage</p> <p><b>14:00</b>    <b>TradeWinds Shipowners Forum Germany 2022</b><br/>Hall A4 / Room Chicago</p> <p><b>14:30</b>    <b>TrAM: Introducing the world’s first zero-emission fast ferry</b><br/>Hall B7 / Stand 102</p> <p><b>14:30</b>    <b>DNV Digital Technology Supplier Seminar</b><br/>DNV<br/>Conference B / Room Kopenhagen</p> <p><b>14:50</b>    <b>Strategies to reduce greenhouse gas emissions in shipping</b><br/>VDMA<br/>Hall A4 / Green Transition Stage</p> <p><b>15:00</b>    <b>VR for Passenger Ship Design</b><br/>Knud E Hansen, Fraunhofer IGD<br/>Hall B5 / Cruise &amp; Ferry Stage</p> <p><b>15:00</b>    <b>Seall ECDIS’ “Passage Planner” for Efficient &amp; Safe Navigation Route Planning</b><br/>Mackay Marine<br/>Hall B6 / Stand 312</p> | <p><b>15:00</b>    <b>ABS Coffee and Conversation – Sterntubeless Vessels Demo</b><br/>ABS &amp; Affiliated Companies<br/>Hall B3.GF / Stand 200</p> <p><b>16:00</b>    <b>Seakeeping: The Key to Avoiding Cargo Loss</b><br/>StormGeo<br/>Hall A1 / Stand 226</p> <p><b>17:00</b>    <b>Wine o’clock</b><br/>Hall A4 / Green Transition Stage<br/>Hall B6 / Digital Transition Stage<br/>Hall B5 / Cruise &amp; Ferry Stage</p> <p><b>17:00</b>    <b>Let’s get together</b><br/>Siemens Energy<br/>Hall B6 / Stand 324</p> <p><b>17:00</b>    <b>Castrol stand party</b><br/>Castrol<br/>Hall A4 / Stand 213</p> <p><b>18:00</b>    <b>BERG VIP Party</b><br/>Berg Propulsion<br/>Hall A4 / Stand 316</p> |
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All dates at SMM including Speaker Slots on the Digital Transition Stage, Green Transition Stage and Cruise & Ferry Stage:



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



Bender presents technologies for the safe handling of electrical power on board

Source: Bender GmbH & Co KG

# Detecting electrical faults quickly

Bender's core competence is electrical safety in many fields, such as health-care, renewable energy or mechanical and plant engineering. At SMM this week, the company demonstrates the utmost importance of electrical safety on board ships.

It is a challenge to detect and localise electrical faults on board in good time, and insulation faults can generate currents that endanger the safety of crew and passengers. They also may accelerate the corrosion of ship parts. Whether in the engine room,

in accommodation areas or cabins, electrical faults occur quickly, and it takes a great deal of experience and time to detect them manually.

The Bender ISOMETER® is the core of reliable technologies for the safe handling of electrical power for high availability. It interacts with fault localisation devices (EDS) or residual current monitoring systems (RCMS) to monitor the electrical systems on board continuously. RCMS are used to monitor earthed systems (TN and TT systems) for fault currents or residual currents. Residual current monitors

detect deterioration of the insulation level promptly and reliably. Insulation monitoring devices permanently monitor the insulation resistance of unearthed systems and alarm when the value falls below a response value. Insulation fault locators are used in unearthed power supplies. They use measuring current transformers to detect the test current signals generated by the insulation monitoring device and evaluate them accordingly.

Bender at SMM:  
Hall B6 / Stand 233



A smarter perspective on a low carbon future

Meet us at SMM, stand A3.108



## Three questions for...

### ***How important is it for you personally and the company that SMM is finally taking place again in its traditional format after four years and what do you expect from the show?***

There's no substitute for meeting in person with our peers, customers and partners, and I'm looking forward to many productive conversations about how we can overcome the industry's biggest challenges, including decarbonisation, efficiency, safety and supply chain resilience. These problems require complete collaboration across the entire industry to solve.

From Wärtsilä Voyage's perspective, this is a very important and exciting event for the team. Wärtsilä Voyage exists to deliver cutting-edge technology which aids in the transformation of the maritime industry and SMM is a fantastic opportunity to showcase how we can make a difference today, and in the future.

### ***What can visitors expect at the Wärtsilä Voyage booth?***

We'll be demonstrating our Fleet Optimisation Solution (FOS) – a holistic data analysis, voyage planning and fleet performance management platform that can help maritime stakeholders run vessels and fleets with optimal safety, efficiency and sustainability.

Our Smart Panoramic Edge Camera System (SPECS) will also be on display. SPECS is a three-part smart technology system that takes situational awareness to the next level. It spans cameras, augmented reality and data integration. SPECS' robust super wide cameras provide a 360° vessel view, eliminating blind spots, augmenting situational awareness and enabling better safety outcomes.

Visitors will also be able to try out our Smart Realities immersive training experience live on the stand, which combines mathematical, physical, and environmental modelling with the latest in virtual and augmented reality to place seafarers on a virtual bridge or engine room and make training as real as it can get. At the same time, our NACOS bridge Platinum Multifunctional Display will be on the stand. This is our state-of-the-art integrated vessel control system which combines navigation, automation, power and propulsion functions into one place, delivering unequalled flexibility and convenience for seafarers.

Finally, visitors will also be able to sign up to visit AHTI, Wärtsilä Voyage's innovation and technology 'living lab'. AHTI is a seaborne showroom where anyone can experience our, and our technology partners', new products and concepts first-hand to understand how they can make a difference in real-life conditions.

### ***What are currently the biggest challenges for the maritime industry and how can we meet them?***

Decarbonisation is one of the most important and impactful challenges facing the maritime industry. Digitalisation and decarbonisation are inherently linked; and I believe one



## SEAN FERNBACK

President of Wärtsilä Voyage

cannot be achieved without the other. Therefore, it's incredibly important for shipowners and operators to accelerate their digital journeys and, as a result, their decarbonisation journeys.

By optimising vessels and voyages, cutting-edge technology such as FOS can significantly reduce fuel consumption – cutting greenhouse gas emissions and lowering operating costs. However, in order to realise the benefits of digitalisation, it's important to consider, for example, how your company is using data. After all, a strong data strategy uncovers your full potential for decarbonisation goals and paves the way for sustainable shipping.

Today, organisations sit on a wealth of knowledge but often don't know what data they have, where it sits across the business, and who has access to it. These scenarios make it almost impossible to make good use of data and therefore can hinder decarbonisation progress.

The challenge is finding the right partner who can help break down silos, overcome fragmentation, and deliver a holistic view of the entire fleet or vessel ecosystem, to support not only sustainability aims, but also the critical decision-making that will keep the industry ticking during this era of real change.

