

THE OFFICIAL MAGAZINE OF THE PORT OF HAMBURG | DECEMBER 2016

OCEAN TRAFFIC

PORT OF HAMBURG
MAGAZINE



Dear Readers,



The ongoing crisis in the shipping sector is ever present. Shipowners are not the only people worried by enormous over-capacities, freight and charter rates at record lows, and faltering world trade. We are repeatedly receiving news of new alliances and mergers. The insolvency of the Hanjin shipping line, one of the largest container shipping groups, has brought home the extent of the crisis to everybody. According to experts, no end of consolidation is yet in sight. We are naturally concerned with the ques-

tion: Is Hamburg well positioned as Germany's largest shipping hub? The plain fact is that Hamburg is among the world's leading shipping centres. Around 460 companies with over 23,500 employees generate an estimated 4.1 billion euros of added value there. That's a considerable sum. And according to the survey "Hamburg as shipping base – Strengths, Challenges and Future Potential" published this year in German by the Free and Hanseatic City of Hamburg, it is well set to succeed in asserting its position in future.

Nevertheless, more than ever the shipping industry needs to face up to fresh challenges. We introduce some of these in this latest edition of our magazine. Enjoy our background reports on topics such as environmental protection and piracy, along with interesting expert discussion on the current situation of the industry, the subject of LNG and a fascinating report on a tug sortie in the Port of Hamburg.

I trust that you will thoroughly enjoy reading this new issue of our Port of Hamburg Magazine.

A handwritten signature in blue ink that reads "Ingo Egloff".

Ingo Egloff
Joint CEO, Port of Hamburg Marketing

A FIGURE THAT SPEAKS FOR ITSELF: GENERATING AN ESTIMATED 4.1 BILLION EUROS OF ADDED VALUE, HAMBURG IS AMONG THE WORLD'S LEADING SHIPPING CENTRES.



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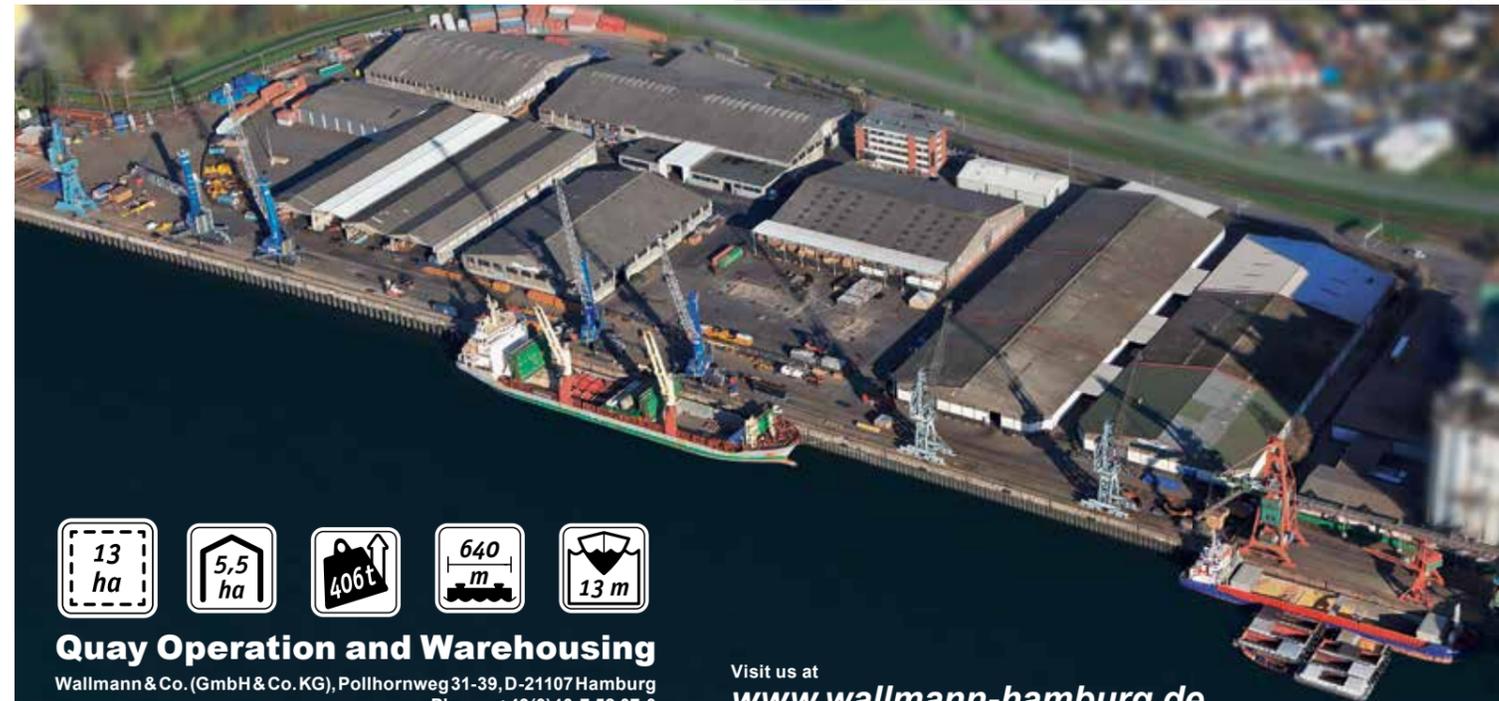


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A German national scrapping programme is not the solution

Merchant shipping, particularly container shipping, has been going through a major crisis for years. The stagnating world economy, over-capacity and falling rates have been seriously damaging the sector for a long time. Port of Hamburg Magazine (POHM) spoke with Ralf Nagel CEO of the German Shipowners' Association, about the difficult overall conditions and the challenges for the future.



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POHM: At the end of August, was it a big surprise for you when Hanjin's insolvency was announced?

Nagel: In merchant shipping freight and charter rates have been unsatisfactory for the last eight years. So, it can't really be surprising that individual shipping companies are slowly running out of steam. The majority of our members, who charter out container vessels, now are naturally uncertain regarding the outcome with their charter agreements. What is the restructuring of Hanjin going to look like? Will a new investor come on board at Hanjin? What will the South Korean administration do?

First of all let's stay with liner shipping. Because of Hanjin going to the wall, container freight rates have risen short-term. But, this effect evaporates quickly. Does this mean that it's only a question of time until the next one goes under?

That would be speculative. It is true that it had no resounding effect on rates. But that was not expected either. The ships are still on the market. And since they are all relatively modern vessels with credit financing, they will not be scrapped either. All of the competitors in the market are fighting for survival because of poor earnings. Whether this could lead to an insolvency depends on whether the shareholders of these companies take action, pumping in new capital. Because of this I don't see the Hanjin insolvency as the overture to a whole series of insolvencies in liner shipping.

How do you judge the German container lines? How well are they coping with this difficult environment?

I can't speak for the individual shipping lines. However, the German lines have sent clear, innovative signals to the market causing them to make headway. These were also very good signals for their German base.

In the past not only the container lines, but also bulk, tanker and heavy-lift shipping companies too, have tried to overcome the crisis, especially by consolidating. But it hasn't achieved very

INTERVIEW

much. Quite to the contrary: The losses have gone on. So, is the old adage 'Big is Beautiful' a flop?

By no means. Economies of scale are worthwhile, even if experience shows that this is ever decreasing. But what is just as clear: If you have problems on the income side, you have to reduce costs – as far as you can, without reducing product or service quality. Collaborating with third parties can be useful, e.g. joint purchasing of bunker and oil products, or marketing the fleet. However, reducing costs is not a long-term solution. This is why, it is important for our member companies to take a look at the whole process chain. The watchword here is digitalization. You have to re-evaluate and optimize your entire business processes. Not only the liner shipping companies are doing that at the moment, but the chartering companies too. So, digitalisation is one of the key topics in the question: Will we remain competitive or not?

Neither consolidation nor digitalization can change the real problem: the enormous over-capacities. Is there any kind of solution for this at all?

When ships are sold today, they are sailing for another owner tomorrow, only with lower capital costs. For the market this kind of sale achieves absolutely nothing. This is why many are calling for a scrapping programme. However, this can only be of use if it is implemented globally. The Chinese, for example, are still constructing newbuilds, and this for two reasons: On the one hand, they want their own big, modern, high-performance merchant fleet. On the other, they need to at least partly utilize their vast shipyard capacity, resulting in subsidies for shipbuilding in China.

So, even if we were able to carry out a national scrapping programme that is not allowed because of EU subsidy regulations, scrapping 200 German ships, when at the same time, elsewhere, another 200 ships are sliding down the slipway.

The figures confirm that. According to the Alpha-liner analysts, despite the overwhelming over-capacity there are still in excess of 480 container ships with more than four million TEU in the order books. So is the situation really going to get worse?

At least it won't get any better. Globally an increase in the bulk carrier fleet of more than 1,000 ships is expected. People generally try to make us responsible, accusing us of not getting our act together and continually ordering more newbuilds: No way! The German shipowners have put things enormously on hold. There are very few newbuilds still in the order books. Consequently, the German fleet is the only big fleet that is currently shrinking. All of the other major merchant fleets – the Chinese, Greek and Japanese – are growing.

How can the German Shipowners' Association contribute to improving this situation?

An association, just like the world of politics, has only so much influence on the market situation. Naturally,

“The German shipowners have put things enormously on hold. There are very few newbuilds still in the order books.”

we try to help shape the framework for the German merchant fleet, so that it can continue to stay at the top of this world fleet game. The shipping industry will carry on into the future. The simple question is, with or without Germany.

If you follow economic theory, then sooner or later supply and demand will balance out. But on the way there, some will fall by the wayside, simply because they do not have the necessary resources.

Ralf Nagel, CEO and committee member of the Association of German Shipowners has represented the interests of the some 200 association members since 2010.



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“The number of youngsters coming into shipboard professions lies on a long-term average of some 450.”

What does the shrinking national merchant fleet mean for Germany as a player in the shipping industry?

With each and every ship that leaves Germany, not only capital is lost. There are jobs depending on every ship – both shipboard and shore-based.

This hardly paints a rosy maritime picture for the upcoming generation. Under these conditions, is it even possible to make the industry more attractive?

Seafaring is, as ever, an attractive profession. Currently, we don't see any problem with recruiting. The number of youngsters coming into shipboard professions lies on a long-term average of some 450. In the boom years there were up to 800 beginners, so almost twice

as many. This has now balanced out. And to improve the career prospects for the upcoming generation during the crisis, the shipowners have set up a trust to secure Germany's place as a long-term player. They are also supporting vocational and in-service training for German seafarers to the tune of 20 million Euros. Additionally, to secure their long-term employment, since last summer the improved public subsidy for incidental wage costs has come into play. Our aim has to be, to secure nautical and technical competence for the whole of Germany.

But, this doesn't change the fact that jobs are missing, does it?

