



The future of maritime arrives

What does the Digital Revolution mean for the maritime industry and what are the technologies that drive innovation? For the second time, the **Maritime Future Summit**, once again co-organized by HANSA, will kick off SMM with a top-class cast to discuss chances and challenges.

Top class panelists

One key subject at this year's SMM will be »Smart Shipping«, which will also be covered by the »Maritime Future Summit« that is. For the second time after 2016, the Summit will mark the start of SMM with a cast of top class panellists. High-level experts and executives from different parts of the industry

and big data through to Artificial Intelligence (AI), new technologies have the potential to revolutionise global shipping.

»Mind the gap – bridging disruptive technologies« is the appropriate theme for the Maritime Future Summit (MFS), which will take place on 3 September. SMM, the leading international maritime trade fair, will open its doors the following day. At the MFS, two high-profile expert panels will discuss how digitalisation and other megatrends can be leveraged to make the shipping business more transparent and efficient, and how to best prepare the sector for the future.

The first ever »Maritime Future Summit«, co-hosted by HANSA, kicked off SMM in 2016. More than 120 industry experts attended the event. A quick look

Birkeland« will be built by Vard and will be launched next year. Admittedly just a coastal carrier, but everybody has to start at some point.

Paolo Tonon, VP Head of Maersk Maritime Technology, could not totally agree with the tech enthusiast: »I don't forecast a containership without a crew, at least re-design of ships and components will take 30 to 40 years,« Tonon said.

Denis Morais, president and CTO of shipbuilding software provider SSI saw shipbuilding at a tipping point, as a whole collection of different drivers pushes for innovations: »Innovation will accelerate itself and we will have more and more tools in our toolbox to solve problems.« In his opinion, infinite computing will open up new possibilities and integration of customers in the design process will ensure faster feedback loops.

Willie Wagen, Director Market Innovation, Wärtsilä, saw »the marine industry under disruptive attack« by trends such as digitalization and green technologies. But, in line with all panellists, rather than challenges, he saw chances for new business models for old players – and for new ones, that enter the market with new ideas.

Keynote speaker Knut Ørbeck-Nilsen, CEO of DNV GL – Maritime, also predicted an increasingly complicated framework for shipping. To tackle the environmental and economic challenges in the shipping industry, Matthias Schulze,



spectrum will present and discuss challenges and innovations that are likely to shape the shipping industry of the future.

Think the previously unthinkable

»With the »Maritime Future Summit« we want to give the SMM actors room to think the previously unthinkable,« says Bernd Aufderheide, CEO of Hamburg Messe und Congress. From digitalisation

back shows, how topics have evolved within two years. One of the high-ranking speakers was autonomous shipping guru Oskar Levander, VP Innovation of Rolls-Royce Marine. »In ten years we will have the first unmanned commercial application. Maybe in 20 years 10% of the world fleet will be unmanned,« Levander said back then. Just a few days ago, Kongsberg and Yara ordered the first unmanned container ship, the »Yara

SMM area plan



Conference Programme

monday 3 september	tuesday 4 september	wednesday 5 september	thursday 6 september	friday 7 september
Maritime Future Summit	SMM	SMM	SMM	SMM
	TradeWinds Shipowners Forum	gmic	Offshore Dialogue	MS&D
			MS&D	Maritime Career Market
			MS&D Reception ¹	MariMatch
			MariMatch	

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Head of Siemens Marine, proposed hybrid ships as a solution. He pointed out the need to adopt several approaches for the best possible solution. Future-oriented green and innovative shipping projects have a good chance to attract investors, as became clear when Carsten Wiebers, Global Head of Maritime Industries, KfW IPEX, explained the position of a major financier.

Whatever the ship of the future will look like: digitization and big data will enable it. Benjamin Vernooij, Internet of Things and End User Computing Lead, Dell OEM Solutions, shared his thoughts on the challenges that huge amounts of data collected by sensors will bring. »Gathering the data is nothing new or complex anymore, but how to make use of the data and get value out of it,« he asked.

What is the situation of the maritime industry two years later, what has been achieved technology-wise?

Business in disruptive markets

At this year's MFS, Hubert Hoffman, CIO and CDO of MSC Germany, will speak about »New thinking in shipping – a liner company's perspective«. As Hoffmann stated in a previous interview with HANSA (see issue 12/2017), he is convinced that the »old economy« is capable of having smart start-up ideas, too. »The world is different today, but shipping and logistics still work with a 1930s mind-set. We have to think differently and keep asking if we are still on the right course,« he said. Shipping should come up with own solutions – before others do – and MSC wants to be at the forefront when processes in shipping are turned upside down. Certainly Hoffmann can be expected to spark most interesting discussions at the Maritime Future Summit.