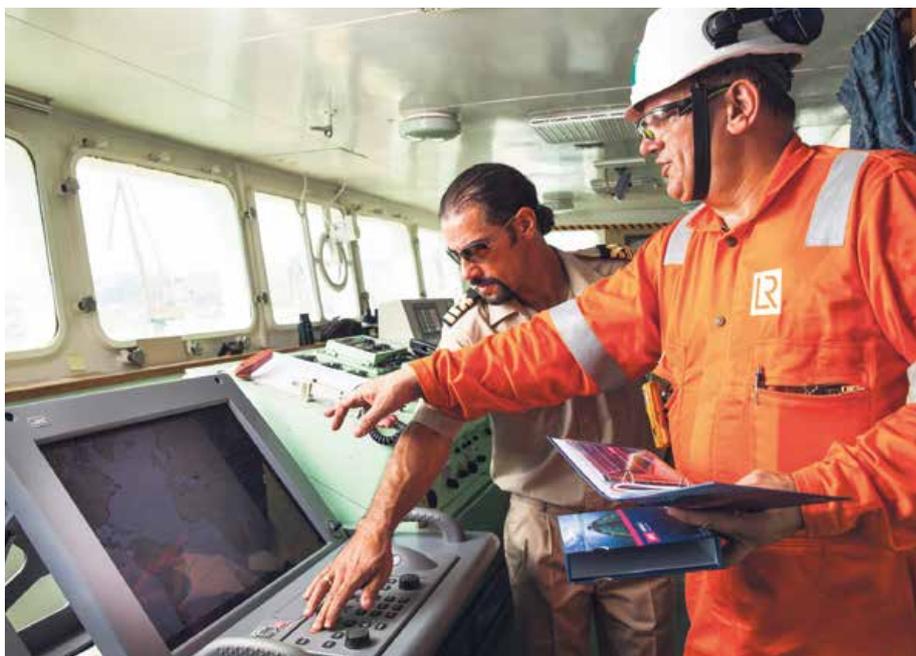
Wärtsilä Voyage at SMM:  
Hall B6 / Stand 309

# Energy transition and digital transformation

Lloyd's Register is an international provider of classification, compliance, and consultancy services to the marine and offshore industries. The company is delighted to be exhibiting at this year's SMM and reconnecting with the marine community – from experts in ship design and engineering to launch and beyond.

The maritime energy transition and digital transformation will be this year's focus. As the entire maritime sector moves forward on the decarbonisation journey, one must look to mobilise our readiness for the challenges ahead, working together to recognise the potential that each new and alternative fuel has in contributing to a sustainable future in shipping. The transition of the industry towards the safe adoption of these new fuels will require a considered approach.

The industry needs standardisation, and LR has been driving the industry forward by leveraging the benefits of a prescriptive approach whilst embracing the necessary risk-based approach to manage all the novel challenges the transition presents. Whilst safety is paramount for the adoption of future fuels, the entire maritime



LR is committed to the goal of building and operating more efficient ships Source: Lloyd's Register

industry must also address technology, investment, and community readiness – factors that are tracked by the LR Decarbonisation Hub's zero-carbon fuel monitor. LR emphasises how important these insights are for shipowners and operators

to create safe and sustainable pathways to a zero-carbon future.

Lloyd's Register Group Ltd,  
Lloyd's Register Marine at SMM:  
Hall B4.EG / Stand 107

Experts in fire protection

**MINIMAX**

**Minifog marine XP –  
High-pressure water mist system**

Top levels of safety on board – our fire protection system can be deployed in all areas.

Join us at SMM in  
hall A1 stand 227

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# A HISTORY OF SUCCESS

1963 – 2022



## STAY INFORMED

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With our daily show publications - new every morning!

**SMM Daily News:** The established trade fair newspaper – printed and as e-paper  
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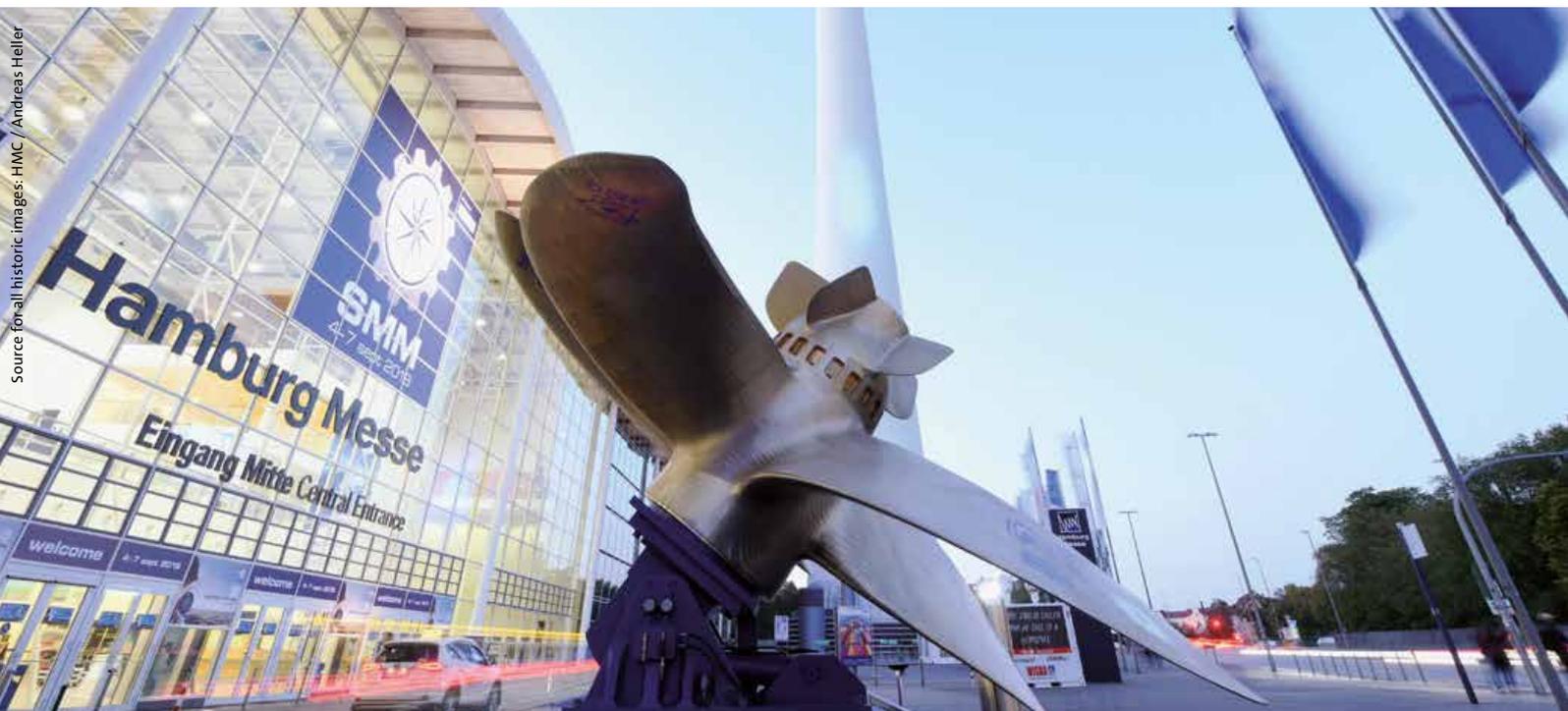
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Visit us at SMM in hall **A1 | 529** and inform yourself about  
our comprehensive portfolio with a cool **drink**. In addition,  
a raffle with **great prizes** awaits you!



Since the 1960s, SMM has been pursuing a continuous mission to build and expand a unique platform for the maritime industry

# SMM 1963 – 2022: driving the maritime world for six decades

Leaving the pandemic behind, SMM finally opens its doors again to the who's who of the maritime industry. The world's number one maritime trade fair is a must-attend. Around 2,000 exhibitors and 40,000 visitors from over 100 countries will use the opportunity for driving business forward, pushing innovation and discussing challenges face-to-face in Germany's maritime capital, Hamburg.

At its 30th edition, all sails are set for the industry's future, be it green shipping, digitalisation, or innovative start-ups. But the roots of SMM go far back, being an impulse generator for almost six decades.