The shipping industry is on a growth course. But we are a global industry. If you go for a merchant shipping

career, you are competing with manpower from all over the world. In contrast to other vocational qualifications in Germany, this is also presents a great opportunity: With the licence a young nautical or technical officer can sign on with any shipping company and gain experience. Salaries in the officers' bracket are, by the way, also very attractive when compared internationally. And after your time on board there are inspiring shore-based career opportunities with the shipping companies, not to mention in research, shipbuilding and many other areas. Seafarers' maritime know-how is in real demand.

Are there also still positive sectors in the shipping industry?

The situation is somewhat better with feeders and smaller ships. This goes for special shipping too. Our big worries are container and bulk shipping. The poor rates in container transport hit the German shipowners especially hard, because we have the biggest market share worldwide – about a third of all - in this segment.

What about cruise shipping?

That is really booming. But, you can't compare that business with normal merchant shipping. The danger

of over-capacity is not in sight, even if the European market could be saturated at some point. But just take a look at the number of people living in India and China, and imagine attracting only one percent of them to cruising, that would be gigantic. It is no wonder that AIDA is introducing one of its vessels to the Asian market. As a shipping location, Germany is profiting a number of ways from the boom, including high-value jobs in shipbuilding, with its suppliers and with the shipping companies too. Just as a good example, AIDA's owner, Carnival Maritime has its fleet operations center here in Hamburg. ■

German Shipowners Association

The German Shipowners Association (VDR) was founded in 1907 by regional ship owners' associations in order to pursue their common interests. Today the VDR represents German shipowners not only in Berlin and Brussels but also on a worldwide level, through its membership in various international organisations.

Details: www.reederverband.de



JAN TIEDEMANN, LINER SHIPPING AND PORTS ANALYST FOR THE SHIPPING INFORMATION SERVICE ALPHALINER, ON THE CURRENT SITUATION IN SHIPPING AND THE PORTS.



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“Ports and terminals should learn from the carriers’ past mistakes”

My plane takes off from Hamburg on a grey and overcast evening in October and seconds into the air, all city lights are swallowed by thick layers of low hanging fog. Well, not really all of them to be precise. Barely a minute after takeoff from Hamburg’s runway 23, a bright orange glow illuminates the clouds from below on the airplane’s left hand side – the port side. Behind a cross hatched texture of drizzle, the contours of Hamburg’s container port emerge in a bright orange glow.

Two layovers, 6,130 air miles and 17 hours later, ironically, the scene eerily repeats itself on approach to Busan-Gimhae Airport. Clouds gradually drown out the lights of Korea’s second-largest city – except for the cheerful glow of the Busan container port, a lone beacon in a sea of darkness.

The two images almost seem symbolic: In a shipping market that struggles to recover from one of the worst crises in decades, the port sector is still hanging on. While, admittedly, ports aren’t exactly

going from strength to strength these days either, terminal operations have been a stabilizing factor even throughout the worst years of the recent shipping slump, with positive returns for most operators. Nevertheless, challenging times lie ahead and the dire straits in which most ocean carriers and ship owners currently find themselves, should serve as a warning call for the ports sector. In times of slowing demand, eventually, it’s all about capacity management. Ports and terminals should learn from the carriers’ past mistakes and adapt to the necessities of a maturing industry, where much more modest growth scenarios will become the new norm.

So where are we headed to in 2017 and beyond? It would be foolish to believe that all things shipping will return to ‘normal’, when this supposedly normal state refers to the golden shipping years just ahead of the 2008-2009 crash.

What is going to be the new normal in the container shipping world? How will a likely post-crisis scenario look, and how will this new environment affect ports?

First of all, ports might need to accept that pre-crisis volume growth will likely never come back.

With the exception of 2009, global port throughput has grown every single year, even throughout the depths of the crisis.

In an unprecedented frenzy, container port throughput tripled from about 230 m. TEU in the year 2000 to just over 700 m. TEU in 2016. Year-on-year growth, however, has crumbled from solid double digits in the noughties to low single digits in the current decade. This year, global throughput growth is expected to climb at a measly 0.8 percent and the short-term outlook does not look much better.

It is worth noting that growth continued throughout most of the crisis years and that the current slowdown appears to mark – at least to some degree – a shift in paradigm. So why is that?

Compared to other sectors of shipping, the global container trade is a relatively young phenomenon. The first few container ships, tiny by today’s standards, only entered service in the 1960ies and it was not until twenty years later that box volumes became more significant and ship sizes began to increase. Some 80 percent of all net fleet growth only happened in the past 15-odd years. From the year 2000 to 2016, vessel capacity increased fivefold from a modest 4 m. TEU, to well over 20 m. TEU. Global outsourcing on an unprecedented scale fu-

eled the container boom and whenever demand would temporarily slow, the market found means to balance itself.

A decade ago, the container trade could still expand into new areas and absorb many commodities that had not yet been containerized.

Today however, these options have been all but exhausted. There is hardly a single geography left into which the container could expand and the same is true for commodities. Globalization has reached a peak and options for further offshoring of production are few and far between.

This means that the container trade can no longer increase from one-off effects and future volume growth will have to be organic and self-sustained, like in any mature industry. The once famed GDP multiplier, a strong positive correlation between economic growth in general and the container trade in particular, has gradually crumbled to a value near

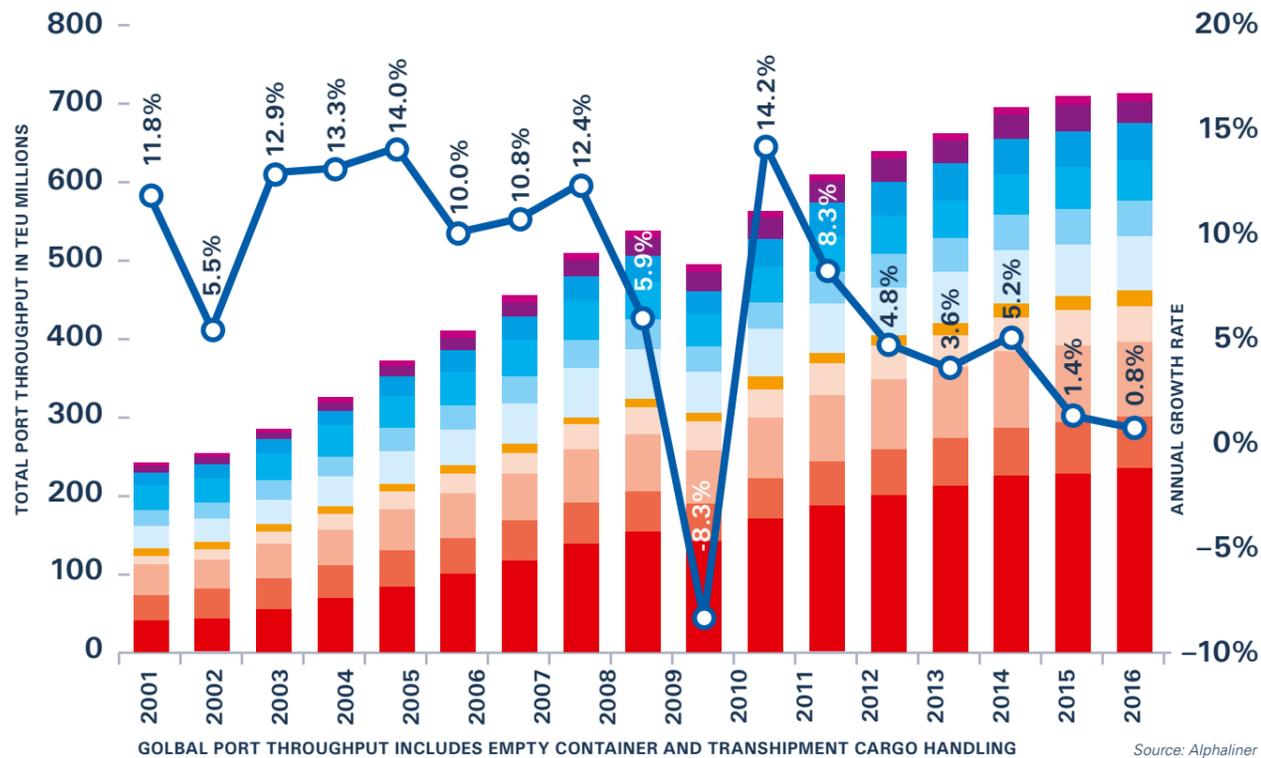
“It would be foolish to believe that all things shipping will return to ‘normal’, when this supposedly normal state refers to the golden shipping years.”

one. Economic growth no longer automatically generates growth in container shipping and ports will need to adapt to this new reality.

Compared to a decade ago, port capacity growth needs to be more measured in the future and port operators will have to carefully balance supply against demand. This is easier said than done in a regulatory environment, where it can take many years to obtain planning permission for an expansion project, not to mention funding and actual construction. One way around this is to grow capacity by means of upgrading existing port facilities rather than building too many additional berths.

This comes with the added benefits that ‘more capacity per quay metre’ also means shorter dwell times for vessels and increased operational flexibility. On the downside: all this is capital intensive and

