



Photo: Gutschmidt

»Trying to solve the world's problems in only half an hour can hardly succeed by a straight way,« moderator Teus van Beek (left) of Wärtsilä joked

**H**ow to comply with regulation and invest in the right future proof propulsion was discussed vividly at the global maritime environmental congress (gtec). »Setting a green course« was the motto under which the podium discussed issues related to compliance, control and champions on the way towards greener shipping. Tian-Bing Huang, acting Deputy Director Protective Measures Marine Environment Division at IMO informed on IMO efforts towards green shipping. He made clear that when it comes to regulation »early movers are not penalized«. He promised steps to enhance enforcement beyond EEDI. Now that »for the first time a real commitment to reduction of ship emissions has been made,« IMO will look at global capacity building projects to implement the sulphur cap and strengthen industry cooperation for that purpose.

The first panel »Preparing for ballast water treatment« asked how the U.S. Coast Guard will ensure compliance. USCG Captain Sean T. Bradley said, documentation and onboard policy would be closely looked at since »we just jump in with both feet – with no field test equipment«. To comment on the planned transition period, Huang ad-

ressed the five-year experience building phase, in which »ships will not be penalized unless decent standards are not met«. Concerns were raised whether new IMO ballast water rules will turn out a paper exercise if approved systems do not stop invasive species. Sahan Ab-

## gtec

seysekara (Lloyd's Register) summed up the challenges from the selection process to installation aboard: »Take a sample at the end of commissioning and train crew, as some systems are very complicated«. In the end, it will be crucial to have something to present to authorities in case of sudden non-compliance.

The second panel on »Dealing with the environmental challenges of the future« was dominated by class societies' technical expertise supplemented by ideas from operators E.R. Schiffahrt and Hapag-Lloyd. »Trying to solve the world's problems in only half an hour«, as moderator Teus van Beek

joked, could hardly succeed by a straight way, and the podium agreed with Katharine Palmer (Lloyd's Register) that »at the moment there is no solution to decarbonize shipping.« Jan-Olaf Probst (DNV GL) presented a 30 year replacement time for vessels affected, so solutions beyond newbuilding were compelling. Gerd Würsig (DNV GL) thought about fuel taxes and invited the panel to look at well-to-tank footprints when talking about green propulsion. A silver bullet was not found while for LNG everyone seems to be waiting for his neighbour to act. Wolfram Guntermann (Hapag-Lloyd) envisaged solutions from looking at efforts of the past, like slow steaming, while Helge Bartels (E.R. Schiffahrt) asked »what we can actually do today«.

The third panel delved into passenger shipping as an environmental pioneer. A cruise ship owner captured the mood when he said: »We are at the bleeding end of LNG – it helps for carbon reduction but it is not the final solution.« This final solution was hard to find. For the suppliers and manufacturers, however, gtec was an almost ideal basin to catch a big fish, given the many regulatory challenges of the future. ■

# 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	gmec	Offshore Dialogue	MS&D
			MS&D	Maritime Career Market
			MS&D Reception <sup>®</sup>	MariMatch
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# »Being prepared« – security on the agenda



Source: HANSA

**E**nhancing transparency, boosting efficiency: Big Data has arrived in the shipping industry. But besides opportunities, network integration also harbours risks. At today's 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, indus-

try leader Maersk was the most prominent victim of a hacker attack that disabled major portions of the company's IT systems. The incident cost the Danish shipowning company anywhere between 250 and 300 mill. \$. »Cybercrime is the greatest threat to all companies around the world,« stresses Ginni Rometty, President and CEO of the technology giant IBM. According to Lloyd's of London, an »extreme« cyberattack could cause up to 53 bn \$ in damage to businesses.

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

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

»As the MS&D success story continues, we are making this change to highlight the vital importance of these topics for the future,« said Bernd Aufderheide, CEO and President, Hamburg Messe und Congress GmbH. As in the past, numerous internationally experts will come to the Hamburg to present their views, share information and discuss various concepts. From anti-virus software and 24/7 protection by IT experts to effective defences against system sabotage, including terrorist cyberat-

► page 4



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◀ from page 3

tacks, Patrick Rossi, Cybersecurity Manager at the classification society DNV GL and an experienced maritime consultant, will give practical advice on protecting data integrity.