The origins of SMM date back to the mid-1950s. The Golden Age of the Wirtschaftswunder, the German economic miracle, has just begun. In port cities like Hamburg, Bremen, Bremerhaven and Flensburg, ship engineers come together in regional associations. Soon, they decide to join forces in an umbrella organisation: The Association of German Ship Engineers (VDSI) is born.

Driven by the strong development of the maritime sector, its members will hold a convention every two to three years, with the aim of exchanging concepts and accomplishments, discussing current shipbuilding topics, and planning for the future. The conferences are soon accompanied by trade

fairs, one of which takes place in Flensburg in 1961. Visitors are able to find out about various developments – from steam propulsion systems, diesel engines, electrical engineering, oil pollution at sea, noise abatement, soundproofing and marine radios, to the training of technical personnel, both ashore and at sea.

## The birth of a leader

This concept turns into SMM when the Hamburg branch of the VDSI – the Association of Ship Engineers in Hamburg, the VSIH – hosts a similar congress in Hall B of the exhibition centre in Hamburg in 1963. The accompanying trade fair >

“Schiff und Maschine” (Ship and Engine) starts with 35 exhibitors and is now considered as the birthplace of SMM.

Sceptics fear that in a big city like the Elbe metropolis, the event could be overlooked. Instead, it turns into a huge success, as the VSIH board writes in its member’s journal: “The reputation of marine engineers among experts and the public has been rendered a good service. As a result, the professional awareness has been strengthened and the acceptance of the marine engineer as an essential factor in German economy has been obtained. The financial risk of the conference could be brought to a satisfactory solution.”

In the next years, SMM grows as rapidly as the entire maritime industry. At the second “Schiff und Maschine” in 1966, the exhibition area doubles – and with it, the number of exhibitors and visitors. 76 exhibitors, among them companies from Sweden and the Netherlands, reveal the latest trends in shipbuilding, including draught measuring systems, level measuring systems for tanks, course monitoring and remote control systems, command printers and intercom systems for crews.

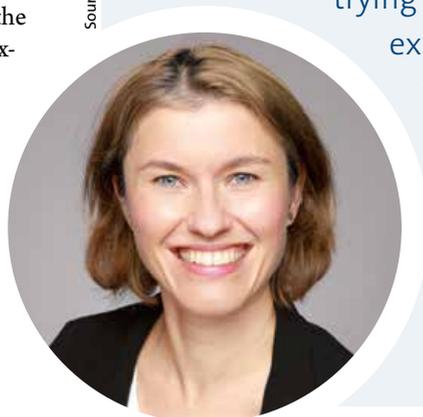
Host VSIH gladly proclaims: “It was generally emphasised that in Hamburg, it was able like in no other place to address interested parties from the shipyards, shipping companies and the German Navy ... After this success, it is clear that ‘Schiff und Maschine – international’ will take place in autumn 1968 on a much larger scale.”

### Hamburg Messe takes over the helm

The words are followed by deeds. With the inclusion of the fishing industry, a completely new branch is integrated in 1968. Also, with the UK and Norway, two major shipping and shipbuilding nations join SMM for the first time. To open the way to further growth, Hamburg Messe (at that time still known as the Planten un Blomen exhibition park of the Free and Hanseatic City of Hamburg GmbH & Co.) becomes involved as new organising partner, while VSIH – together with other associations in the shipbuilding and supplier industry – remains patron and a member of the advisory board.

While the exhibition still played the supporting role for the conference at its

Source: DVV Media



“We are so glad to be finally back at SMM! The past two-and a half years have put a massive strain on all of us – be it due to the pandemic, the war in the Ukraine, the threat of inflation or general global insecurity. Personal exchange is therefore more important than ever, and SMM has always been the ideal platform for exchanging and developing ideas, networking and getting in touch with new partners. We have learned a lot about SMM’s impressive history in preparation for the 30th edition this year; and we are happy and proud to be part of it again, trying our utmost to inform visitors, exhibitors and people at home about the daily trade fair activities.”

### Kathrin Lau

Editor in Chief, Schiff&Hafen | Ship&Offshore, DVV Media Group

premiere, ten years later, the tide turned. In 1974, the trade fair, now called “Schiff, Maschinen und Meerestechnik international”, has become the undisputed main component: 400 exhibitors from 18 countries present their latest developments in seven halls, and almost 20,000 visitors from 40 nations flock to Hamburg to find out about the latest technical features. Among them: satellite navigation, which is reported – not without surprise – to be becoming more and more important for the nautical industry.

The pace of growth is remarkable. Two years later, at SMM ’76, the exhibitors are spread over a total of twelve halls, focusing on RoRo ships, combined multipurpose cargo ships and liquid gas tankers. The industry uses the gathering more and more to exchange information beyond pure shipbuilding.

At the maritime water protection exhibition “IOOPEC’76” in Hall 1, experts

from the United States, Germany and the UK give lectures on oil pollution counter-measures as well as the problem of operational oil draining and innovative construction solutions – leaving the audience deeply impressed. According to a review, 98% of the companies are so satisfied with the fair and the congress that they vow to return to Hamburg at the next opportunity.

### Discussing maritime challenges

At the ninth SMM in 1980, politicians also recognised the importance of SMM as a meeting place for a global industry. Government delegations from Argentina, the People’s Republic of China, Indonesia, and Japan are present. This year’s key issue: the sharp rise in fuel prices. The maritime industry finds itself in a challenging position.

The market for newbuildings has stagnated, challenging shipyards and



35 exhibitors presented themselves at a congress organised by the Association of Ship Engineers (VSIH) in Hamburg in 1963 – this event is now considered as the birthplace of SMM

suppliers worldwide. Endurance and cost-effectiveness become more important, and manufacturers are faced with the challenge of developing engines that can burn increasingly poor-quality and cheaper fuels whilst, at the same time, generating more propulsive power.

Fuel economy is one of the main issues at SMM'84. Shipping companies toy with the idea of equipping or converting their ships with significantly smaller and less powerful engines. Maintenance companies have to adapt to the fact that owners are bringing their ships

to repair docks less frequently. While it has typically been a maximum of one year, now ships are docking only once every second or even third year, depending on their classification. >

“This year’s motto ‘Driving the maritime transition’ is very well chosen for the 30th SMM. It describes perfectly the challenges the maritime industry is facing these days and at the same time makes clear that we are driving these changes, instead of being simply steered passively.

It is wonderful that after two hard years of Covid-19 restrictions the maritime world can finally meet again in person. We need face-to-face dialogue to tackle the challenges and to be successful in our businesses. I am really looking forward to a great fair, lots of interesting conversations and fruitful discussions during the conference. SMM 2022 will again bring the maritime world together.”

**Claudia Müller**

Federal Government Coordinator for the Maritime Industry and for Tourism



Source: BMWK



Congresses and symposia have always played an essential role in the fair and have attracted many participants

Also, higher prices are causing problems for the entire industry. As large shipping companies withdraw from the new-building market, shipyards are fighting for contracts from small to medium-sized owners. Inquiries during the fair focus on smaller container ships and mini-bulkers.

Among them is a construction project for a chemical tanker equipped with a sail in addition to its traditional propulsion system – a concept that will pop up again in the following decades.

With every gathering, SMM becomes more and more international and soon,

the idea of “partner countries” is born and nations are given the opportunity of presenting themselves and their domestic shipbuilding industries on a large scale. In 1986, China becomes the first official SMM partner country.