GLOBAL PORT THROUGHPUT



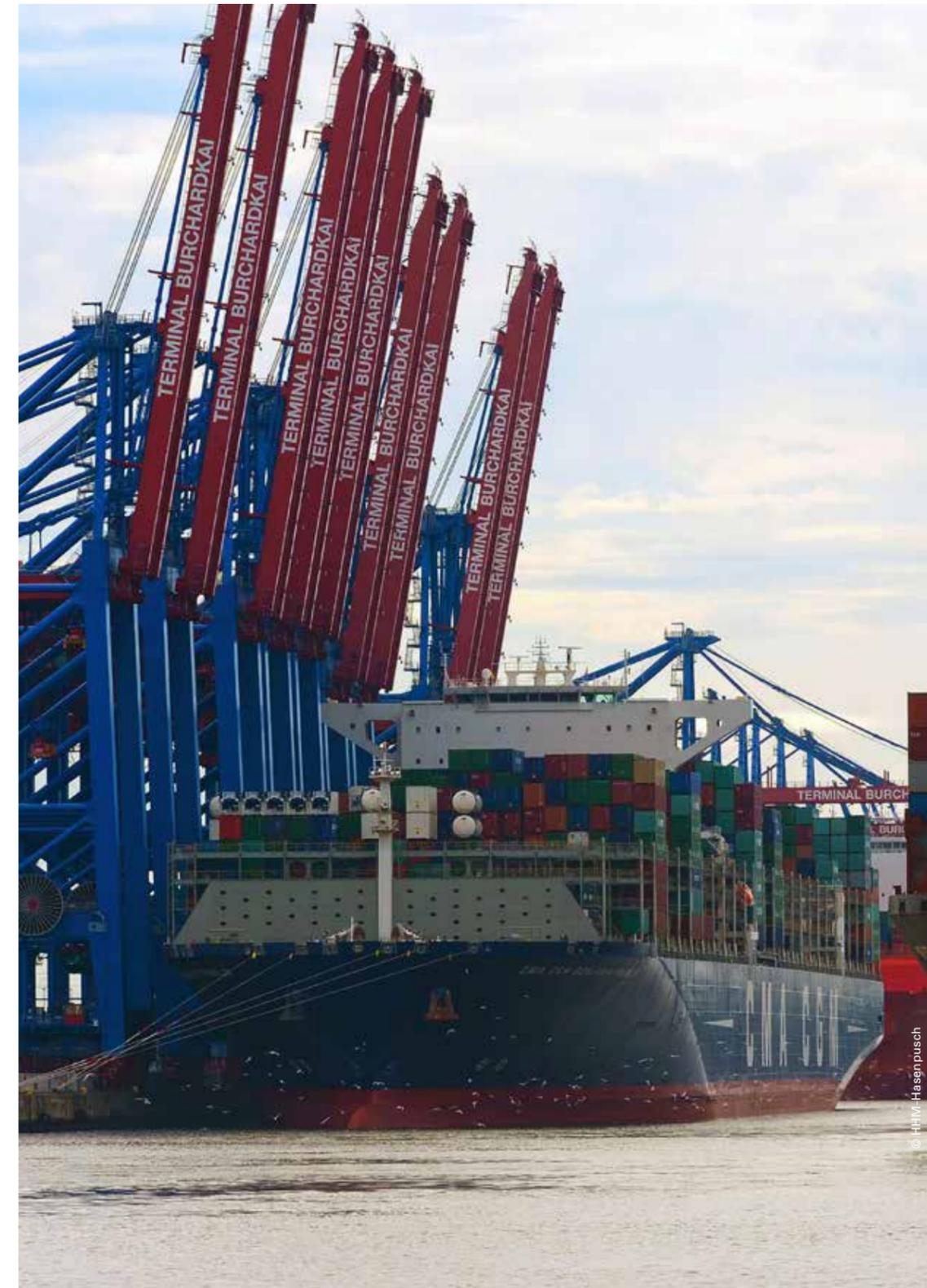
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no carrier is really prepared to pay more than a token premium for high-quality service. Further to this, the ongoing wave of carrier consolidation will give shipping companies increased bargaining power in the future. In a liner shipping world, dominated by only a handful of major global alliances, few ports have the luxury of being irreplaceable and most major ports already face fierce competition from regional peers. In this highly competitive environment, combined with lukewarm volume growth, port and terminal operators will likely face declining margins. So returning to Hamburg, what does this mean for Germany's main container port? The port's confined footprint, located in the heart of a growing city state is not without challenges. The deployment of ever larger ships - average vessel size in the Asia to Europe trade very recently passed the 15,000 TEU mark - means that peak loads at ports keep increasing, even in times of modest overall growth. In a city port such as Hamburg, these peaks can coincide with times of high infrastructure demand from non-port related activities. While not having costly excess capacity and lots of underused in-

frastructure is a good thing per se, short-term overloads and subsequent delays can be side effects of working in a city port. Predicting, coordinating and managing these infrastructure constraints is key to insuring a functioning port in the long run and initiatives such as the HVCC Hamburg Vessel Coordination Center, funded by the port's main terminal operators, are steps in the right direction here. Further to this, the HPA's upcoming traffic flow management tools and other applications, to be developed under the smartPORT banner, will further advance Hamburg's progress down this route. Again, in a time of decreasing margins it's all about balancing supply and demand. It's about not building billions of Euros worth of excess infrastructure - but making best use of existing facilities, while delivering new capacity on time when needed. Hamburg has traditionally been a quality port that offered fast and reliable service. Hamburg is known for this, as well as its excellent hinterland connections and healthy local volumes. The port's compact footprint, with very limited space for expansion, traditionally forced pier operators to upgrade existing facilities rather than simply double the size of their

terminals. With space at a premium, Hamburg has always invested in high productivity per quay meter. A strong logistics background furthermore insures added value for the region. In this respect, the Hamburg metropolitan region is not just a gate-

way for containers, but an industrial and logistics stronghold. So in some respect, the port has already learned many of these important lessons and duly applied them. ■



High-performance container terminals and superb hinterland rail links ensure Hamburg's significance as a global logistics hub.

Environmental protection: a mammoth task for the shipping industry

Environmental protection looms large for the most ecological means of transport, by water. Legislative bodies at national, European and international level are continuously implementing new requirements and guidelines to reduce environmental load and to keep CO2 emissions low. Shipping companies are being required to apply these regulations with specific operational measures plus creative refits of ships and fleets. Verifiers such as Bureau Veritas are actively backing up these processes and advising.

Most rules focus on exhaust gas emissions. In the USA's Emission Control Area – ECA – ships laid down after 1 January 2016 may only be equipped with engines shown to cause considerably lower nitric oxide emissions (MARPOL Tier III) or fitted with an exhaust gas treatment unit; or catalytic converter. The North Sea and Baltic, where this rule will apply from 2021, are following this international example.

Reduction of sulphur dioxide emissions has been an aim for a long time. The North Sea and Baltic region is defined as a SECA or Sulphur Emission Control Area, where the sulphur emissions produced in exhaust gas have been cut from 1.0 percent previously to 0.1 percent. At the end of October 2016 the International Maritime Organisation (IMO) decided on a worldwide reduction of this sulphur limit. Its decision provides for the permissible maximum content in fuel to be reduced from the present 3.5 to 0.5 percent from 2020. This decision is as much a milestone for international environmental protection in deepsea shipping as it is for worldwide competition.

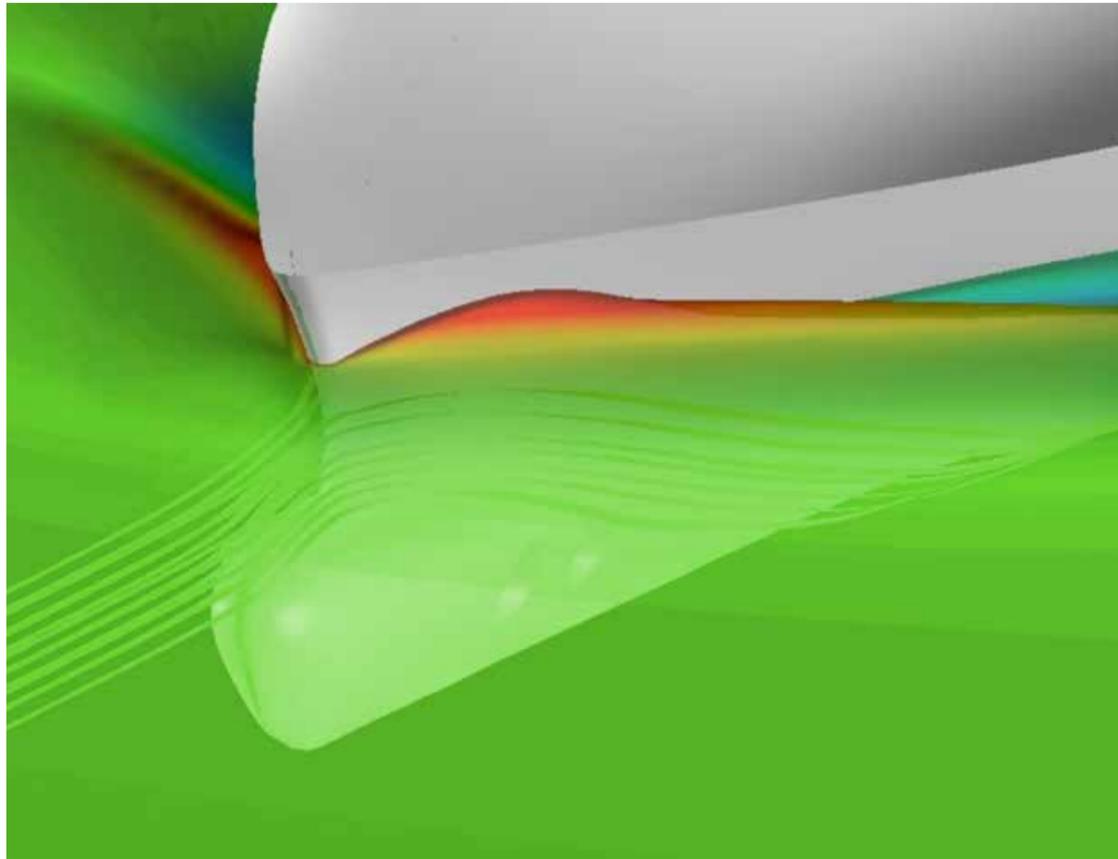
In addition, the EU Commission has produced a set of rules obliging shipping companies from August 2017 onwards to submit plans detailing how CO2 emissions are measured, documented and notified to the EU. The law covers all vessels of over 5,000 gt calling at European ports. Under the title 'Monitoring, Reporting, Verifying of CO2 Emissions', this MRV Order is part of the European Commission's overall strategy for reducing greenhouse gases. Recording, documenting and annual verification of emissions will be audited by such accredited verifiers such as Bureau Veritas. Tecnicas, one of its subsidiaries, has joined a company specializing in EU emission trading to produce an MRV program. This supports shipping companies in discovering an efficient solution for measuring the given parameters as well as drafting reports on their fleets for the EU.

In autumn 2016 an important milestone was reached in the Ballast Water Management Convention. With Finland's entry at the beginning of September, enough countries, with merchant fleets amounting

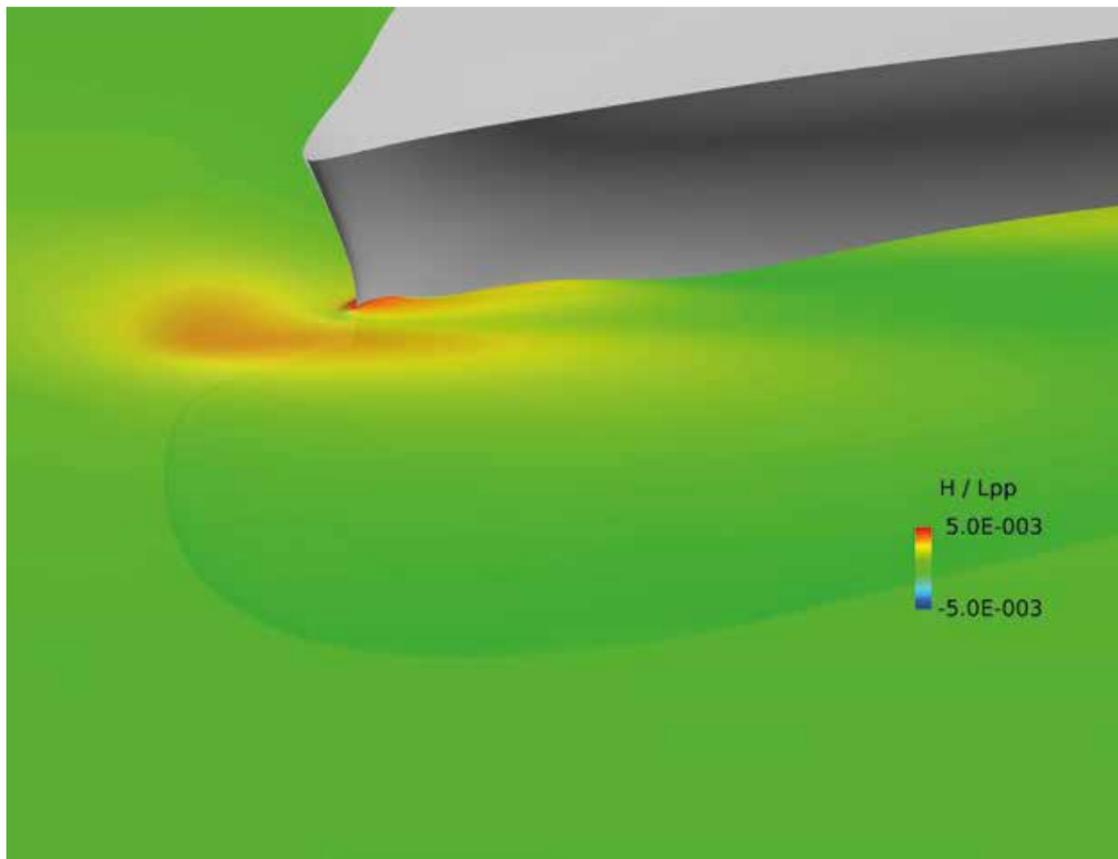
“Since the introduction of the Energy Efficiency Design Index in 2013, the maritime industry has already been obliged to continuously reduce ships' CO2 emissions.”