Patrick O'Keeffe, Legal Advisor at the NATO Centre of Excellence for Operations in Confined and Shallow Waters (COE CSW), and CEO of the IT company AMC Solutions, will provide an overview of emerging cybercrime threats to naval operations. His message: »It takes more than an excellent IT solution to ensure sustainable protection of the sovereignty of naval vessels.«

Geostrategic consequences of global warming will be another major topic. 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.

Christian Webersik, deputy director of the Centre for Integrated Emergency Management (CIEM) at the University of Agder, Norway, will speak about potential crises and unrest in affected regions. The consequences of melting Arctic ice for the maritime security framework in Arctic regions will be the subject of a lecture by Patricia Schneider from the Institute for Peace and Security Policy Research at the University of Hamburg.

### Focus on China's role

The head of the Centre for Asia-Pacific Strategy and Security at the University of Kiel (ISPK), Sarah Kirchberger, will speak about China's role as an aspiring maritime power, and the general maritime security situation in the Far East. She will address China's expansion of its naval forces which has prompted countries such as Japan, India and Indonesia to follow suit and invest heavily in their navies. China's hegemony as well as the tensions surrounding North Korea and the

confrontation with Russia are the backdrop of U.S. President Donald Trump's announcement to increase the US military budget by more than 15% to a total volume of about 686 bn \$. The U.S. Navy will be among those who will benefit, with its annual budget set to increase by more than 5 bn \$. To reach the ambitious 355-ship goal, an additional 16 cruisers and destroyers will be added to the fleet.

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 – another topic that will be discussed at MS&D. At SMM, apart from shipyards specialising in naval vessels, the roster of exhibitors includes numerous outfitters and providers of specialised services who will present security-related innovations, from anti-piracy to port protection through to cybersecurity. Hall B8 will be dedicated specifically to these topics. In addition, the »Security Route« will guide fair visitors to exhibitors offering security-related products and services. ■

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## WÄRTSILÄ

### Wake-up call to potential of oceans in an era of global change

Guests at SMM in Hamburg were the first to be alerted to Wärtsilä's »An Oceanic Awakening« – a global initiative focused on the radical transformation of the world's marine and energy industry into one supremely efficient, ecologically sound and digitally connected ecosystem.

Better port-to-port fuel efficiency, reduced congestion in ports and high traffic areas, the introduction of real-time communication between stakeholders – these issues have become critical to transforming maritime trading today. Proactively addressing these issues forms the basis of Wärtsilä's drive to activate a fully-integrated smart ecosystem. A feat requiring collaboration across multiple segments and industry verticals and active involvement in leveraging emerging technologies to create new business opportunities for the benefit of all. Key ecosystem players from the world's most important marine cities have been invited to converge

via the newly established SEA20 forum; where cross-border dialogue and co-creation are fostered through an ongoing series of events and workshops. First cities to support the idea are Rotterdam, Hamburg and Helsinki.



Wärtsilä's vision BlueBelt for future maritime cities

Source: Wärtsilä

At SMM, Marco Ryan, Chief Digital Officer & Executive Vice President, Wärtsilä, revealed the corporation's ambitious aspiration to connect 20 of the most influential marine cities by 2020 into a network that will inspire cooperation as an essential ingredient to driving forward this journey of transformation. The net-

work will support the adoption and deployment of best practices, embrace digitalisation and legislate new environmentally friendlier, sustainable and smarter ways of doing business. Under the auspices of SEA20, key influencers from

five marine cities have already been brought together to determine how to best take advantage of a Smart Ecosystem. Visions spanning cutting-edge transport provision along urban coastline, the introduction of marine-centric innovation hubs and the positioning of off-shore smart ports will be used to inspire politicians and the marine sector to address urban growth.

»We simply cannot afford to wait for the marine and

energy industries to evolve at their own pace,« said Wärtsilä's President & CEO Jaakko Eskola. »The calls for greater efficiency, sustainability, and connectivity are simply too strong to be ignored. Rapid acceleration to benefit the entire sector, as well as society at large, is urgently required.« ■