But the significance of the fair relates in large part to the success of its congresses. SMM’88 is already accompanied by six international congresses and symposia, including the “Europa and the Sea” Congress organised by the German Committee for Marine Research and Marine Technology (DKMM), the German Hydrographers’ Day, the Dredging Day of the Central Dredging Association (CEDA) and a symposium on developing trends in ship propulsion systems. According to market research, 40% of the exhibiting companies are able to close contracts during the fair and a total of 90% state that for them, SMM is the most important maritime trade fair of all.

### Record-breaking 1990s

The positive trend continues. SMM’90 attracts 30,000 visitors from 48 countries. One of the hot topics this year is GMDSS, the global maritime distress and safety system, by which a ship can be located worldwide via radio system, among other benefits like direct telephony from ship to shore. Many visitors dismiss the new system as a dream of the future, but it definitely provides plenty of potential for dis-

“When I started at Hamburg Messe und Congress in 2014, to me the SMM was love at first sight. It is the internationality and open-minded attitude of the participants, the innovative technologies that are being presented by the exhibitors and the profound knowledge which is being covered at the several conferences by many experts onsite that makes SMM unique.

My opinion is that SMM really accompanies and guides the industry when it comes to the green and digital transition that is going on these days. And that is a good feeling.”

### Claus Ulrich Selbach

Business Unit Director – Maritime and Technology Fairs & Exhibitions, Hamburg Messe und Congress



Source: HMC / Hartmut Zielke

cussion during the fair – and, in fact, will become mandatory on merchant ships within a decade.

Again and again, regions debut at SMM that want to become part of the global shipbuilding network. At the 17th event in 1996, for the first time, a shipyard from Indonesia takes part. The United States, this year’s partner country with a total of 70 exhibitors, announces with satisfaction: “Some of our companies made more contacts at SMM’96 than they do in the whole year.”

Another sector attracting attention is the ever-increasing scale and reach of ship automation. Faced with global competition, companies are focusing on strategies to raise productivity. One way is the implementation of computer systems. Software providers for computer-aided design (CAD) and computer-aided manufacturing (CAM) systems register a particularly high level of interest at their stands at SMM ’96.

The last SMM of the century attracts 1,191 exhibitors from over 40 countries and 35,000 visitors from over 50 nations. Schiff&Hafen reports: “Exhibitor record (...) SMM’98 counts more exhibitors than ever before in its 34-year history.” New in town: Vietnam, which uses the opportunity to present itself as the young, up-and-coming shipbuilding nation.

Official partner country is Finland, and the director of the Finnish Foreign



“SMM is really one of the best events on the maritime calendar, it’s truly global, and with its focus on innovation, you get to see the future of shipping. At DNV we’re always excited to be at SMM, because Hamburg is our home for shipping. This year, for the 30th SMM, we are proud to launch our flagship report – The Maritime Forecast to 2050. With a focus on fuel sustainability and the carbon-neutral fuels needed to reach decarbonisation, this year’s report is really going to give the industry a lot to discuss.”

**Knut Ørbeck-Nilssen**  
CEO, DNV

Source: DNV

Trade Association reveals that Finnish companies not only met many people, but above all the right people to advance their business. And the fair once again proves that it is a place where new technologies can find their way from developers to order books.

A rudder propeller is presented in which “the electric motor is located in a

nacelle outside the ship’s hull” – and instantly finds a buyer. A contract worth “several tens of millions of marks” is signed for the delivery of today’s well-established pod drives for two cruise ships.

**New millennium – new challenges**

At the turn of the millennium, SMM picks up speed again. The economic condi-



Highlighting innovations and encouraging dialogue and cooperation, SMM has always been an important platform to drive business forward



During the years SMM has become more and more international and selected “partner countries” were given the opportunity of presenting themselves and their domestic shipbuilding industries on a large scale

tions are finally more positive, with an upturn in new orders. Herbert von Nitzsch, chairman of the Blohm+Voss management board and chairman of the SMM advisory board, even speaks of a “boom time”.

Experts are more cautious, however, as prices are not rising despite strong demand. Anyhow, the upturn in the order intake provides the basis for a good mood during the fair. Schiff&Hafen comments: “The atmosphere was fantastic. The assessment of the fair happened from positive to very positive, nothing went below that.” For the first time, SMM wins the patronage of a German Chancellor, the then incumbent Gerhard Schröder. The industry sees this as a sign of appreciation and hoped for long-term benefits.

Although the financial situation of many maritime companies remains under pressure, the ensuing gatherings are characterised by optimism. The resurgent demand for newbuildings and the fact that SMM is an indispensable marketing opportunity – perhaps especially in difficult times – ensures a full house – 65,000m<sup>2</sup> of exhibition space in twelve halls are booked at SMM’02 and the participation of more than 1,400 exhibitors and 40,000 visitors is seen as a good sign.

This year, the supplier industry stages an offensive. And deservedly so. At this time,

around 70,000 people are employed across the sector in Germany alone, clocking up annual sales of EUR 8 billion. However, the ongoing expansion of the shipbuilding industry in China and South Korea gives cause for concern.

As in 1986, the official partner country is the People’s Republic of China. Hall 1 is occupied by a total of 43 Chinese exhibitors. Export conditions and competition conditions are in focus at discussions and of particular interest to German suppliers

“For the industry association VDMA, SMM as the world’s leading maritime trade fair has been in the focus of its activities since the very beginning. We are proud to have made a contribution to ensuring that SMM achieves the quality and internationality that we all appreciate so much about it. Personally, the SMM fascinated me for the first time as a student, in 1992. Since then, it has been an important part of my professional life. Keep it up, SMM!”

**Hauke Schlegel**  
Managing Director, VDMA –  
Marine Equipment and Systems



Source: VDMA

“For MAN Energy Solutions and for me personally, SMM has always been something to look forward to. It is a true crossroads for suppliers and customers, and all others interested in the fascinating world of the maritime industry. Our company has a long history of partnership with SMM and we are very pleased to be part of the celebration of this SMM edition #30.”