One example of best practice is the refit of the CMA CGM container ship 'Tosca': Comparison of the original bulbous bow (above) and the optimized version (below) demonstrates the previously stronger bow wave. So the shape of the bulbous bow influences the ship's efficiency.



After a total of 850 calculations, the containership's new hull shape produces an efficiency boost of about nine percent and reduces fuel consumption.



to a minimum of 35 percent of total world tonnage was reached. The Ballast Water Management Convention comes into force in twelve months. This makes installation of ballast water treatment plants or equivalent solutions compulsory within the next five years – in the framework of the renewal of the International Oil Pollution Prevention (IOPP) certificate. The ballast water convention was adopted in 2004. The aim is to limit damage to the marine environment caused by transporting marine organisms in ships' ballast water, which can lead to problems in the marine ecosystem.

Since the introduction of the Energy Efficiency Design Index in 2013, the maritime industry has already been obliged to continuously reduce ships' CO2 emissions. Steps to improve propulsion efficiency, reduce ship resistance and cut fuel consumption of main and auxiliary engines have been implemented. Such measures also produce a fall in bunker costs. Bureau Veritas has supervised many such projects – from optimization of ship speed via derating engine output, to installing a new propeller or a new bulbous bow. Hydrocean, a wholly-owned

subsidiary of Bureau Veritas, has specialized particularly in hydrodynamic improvements to boost efficiency and optimize ecological balance.

One example of best practice was the refit of CMA CGM's 8,500-TEU containership 'Tosca'. This liner shipping company opted for a parametrical optimization of her bulbous bow to cut fuel consumption. Hydrocean was requested by CMA CGM to meet this goal using a prescribed operational profile incorporating 17 combinations of ship speed and draft.

Over 50 bulbous bows were automatically produced by Hydrocean's parametric hull modeller. Directions and amplitudes were defined jointly with CMA CGM so that all parameters such as vessel volume, stability rules and design limitations should be allowed for. Within a few days, altogether 850 computations were completed. As a result, optimal hull shape boosted efficiency by around 9 percent. Taking average annual fuel consumption of 22,500 tons per vessel, the optimized hull produces an annual saving of around 1.35 million dollars per ship. ■

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itime academies.” Whereas the graduates of the recently established ‘Ship and Shipping company management’ course that is unique in Germany, and includes modules on environmental technology, shipping company logistics and quality management are actually in increasing demand from the shipping companies, the nautical officers are having a tougher time. At the Millennium, students already had their first contracts in hand before they finished studying. Frankmann believes that it was well after the beginning of the shipping crisis that the resulting maelstrom of graduates absolutely flooding the market was properly recognized. Today it is really more difficult to find a job: “We have to go polishing the shipping company door knockers and try to do internships to find the first job,” he says. He is convinced that you can continue to live the dream of a career on the High Seas, if you really put your mind to it. This change of mind-set among those involved in training was slow to come about. From his point of view it would make things a lot easier if both sides came to terms with reality when confronting the unsure potential students – accepting the current situation for what it is, and then realistically presenting the opportunities and risks that are associated with this choice of field of study.

The Elsfleth Campus at Jade University of Applied Sciences, Germany’s largest maritime faculty, is reacting to the changed conditions in the field, reforming its maritime undergraduate programme. For the rector of the shipping and logistics faculty, Prof Ralf Wandelt PhD, the potential to specialize, using profiling and channelling work experience, plays an important part in making the graduates attractive for the job market. “Preparing for work experience has been considerably intensified, and in the nautical courses with a 14-day training voyage on a large sailing ship in North Sea and Baltic, can prove extremely attractive,” says Ralf Wandelt. Jade University, just like Emden-Leer, is equally concentrating on collaborating – direct contact for students with operators and institutions on excursions and at contact fairs is perhaps later the way to make the decisive step for the first job offer. For him it is quite clear, why the global maritime economy, despite developments such as the flagging out of many German fleets is still reliant on German graduates: “In export-oriented Germany, nautical and maritime competence are in shore-based demand too, e.g. for ships’ pilots, traffic supervision and shipping authorities to name just a trio of the alternatives.” Scrapping initial training

Recruiting at the SMM Trade Fair: Companies and educational establishments are dependent on the upcoming generation

Embarking on a shipping career? Going to sea, or not to sea ...

Today, at the end of their school days, high school graduates are confronted by a myriad of potential university and vocational courses. The career opportunities available in the various industries always form one crucial yardstick. What would be the point in choosing a course that will lead you directly on the road to nowhere? Is the shipping industry that is currently listing badly, still an attractive career option for young people at all? At SMM 2016, the leading global trade fair in the shipping industry, Port of Hamburg Magazine took a closer look at the ‘Maritime Career Market’.

At Hamburg exhibition centre, it’s the final day of SMM 2016. Where representatives of the international maritime sector have spent the week meeting and coming up to speed on cutting-edge technologies, the topic now is centred on Human Resources. Given all the super equipment and automated control systems it is easy to forget that just as before it is all made by man. Highly qualified staff, taking care of development, production and operating of ships and their many constituent parts. Along with roughly a dozen companies, here at the Maritime Career Market universities, with their course programme

experts and students are on hand for meeting and talking with potential upcoming students. It’s a good opportunity for a status report. Henrik Frankman is studying for his nautical licence in the maritime faculty at Emden-Leer University of Applied Sciences, a very traditional academy that has been training nautical officers for over 160 years. He is confident that: “Ships will not lose their importance as a global means of transport: Quite independent of the crisis, there will always be shipping companies. That then also means there will always be a demand for highly qualified officers from the top German mar-



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Jade University of Applied Sciences nautical students on the training sailing ship "Grossherzogin Elisabeth" underway in the North Sea and Baltic.

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WIR BRINGEN DEN HAFEN INS HINTERLAND.

Die **Hamburger Hafen und Logistik AG** ist ein führender europäischer Hafen- und Transportlogistikkonzern, der Schiff, Bahn und Lkw zu einer vorbildlichen Transportkette verknüpft. Ihre Container-Drehscheiben sind die Knotenpunkte eines Netzwerkes, das Häfen an Nord-, Ostsee, Mittelmeer und Schwarzem Meer mit dem mittel-, ost- und südosteuropäischen Binnenland verbindet. www.hhla.de



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skill level in organizing, interest in multi-cultural cooperation and advanced language skills, affinity to technology and IT, but also commercial flair. There are three things that you can certainly not deny about nautical and other maritime disciplines: The sheer diversity of learned competences, the heavy demands /taxing challenges, and a fascinating time right from the start. Because, let's face it, who can claim to have spent a university semester studying on the High Seas? ■

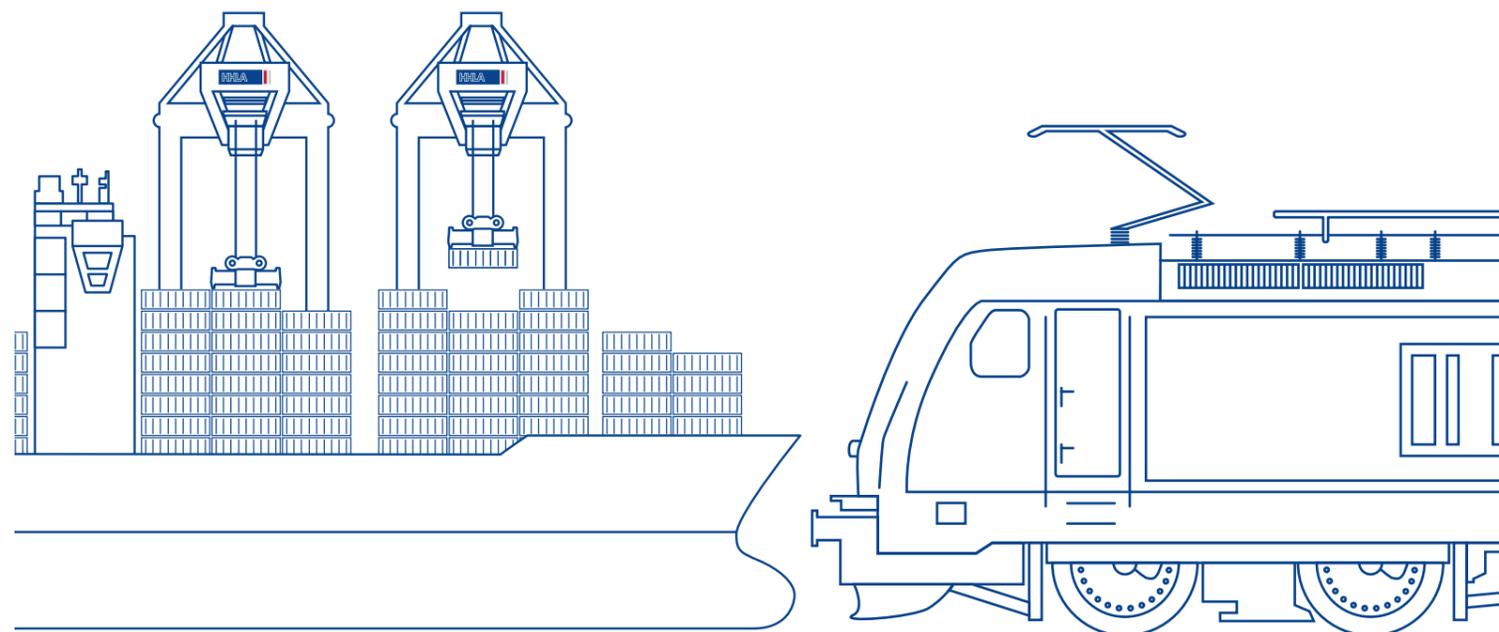
Talents for Maritime

Many channels lead to a career in the maritime world, which is far more than just 'going to sea'. Shipbuilding, supply industries, offshore and oceanography are all part of the puzzle. One helpful career compass, in German, published by the DVV Media Group in cooperation with the North German Maritime Cluster, is the "Talents for Maritime" brochure. Sift through 50 pages covering the whole range of careers in the maritime sector with comprehensive information on vocational training and university courses, peppered with portraits of young professionals.