## NORSAFE

### Viking acquires lifeboat maker

Maritime safety equipment manufacturer Viking Life-Saving Equipment has acquired Norwegian boatbuilder Norsafe. The acquisition is in line with Viking's long-running strategy. Established in 1903, Norsafe produces a full range of free-fall lifeboats and fast rescue boats with davits and have supplied over 28,000 lifeboats to the global ship market over the years. Its advanced lifeboat products are manufactured in accordance with latest SOLAS requirements. Viking is firmly committed to provide a complete safety offering that also includes the best range of lifeboat products and services. With the Norsafe's 24/7 service network providing maintenance from over 300 ports, the acquisition adds to Viking's focus on demand for full-scope solutions. ■

## MAN ENERGY SOLUTIONS

### Historical high for cruise orders

MAN Energy Solutions is experiencing a record order-intake within its cruise business. In 2018, it has so far won orders to supply seven new cruise ships with engines plus exhaust-gas-treatment systems – with a cumulative value close to a three-digit million € amount. The orders total almost 300 MW of installed power for cruise ships ranging in size from 50,000 to approximately 140,000 GT, and running on fuel types from HFO to LNG. Delivery is scheduled from end-2019 to 2022.

At a signing ceremony at SMM, MAN extended its partnership with Mercy Ships for a further two years. Mercy Ships will receive further spare-parts free of charge for the MAN installations aboard the hospital ship »Africa Mercy«. ■

## DUALOG

### Warning of continued spam attacks

Connected ships continue to face spam and the menace of cyber-attacks on their IT systems. Over 18% of emails scanned in the second quarter of this year were rejected as spam and just under 1% stopped because they contained viruses or malware – a smaller percentage compared to the global spam average of 45%, and that's because Dualog takes email security very seriously and its Dualog Platform with email, file transfer and internet services, is built to the highest standards of cyber resilience and security. Dualog product manager Walter Hannemann explains: »This is a widespread problem, especially when you consider we have seen a gradual increase in the overall use of emails in ships, many with data attachments.« ■



ZF

## More safety and efficiency in sight

Status monitoring increases operational safety and helps to extend the service life of the propulsion system. ZF supports shipyards, shipping lines and fleet operators with detailed status monitoring for marine propulsion systems. Monitoring current data from the driveline as well as the status of core components, makes it possible to avoid failures and plan maintenance work effectively. This shortens downtime, lowers operating costs, and increases safety on board and at the port.

As a specialist for marine propulsion systems, ZF can help shipyards, shipping lines and fleet operators manage their ships more efficiently and safely with its condition monitoring system (CMS). Depending on customer wishes, CMS can monitor the propulsion system in three levels.

In the standard version, CMS determines typical parameters such as oil level and pressure, as well as input shaft speed, clutch condition, and oil temperature, both before and after the cooler.

The expanded monitoring of the second level measures oscillation in the system and the state of the oil with regard to particle and water content. At the third level, CMS measures the actual transferred torque in the drive system using dynamic load monitoring (DLM), which makes it possible to detect changes in the performance of the components early on.

The condition monitoring system from ZF includes various sensors as well as an intelligent electronic evaluation unit. The

OPENMATICS platform developed by ZF safely transfers the collected data and information to the ZF Cloud, where customers can access them. OPENMATICS allows for the integration of further data

service life of the monitored systems and components is extended since repairs can be planned proactively. In the event of a failure, a display notifies the crew early on about the required measures. The crew



Photo: ZF

Increases operational safety by monitoring core components: the Condition Monitoring System

and systems to optimize the operation of ships and can therefore be expanded as needed.

This lets operators recognize well in advance which components need to be replaced or require maintenance. Downtime and maintenance times are shortened, failures are avoided, and the

also receives specific instructions to ensure operational safety.

CMS is a further step which ZF is taking towards a smart marine propulsion system. This intelligent system bundles all important data to optimize ship operation, save costs, and provide critical information in emergency situations. ■