**Dr Uwe Lauber**  
 CEO, MAN Energy Solutions



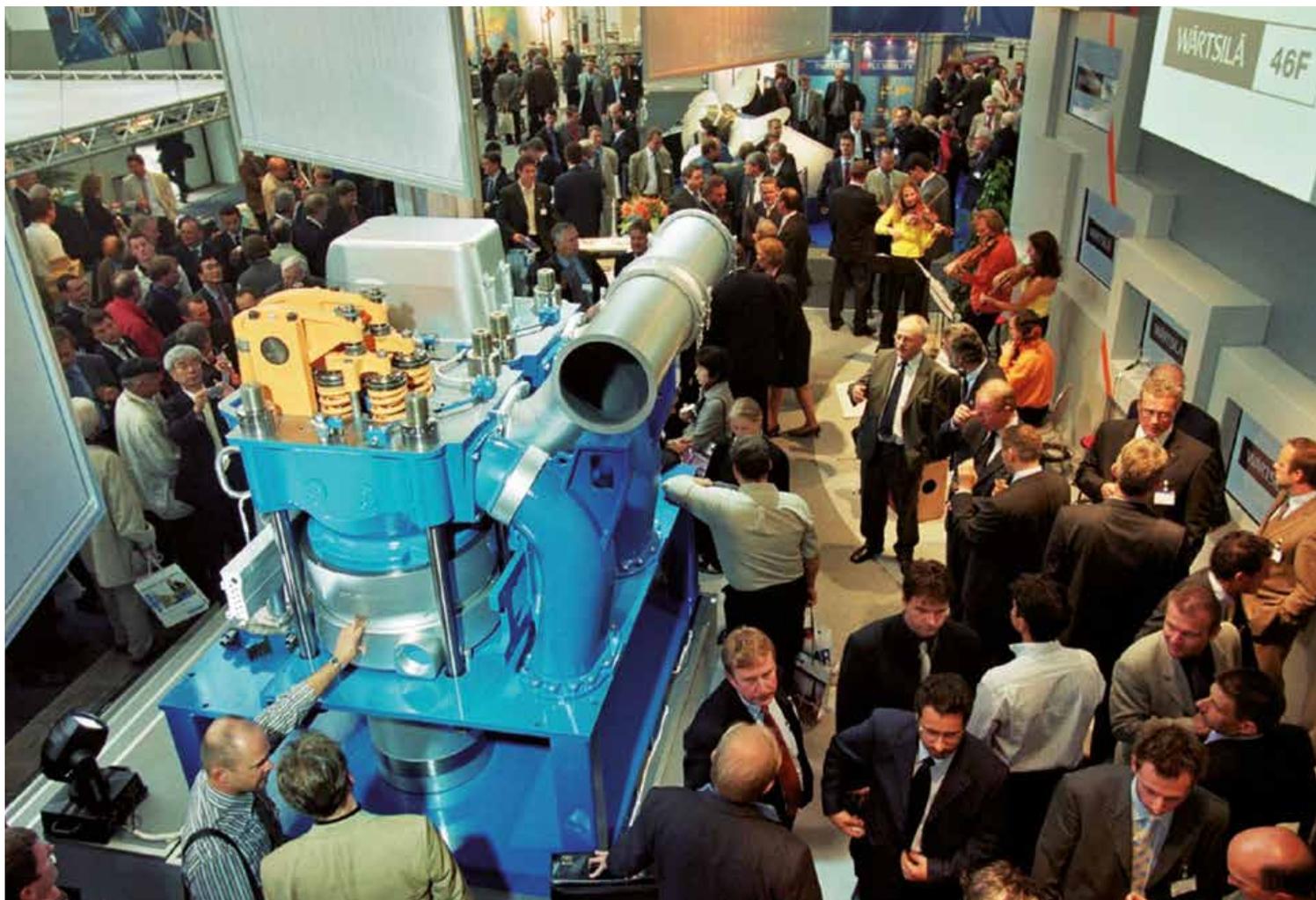
Source: MAN Energy Solutions

who typically generate about two thirds of their sales from export business.

With the growth of SMM, the exhibits brought to Hamburg seem to be constantly growing, too. At the 21st event in 2004,

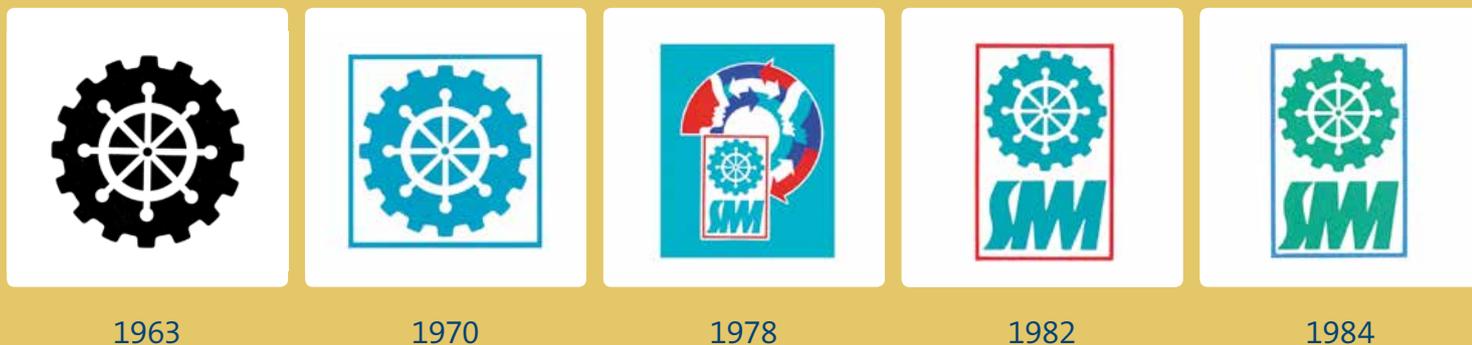
one exhibit surpasses everything that came before: 145 tonnes, a length of 9.58m and a height of 6.12m – the drive train presented in the booth of engine manufacturer Caterpillar Marine Power Systems is a heavyweight.

It is challenged only by the large ship propeller which is positioned every year as an eye-catcher in front of the fair entrance and has become an indispensable symbol for SMM. The giant of 2004 weighs 103 >



The number of exhibitors and trade visitors has risen steadily over the years. This year, around 2,000 exhibitors and 40,000 visitors from over 100 countries are expected to visit the world’s leading maritime trade fair.

## THE SMM LOGO THROUGH THE TIMES



tonnes, has a diameter of almost 9m and was manufactured by the Mecklenburger Metallguss GmbH/MMG. After the fair, it will travel to the Hanjin shipyard in South Korea to be installed on a container ship.

### Now, more than ever

The hard times, characterised by overcapacity and uneconomical freight and charter rates, continue to plague the maritime industry. Nevertheless, the companies at SMM'10 hold their heads up and present themselves and their innovations with determination. Over 50,000 visitors and 2,000 exhibitors, more than 100 of them attending SMM for the first time, come to Hamburg.

In the run-up, experts emphasise the signal effect for the entire industry. This year, the trade visitors can stop by 30 national pavilions, with Denmark, Norway, Finland

and the Netherlands traditionally represented among them, but also newcomers like Singapore.

The main attention is on two new and promising growth markets: environmental technologies and offshore. Accordingly, gmec, the “global maritime environmental congress” takes place for the first time, dealing with green, safe and innovative technologies, as well as the SMM Offshore Dialogue, which reflects the growing importance of the offshore market.

Better efficiency and green technologies – these topics will play an increasing role in the upcoming years. While rising oil prices have always been an incentive, stricter environmental standards like the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP) are now additional drivers.

At the 25th SMM in 2012, the use of LNG is much discussed, primarily for

ships that frequently operate within Emission Control Areas. Among others, systems are presented for ballast water treatment which filter alien species. The rush to the fair is unbroken. With 2,100 exhibitors from 67 countries and two thirds coming from abroad, SMM'14 is more international than ever before.

For the first time, the supporting programme is spread over five theme days. Subjects include Finance (SMM Ship Finance Forum); Maritime Environmental Protection (gmec); Maritime Security and Defence (MS&D); Offshore (SMM Offshore Dialogue); and Recruitment (Maritime Career Market).

In 2016, the crisis continues, but a new hope for the future emerges: digitalisation, with Industry 4.0 as an impetus for the entire industry. Also, green propulsion is given a high priority. In hall A5, among other things, the entire supply chain for LNG



Source: GMT

“I remember my first SMM in 1992, representing a marine technology company. Today, 30 years later, marine technology is an integral part of the world’s leading trade fair, and I am delighted to represent now this innovative industry for GMT. SMM opens its doors for the 30th time – after a four-year break – and welcomes the maritime world to Hamburg with the all-important face-to-face exchanges that no digital format can replace!”