Details:

The digital version can be downloaded free at: www.schiffundhafen.de/talents



isn't an option either in Prof Wandelt's view. On the one hand, it would cause a significant loss of expertise, and on the other, it would make a restart, or rebuilding structures in changed times of increasing demand, very time intensive.

Here at SMM one keyword is heard repeatedly from the student advisers – inter-disciplinary skills – meaning collaboration beyond disciplines, inter-meshing various skills that in the past were strictly separated from university course. In hardly any field is interdisciplinary learning as essential as in shipping. Just taking a glance at the requirements for those interested speaks realms, e.g.: high

LULL BEFORE THE STORM

The piracy threat off the Horn of Africa seems banished. But nobody really trusts the peace. Fresh flashpoints and challenges are already looming for crisis-torn merchant shipping.



Since piracy has been successfully repressed, the German navy has reduced its presence off the Horn von Africa. Are the pirates returning?

2015 not a single attempted attack. For the first half of 2016, the International Maritime Bureau (IMB) reported just one incident off the Yemeni coast. Nevertheless, the situation remains anything but secure. Only on 22 October 2016, after a long period of calm came an attack off the Somali coast – and moreover on a German tanker. The shipboard security squad only managed to repel the aggressors after firing warning shots. (see extract from the 'Live Piracy & Armed Robbery Report 2016' on page 26).

“Since 2013 no kidnapping has occurred at the Horn. 2015 produced not a single attempted attack.”

No question, then, that Operation Atalanta as a multinational EU mission, one of its aims being to counter piracy off the Horn of Africa, has helped to stabilize the situation. The German Joint Forces Command in Potsdam reported 581 attacks by pirates in the area since December 2008. Of these, 435 attacks were foiled or repelled, 134 were actively blocked by action taken by Operation Atalanta ships or planes. On top of that, Atalanta forces captured 120 'pirate action groups' since the start of the mission. They have also detained 155 piracy suspects. Following transfer to various national prosecutors, 119 of these have already been given transparent, legally binding sentences.

Apart from the naval presence, security measures by the shipping companies themselves have defused the situation. Barely any vessel fails to observe the BMP4 recommendations, or Best Management Practices for Protection against Somalia-Based Piracy. The most important measure here is undoubtedly deployment of armed guards. Thorsten Steubesand is CEO of ZST Maritime, one of only three German private security firms granted

Calm reigns. Or maybe it's a little too calm? The talk is of piracy that reached a climax off the Horn of Africa five years ago. Not just in the shipping world, it was a widely discussed topic with far-reaching repercussions for the entire industry. Suddenly the general public was fascinated, even if most folk thought more of long-past romantic seaborne plunder on the lines of "Pirates of the Caribbean" than any genuine threat. Then when the first German shipowners were affect-

ed, the papers went to town. Barely a week passed without a detailed dismantling of the situation in the Gulf of Aden in sometimes rabble-rousing tabloid fashion. Even Hollywood tackled the subject. Tom Hanks in the lead brought the story of the 2009 hijack of the "Maersk Alabama" to the silver screen. And now? No longer do you read of savage attacks by superbly armed pirates, brutal capture of hostages, nerve-wracking negotiations on ransoms, and failed

rescue attempts. Has the threat off the Horn of Africa been tackled successfully? Have the waters between Somalia and the Yemen and up into the Arabian Sea been made safe for good? Or are we simply seeing the lull before the storm?

The statistics tell a clear story. According to the German navy, 176 attacks on ships and 25 hijackings were reported off the Somali coast in 2011. Since 2013, no hijacking has occurred in the area, and in

© Bundeswehr

246
ATTACKS WORLDWIDE

-44%
SINCE 2011

PIRATE ATTACKS IN 2015

PIRACY - REPORT BY THE INTERNATIONAL MARITIME BUREAU (IMB)	2011	2012	2013	2014	2015
TOTAL NUMBER OF ACTUAL AND ATTEMPTED ATTACKS REPORTED	439	297	264	245	246
INCLUDING SE ASIA (INDONESIA, MALACCA STRAITS, MALAYSIA, MYANMAR, PHILIPPINES, SINGAPORE STRAITS, THAILAND)	80	104	128	141	147
INCLUDING INDIAN SUBCONTINENT (BANGLADESH, INDIA)	16	19	26	34	24
INCLUDING NIGERIA	10	27	31	18	14
INCLUDING THE HORN OF AFRICA (GULF OF ADEN, RED SEA, SOMALIA, OMAN)	237	75	15	11	0
REST OF THE WORLD	96	72	64	41	61



a licence for guard duties on seagoing vessels by the Federal Office of Economics & Export Control (BAFA). This former naval officer himself took part in Mission Atalanta and realizes that naval craft are often too far off to aid merchant ships under attack. The

high-risk area is simply too vast. "You need to imagine just five patrol cars being available to ensure security throughout Germany. Self-help, or in other words deployment of armed guards as escorts on board the merchant ships, then comes into its own. Even a

glimpse of armed security guards often suffices to persuade attackers to turn tail."

As an understandable result, the German navy and other countries too are now winding down their military activities, since the threat from pirates has notably diminished. No German naval vessel is currently deployed off the Horn of Africa. By the end of the year just three naval vessels from the Netherlands, France and Spain, plus two reconnaissance planes, one Spanish, one German, were operating in the area for Mission Atalanta.

Since the start of Mission Atalanta, 120 pirate action groups have been intercepted by the forces deployed.



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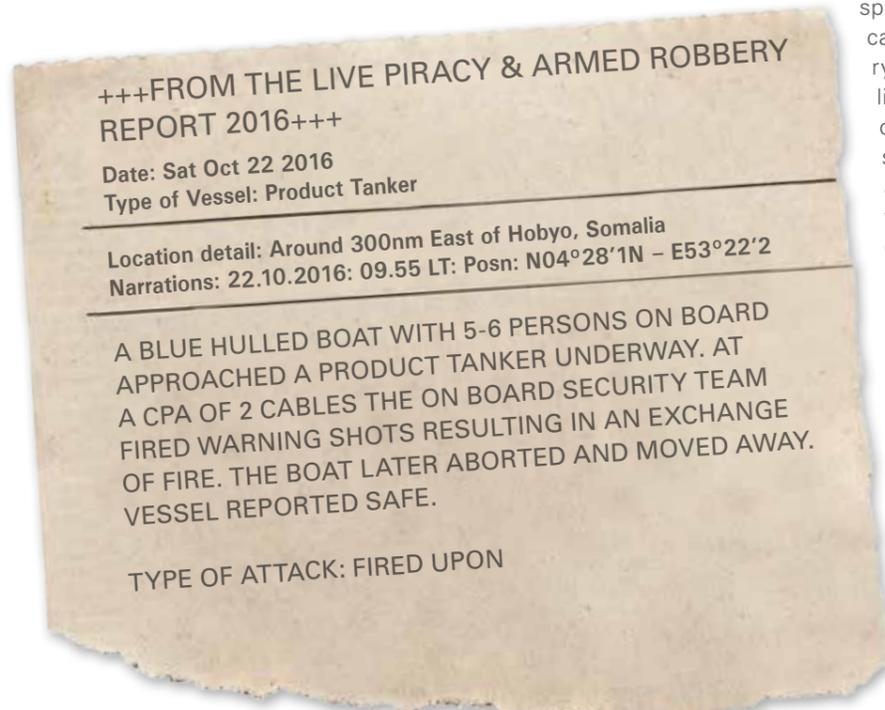


Despite the positive trend off the Horn of Africa, seafarers are still being held hostage there. The Omani fishing trawler "Naham 3" was hijacked on 26 March 2012 and her 26-man crew abducted. They have been held captive by the Somali pirates ever since, who are still insisting on payment of a ransom.



All the same, nobody feels truly secure. The German navy confirms that "The pirates could resume their 'business' at any time. The threat resembles a smouldering fire deprived of oxygen by Atalanta's presence and protective moves by shipping companies." For all its successes, defence minister Ursula

von the Leyen also realizes the necessity to maintain Atalanta to prevent any slide back into piracy. Nor has the IMB sounded a lasting 'All Clear'. The situation off the Horn of Africa remains insecure, states one report. Somali pirates equipped with automatic weapons, bazookas and speedboats still possess the capability and capacity to carry out attacks. The IMB believes that "Just a single successful attack on a merchant ship, and the compulsion to act among Somali pirates would flare up again at once." Against this background, no wonder that ship's insurers continue to insist on maximum security measures when crossing the area infested by pirates. Ships continue to sail in convoys and with armed security personnel on board. BMP4 is omnipresent, as German shipowners will confirm when quizzed. The question is simple: For how long? Merchant



shipping has been in crisis for almost a decade now. No end is in sight. Cost pressure is intense and has already brought many shipowners to their knees. Security expert Steubesand has therefore already detected signs of slippage in security standards. "The first ships without armed guards are already sailing around the Horn of Africa. One insurer says that while you cannot exclude a possibility that one or the other surrenders to cost pressure and winds down security measures. That is not true of the majority. Nobody wishes to be the first to fall victim to a pirate attack, and even less so for lack of proper security measures." However positive the situation of the Horn of Africa may appear just now, elsewhere by contrast the security picture is becoming more critical. February's IMB report 'Piracy and Armed Robbery Against Ships' may have reported no pirate attacks off the Horn of Africa for 2015, but 246 occurred worldwide. Indonesian and Malaysian waters, especially, but also those off India and Bangladesh, are under increased potential threat. This is barely noticed by the general public, since it is primarily

"With one difference, that whereas Somali pirates primarily have it in for the crew so as to receive blackmail cash, the Nigerians are primarily interested in the cargo and the ship."

local traffic that are affected, and the thieves are primarily out to bag valuables, equipment and easily shifted cargo. Their strategy: Board fast, and then hop it. The situation in the Gulf of Guinea is causing growing concern. Ships are repeatedly being hijacked off the coast of Nigeria. And the villains are acting just as brutally as off the Horn of Africa. With one difference, that whereas Somali pirates primarily have it in for the crew so as to receive blackmail cash, the Nigerians are primarily interested in the cargo and the ship. Pirates are particularly focussed on small and mid-size product tankers. They sell the cargo booty and use the vessel as a base for further illegal action. Steubesand: "That's a hideous situation for the crews, who tend to stand in the pirates' way. To be rid of them quickly,

the pirates sometimes resort to drastic steps. Should seafarers simply be cast adrift in a lifeboat, then they are in luck. Life is not worth much around here." The presence of suitably trained armed guards is all the more vital. Until this day, namely, not a single ship with armed security staff on board has been hijacked or abducted anywhere in the world. So far that's seemingly the only way of effectively countering the pirate bands and their horrible deeds. ■

Rescuing refugees presents a challenge

Pirates are not the only challenge that merchant shipping currently has to confront. The refugee tragedy in the Mediterranean presents a perpetual task for the industry. During 2014 and 2015 over 320,000 refugees were rescued, or more than in the previous 23 years altogether. Efforts were coordinated by the Rome-based Maritime Rescue Coordination Center (MRCC). At the outset, especially, merchant shipping made a substantial contribution. That involved extreme stress for the crews involved.