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## MTU

## New hybrid engines to meet with tier III requirements

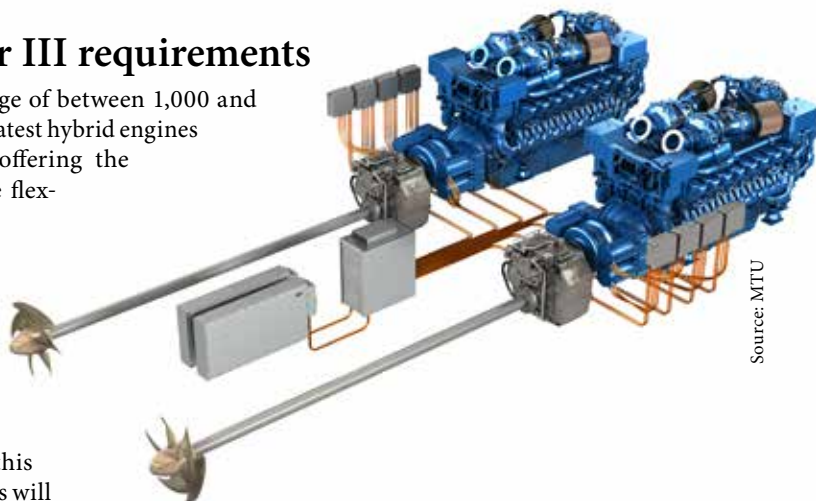
German-based engine manufacturer MTU, part of Rolls-Royce Power Systems, has announced its latest offering to the marine market with its Series 2000 and 4000 hybrid engines to meet with tier III requirements.

The two latest hybrid engines have been designed to meet with a wide range of operational profiles. The Series 2000, aimed more at the workboat market with the first installations happening later in 2018. The engines are combined with one or two electric motors per power train each with 150kW of electrical input, which will cover a power range of between 1,000 and 2,000kW per power train. The Series 4000 is aimed at higher power demands and is expected to have its first pilot test in 2020. The engine will have up to four electric motors, each with 150kW of electrical output, and will cov-

er a power range of between 1,000 and 4,000 kW. The latest hybrid engines are aimed at offering the market a more flexible solution that if used in conjunction with battery power can also operate silently.

Along with this hybrid solutions will offer better redundancy, highlights MTU, along with cost savings for the vessel operator.

Furthermore, Rolls-Royce Power Systems has announced to expand the digital services for customers. The digital solutions team will be doubled in size by the



Source: MTU

end of 2018. The new Digital Solutions division and the new Customer Care Centers are part of the current drive by Rolls-Royce Power Systems to transform its global customer service. ■

## SKF

## New water-lubricated sterntube solution launched

SKF's new Simplex BlueRun offers polymer bearing bushes, carrier bushes, a tail shaft monitoring system and a water quality system. Sterntube bearing bushes, TPW (Thermoplastic Polyurethan for Water-lubrication) are available in split and non-split versions and can be used for fresh and sea water, as well as for open and closed systems. SKF also offers bronze carrier bushes fixed to the sterntube. They contain the water-lubricated Simplex BlueRun sterntube bearing bush (bush in bush principle). The new Simplex BlueRun water quality system filters and treats seawater and pumps it through the sterntube bushes for lubrication, cooling and flushing. Thus, overheating is avoided and solids are safely removed. Designed to operate stand-alone or fully integrated in the ship's control and monitoring system, it can be operated in an unmanned engine room. Simplex BlueRun tail shaft monitoring enables planned replacement of bearing bushes. Two eddy current sensors in the bearing bush are connected to an evaluation unit and measure contactlessly the position of the shaft. The new range can be combined with SKF's Simplex seal systems.

SKF also launched the new EcoMode software to improve a vessel's energy efficiency when fin stabilizers are in use. The EcoMode software provides up to three additional modes of operation to cope with varying levels of ship movement and sea swells. Each mode ensures optimised energy efficiency.

Furthermore, the new Turbulo SolidMaster and Turbulo HycalLogger improve de-oiling of oily-water separator systems and provide accurate records of the content of bilge discharges in the event of MARPOL 73/78 compliance disputes. ■

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## Presentation Programme

The German Marine Equipment association VDMA is providing a programme of presentations (15 min. in German language) held at VDMA main stand (A1/518). Attendance is free of charge. Experts will be available for discussion.