Petra Mahnke

Deputy Chairman and Managing Director, Gesellschaft für Maritime Technik e.V. (GMT)



1988



2000



2008



2010



2022

in ports is mapped, including LNG bunkering procedures and storage infrastructure.

To make orientation around the floors of the trade fair easier, the range of exhibitors is divided into different theme routes for the first time, including the “Job Route”, “Digital Route”, “Green Route” and “Security Route”. Once again, numerous contracts are signed at exhibition stands. Meyer Werft books an order worth billions for three LNG-powered cruise ships for Carnival Corporation, and Siemens will equip the first cruise ship of the UK’s Saga Cruises with its SISHIP eSIPOD propulsion system, for example.

### The new age is digital

After years of crisis and consolidation, 2018 brings a slow, but noticeable recovery. Schiff&Hafen reports: “It is striking that the economic situation in the industry is assessed much more positively than in recent years.”

And that is also reflected in SMM’18 figures – 50,000 trade visitors, 2,289 exhibitors, 13 exhibition halls and 93,000m<sup>2</sup> of exhibition space. A special premiere is the visit of Kitack Lim, Secretary-General of the International Maritime Organization (IMO), who, among other things, speaks at a conference about the environmental policy agenda of the IMO.

Once more, the entire hall A5 is dedicated to green propulsion. The continuing importance of digitalisation is reflected in the name of the fair: SMM’18 is themed “Trends in SMMart Shipping”, and many stands are equipped with touch screens, simulators, and virtual reality glasses.

The “Maritime 3D Printing Show Area”, held for the first time, attracts a lot of attention, as well as the new Cruise & Ferry

route. Of particular interest is the interior business segment, which deals with the interior design of cabins on cruise ships.

Two years later, the corona pandemic hits the globe. SMM, traditionally taking place in September, is first rescheduled for February 2021, and finally moved to the internet. With 60 hours of streaming, more than 160 speakers, and a video message from the then-Chancellor Angela Merkel, the first SMM DIGITAL turns into a success.

According to Hamburg Messe und Congress GmbH (HMC), more than 7,000 viewers from 80 countries follow the programme online, asking the panellists questions via chat function and making use of the virtual networking opportunities. Bernd Aufderheide, CEO and president of HMC, sums up: “We are enthusiastic about the great response (...) of course, digital

offers do not replace physical events and personal exchanges between exhibitors and visitors, but they can be a useful addition in the future.”

From the Day of the Ship Engineer in 1963 to its first virtual steps – the “Shipbuilding, Machinery and Marine technology trade fair” is constantly reinventing itself and always stays up to date. When at SMM’22, the global who’s who of the maritime industry comes together again at the foot of the Hamburg television tower, this will be the 30th time. The initiators of the first “Schiff und Maschine” probably would never have dared to dream that their trade show would one day be the undisputed number one as the world’s leading trade fair for the maritime industry.

**Happy anniversary, SMM – to the next 60 years!**



This year, the trade fair grounds in Hamburg offer 90,000 square meters of exhibition space



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Stern tubeless ship design

Source: Thordon Bearings

# Stern tubeless ship concept

Canadian grease-free seals and bearings manufacturer Thordon Bearings will be fielding an executive team of technical experts at this year's SMM to answer questions about the stern tubeless ship, which received ABS type approval in June.

Working in collaboration with Shanghai Merchant Ship Design & Research Institute (SDARI-CSSC), National Technical University of Athens (NTUA) and ABS Global Ships System Center, Thordon Bearings has developed a ship design that

removes the need for a stern tube. According to the research parties, by simply reconfiguring the stern tube space with a shorter shaft and moving the engine further aft significant operational costs can be made, cargo capacity increased and the vessel's environmental footprint greatly improved.

Thordon's award-winning COMPAC Open Seawater Lubricated Propeller Shaft System, which is integral to the new stern tubeless ship concept, is already in use in more than 500 ships worldwide that oper-

ate water-lubricated bearings. The COMPAC bearing is a proprietary non-metallic polymeric material lubricated by sea water that offers advantages in bearing wear life predictability and reliability. According to the manufacturer, the bearing is also cheaper to maintain and easier to install than oil-lubricated systems. It meets classification society criteria for extended shaft inspections and withdrawals.

Thordon Bearings at SMM:  
Hall A4 / Stand 123



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A Rolls-Royce solution

# Presentation of new shaft power limitation system



EEXI platform launched by Datum Electronics

Source: Datum Electronics

UK-based Datum Electronics develops, produces and sells torque and shaft power measurement applications. At its booth, the company showcases its new shaft power limitation (SHaPoLi) system to control

greenhouse gas emissions – providing the necessary features and functionality to comply with the regulations MARPOL Annex VI, MEPC.335(76) and the Energy Efficiency Existing Ship Index (EEXI).

The new system offers dynamic shaft power measurement data from its well-established SPM application that automatically produces voyage reports in support of the regulatory port authority documentation requirements. This provides an easy and convenient way to evidence and ensure EEXI compliance.

The new system is being delivered just at the right time when vessel owners are having to work hard to meet EEXI regulations and switch to a new way of referencing power exceedance. This module will not only provide real-time logs for adhering to legislation but also provide valuable data that vessel owners can use to improve operations and achieve fuel savings and efficiencies across multiple vessel types for years to come.

The module will work in conjunction with other Datum condition-based monitoring products such as Datum Hawk, which provides condition-based monitoring of engines using digital twin analysis and dynamic torque measurements against baselines.

Datum Electronics at SMM:  
Hall B1.0G / Stand 332

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# Marlink rolls out new flexible VSAT service

Satellite communications company, Marlink, is expanding its VSAT options with the launch of Sealink 60, a new Ku-band service targeting smaller commercial, offshore, and fishing vessels. The new service comes with a range of flexible packages and is available with unlimited usage and data speeds of up to five megabits per second.

Sealink 60 has a choice of two lightweight 60cm antennas with different service plans, either with or without guaranteed bandwidth. The service is available in several regional coverage areas as well as for transits between different areas, the company said. It can be upgraded from regional to global coverage, with short-term bandwidth upgrades and up to six months of lay-up per year.

Tore Morten Olsen, Marlink president, Maritime, commented: "The introduction of Sealink 60 marks a further evolution of Marlink's VSAT services, since it will exclusively cater for vessels requiring reduced antenna size and maximum flexibility in terms of coverage and throughput. We understand that these smaller ships may regularly switch areas of operation or spend planned time in lay-up and we have



Marlink created Sealink 60 in response to growing demand for flexible connectivity from smaller vessel operators seeking to upgrade from L-band services to regional VSAT

Source: Marlink

designed our plans to deliver maximum value to our customers in these markets."

Marlink at SMM:  
Hall B6 / Stand 423

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# Broad portfolio on display



Nobistar 4 is a flexible propulsion control system for all propulsion drive Source: Noris Group GmbH

Noris Group GmbH stands for ship automation systems, measurement technology and visualisation “Made in Germany” and the company is using SMM to present its entire product range: from speed sensors, temperature sensors and indicators up to complete packages such as ship automati-

on systems, propulsion control systems and alarm, monitoring, and control systems.

The company’s products meet the requirements of all major classification societies, such as ABS, BV, DNV, LR, and others. In shipbuilding, the product portfolio in-

cludes propulsion control systems, alarm, monitoring and control systems for engines and gearboxes (IAMCS), power and energy management systems, control systems for pumps, valves, fans and other auxiliary systems, emergency order telegraphs and bridge designs.