A crew of between 20 and 25 can suddenly be confronted by 200 or 300 castaways. These often have had traumatic experiences behind them, have sometimes been in flight for years, and have now dared to make their last move across the Med. Languages can be a barrier, the wounded must receive medical care, they need blankets, food and water that are often not available on board in the quantities needed. Rock bottom was reached in April 2015. Within 24 hours, the MRCC received distress calls from 40 boats. A total of 6,700 people were rescued. Yet despite tremendous efforts, there were many dead. Rescuing hundreds of people without life-jackets from drowning in craft that are capsizing has proved too much of a challenge for merchant ship crews.

Against this background, under pressure from shipowners' associations in Europe too, in summer 2015 EU rescue activities were expanded and a decision made to deploy European navies. Private NGO initiatives are also aiding sea rescue activities. That resulted in substantial relief for merchant shipping, a 62 percent drop in the number of refugees rescued, from around 42,000 in 2014 to 16,200 the following year, whereas the total number travelling remained high and unchanged.

All the same, the situation for merchant shipping remains tense. That is demonstrated by the fact that many shipping companies are meanwhile receiving appropriate advice from maritime security firms and 'rescuing refugees' has meanwhile been added to crew training as a distinct, separate topic.





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BALANCED OUTCOME: SMOOTH IMPLEMENTATION OF NEW SOLAS GUIDELINE ON VGM

Following the entry into force of its new regulation on notification of the weight of seaborne freight containers, the International Maritime Organisation – IMO – granted authorities in member states a three-month transitional period to introduce a practical system of checks. This ended on 1 October 2016. The general industry view is that no problems have arisen in applying the new rules.

The SOLAS – Safety of Life at Sea – convention has been extended by a regulation that from 1 July 2016 only export containers with reliable data on VGM or Verified Gross Mass may be loaded on to seagoing vessels. These more stringent regulations are a reaction to accidents in container shipping. These have frequently been caused by incorrect data of container weights. To avoid competitive distortions caused by different checking methods, official random checks will now be conducted to ensure a uniform procedure. EU member states agreed on this together.

VGM can be established by weighing the packed container - method 1 - or adding up individual load weights - method 2. The obligation to establish VGM rests with the shipper, who notifies the shipping company, which then passes on details to the container terminal. According to data from the member companies of the Hamburg Forwarders' Association (VHSp), in Germany calculating the VGM by adding up individual load weights according to method 2 is definitely the preferred method. The reason is that opportunities for weighing full containers away from logistics centres are limited

and involve extra cost. Currently the usage rate of method 2 is considerably above 50 percent.

VHSp's interim balance is positive. So far its Hamburg office has received no indication that any container loading has proved impossible on account of missing VGM data and/or checks by the relevant public agencies. The German Seaport Forwarders' Committee – KDS – forming part of the German Forwarding & Logistics Association – DSLV – also said that the start of obligatory container weighing in Germany has proved successful. KDS, however, sees some potential remaining for optimization. On expiry of the transitional period on observing the rules, the responsible state agency in Germany confirmed that weight details are now being supplied for most boxes.

In the Port of Hamburg, for instance, logistics providers offer weighing facilities. These have appropriately extended their range of services with mobile weighing stations and/or reach stackers fitted with devices for indicating VGM with method 1. At terminals, weighing tends to be seen as an exception and emergency solution. ■



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Move Forward with Confidence

Quite a load of rubbish!

Traffic is brisk in the Port of Hamburg. Every day and from all over the world, containerships, feeders, bulk carriers, tankers and product carriers, RoRo vessels and general cargo ships call at the universal port. These make up to 9,000 calls a year. On board these ships are containers, conventional cargoes, crews and ... waste! This last in substantial quantities. Apart from general ship's garbage produced by the crew and resembling household rubbish, there's cargo or operational waste. To ensure that all this waste is not tipped into the sea illegally, ports offer sufficient reception facilities for any waste. Here's a summary.

For several centuries waste and waste water from ships were simply tipped into the sea. Current estimates put the volume of waste on the bed of the North Sea alone at up to 600,000 cubic metres. The largest share of this by a wide margin consists of packing materials plus waste from fishery and shipping activities – causing a major problem for the sea as an ecological system. Plastic needs centuries to decay and disappear. Fish and especially seabirds mistake plastic for food and perish from the consequences of gobbling it up. Since 1973, therefore, stringent rules have applied to shipping. The International Convention for the Prevention of Pollution from Ships – MARPOL – is the most important set of rules on environmental protection in deepsea shipping. With just a few exceptions, disposal of any ship's waste whatever is banned. That's where ports come into play.

In the EU, the MARPOL Convention has been supplemented by Directive 2000/59/EU on Port Reception Facilities for Ship-Generated Waste and Cargo Residues. The directive aims to promote disposal of

“600,000 m³ of waste in the North Sea equate to the loads of 22,000 garbage trucks.”

ship's waste ashore. The appropriate reception facilities are at readiness in the ports. In addition, the directive obliges seagoing ships to report the type and quantity of ship's waste and cargo residues to be off-



In the Port of Hamburg 13 tank ships are available 24/7 to remove solid and liquid waste.

loaded and/or to remain on board through a central system at least 24 hours before entering any EU destination port.

Ships calling in the Port of Hamburg can basically dispose of waste in any quantity. This can include ship's garbage, ship's waste water, oily residues and mixtures, as well as sludge from exhaust gas cleaning units. For instance, 13 tank ships are on standby 24/7 to provide waterside disposal of solid and liquid waste. Ten locally-based firms currently operate stationary and mobile reception and disposal units.

its imprecise formulations have led to a variety of waste disposal schemes, so that shipowners are confronted with disparate fees and disposal processes in the ports. The optimal solution would be a no-special-fee system, with regular port dues covering the costs of waste disposal. That would put an end to any incentive to dispose of waste illegally at sea. Even if there's no agreement yet in Germany and the EU on a standard solution for waste disposal, one point is obvious: Waste doesn't belong in the sea. ■

That raises the question, how come that waste is still being dumped in the sea. The general trend may be downwards, but in 2014 waterway police forces in coastal states conducted a total of 9,031 ship checks and found 1,533 infringements. And this despite the fact that payments of a standard fee for waste disposal is mandatory for every vessel calling the Port of Hamburg – whether or not she discards waste. This amounts to between just 10 and 105 euros, depending on the size of the ship. So a mega-containership of over 50,000 gt pays 105 euros for the ship's waste disposal. As a fraction of the total costs of calling, that's a negligible sum.

Criticism of the directive is mounting. In particular, environmental groups complain that

DISPOSAL OF SHIP-GENERATED WASTE IN THE PORT OF HAMBURG

In 2015 the Port of Hamburg raised the quantities of ship-generated exempt from charges for disposal. The idea was to contribute further to maritime environmental protection. Every vessel calling the Port of Hamburg has the opportunity to make use of its standard disposal scheme for ship-generated waste. The only requirement is timely notification via the central National Single Window (NSW) system. Payment by the ship's captain is required for any quantities in excess of those covered by standard disposal.

Summary of standard disposal for ship-generated waste

Oily residues and compounds

- Oily residues (oily sludge)
- Oily bilge water
- Waste oil, incl. from leakages

Free quantity:

30,000 m³ for ships under 50,000 gt
50,000 m³ for ships over 50,000 gt

Ship's waste water

- Black water (waste water containing solid faeces from toilet systems)
- Grey water (lightly soiled, faeces-free water)

Free quantity:

200 m³, irrespective of ship's size

Household-type waste

- Plastic
- Food remains
- Household rubbish
- Cooking oil
- Ash from incinerators
- Operational waste
- Dead animals

Free quantity:

6 m³, irrespective of ship's size

© HHM / Dietmar Hasenpusch



+++ River police forces expose eco-sinners +++

Waterway police patrols from the coastal states conduct regular ship inspections. In the process they check the oil, cargo and waste logbooks that MARPOL makes mandatory. The ship's crew must comprehensively document any waste disposal and be able to produce the relevant vouchers as evidence. In most cases, only warnings plus appropriate fines are imposed in the event of minor infringements. In 2014, 175 cases were referred to the Federal Maritime and Hydrographic Agency for further action. This is the body responsible in Germany for prosecuting marine environmental offences. A total of 61 cases have been settled, and five are still outstanding.

Ensuring six inches of water beneath the keel

For the Port of Hamburg, access by waterway is one of the keys to smooth operation. Port water infrastructure experts at Hamburg Port Authority (HPA) ensure that even in tough conditions, mega-ships dock safely.

As an international seaport located far into the hinterland, the Port of Hamburg enjoys many advantages over other European seaports. Its location, a local cargo proportion of over 30 percent and well-developed hinterland infrastructure by rail, road and inland waterways ensure that seaborne cargo is especially well tied to markets. Yet this presents a special challenge to port operation. The Port of Hamburg is an open tidal port, lying in an area of river forking that slows down the flow of the Elbe. As a result, sediment from both the North Sea and the upper reaches of the Elbe is carried into

Hamburg, much of it settling within the port. That's why the depth of the riverbed and basins needs to be constantly maintained. HPA's ongoing aim is to give ships the proverbial 'six inches of water beneath the keel'. How does HPA do it? For a start, regular soundings of the entire port indicate positions from where superfluous sediment must be removed. Extensive samplings and analyses pro-

vide data on sediment pollutant load. A decision is then reached on whether it can remain in the water or needs to be treated and deposited on land. By far the largest part of the sediment can remain in the water. Hamburg has two options here: transfer it within Hamburg to the island of Ness Sand, about 20 km downstream from the port, or to buoy E3 in the North Sea. The latter option is of great importance for Hamburg, meaning that surplus sediment can be removed from the river system for good. Hamburg has been able to take up this option since 2005. The essential licence for this was renewed and extended earlier this year. Provided sediment meets the strict

environmental requirements, it may now be shifted from all areas of the port that are critical for North Sea shipping traffic throughout the year. Extensive environmental monitoring around the E3 buoy ensures close supervision of any possible repercussions. Transfer and dumping



Claudia Flecken is a member of Hamburg Port Authority's Management Board and head of port water infrastructure.

© HPA

Carrying 14,500 cubic metres of silt: The hopper dredger 'Bartolomeu Dias' removes sediment dredged from the Köhlbrand to the North Sea.



© HPA / Boris Hochfeld



© HPA / Boris Hochfeld

Only if sediment is seriously polluted, amounting to about one-fifth of the total, is this removed, treated in HPA's own facilities and finally deposited or utilized in Hamburg. To further reduce such pollution of Elbe sediment in the long term, Hamburg is actively calling for the elimination of pollutant sources in the entire Elbe catchment basin, right up into Czechia. This is the goal of the ELSA project, with Hamburg making eleven million euros available. HPA's engagement goes far beyond direct handling of sediment. Hamburg's long-term goal is to alter the tidal Elbe, giving the river more space again. That can have a sustained positive effect on the sediment household. With its Kreesand pilot project, HPA is currently creating an area of 30 hectares of tidal flood plain. In dialogue with the region, further similar steps are to be implemented along the river. Set up by Hamburg, the 'Tidal Elbe Forum' will provide the platform for this. ■

Monitoring out on the North Sea: All sediment is closely analysed.

are carried out by large special ships known as suction hopper dredgers. Depending on requirements, other equipment can also be used, such as hydraulic dredgers, cable grab dredgers, water injection devices or bed levellers that flatten uneven shallow areas.