The business side of shipping has to adapt to digital trends and maybe wid-



Photo: MSC

Hubert Hoffmann of MSC Germany wants the shipping industry to adopt a 21st century mindset

en its focus from being just an ocean carrier to covering more parts of the supply chain – and to first and foremost do so more efficiently, harnessing the technological possibilities of the 21st century. Internet giants like Google, Amazon or Alibaba may have their digital technology but nobody knows ocean transport markets better than maritime companies themselves. The best ways for shipping companies and ports to position themselves in disruptive markets will be the subject of a lecture by Mikko Lepistö, Director of Software and Automation Operations at ABB Marine and Ports Business.

Christian Roeloffs, Managing Director of Container xChange, will explain how increasing network integration of all stakeholders and an ever more sophisticated supply chain management approach can improve efficiency, ultimately building competitive advantage through lower costs.

Ulf Siwe is one of those who strive to make shipping more efficient and safer from an authority point of view, introducing new and smart technology to the sector. Siwe is the leader of the Swedish Maritime Administration's project Sea Traffic Management and has titled his presentation »Beyond Sea Traffic Management – a vision for future shipping«. The EU-funded STM project aims to standardize information exchange and enable interoperability between ships' and ports' systems. By providing vessels with the ability to see each other's planned routes, navigators also can see how surrounding vessels influence their own voyage. Using these data, other services would be able to produce valuable information and offer advice to vessels on their routes.

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DNV GL FORUM

SMM East Entrance - free of charge

Tuesday, 4 September

- 14.00 Environmental regulations:**
Focus on sulphur cap and IMO greenhouse gas strategy
- 14.45 Current status of alternative fuels and technologies in shipping**
Status and outlook for alternatives to conventional oil based ship fuel
- 15.05 Wärtsilä:** Roadmap towards 2050 climate targets
- 15.25 MAN:** Propulsion of ships towards the year 2050, using low-carbon fuel
- 16.00 Beyond 2020:**
Future-proofing ship designs

Wednesday, 5 September

- 10.00 Cargill:** Global CO₂ challenge
- 11.00 Today's class is digital:**
New solutions and service offerings
- 11.45 Cyber security by design:**
From operations to newbuilding
- 12.45 Autonomous and remotely operated ships:** DNV GL's position and guidance
- 13.45 Digital Twin and Open Simulation Platform**
- 14.30 Veracity:** DNV GL's data platform for the maritime industry
- 15.15 How to save fuel with data?**
Fleet performance solutions

Thursday, 6 September

- 10.00 TenneT:** Filling knowledge gaps:
Assessing effects of accidental explosions of unexploded ordnance on offshore installation assets
- 11.00 Meyer Werft:** LNG: The best fossil fuel and a bridge to renewables
- 12.00 AG EMS:** LNG propulsion experience
- 13.30 MAN:** Latest engine news:
Two stroke / four stroke, the new MAN LGIP / the new MAN 45/60CR
- 14.30 MTU:** Cooperation and challenges / new technologies
- 15.30 Pella Sietas:** Newbuilding of an emissions-reduced ferry



Mikko Lepistö, ABB, asks how shipping companies and ports should position themselves in disruptive markets



Ulf Siwe of the Swedish Maritime Administration is going to share his »vision for future shipping«



Wu Sun of classification society CCS, examines technical and legal aspects of autonomous shipping

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Currently the validation phase is running to demonstrate the concept in large-scale tests. Ultimately, standardised information sharing will be a key element in the logistics network and have a significant impact on trade flows and business models, the people behind Sea traffic management think.

Autonomy arrives

A few years ago, autonomous shipping seemed to many like a castle in the air, that only not so down-to-earth enthusiasts dreamed about and wasted money on – let alone the danger for traditional seafarer's jobs, that many saw. Today, the maritime world has seen the first real world remote and autonomous operations of vessels. Numerous research institutes and companies are currently conducting intense research into auton-

omous shipping, authorities in a growing number of countries have established dedicated test areas at sea or are planning to do so. According to the SMM Maritime Industry Report (MIR), one third of responding decision-makers in shipping companies believe that unmanned ships can realistically be expected to be in commercial use within the next 20 years. The afore-mentioned initial tests have proven that the technology is basically available – only regulation seems to lag behind, partially stemming from the time when ships still used sails. So, who will be liable if something goes wrong with an unmanned vessel? In his speech »Autonomous shipping – legislation and liability« Wu Sun from the Chinese Classification Society CCS will examine the technical and legal aspects.