### Thursday 06th Sept

- Hightech-Welle im smarten Schiffbau!  
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**Lars Zimmermann**,  
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10:00 / 12:30 / 15:30
- Neueste Entwicklungen im maritimen Umweltschutzrecht und ihr Einfluss auf den Schiffsbetrieb und die Zulieferindustrie  
**Martin Launer**, Taylor Wessing  
11:30 / 14:30 / 16:30
- Übersicht LNG-Markt – Onshore & Offshore: Perspektiven für den Maschinenbau?  
**Ragnar Strauch**, VDMA – 12:00 / 17:00
- The introduction of electronic tags under the European Marine Equipment Directive
- **Maik Schmahl**, European Commission DG for Mobility and Transport – 13:00
- MED e-Tag: Wie geht es und was hat Ihr Unternehmen davon  
**Jens Slama**, GS1 Germany – 13:30
- Serialisierung von Komponenten und Ersatzteilen – Potenziale durch eindeutige Identifikation  
**Daniel Dünnebacke**, oneIDentity+ – 13:45
- Standardisierte Modularisierung von Schiffsautomation: ein Beitrag zur Beherrschung von Komplexität?  
**Norman Südekum**, WAGO Kontakttechnik – 14:00
- Digitaler Service in der Schifffahrt – Ergebnisse der VDMA-Studie  
**Lutz Kretschmann**, Fraunhofer-Center für Maritime Logistik & Dienstleistungen CML  
**Jörg Mutschler**, VDMA – 15:00
- Herausforderung Maritime Messen  
**Hauke Schlegel**, VDMA – 16:00

## 3D printing live at SMM

Similar to the automotive and aerospace industries, the maritime sector has no choice but to embrace the complex topic of additive manufacturing. SMM is at the cutting edge: For the first time the leading international trade fair of the maritime industry hosts a special exhibition on 3D printing.

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. The 3D printing market harbours enormous potential: The American market research company International Data Corporation expects the 3D printing industry to grow by 15% annually over the next few years.

SMM is once again a platform highlighting game-changing innovations and future-looking technologies in a hands-on format. Living up to this reputation, SMM for the first time presents a special exhibition on 3D printing this year. Its project partner is the Maritime Cluster Norddeutschland (MCN).

### Live demonstrations

At the »Maritime 3D Printing Show Area@SMM« in Hall B6, exhibitors showcase their capabilities in additive manufacturing, including companies such as Rolf Lenk, Gefertec, MMG, Treo, SLM Solutions as well as the Maritime Cluster Norddeutschland. Visitors are able to speak with subject matter experts while watching live additive manufacturing processes using a variety of materials. What sets this technology apart is that »components are no longer manufactured geometrically through cast-

ing, drilling or milling but in an additive process layer by layer,« explains Professor Claus Emmelmann, Director of the Fraunhofer Institute for Additive Production Technologies, IAPT. Not only does this ensure a spectacular visual ex-



Photo: HMC

3D printing is expected to grow by 15% p.a. over the next few years

perience; »it also enables production of designs of any level of complexity, far beyond anything anyone could have imagined in the past,« says Emmelmann. Weight reductions of up to 80% are possible. Companies exposed to intense competition could save substantial manufacturing and material costs while accelerating production times dramatically.

### Enabling new business models

For project partner MCN the topic of additive manufacturing is one of the key technologies for modern component manufacturing in various industries. The organization addressed this topic early on and published the study »Perspectives of 3D Printing for the Maritime Industry in North Germany« in August 2017. Subsequently, MCN conducted several workshops with interested companies in order to determine the exact requirements and the level of knowledge in the various areas of the maritime industry.

»It turned out that the technology offers opportunities for many maritime companies that cannot be achieved by conventional methods. Within the framework of a network project, these opportunities are to be exploited, implemented and further developed,« says MCN.

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## HANSEATICSOFT

## Managing crews becomes more simple and efficient

Hanseaticsoft, a provider of cloud-based maritime management software, is launching its updated and enhanced crewing module, Cloud Crewing 2.0. It helps shipping companies better manage their crews across multiple ships.

The software is available within Cloud Fleet Manager (CFM), the company's web-based platform, which allows information to be centralised, processed and accessed in real time using apps and mobile devices. The crewing module helps optimise crewing processes, including the interaction, administration and appraisal of seafarers.

Hanseaticsoft's Cloud Crewing 2.0 offers improved performance and responsiveness and it's now available in any browser and optimised for use on smaller screens, such as tablets. There are new functionalities and enhancements, including an expanded Payroll

module and the ability for seamen to log into Cloud Ship Manager to autonomously enter their rest hours on board. The new features include

- a **travel expenses** app, which allows the crew to enter travel requests and related expenses directly while on board,
- a **Cashbox** app to ease the handling of cash on board (in multiple currencies),
- a **Bonded Store** app functioning as an onboard shop,
- a **Pharmacy** app to manage medication on board plus
- a new **Crew Portal** so seamen can manage their data and documents autonomously.