© HPA / Aufwind-Luftbilder

Giving the river more space: 30 hectares of tidal flood plain are being created on the Eastern side of Hamburg.



As all the other traffic gives the container giant a wide berth, the tug holds course directly towards her.

A very busy day in the Port of Hamburg

Longer, wider, deeper. Ever larger containerships and freighters are calling at the Port of Hamburg. A real challenge for traffic controllers. Port of Hamburg Magazine learned what effect this growth has on the tugs aboard 'Bugsier 22' the latest 'heavy haulier' in the local fleet of tugs.

It is 6.30 in the morning: The city is still sleeping peacefully. At the tug pier in Neumühlen, it is not especially busy as day breaks. All the berths are occupied. The tugs rock gently to and fro at their moorings on the Elbe. No one is in sight.

There is a hive of activity below deck on the 'Bugsier 22', the brand new port tug belonging to Bugsier shipping line and rescue company. Seafarer Robert Zielke has made breakfast, while Captain Konstantin Pohsin, 'Konni' to his friends, and Peter



As 'Bugsier 22' gets the order to 'full speed astern', a slight vibration starts in the body of the ship, nothing more.

© HHM / Diemar Hasenpusch

Pfeiffer, first engineer – the Chief – are drinking their first coffee of the day. They call their two-week tour of duty on the tug Hamburg's finest male house-sharing team.

"At the latest in three hours from now there will be no tug at the pier any more. They will be all in action," says Konni. "Later we hear from the Nautical Centre that today will be very busy. Twenty ultra-large ships, over 32 metres wide must be moved in the Port of

"In fact 17 large tugs are ready for action in Hamburg. With such heavy traffic we could really do with twice as many."

Hamburg. Arrivals, departures and feeders. This is why Bugsier has called extra tugs from Wilhelmshaven, Brunsbüttel and Stade to Hamburg. We learn from Sven Schröder, Business Development Manager at Bugsier. "In fact 17 large tugs are ready for action in Hamburg. With such heavy traffic we could really do with twice as many. This is why we have called for support, to master the day."

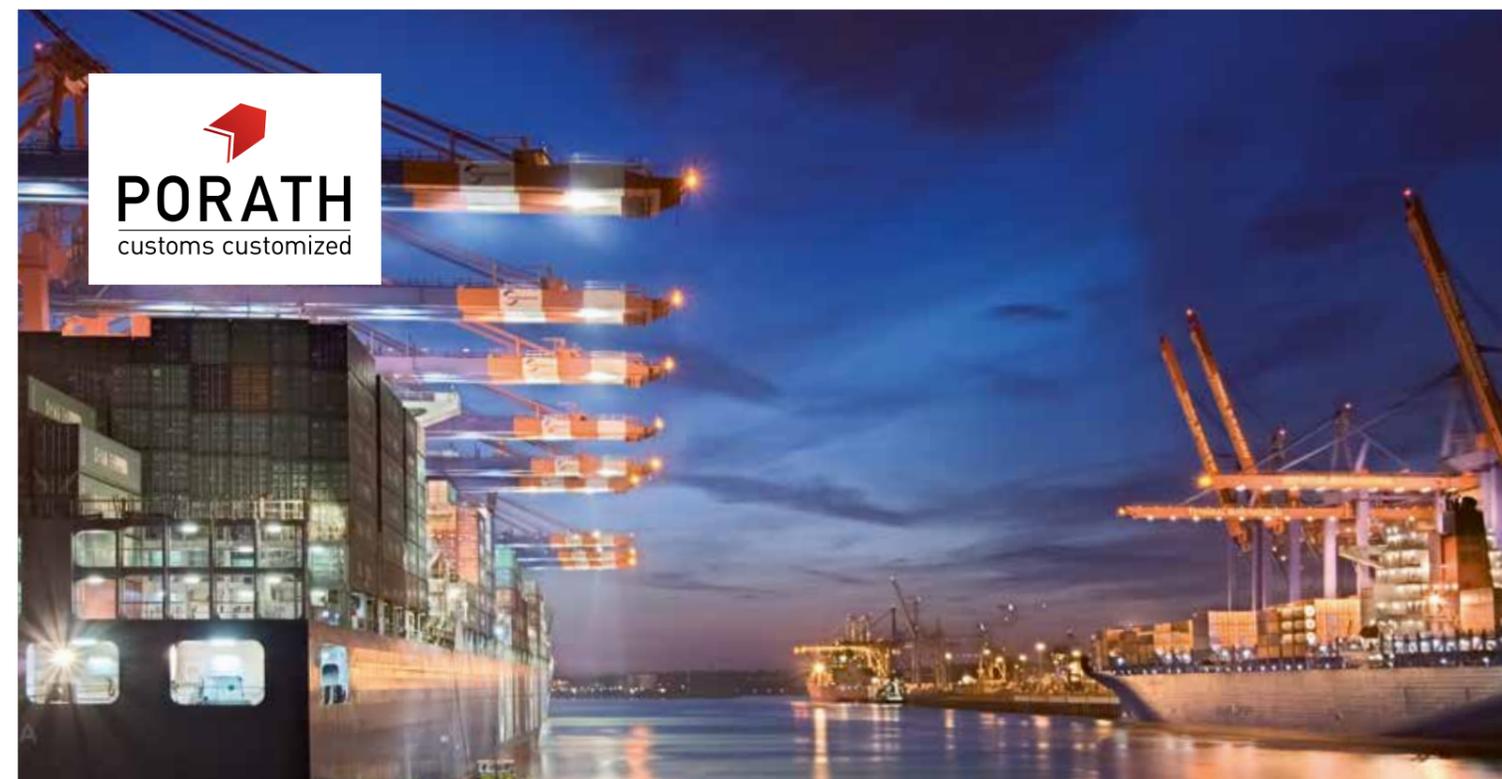
Among the incoming ships are two ULCs, ultra large containerships, which are longer than 330

metres, with a breadth of at least 45 metres. One of these ULCs, the containership 'CMA CGM Marco Polo' will be brought to its berth at HHLA Terminal Burchardkai by 'Bugsier 22'.

A LOT OF WIND IS LIKE AN ECONOMIC ENGINE

The phone rings and Konni leaps into action: "Here we go!" The operations centre has given the OK to get going. Only minutes later the lines are cast off and we are on our way down the Elbe. On the way to our job Konni explains that really for him it does not matter if he pulls an ULC or a smaller ship. "Sure, the large tubs naturally have more surface for the wind to catch. With wind force of five or six that can be 200 tons, of extra weight acting on the ship." But that is what we are here for, to steer against it." In fact, for a tug company a lot of wind is like an economic boost. Then more tugs are required.

For the tug company the growth in ship size is counter-productive, because: The bigger the ships, the fewer the calls. In 2015 the number of ships calls in the Port of Hamburg fell by 4.4 percent to 8,735. During the same period the number of calls by large containerships, between 10,000 and 18,000 TEU, increased by 27.6 percent to 647. For the tug service it is not important how large a ship is or how much cargo is on board. "For us econo-




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Robert the seafarer, is standing in his helmet and lifejacket on the foreship giving the crew of the 'Marco Polo' a sign telling them that the heaving line can be pulled up.

mies of scale don't count," says Schröder as he explains the situation. In addition, the tug companies are also suffering from the shipping crisis. "At present there is a real price war." In recent years the rates have halved." Meaning that costs cannot be covered. So now we are fighting for our existence. Survival of the fittest, Schröder quotes Darwin's theory of evolution.

Suddenly 'CMA CGM Marco Polo' appears before us in the mist. At the stern 'Bugsier10' is already visible. She has accompanied the container giant since Buoy 120 opposite the yacht marina in Wedel, from there specific safety regulations are in force for ULCs like 'Marco Polo'. At first she looks very small, but the nearer she gets the more impressive the 16,000 TEU containership becomes. As all the other traffic gives the giant a wide berth we hold course directly towards her. Konni exchanges a few words with one of the two port pilots, who are already on board. Then we find ourselves directly before the bulbous bows, which force a wave in front of her that is not to be underestimated. "Now we have to be careful, the wave pushes us aside continually," says the 30-year-old Captain. Using a small joystick, that reminds you of computer games rather than a steering wheel, he keeps 'Bugsier 22' on course.

Robert the seafarer, is standing in his helmet and lifejacket on the foreship waiting for the crew of the 'Marco Polo' to throw him a line. Konni knows, "Up there they sometimes forget to tie a weight to the heaving line". As is the case today. Using a retrieval hook Robert pulls the line to him and knots in onto a thin heaving line that the crew above can pull up.

Ship details 'Bugsier 22'

- Ship type: Port tug
- Built in: 2016
- Gross tonnage: 270
- Bollard pull: 70 t
- Length: 24.47 metres
- Breadth: 11.22 metres
- Draft: 5.35 metres
- Engine power: 2 x 2.100 KW
- Speed: 13 knots



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PARKING BACKWARDS WITHOUT A REAR-VIEW MIRROR OR POWER STEERING

A short time later we have 'CMA CGM Marco Polo' on the hook. It is a wonder how thin the towing line is. "It has a breaking load of 330 tons. You can hang the whole tug on it without a problem," says Konni. Using the electronic charting plotter the family man explains the next manoeuvre. At almost 400 metres long "CMA CGM Marco Polo" seems very slow as she reaches the turning circle in front of the parking place, then manoeuvred with the help of three tugs she is turned on the spot and taken backwards into Waltershof port basin.

Over the radio we can hear the pilots inform the third tug, which has arrived: "I need you starboard. We have a bit of tide still," which means: The tide is pushing the ship into the port a little. The third tug on the starboard side need to counter-balance it. Immediately the versatile boat 'touches the paint', making light contact with the side of the 'Marco Polo' to push and help in manoeuvring the bow.

"Immediately the versatile boat 'touches the paint', making light contact with the side of the 'Marco Polo' to push and help in manoeuvring the bow."

At the moment 'Bugsier 22' has no tensile load on the heaving line. On the contrary, the tug at the stern is continually slowing 'Marco Polo'. Konni has just a little tension on the heaving line so that he can react immediately when an order comes.

As we reach the turning circle the gantry cranes at Burchardkai and Eurokai are boomed up to make space for the incoming ship. The waterways police has stopped all ship traffic, 'Marco Polo' needs the complete width of the Elbe for the turning manoeuvre. Astern a COSCO containership is braking, and on the other side a Yang-Ming freighter is waiting to leave the port. There is a lot going on in the Elbe. Then the turning manoeuvre starts. 'Bugsier 10' pulls the stern to starboard and we pull the bow in the opposite direction. As Konni sets the engine to 'full speed astern' a slight vibration starts in the body of the ship, nothing more. It is amazing how quietly and peacefully this small craft pulls the giant 'Marco Polo' around – seemingly effortless.