What else is on the horizon ship technology-wise? The Japanese National Mar-

itime Research Institute (NMRI) has conducted a comprehensive research project. Its scientific director Kohei Matsuo will present the results. The »Technology Roadmap to 2050« will provide some insights into the changes innovative technologies will bring about for both, the shipping and shipbuilding segments. Under the aegis of the Japan Ship Technology Research Association (JSTRA), the scientists studied innovative technologies from a variety of industries and countries. New technologies from all sectors – some untested so far, some already successfully deployed – might turn out to be incremental for the development of ships of the future. In 2017, Kohei Matsuo has won the HANSA Inspiring Visionary Award for his contribution to the HIPER conference in Cape Town. It won't be hard for him to inspire the audience and panellists at the MFS as well.



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Nick Danese of NDAR sees design and production processes change through 3D printing and »smart factories«



Christian Roeloffs, Container xChange knows how increasing network integration can lead to a competitive advantage



Kohei Matsuo, JSTRA, studied innovative technologies from a variety of industries and their possible use in shipping

Digitally mirroring real-world processes and events in real-time can help to push ship operation, maintenance and construction to the next level. The head of the research department of DNV GL Maritime, Pierre C. Sames, will look ahead to the year 2030: How will Artificial Intelligence and the use of Digital Twins change the way classification societies work? Design and production processes will likely change as well in the future – an interesting trend for an industry that in many respects still has not adopted a 21st century mind-set. As for manufacturing, 3-D printing technology and the evolution of Smart Factories based on process automation using robots and algorithms will cause major structural upheavals. Nick Danese, CEO of the French engineering firm NDAR, refers to this development as a »wake-up call for the ship-building industry«. »This topic will be

supplemented by a special exhibition on 3-D printing, including live demonstrations, right here at the fair complex,« says Claus Ulrich Selbach, Business Unit Director Maritime and Technology Fairs at Hamburg Messe und Congress.

»The Maritime Future Summit is of vital interest to any stakeholder of the maritime sector who wants to remain competitive,« says Krischan Förster, Editor-in-Chief of HANSA – International Maritime Journal, which is once again the media partner of the MFS. The event will be chaired by Professor Volker Bertram of World Maritime University. During the subsequent four days, SMM visitors will be able to study in practice at the Hamburg Messe fair complex what the panel experts have discussed in theory, for example by following the Digital Route. Numerous technical innovations will be on display, there will even be a



Pierre Sames of DNV GL looks ahead on how Artificial Intelligence and Digital Twins will change a class society's work

demonstration area for 3D printing. »Trends in SMMart Shipping«: The theme for this year's leading international maritime trade fair definitely taps the pulse of the industry. *fs*

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Photos: HMC

Big focus on »SMMart Shipping«

In the first week of September, the Who's Who of the maritime industry will meet in Hamburg for SMM. Under the motto of »Trends in SMMart Shipping«, the event in 13 halls (see inside back cover for area plan) will focus on all the top items on the industry's agenda.

Around 50,000 international visitors are expected to attend SMM, and more than 2,200 exhibitors will be present. For the first time there will also be a special exhibition on 3D-printing for the maritime industry, as well as a new theme route for the cruise and ferry segments. A comprehensive conference programme will accompany the four-day fair.

Top items on the agenda will be the digital revolution, eco-friendly propulsion technologies, new growth opportunities and the challenges associated with disruptive markets. During a high-level discussion at the forefront of SMM, Martin Stopford, the non-executive President of the maritime consultancy Clarksons Research, named digitalisation a key driver of increased efficiency within the sector. However, the expert cautioned, a step-wise approach would be advisable: »It is better to do something simple that delivers for your business, rather than getting disappointed with attempting something too ambitious that fails,« he stressed. A »Smart Shipping Toolbox« could help to build smarter ships, manage fleets smarter, and ensure logistics are really efficient,

Stopford said. The goal would be an integrated transport service.

As Kjersti Kleven, Co-owner and Board Member of the Norwegian shipbuilding group Kleven Maritime AS and Chairwoman of SEA Europe, the Shipyards' and Maritime Equipment Association, reported, shipbuilders are increasingly able to benefit from the enormous advances in robotics. In the age of digitalisation, investments in research and development were of paramount importance for the industry, she said. As for 3D printing, the realisation of many ideas would still be a long way off, but the technology held a lot of promise and could give rise to new business models, Kleven added.

Shipyards are prepared

Referring to the fact that new regulations on CO₂ emissions and ballast water management are actually likely to stimulate the business of shipbuilders and suppliers, she simply stated: »We will build everything the market demands.« However, it would not always be easy for customers to identify the most suitable technology. While the situation in some market segments has improved, the survival of many shipyards and suppliers depends on niche markets such as the cruise ship segment, which has seen an unprecedented boom in Europe, as Kleven pointed out. She hopes the offshore segment will recover, as well. At the same

time she stressed the importance of knowledge transfer into new and attractive fields such as marine research, deep-sea mining and the utilisation of Arctic resources.