Also brand-new and presented for the first time at SMM is the new app for mobile devices, both available for iOS and android. ■

## DNV GL AND DSIC

## 23,000 TEU vessel to be designed

At the SMM trade fair today in Hamburg, Dalian Shipbuilding Industry Company Ltd. (DSIC) and classification society DNV GL announced the signing of a joint development project (JDP) agreement to develop a new 23,000 TEU LNG fuelled ultra large container vessel (ULCV). The JDP is focused on delivering a design which is ready for construction and reflects incoming regulations.

Interest in alternative fuels has moved from the margins to the centre of the maritime world as environmental regulations designed to reduce shipping's emissions to air come into effect. »In developing this new 23,000 TEU LNG fuelled ULCV design, we will show that DSIC can deliver vessels at the cutting edge of the market,« said Mr. Yang Zhi Zhong, President of DSIC. ■

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## BECKER MARINE SYSTEMS

### Energy-efficient solutions for a sustainable future of shipping

With its latest generation of high-performance rudders, Becker Marine Systems has succeeded in further improving the efficiency of existing rudders and gaining additional market share. The ship supplier has also developed new product enhancements in the area of digitisation, which can monitor ship operation and detect wear early on. For example, the Becker Intelligent Monitoring System (BIMS) enables energy-saving autopilot operation and improves the effectiveness of ship operation.

Just two weeks before the SMM, a Becker Marine Systems pilot project was presented, which ensures that large container ships can turn off their auxiliary diesel engines and during downtime obtain the power needed for on-board operations from a new type of mobile generator. Becker Marine Systems developed the mobile Becker LNG PowerPac power plant along with its subsidiary, HPE Hybrid Port Energy. A compact system the size of two 40-foot containers, this unit can combine a gas-powered generator and an LNG tank to provide power

for ship operations while at port. Hazardous emissions, such as sulphur dioxide, fine dust and nitrogen oxides, which otherwise occur during operation of the ship, can thus be avoided or significantly reduced. The tests were carried out on Hapag-Lloyd ships at the HHLA pier. For Becker Marine Systems, the Becker LNG PowerPac represents an uncomplicated solution for lowering emissions at ports and thus has the potential for international use. »We are in talks with a number of European and Chinese ports and are confident that the Becker LNG PowerPac can prevail on the market«, says Lehmann.

The still new COBRA product line, the Compact Battery Rack system based on lithium-Ion cells, also demonstrates the innovative paths Becker Marine Systems is taking. The company offers the most compact maritime battery system on the market. It is constantly being developed in order to offer customers maximum safety and performance. The COBRA system is currently undergoing type approval by Bureau Veritas and DNV GL clas-



Photo: Selzer

COBRA can be used on any ship

sification societies. COBRA can be used on any ship and, depending on type and application, as part of a hybrid/ electric drive, peak shaving buffer or energy storage. Possible applications include offshore vessels, work boats, police and fire brigade ships, passenger ships and car ferries but also larger cargo ships. ■

## THORDON BEARINGS

### Water lubricated and guaranteed for life

Thordon Bearings is offering its COMPAC seawater lubricated propeller shaft bearing system with a lifetime bearing wear life guarantee. To date, the COMPAC bearing has been offered with a 15-year guarantee, but with the development announced at the SMM trade show yesterday, Thordon is guaranteeing that its polymer bearings will not need to be replaced throughout a vessel's operational life.

The extended wear life is based on an extensive study of the performance data of the 550-plus COMPAC shaft bearings in operation on commercial vessels, dating back more than 25 years. President and CEO, Terry McGowan, said: »After evaluating performance and operational data of ocean-going merchant vessels that operate COMPAC seawater lubricated bearings we found that if the environment was controlled the bearing wear was minimal. ■

## HAPAG-LLOYD

### Green Star certificate for ship recycling

Container shipping line Hapag-Lloyd is the first company to receive the »DNV GL Excellence Green Star« certificate in recognition of its compliance with the highest standards in ship recycling. Knut Ørbeck-Nilssen, CEO of DNV GL – Maritime, presented the certificate to Hapag-Lloyd COO Anthony J. Firmin at the SMM trade fair in Hamburg today.

»In 2007, Hapag-Lloyd was the world's first container shipping line to be certified with DNV GL's »Excellence – 5 Stars« award. We are very happy to continue this tradition,« said Firmin.