When it comes to measurement technology and visualisation, the company offers a wide range of sensors for the detection and control of speed, temperature, acceleration, angle of rotation, wireless, etc. Also, analogue indicators in round or square design, different sizes, 360° indicators for rudder angle as well as an individual scale design are part of the Group’s product range including measuring transducers, limit value switches and multifunctional devices for signal processing.

Noris Group GmbH at SMM:  
Hall B6 / Stand 316

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# Expanded portfolio of navigation equipment

Danelec Marine is one of the leading manufacturers of voyage data recorders (VDR), electronic chart display and information systems (ECDIS) and ship-to-shore data systems, with more than 6,000 installations worldwide.

Danelec Marine is one of the leading manufacturers of voyage data recorders (VDR), electronic chart display and information systems (ECDIS) and ship-to-shore data systems, with more than 6,000 installations worldwide.

The company will launch new and updated products at SMM 2022 including a new version of its DM100 VDR. New developments in maritime IoT include an expanded secure data transfer system that connects to Danelec and third-party VDRs as well as directly to equipment performance monitoring systems



The voyage data recorder product family

Source: Danelec Marine AS

to accommodate the most modern vessels with high focus on maritime IoT.

DanelecConnect, the company's application agnostic digital platform continues to

be in the spotlight with new account management and subscription applications.

Danelec Marine at SMM: Hall B6 / Stand 525

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# Decision support tool for vessel optimisation

Kongsberg Maritime has launched EcoAdvisor™, an intelligent and dynamic decision support system for optimising a range of vessel operations.

EcoAdvisor is an outcome of a joint 'Intelligent Efficiency' research project between Kongsberg Maritime, vessel operator DOF Subsea AS, Sintef, NORCE and Innovation Norway, with the aim of developing technologies to monitor and reduce the greenhouse gas emissions during vessel operations.

The system monitors the vessel operation and its environment, including power generation, propulsion, environmental forces and control system dynamics. It enables operators to achieve reductions in fuel, emissions and maintenance costs, without compromising vessel redundancy margins or vessel operational efficiency, the partners said in a statement.

"EcoAdvisor demonstrates clearly how a decision support tool relying on the power of digitisation can help vessel operators remain competitive in a growing green market," said Odd Hagen, vice president Offshore sales, Kongsberg Maritime. "Several factors contribute to inefficiencies in maritime operations, such as multiple engines running at low utilisation, load variations, and large power fluctuations due to mission equipment and thrusters.

"EcoAdvisor creates an intelligent and comprehensive overview of all these factors, delivering advice that enables efficient, cost-effective and sustainable solutions to be made without compromising vessel redundancy margin. Further, the history log and reporting functions in EcoAdvisor can be used to determine the Energy Efficiency Existing Ship Index (EEXI) the Energy Efficiency Operational Indicator (EEOI) and Carbon Intensity Indicator



DOF currently has 'Intelligent Efficiency' pilot schemes running on its two vessels *Skandi Vega* and *Skandi Africa*

Source: Kongsberg Maritime

(CII) to ensure compliance with the IMO." EcoAdvisor works by collecting and analysing real-time data from various systems on board. These include dynamic positioning (DP), integrated automation systems (IAS), navigation and power management systems (PMS). This data is passed through a non-linear optimisation solver to find the optimal set up of the power plant for the current environmental conditions, considering the demand from various consumers including thrusters, mission equipment and hotel loads. The optimal load reference for engines and state of charge reference for batteries is computed based on their efficiency and power loss. Based on this analysis, operational advice is provided to the captain, DP operator and chief engineer as to what machinery (engines, batteries and thrusters) can be stopped to run the vessel more efficiently and sustainably. This advice is

dynamic – if a change in the mean weather conditions (wind, wave and current), power plant system or DP system settings is detected, EcoAdvisor's recommendations will be revised accordingly. All advice is backed up by a system overview indicating why these changes are desirable, how any steps will alter the balance between efficiency and redundancy margin, and what the real-time effect of the measures are.

Utilising EcoAdvisor's features on the optimisation of the use of generators, thrusters, and the setup of the power plant, while maintaining and ensuring safety during DP operations, DOF currently has 'Intelligent Efficiency' pilot schemes running on two vessels (*Skandi Vega* and *Skandi Africa*) and is expecting positive data from these.

Kongsberg at SMM:  
Hall B6 / Stand 104

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ALLIANCE





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).

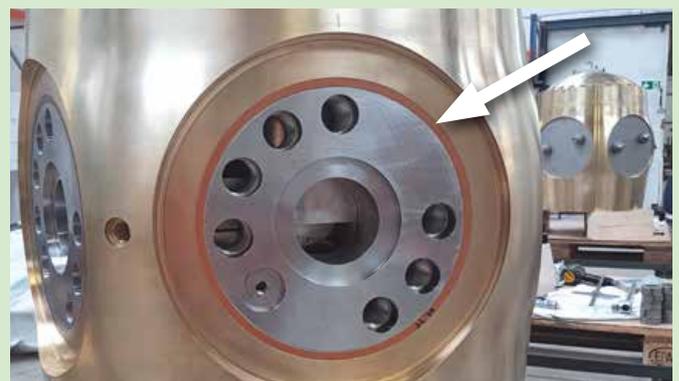
By using composites, the reconditioning of hubs and blade carriers is not necessary; only the components themselves have to be replaced. The hub does not have to be removed to undertake service works. And after all that, what is most important for the shipping industry: the costs for reconditioning will 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.



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

Source: Piening

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- ▶ No operational area restrictions

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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Hall A3  
booth 226

# Harnessing the power of wind

Norsepower, a global provider of auxiliary wind propulsion systems, is demonstrating at SMM how the industry can make crucial progress towards decarbonisation and emissions reduction by harnessing the power of wind. With the potential to be installed on new and existing vessels, Norsepower's Rotor Sails address the industry's mounting pressure to meet and exceed current and upcoming IMO regulations such as EEDI, EEXI and CII.

Demonstrating proven, third-party verified results leading to repeat orders, Norsepower is presenting the success from its recent installation on a second ferry for Scandlines. The company will also outline its agreement with NAPA to offer weather routing and voyage optimisation. This collaborative approach to promote innovation and greater



Norsepower Rotor Sails installed on Scandlines' vessel *Copenhagen*

Source: Norsepower Oy Ltd

efficiency delivers greater emissions savings and a positive return on investment.

During the trade show, Norsepower's experts will discuss how shipping can achieve decarbonisation and how clean technologies can be combined to maximise efficien-

cy and unlock opportunities to increase cost and emissions savings as well as facilitate a return on investment.

Norsepower Oy Ltd at SMM:  
Hall B1.0G / Stand 211

# Inmarsat launches shipping safety service

Satellite communications company, Inmarsat, has launched a new safety service, Fleet Safety, as a successor to its long-standing maritime safety system, Inmarsat C, following the successful completion of sea trials. The launch follows an assessment by the International Mobile Satellite Organisation and approval granted by the International Maritime Organization under Global Maritime Distress and Safety System (GMDSS) requirements.

Inmarsat has updated documentation and developed training material for seafarers so that they can make the most of the functionality in the new service. It has also added Fleet Poll, a data reporting service for Long Range Identification Tracking (LRIT),

Vessel Monitoring Systems (VMS), and Ships Security Alert System. The next stage is to gain flag state approval for adoption of the new system, Inmarsat said.