Contributing the perspective of a major supplier, Wayne Jones, Member of the Executive Board – Global Sales & Aftersales at the engine manufacturer MAN Diesel & Turbo SE, called the recent decisions made by the International Maritime Organization IMO, regarding the reduction of greenhouse gas emissions, »an enormous success«, admitting that the goal is very ambitious. It is therefore very important for the entire industry to support this decision: »We have been promoting a maritime energy transition for years, and we are committed to driving a CO₂-neutral global economy that includes shipping,« Jones emphasised. »We firmly believe that the switch to low emission gas fuels is the silver bullet to decarbonise international shipping,« he added.

Radiating confidence in the future of shipping, Knut Ørbeck-Nilssen, CEO of DNV GL – Maritime, was sure that the »digital transformation will forever change the shipping industry and pave the way to new business models.« For example, he said, detailed, real-time cargo and route information as well as data relating to the operation and condition of the vessel and

Facts & Figures

- SMM takes place for the 28 th time
- Its honorary patron is Dr Angela Merkel, Chancellor of The Federal Republic of Germany
- The fair will reflect the entire value chain of the maritime industry
- Around 50,000 visitors from more than 120 countries are expected to attend
- More than 2,200 exhibitors from 69 countries will be present at Hamburg Messe und Congress (HMC)
- 29 national pavilions
- 24 political, business and international naval delegations (as of August 2018)
- More than 93,000 qm² of exhibition space in 13 halls
- Hall A5 with focus on Green Propulsion
- Five subject matter-specific conferences with 70 international speakers
- The Green, Digital, Security, Cruise & Ferry, and Job Routes will direct visitors to relevant exhibitor stands

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its components will make future supply chains much more adaptable and efficient.

»The development and spread of cloud based technologies and computer power will change not only how we manage data but how we design, build and test vessels, their systems and components,« he said. Even today digital solutions are unfolding their economic potential in concrete ways: For instance, the classification society uses drones equipped with cameras to inspect structural elements in ships, tanks or offshore installations. Since last October, customers have been able to manage ship certificates in electronic format. More than 100,000 certificates for about 8,000 ships have been issued by DNV GL to date. Apart from increasing the efficiency of operational processes, digitalisation will also improve safety on board. »The new level of decision support will give us better control over assets and systems, increase onboard situational awareness, and reduce human factor incidents and operational risk,« said Ørbeck-Nilssen. Kjersti Kleven agreed that major advances in this field lie ahead: Another innovation, the »digital twin« of a ship, provides ship owners and ship builders alike with an entirely new level of data transparency, allowing them to sell added value with their ships by optimising operation or maintenance.

Reducing complexity, enhancing transparency: This is where MAN's Wayne Jones sees the key benefits of digitalisation. To aggregate all the different data collected separately in a variety of storage locations, a joint platform for the entire industry is under development. Jones emphasised the importance of protecting data privacy and security, announcing a major digital innovation developed by his company to be showcased at SMM. Cybersecurity is also

the subject matter of a joint project undertaken by the classification societies organised in the IACS, Ørbeck-Nilssen reported. The organisation is also developing a common terminology for different levels of autonomous ship operation. »This is a



highly interesting field which is developing fast,« shipyard owner Kleven added. The first autonomous ship will be contracted very soon, she said. However, many technical and legal questions must be answered before this technology can even be considered for large container ships, interjected Hapag-Lloyd's COO Anthony Firmin.

Bernd Aufderheide, CEO of Hamburg Messe und Congress (HMC), promised that all these forward-looking topics were going to play a key role at SMM. In particular, the conferences focusing on digitalisation, environment, security and defence as well as deep sea mining and polar research would impart crucial knowledge

the industry needs to tackle present and future challenges. »We want to deliver concrete answers to the industries most pressing questions,« he said.

Both emerging and well-established companies present the entire value chain of the maritime sector in the exhibition halls of HMC. As appropriate for the age of the digital revolution and the maritime energy transition, this year's SMM will put its main emphasis on digitalisation and the environment.

One important aspect of this year's SMM is cyber security. In the hunt for enhancing transparency and boosting efficiency big data has arrived in the shipping industry. But besides opportunities, network integration also harbours risks. At MS&D, the International Conference on Maritime Security and Defence, experts will outline how maritime enterprises can protect themselves effectively against cyber-criminals. Threats originating from climate change, and security policy challenges are further items on the agenda.