»With the »DNV GL Excellence Green Star« certificate, we recognize Hapag-Lloyd's commitment to being out in front of the regulatory agenda, by voluntarily implementing a compliance regime that will reduce the environmental impact of their recycling programme,« said Ørbeck-Nilssen. ■

## BRUNVOLL

### Maneuvering and propulsion for Ulstein

Norwegian supplier Brunvoll has signed a contract with Ulstein Verft for an advanced cable layer ship for Nexans Subsea Operations. Brunvoll will supply both propulsion and maneuvering systems including control systems for this vessel, which is expected to be completed by 2021. Brunvoll's delivery consists of three azimuth units with propeller in nozzle, propeller diameter 2.9 m and power of 3,200 kW per unit, two tunnel thrusters with a diameter of 3.0 m and each with a power of 3,000 kW and a retractable azimuth thruster with a propeller diameter of 2.9 m and a power of 3,000 kW. The tunnel thrusters and the retractable azimuth thruster are installed in the bow of the ship. The retractable azimuth unit, designated AR115, is said to be the largest in the portfolio and among the largest units delivered globally as a retractable thruster. ■



ABB

## Next-generation DP system paves way towards autonomous shipping

The ABB Ability Marine Pilot Control dynamic positioning (DP) system, unveiled at SMM, simplifies ship maneuvering with an intuitive touchscreen-based user interface and enables safer, more efficient ship operations. With its user-centric design, ABB Ability Marine Pilot Control reduces the workload on automating navigational tasks and allows bridge officers to focus holistically on the overall control and positioning of the ship. The system integrates seamlessly with existing onboard equipment and ensures ease of installation and maintenance, adding significant »bridge-to-propeller« value for the shipowners.

The new system allows the operator to switch to joystick control for maneuvering the vessel at any speed and all the way to docking. Algorithms calculate the optimal way of executing a command for controlling the vessel in any operational situation. The overall safety of the operation is increased as the crew is able to maintain full situational awareness, rather than having to focus on changing control modes, ABB says.

The system has obtained Lloyd's Register's (LR) Approval in Principle (AiP) certificate, announced at SMM. David Barrow, Commercial Director, Marine & Offshore, Lloyd's Register says: »As digital technologies progress, increased collaboration between original equipment manufacturers, classification societies and ship owners will become key. This project highlights the collaborative work ethic between LR and ABB to achieve this milestone.«

»ABB Ability Marine Pilot Control is an example of pioneering technology that is already available today and will act as a stepping stone into the future of autonomous shipping,« says Mikko Lepistö, Senior Vice President Digital Solutions at ABB Marine & Ports.

»To enable autonomous shipping, we need a DP system that replaces traditional solutions designed for disconnected operations. Embracing new technologies for the human-machine interface and offering tangible safety and efficiency benefits, ABB Ability Marine Pilot Control does exactly that.«

Together with the ABB Ability Marine Pilot Vision, launched in 2017 to offer multiple real-time visualizations of a vessel's surroundings, the new DP system will create a full 3D situational awareness and an intuitive operating environment with the dedicated purpose of operating the ship in a safe and efficient manner.

»Our »Electric. Digital. Connected.« vision is based on the principles of simplicity, efficiency and safety. ABB Ability Marine Pilot Control works to leverage our experience with all aspects of the ship from bridge to propeller and enables operators to navigate the vessels of the future regardless of propulsion system or power generation,« says Juha Ko-

skela, Managing Director of ABB Marine & Ports. »By designing solutions from the ground up to meet today's requirements, we position our technology in a way that is able to incorporate future technologies in a secure, yet easy way.«



Photo: ABB

Intuitive touchscreen control simplifies ship maneuvering

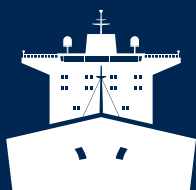
The new DP system can be connected to the ABB Ability Collaborative Operations Center infrastructure, which monitors the performance of ABB technology on board and remotely connects operators with ABB experts.

ABB Ability is the company's unified, cross-industry offering extending from device to edge to cloud, integrating data to and from products, systems, solutions and services to deliver actionable information. The ABB Ability platform uses Microsoft Azure as the cloud for its integrated connectivity, so users can access enterprise-grade infrastructure that benefits from Microsoft's significant investment. ■

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