Now things are getting tight. When glancing astern the 'Strandperle', a beach club in Övelgönne, is almost near enough to touch. On board no one is

nervous. Everyone completely concentrated. Don't turn too fast. 'Marco Polo' should be pulled to Waltershof not past it. Hardly anyone speaks. Occasionally the pilot is heard over the radio: "'Bugsier 10'! Astern."

At 08.45 the stern of the 'Marco Polo' turns into the parking basin. The third tug, that up to now has pushed on the starboard side changes sides to be ready, to push the containership into its berth. A glance back and we see how both the COSCO and Yang-Ming freighters, which had to wait, pass each other. Now shipping traffic can resume in the main fairway.

NAVIGATION CHANNEL ADJUSTMENTS WILL LENGTHEN THE TIME WINDOW FOR LARGE SHIPS

Very slowly 'Marco Polo' glides backwards past the containership 'Thalassa Avra'. The berth that we are heading for lies behind her. With luck 'Marco Polo' will be pushed into the parking space and the pilots will dismiss 'Bugsier 22'. "Thanks very much for a job well done. Till next time," the pilot says goodbye. The heaving line has already been released.

On the way back to the tug pier we ask how the navigation channel adjustments have affected their work. "Actually, not at all" answers Konni. "The big ships are here already. They can take more cargo, but that is not relevant for us." Then he remembers something. The time window when the giants come in will probably be lengthened. For the tugs this will mean that not all ships will come and go as close together as they do today.

As we reach the tug pier, as Konni forecast, it is absolutely empty. Downriver the next three large ships are in sight, they have made use of the morning incoming tide to reach the Port of Hamburg. A containership is coming out of Köhlbrand followed by a bulk carrier, they are making their way towards the North Sea. They all need help from the tugs. As we heard: Today will be a very busy day. ■

Ship details 'CMA CGM Marco Polo'

- Ship type: Containership
- Built in: 2012 / first call in Hamburg Dec. 2012
- Gross tonnage: 175,343
- DWT: 187,626 t
- Container: 16,020 TEU
- Length: 396 m
- Width: 53.60 m
- Draft: 16 m
- Engine power: 80,080 KW
- Speed: 24,10 knots

THREE QUESTIONS TO MAHINDE ABEYNAIKE

Mahinde Abeynaike, Chief Executive Officer of Bomin Linde LNG, reports on the present status and applications of liquefied natural gas, as well as growth areas.



© Bomin Linde LNG

Bomin Linde LNG supplies maritime customers with LNG as a marine fuel. How is the LNG market developing for you?

The geographical emphasis of our activities lies in the North Sea and Baltic, since the Emission Control Area (ECA) already set up makes this our fastest developing market. For this growth field, we have signed a charter agreement with Bernhard Schulte shipping for the world's largest LNG bunker vessel. With a capacity of 7,500 cubic metres, this will enter service, mainly in the Baltic, at the end of 2018. Along with the LNG terminal in Nynäshamn, Sweden and the smaller LNG bunkering vessel in Stockholm operated by our parent company Linde, this will enable us to offer a unique LNG supply network. The new bunkering ship will equip us to supply Furetank's tanker fleet. We have already signed a letter of intent with the Swedish company on long-term supply of LNG.

Which segment offers the greatest growth potential for small-scale LNG?

Shipping, particularly. Establishment of ECAs in North America and Europe, the global limits on sulphur emissions from 2020 announced on 27 October 2016, enhanced environmental awareness and economic advantages all mean that within the next five years, a significant number of ships already on order will be operating with LNG. For passenger shipping, especially, LNG is starting to play a greater role. Several lar-

ge ferries ordered for Baltic services and LNG-fuelled cruise ships are just two of the projects here.

How can LNG gain acceptance as an environmentally friendly fuel?

Ultimately, we need to offer LNG at a price that competes with alternatives such as low-sulphur marine diesel. Even in the days of low oil prices we were in a position to offer LNG for less than marine diesel –

"Ultimately, we need to offer LNG at a price that competes with alternatives such as low-sulphur marine diesel."

since of course gas prices have also fallen. Without giving you any forecast for the future development of oil and gas prices, I can say that the bulk of our customers are reckoning with rising oil prices in the next few years.

Another positive is the growing availability of LNG as a fuel. This includes solutions with road tankers, but especially supply with LNG tankers that can flexibly cover several ports. Through its new LNG bunkering vessel, for instance, Bomin Linde will be able to supply all main Baltic ports with LNG. ■

LNG – more than a propulsion fuel for shipping

Two companies in the Hamburg Metropolitan Region are championing diverse use of LNG as an energy source. Brunsbüttel Ports and VTG are jointly calling for expansion of an LNG transport and logistics system. A declaration of intent with one investor for an LNG terminal and the first loading of a rail tank car are milestones towards establishing LNG as a fuel.

The German LNG market is coming alive. Among those behind this are alliance partners Brunsbüttel Ports and VTG. In Brunsbüttel's Elbehafen they have carried out the first loading in Europe of the LNG rail tank car developed by VTG and the Czech partner Chart Ferox. This has a volume of about 111 cubic metres, equivalent to approx. 600,000

kilowatt hours. Whereas tank containers and LNG road tankers cover the small-scale LNG field and the LNG seagoing tanker covers the large-scale area, the LNG rail tank car lies between these and covers the middle scale. As a 'rolling pipeline', it's ideal for supplying shore-based industries that are heavy consumers of energy.

A proper LNG infrastructure will be essential for guaranteeing supply in the long term. Whereas neighbouring countries have established one, no solution has been agreed in Germany. Brunsbüttel Ports is actively committed to constructing an LNG terminal. The plans for are already tangible: In October 2016 a declaration of intent was signed with Nederlandse Gasunie, owner of a 50 percent stake in the GATE terminal in Rotterdam. This provides for joint examination of the feasibility of erecting an LNG import terminal at Brunsbüttel.

Three arguments speak for an LNG terminal there. Bunkerage for ships at the junction of the Elbe and

the Kiel Canal is the first. LNG supply from there for the ports of Hamburg, Cuxhaven and Bremerhaven is also conceivable. For the industrial zone near the port, liquid gas would be an alternative to pipeline gas, and could also cover growing demand. In cooperation with VTG, beyond the region industrial firms could be supplied from Brunsbüttel by rail, ship and truck. The third attraction of an LNG terminal would be diversification of Germany's natural gas sources, since LNG would enable natural gas to be secured on the world market irrespective of pipelines, and new sources of supply opened up. ■



European premiere in Elbehafen Brunsbüttel: Over 80 cubic metres of liquid natural gas are pumped out of LNG Trucks into an LNG rail tank.

Write to me at: facebook.com/ppickhuben

PETER PICKHUBEN'S PINBOARD



Fast Track to Capitan

In the International Maritime Museum in the Hamburg Speicherstadt (Warehouse City) you can take over the bridge of the 'Tokyo Express', a 300 metre-long containership. How does it work? In the ship simulator! From Stade up the Elbe, navigating pilotage waters or manoeuvring the ship into the ports of Hamburg, Rotterdam or Singapore right up to the quaywall. It soon becomes very clear what ships' captains, pilots and tugs have to do every day. Hold course, perform avoidance manoeuvres, cope with oncoming traffic, even in fog or heavy seas are just a few of the challenges to be mastered. If you think that powerfully spinning the wheel is what is needed, you would be very wrong. The course and speed are set by the captain with only one hand on the joystick. Have a try, the museum crew is on the lookout for you.
www.imm-hamburg.de



SHIPPING AS IT WAS 100 YEARS AGO

In the Oevelgönne harbour museum lie some real treasures. All in good working order and ready for the next voyage. Many of the one-time working ships were discovered as wrecks in the Lower Elbe, the Baltic or North Sea. With the help of old models and drawings, over many years volunteers have lovingly restored these to their original state. This summer a star in the fleet, the barge 'Elfriede', was out to be admired in the Elbe. Just as in the past, the 112 year-old cargo sailing ship carried apples from Altes Land to Hamburg where they were handed over in exchange for donations towards the upkeep of the robust old sailing ships that all visitors to the museum harbour can see. At the beginning of the 20th century barges, among them 'Elfriede', were the standard vehicles used to transport fruit from the Lower Elbe. They also carried general cargo, stone, grain, cement and peat, as well as fruit and vegetables. 'Elfriede' is the only seaworthy one left, her cargo hold is in its original condition without interior cladding.
www.museumshafen-oevelgoenne.de
www.ewer-elfriede.de

MO SCH TRA

Der Mod
kleine Ba
vielerort
gen zu
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Kaswin

Technische Daten Ewer 'Elfriede'

Baujahr, Ort, Werft	1904, Moorrege, J. Jacobs
Schiffsgattung	Ewer (Lühe-Ewer)
Rumpflänge	14,75 m
Rumpfbreite	4,57 m
Tiefgang	1,09 m
Verdrängung	27 t
Baumaterial, Bauweise	Stahl, genietet
Maschine	DB 312, 6 Zylinder, 60 PS
Takelung	Gaffelslup
Segelfläche am Wind	72 qm
Unterscheidungssignal	DFZL



ARGELÈS-SUR-MER.

Everyone can be a lifesaver

Go out when others are coming in! That is the motto of the German lifeboat service (DGzRS). The lifeboatmen in the North and Baltic Seas are on standby round the clock, by wind and weather, with a fleet of 60 rescue cruisers and boats. 180 employees and around 800 volunteers work on the rescue fleet. Last year with about 2,100 incidents they saved almost 540 people from the sea. Since the service was founded more than 150 years ago the sea rescue crews have saved some 82,222 people. An amazing achievement! As the lifeboat service is financed entirely by donations and voluntary contributions, it should be a given that every water sports fan and the merchant shipping sector too support the lifesavers. Any of them could be dependent of their help. So don't forget: With a donation you too can become a lifesaver.
www.seenotretter.de



FLYING CHRISTMAS TREES IN THE PORT OF HAMBURG

It happened again on 16 December. For the 20th time, traditional Christmas Tree tossing took place in the Port of Hamburg from the Nordmann information centre. Accompanied by Christmas music, Father Christmas threw trees onto the ships lying in the port. As every year, a large saloon ship was rented from Rainer Abicht Shipping, to distribute 50 to 60 Christmas trees throughout the Port. The sponsor of this year's jubilee was, for the first time Hamburg's Senator for Economics, Frank Horch. Christmas Tree tossing has become a real winter highlight, designed to delight seafarers in the Port who must spend Christmas far away from their loved ones.



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WORLDWIDE NETWORK

The Port of Hamburg is linked by around 120 ocean going and feeder services with more than 1,000 destinations across the entire world. Many more ports are served by feeder. Port of Hamburg Marketing's scheduled service databank displays all scheduled connections and transshipment alternatives as well as contact with some 100 agents and shipping lines.

www.hafen-hamburg.de/en/linerservices



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Credits

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