According to the Global Risk Report 2018, the number of cyber attacks against companies has nearly doubled over the past five years. The shipping industry has not remained unscathed. Last year, industry leader Maersk was the most prominent victim of a hacker attack, this year China's COSCO followed just recently, suffering attacks on their IT systems in the Americas region.

The leaders of the shipping industry are well aware of this challenge. 80 % of them consider cybersecurity as an »important« or »very important« issue, the current SMM Maritime Industry Report

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(MIR) concludes. This will be the tenth time this conference featuring top-ranking experts takes place.

Geostrategic consequences of global warming will be another major topic at MS&D. According to recent research done by the University of Colorado at Boulder, coastal sea levels will rise by an average of 65 cm by the year 2100 compared to 2005, twice the increase previously predicted by most experts. A dangerous scenario, especially for ports and coastal communities. Amid refugee crises, regional tensions and international terrorism, navies and coast guards around the globe respond to new threats by updating and expanding their capacities – to be discussed at MS&D.

Green Shipping makes headway

Of course, the huge topic of »Green Shipping« won't be ignored in Hamburg, too. Bringing effective ballast water management and a lower sulphur limit for ship fuels, new, stricter environmental regulations are forcing the shipping industry to take action.

The countdown is on: The IMO's new 0.5% limit for sulphur content of ship fuels will take effect on 1 January 2020. »There is no turning back. The lower sulphur limit will have a significant positive impact on the environment and on human health, especially for people living in port cities and coastal regions,«

said IMO Secretary-General Kitack Lim on occasion of the meeting of the IMO's Sub-committee on Pollution Prevention and Response in early February.

LNG is one possible way to comply with this regulation: According to the SMM Maritime Industry Report, as many as 44% of all ship owners are considering liquefied natural gas propulsion for their newbuilds.

Around the world ship owners are facing the challenge of having to make far-reaching decisions: Will low-sulphur fuel be available in sufficient quantities at reasonable prices? Are exhaust gas scrubbers a smart investment? Or would it be better to opt for LNG right away? In exhibition hall A5, which will be dedicated to Green Propulsion with a special focus on LNG, decision-makers will be able to meet up with experts to get advice and study technical solutions hands-on.

As for ballast water management (BWM), the IMO is granting shipowners a transitional period before they must fully comply. Meanwhile, the industry is working full speed on implementing the BWM Convention which took effect in 2017. This necessitates investments in the order of billions of euros. In a study of the global ballast water management market between now and the year 2026, the U.S. market research firm Stratistics MRC forecasts a growth rate of nearly 40% – per year. Understanding which types of BWM system are suitable for a specific ship type, and which of these systems meet both the IMO

rules and the stricter U.S. Coast Guard requirements is challenging. »Numerous manufacturers are reporting record numbers of incoming orders,« says Claus Ulrich Selbach, Business Unit Director – Maritime and Technology Fairs & Exhibitions at Hamburg Messe und Congress (HMC).

This year's fair will again feature various theme-based routes to help visitors find the exhibition highlights they are looking for. »We have added a Cruise & Ferry Route to our programme,« says Selbach. »From the engine room to the bridge through to passenger cabins, this route spreads out the entire value chain before our visitors.«

Cruise industry as pioneer

When it comes to eco-friendly ships, the cruise industry is one step ahead of most other shipping segments, not only in response to increased environmental awareness among passengers but also because the many highly sensitive waters visited by these ships must be protected. It is the segment's goal to minimise the effects of every trip on the marine environment and on coastal regions. Here again, LNG ship fuel plays a key role. For example, AIDA ordered their third LNG-ready cruise vessel from Meyer Werft. The Japanese NGO Peace Boat's Ecoship concept likewise favours LNG power. Next to its dual-fuel engine, the vessel will feature ten retractable, rigid sails doubling as photovoltaic panels as well as wind turbines, and an additional 6,000 m² of on-deck solar panels. ED

Novelties

- **3D printing:** Similar to the automotive and aerospace industries, the maritime sector has no choice but to embrace the complex topic of additive manufacturing. From propellers and components to entire ships, there is hardly anything additive manufacturing will not be able to make one day. 3D printing technology is still in its infancy, but experts agree that it will forever change the global flow of products; at the same time, however, it may open up entirely new perspectives for shipping. For example, by creating the ability to provide spare parts just in time at any place in the world. Arranged together with the Northern German Maritime Cluster, the special exhibition on 3D printing in the maritime sector represents a global debut. In Hall B6 visitors will be able to talk to experts, and witness live presentations of additive production processes.
- **Cruise & Ferry Route:** Well-known companies from the Cruise & Ferry segment will not only occupy the entire Hall B5 but also parts of Hall B8. The new Cruise & Ferry Route will help visitors identify additional relevant exhibitors.
- **Future-looking topics:** The Offshore Dialogue on 6 September will focus on topics such as Arctic technologies and deep-sea mining.
- **Cyber Security:** The maritime security conference MS&D will last two days this year (6 & 7 September) with cybersecurity as one of the main topics.
- **Job exchange:** The Maritime Career Market on Friday (7 September) will for the first time offer interested young talents an information forum with lectures on maritime job profiles, and advice for job applicants.
- **New countries:** Poland, Estonia and Panama will be represented by national pavilions. Namibia will celebrate its fair debut as an individual exhibitor.