The new service is provided via Fleet Broadband or Fleet One voice and data services with the addition of a maritime safety terminal. It is easier to use, Inmarsat said, so that seafarers can access critical functionality more quickly and communicate with Maritime Rescue Coordination Centres (MRCCs) in an emergency. Now, a global network of more than 60 MRCCs can be contacted by voice or instant messaging in seconds, at the touch of a button.

New functionality also includes a Maritime Safety Information (MSI) interface allowing users to stream earlier broadcasts. A Distress Chat capability allows the creation

of chat rooms between ships in distress, responding vessels, and MRCCs, enabling faster response times.

Inmarsat Maritime's senior vice president of Safety and Regulatory, Peter Broadhurst, said: "To this day, Inmarsat C forms the backbone of the GMDSS, with more than 100,000 marine terminals having safeguarded the lives of seafarers for over 30 years. However, as we move further into the digital era of shipping, technology can be used for enhanced safety and also provides new ways of tackling emerging challenges. The launch of Fleet Safety marks a turning point in the way satellite communications ensure the preservation of life at sea."

Inmarsat at SMM:  
Hall B6 / Stand 116

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The loggia-cabin window system

Source: Marine Glazing Brombach + Gess GmbH & Co KG

# Innovative window systems for cruise vessels

Marine Glazing Brombach + Gess is specialised in glass bonding for the shipbuilding industry. During SMM, the company presents its wide portfolio of glazing solutions – including a loggia-cabin window system. Through intelligent use of space, this system provides more comfort and privacy in passenger cabins than conventional balcony cabins, in which the outdoor area can only be used in appropriate weather conditions.

The new cabin type is delineated by a vertically sectioned panoramic glass front. The upper pane can be lowered in front of the fixed pane and, together with the movable handrail, forms a glazed balustrade. When closed, the two panes form a room-height, sealed glass facade. This concept ensures absolute weather resistance.

Another turnkey product is the Balustrade Move System, which is used where flexible design is required to transform particularly

windy places into cozy corners – such as for outdoor restaurant patios or sun deck areas. The system can either be a new installation or upgrade existing balustrades. The movable pane is extended by lightly pressing onto the edge of the glass which transforms the railing into a windbreak. Lowering the movable pane is possible in a similar way.

Brombach + Gess at SMM:  
Hall B5 / Stand 310

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Tradition and modernity: Hamburg has a lot to offer (in the foreground: river Elbe with “Elphie”, modern buildings of HafenCity and the historical warehouse district. In the back on the left: City centre with Inner and Outer Alster). Source: Mediaserver Hamburg/Andreas Vallbracht

# Welcome to Germany’s Maritime Capital!

Gate to the world, Venice of the North, Broadway on the Elbe River Hamburg has many names. Either way you put it, Germany’s second biggest city is always worth a trip at least when it comes to the 111 million visitors each year, or the “New York Times” and “Lonely Planet”, which rank Hamburg among the top destinations in the world. Located at the confluence of the Alster and Elbe Rivers, with a direct link to the North Sea some 100 kilometres downstream, it is no wonder Hamburg became an early centre of international trade. The legacy continues: Hamburg has the biggest and busiest harbour in Germany, and it is one of the wealthiest cities in the country, with very high quality of life. “A pearl”, as its inhabitants refer to it affectionately. Its maritime spirit still infuses the entire city especially at the time of SMM, but also in everyday life.

## HAMBURG BASICS | PART 1 Harbour tours

For those who cannot get enough of ships, a tour around Hamburg’s port is always a

good place to get a feel for its pulse. The public water taxi HADAG-line 62 is likely the most popular ferry in town. Actually, the means of transport for commuters, it is now an inexpensive alternative to the traditional harbour tour. The ferry starts from Bridge 3 and travels down the Elbe, stopping at the Fish Market with its many restaurants, the iconic Dockland and finally the Oevelgönne Museum Harbour, just a stone’s throw away from the Elbe beach. Those who remain seated cross the Elbe to Finkenwerder and return from there to Landungsbrücken.

## Portuguese Quarter

Coming off the launch you may want to stroll through the charming small neighbourhood around Ditmar-Koel-Straße that is typical of Hamburg, yet completely unique at the same time. Life here was always modest, the dock workers once lived here, there were dockside bars, the seaman’s mission and Nordic seaman’s churches, the latter still exist today. Portuguese immigrants arrived in the 1970s, giving the neighbourhood its name. The

best place in town - some say in Northern Europe - to sample authentic tapas, fresh seafood and Portuguese wines. A beloved ritual for many residents: every workday at 10am and 9pm, the trumpeter of the nearby “Michel” Church plays a solo from the bell tower.

## Elbphilharmonie

The Elbe Boulevard, a flood protection system designed by star architect Zaha Hadid, will lead you to Hamburg’s new cultural landmark. Its glassy rooftop built above an old brick warehouse resembles a hoisted sail and has some of the best views in the city. Responsible for the spectacular architecture: the Swiss office of Herzog & de Meuron. Its concert hall designed by Yasuhisa Toyota is said to be one of the most acoustically advanced ever, attracting world-leading orchestras and musicians. Since its opening five years ago, “Elphi” has firmly established itself as a crowd favourite. With concert tickets selling out quickly, many visit purely to experience its breath-taking architecture.



The warehouse district (left) and Hamburg's new landmark "Elbphilharmonie"

Source for all pictures on this page: Mediaserver Hamburg/Julia Schwendner

### Speicherstadt

A short walk from Elphi will take you to the largest historical warehouse district in the world. Built on 3.5 million oak piles, quartermasters stored coffee, tea, spices and cocoa here until the 1990s. The area houses many tourist attractions such as the amazing "Miniatur Wunderland", the largest model railway system in the world, which has in fact been voted the most popular tourist attraction in Germany. Only a few steps away is Deichstraße, an old merchant street, which today houses numerous excellent restaurants and pubs.

### Musicals

Hamburg is the third largest musical metropolis in the world after New York and London. Perennial favourite: The Lion King at the Stage Theatre in the middle of the harbour, which has been a hit since 2001 and can look back on more than 7,700 performances. Still, there is no end in sight. And the next hit is already on the horizon: "Frozen", a Broadway production brought to the Elbe last November, also runs like a charm.

## > USEFUL LINKS

**HADAG ferries (hvv.de):** With a normal HVV ticket for local public transport, you can easily use the seven lines of the harbour ferries. These start regularly from Landungsbrücken to the various piers along the Elbe. Price: from EUR 6.90 for the 9am Day Ticket.

**Elbphilharmonie (elbphilharmonie.de):** Guided tours can be booked online in German or English. Price: EUR 20. Group tours in various languages possible. Those who just want to enjoy the view from the plaza can purchase tickets online for guaranteed admission (EUR 2 p.p. for one hour) or try their luck free of charge at the entrance between 10am and 11:30pm (last entrance).

**Miniatur Wunderland (miniatur-wunderland.de):** Open 365 days. Opening hours this week: 8am to 9pm Monday Wednesday and Sunday, 8am until 1am on Thursday, 8am until midnight on Friday and 7:30am until 1am on Saturday. Price: starting from EUR 15. Booking ahead is highly recommended!

**Musical "Lion King" (stage-entertainment.de):** The journey from Landungsbrücken to the Serengeti takes ten minutes by ferry. The Lion King runs eight times a week. Price: starting from EUR 72.90.



View of Landungsbrücken and harbour in Hamburg



Bridge 3 is the starting point for traditional harbour ferry tours

# YOUR EYES IN THE DARK

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