Try out instant 3D hub

From September 4 to 7 at SMM 2018 in Hamburg, Fraunhofer IGD will present the possibilities of efficient 3D data use applying augmented reality glasses.

»Maritime 4.0« is the current buzzword in the maritime industry and includes the digitization of all processes from planning through design to maintenance. The abundance and heterogeneity of data, however, poses problems for many companies. The 3D data are an essential part of the so-called »digital twin,« however they are often only accessible to specialists using expensive, complex software and powerful hardware.

Fraunhofer IGD's webVis/instant3Dhub technology overcomes these limitations and grants all authorized users access to up-to-date 3D data. These data can easily be linked to available sources from other areas (e.g. planning, logistics, purchasing) and thus provide intuitive and efficient access to a wide range of digital data in the company or in a corporate network.



Source: Fraunhofer IGD

With 3Dhub a broad range of processes can be supported digitally

Data processing is key

Specialized data processing is key, along with the consistent use of web technologies and open standards. Skillful interaction between server and client enables even complete models of a ship or an off-shore platform to be visualized in real time. The user can utilize a desktop PC, a tablet, or augmented reality glasses for visualization and interaction.

According to the Fraunhofer experts, clients benefit from the advantages of the web-Vis/instant3Dhub solution in several ways. First, no installation of software is required on the device. A current web browser is sufficient. Second, low-end devices can also be used for visualization. The server then takes over the rendering of the 3D data and sends a video stream to the device.

Based on the sole visualization of the 3D data in the browser, web applications can be developed in a simple manner. The applications may then be utilized, to realize a particular view of the data or support a concrete process step, for example.

With the help of instant3Dhub a broad range of processes in the company can be supported digitally, which saves time for obtaining information, improves the quality of decisions, and avoids errors caused by accessing obsolete or incomplete data. ■

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»Shipping cannot just sit back«

IMO has, to date, adopted more than 50 instruments. In an exclusive interview with HANSA, Secretary General Kitack Lim talks about achievements and challenges both for the shipping body and the industry

What is your view on the pace and developments regarding »shipping of the future« as it is discussed for example on »Maritime Future Summit«?

Lim: The »shipping of the future« is nearly here. All around us, in every part of our lives, we are encountering radical new models for the way we live, usually driven by innovative digital technology or artificial intelligence. This so-called digital disruption will arrive in the shipping world very soon. The next 10 or 20 years will see as much change in shipping as we have experienced in the past 100 years. The shipping world must learn to move fast and adapt quickly. Thanks to new technology emerging in so many areas, shipping is entering a new era.

But technological advances present challenges as well as opportunities. Their introduction into the regulatory framework, therefore, needs to be considered carefully. From the IMO perspective, we need to balance the benefits against safety and security concerns, the impact on the environment and on international trade, the potential costs to the industry and, not least, their impact on people, both on board and ashore.

Which three »keywords« would you choose to describe IMO and its work?

Lim: Efficient, Universal, Technical

What would you like to add?

Lim: Technologically-advanced

What are the most important challenges IMO faces in the future?

Lim: Climate change and reducing greenhouse gas emissions; the forthcoming reduction in the global limit of permissible sulphur content in ships' fuel oil; automation and autonomous ships; continuing to address the human element;



Photo: IMO

IMO Secretary General
Kitack Lim

piracy, security – including cyber risk management – and migration issues.

These are all issues covered by IMO's Strategic Plan for the years 2018 to 2023. It confirms that IMO will »promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation« and »uphold its leadership role as the global regulator of shipping«. More specifically, it enshrines seven specific strategic directions which lay the foundations for IMO Member States, IGOs and NGOs to work together.

Are IMO procedures appropriate?

Lim: It is important to remember that IMO is an organisation made up of 174 Member States, all of whom have a stake and a say. When it comes to developing and adopting regulations or amendments, we try to work by consensus. I think that IMO has over the years shown its abilities to take on and tackle sometimes challenging issues, and to focus on the technical side of shipping. We have worked to improve processes, such

as by requiring a full analysis of a proposed new work programme item, to assess whether there is a compelling need for a new regulation or new set of guidelines.

In terms of some of the processes for amending treaties, these have been set in treaties when they were adopted. We are talking about amendment procedures adopted in the 1970s. But to change those would require a long process.

What needs to be done by the industry?

Lim: I think that the pace of change we are seeing in technology and in the demands for every industry to be cleaner, greener and more sustainable means that shipping cannot just sit back. Economic decisions may need to be made, regarding phasing out older, less efficient ships and moving towards new and more efficient ship design and technology.

New technologies and changing expectations about safety, environmental protection and social responsibility are a challenge – but also present opportunities.

The majority of shipowners and operators are genuinely engaged, and actively seeking to raise standards and push for higher quality. Their customers increasingly demand that they do this. From a reputational point of view, it makes obvious sense. But it also makes sense economically. An industry where standards of safety, security and environmental stewardship are high is far better placed to attract the financial investment it needs to sustain itself in the long term.

Interview: Michael Meyer

**Read the full interview
in HANSA 09/2018**

WINTERSTEIGER

Innovative condensation drying

Wintersteiger AG offers open and closed drying solutions for sports equipment and work wear such as jackets, overalls, boots, gloves and many more. At SMM Hamburg, Wintersteiger will present a drying solution which combines condensation and microbial reduction with ozone for the first time.

Condensation drying removes moisture from the material, cools it and drains it out of the cabinet as condensation water. »A major advantage is the enormous energy saving of 60% compared to conventional dryers«, Wintersteiger states.



Source: Wintersteiger

The portfolio includes (e.g.) jackets, boots and gloves

In addition, gentle and rapid drying is already possible from +5° Celsius room temperature on. The dryers can be connected directly to the sewer and no separate ventilation technology is required.

Ozone is also used in the new drying solutions. In low concentrations ozone is not harmful to health, but can be used for disinfection. The ozone reduces germs and bacteria and eliminates odours. Disinfection is very effective and the spread of diseases is reduced.

More information about the portfolio and effects on energy-saving, rapid and gentle drying can be seen at the Wintersteiger stand in Hall B7 (Booth 702). ■

NEW RESEARCH PROJECT

Raytheon Anschütz demonstrates collision avoidance system

COLREG-compliant collision avoidance is among the primary tasks of navigators. Today's rising maritime traffic density and growing ship dimensions make this task increasingly demanding and add to the already often high workload on ships' bridges.

Thus, Raytheon Anschütz together with research partners both from industry and academia has developed an innovative assistance system to aid its customers and users in making maritime traffic safer. Inspired by solutions applied in the aviation industry the MTCAS project has developed the Maritime Traffic Alert and Collision Avoidance System. »Adapting this proven approach to the specific requirements of shipping, MTCAS is an intelligent and cooperative system to reliably detect potential close encounter situations and to assist navigators in applying effective collision avoidance measures«, Raytheon said in a statement.

MTCAS uses conventional navigational information from e.g. electronic sea charts, ARPA and AIS which are augmented by innovative methods for improved positioning and prediction as well as historical tracking data. Furthermore, information exchange between ships creates transparency about their intentions and enables decision-making based on a shared perception. As a result, the naviga-

tor on the bridge is provided with an improved situational awareness along with recommendations on how to respond to the present traffic situation. The proposed maneuvers are said to be in compliance with the International Regulations for Preventing Collisions at Sea (COLREGs).

Additionally to lead partner Raytheon Anschütz, the project consortium is complemented by Airbus Defence & Space (formerly Singalis), OFFIS - Institute for Information Technology, ISSIMS - Institute of Innovative Ship Simulation and Maritime Systems of Wismar University and DLR - Institute of Communication and Navigation of the German Aerospace Center.

The solutions which are being developed as part of the MTCAS project will be demonstrated live and under in-situ conditions. For this purpose, two vessels and a vessel traffic service centre are equipped with the respective prototype technologies by Raytheon Anschütz and project partner Airbus.

Within this set-up, participants can experience MTCAS' capabilities and benefits in real-time scenarios. Detailed background information will also be available through presentation sessions and through direct exchange with researchers and developers.

The MTCAS project demonstration will take place on Thursday in the seaport

of Wilhelmshaven. Further details about the event can be found online (www.offis.de/offis/aktuelles/veranstaltung/mtcas-demonstration.html)

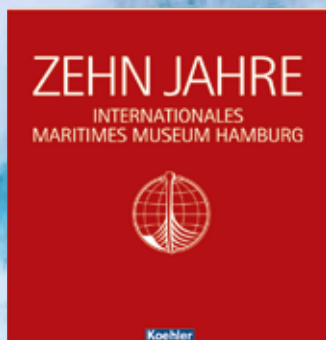
The project has received funding by the German Federal Ministry for Economic Affairs and Energy. ■

ELECTRIC AND HYBRID

Baumüller presents drive solutions

At SMM 2018, Baumüller, the specialist for electric drive and automation systems, will be presenting its solutions for the clean propulsion of inland ships, yachts, ferries, offshore vessels, etc. Baumüller has been active for electric drive and automation technology for decades and uses its systems in numerous mobile applications. With its wide power spectrum ranging from motors, inverters and controls to diagnostic software or battery management systems, Baumüller intends to offer »interesting alternatives to classic ship drives« and to pave the way for realistic solutions in the field of smart shipping. (Hall 05, stand 107) ■

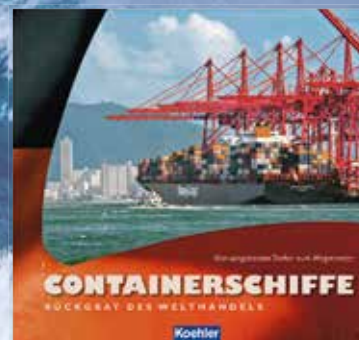
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THE MARITIME CLUSTER

Expertise from the North

The Maritime Cluster Northern Germany (MCN) is represented at the SMM 2018 fair with two booths. Discover what we have planned and how to find us.

InWaterTec joint booth

You can find us at the InWaterTec joint booth in hall B6, booth 148. Exciting exhibits from our maritime start-ups Ankrion Water Services, Humatecs and NautilusLog await you there.

4-7 September 2018 | Hall B6, Booth 148

Maritime 3D Printing Show Area

For the first time ever, there will be a special 3D printing show at the SMM fair, planned by Hamburg Messe und Congress GmbH in cooperation with MCN. In addition to various exhibitors from the area of additive manufacturing, exciting lectures and live demonstrations await you there. Learn more about the creation process of a 3D component: from engineering, including software use and CAD drawing creation, to the actual printing and finishing processes and checking the component for approval regulations and



suitability. A selection of experts from the 3D printing sector will be on hand to answer your questions throughout the entire trade fair. In addition to the MCN, the MCN members Mecklenburger Metallguss, Rolf Lenk Werkzeug- und Maschinenbau and Treo – The Laboratory for Environmental Simulation will also be present in the 3D Printing Show Area. Visit us in hall B6, booth 224.

The ministers and senators of the five northern German states will be welcomed at the MCN booth on 5 September 2018, which is where the new management board of the Maritime Cluster Northern Germany will introduce itself. The guests will learn more about the cross-state projects of the maritime industry and get to know innovations of



Photo: Gefertec GmbH

For the first time ever, there will be a special 3D printing show at the SMM fair

maritime start-ups at the MCN booth.
5 September 2018, 10 a.m.–11:30 a.m.
Hall B6, booth 148

Organiser of the Blue Hour

Together with the German Association for Maritime Technologies (GMT), the Maritime Cluster Northern Germany is organising the traditional Blue Hour at the InWaterTec joint booth at the SMM fair on 6 September 2018. Once again this year, enjoy the opportunity to meet representatives from business, science, politics and the media. At the Blue Hour, you will be able to make new contacts and network in a relaxed atmosphere.

6 September 2018, 4 p.m. to 6 p.m.
Hall B6, booth 139

MariMatch supporter

Trade fairs are a good opportunity to find out about innovations and trends, but also to make new contacts and meet future business partners. So how do you find out who would be a good match? The Enterprise Europe Network (EEN), MCN and other cooperation partners are sending out an invitation to participate in the international B2B contact exchange MariMatch. Meet future business and research partners in prepared meetings di-

rectly on the fair grounds, but away from the hustle and bustle of the trade fair itself. The goal of MariMatch is to support you in establishing international contacts. Afterwards, the tours "Maritime Innovations from Northern Germany" organised by the EEN and the MCN will take you on a journey of discovery.

6-7 September 2018 | Hall B4, upper floor

MCN members at the SMM fair

Many members of the Maritime Cluster Northern Germany are not only taking part in the SMM fair as visitors, but also with their own booths. Find out where you can meet our members. The Maritime Cluster Northern Germany promotes and improves cooperation in the North German maritime sector. It creates platforms for dialogue between stakeholders and promotes interfaces to other sectors.

The Maritime Cluster Northern Germany was founded in 2011. Initially, the federal states of Hamburg, Lower Saxony and Schleswig-Holstein worked together in the cross-state cluster; in September 2014, Bremen and Mecklenburg-Western Pomerania joined as well.

www.maritimes-cluster.de

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