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PORT OF HAMBURG

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Dear Readers,



For many years our Port of Hamburg Magazine has regularly supplied you with data on developments and company news relating to the Port of Hamburg and Hamburg Metropolitan Region. This will continue. However, this issue features a fresh layout and gives us extra space for reports and coverage of vital Port of Hamburg topics. Take our cover story 'Riding the tide' in the first issue of 2015. Come aboard an ultra-large containership and witness her exciting run from the North Sea up into the Port of Hamburg.

Dredging of the navigation channel still has not started. So especially large oceangoing ships only reach the Port of Hamburg by observing specific restrictions. We aim to show how vital an infrastructural improvement by dredging the navigation channel on the Lower and Outer Elbe remains – whether for shipping or the entire import/export trade. We aim to carry good stories, interesting expert debates, and fact-packed background articles about everything being considered, planned and implemented in and around Germany's 'Gateway to the World'. We have also done plenty of work on enhancing reader attractiveness. We have separated the German and English language versions and given more space to photos and graphics. We aim to carry on the good work in future issues, informing and entertaining you with enthralling stories focused on the maritime industry.

We shall continue to offer you briefing on the latest news and current affairs on our homepage www.portofhamburg.com and in our PORTnews newsletter. We look forward to receiving your views and suggestions on presse@hafen-hamburg.de.

We trust that you enjoy reading this first issue of our new-style Port of Hamburg Magazine.


Ingo Egloff


Axel Mattern



Night shift: The Port of Hamburg never sleeps. Cargo handling 24 hours a day, seven days a week.

Economic engine: The Port of Hamburg is more than the largest European hub for goods flows around the whole world. Production plants and industrial units are also located along the Elbe.

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Shortly before entering the Port of Hamburg concentration on the bridge is intense. The 'CSCL Mercury's' voyage from Asia to Europe lasts four weeks.

Riding the tide

Large container ships only have a small time window to navigate the Elbe to Hamburg. Riding the tide is a nautical masterpiece, prepared and executed by experienced Elbe pilots.

TEXT Andreas Beerlage ■ PHOTOS Achim Mulhaupt

Early one evening in November the 'CSCL Mercury' still lies at anchor in the German Bight like a sleeping giant. 'Elbe Approach' is the roadstead, where ships lie at anchor, about 20 kilometres west of the light buoy Elbe 3 marked as a triangle on the sea chart. Captain Alexander Derevyanchuk, from Odessa sits relaxed in his captain's chair, all alone on the bridge of his vessel that can carry 14,000 twenty-foot containers. He seems to be enjoying the peace and quiet.

The 'Mercury's' bows are pointing north-east in the direction of Helgoland. The lighthouse on Germany's only deep-sea island draws attention to its presence every few seconds with a beam of light. The Captain has been sailing for almost four weeks from Shang-

hai. Now there are only the last 85 nautical miles, about 160 kilometres, to cover before reaching the Port of Hamburg. 59 year-old Derevyanchuk has been sailing with the 'Mercury' for three and a half years and on ULCS, or ultra large container ships, for eight years.

"I am very proud to be in charge of such a ship," says the Captain.

There have always been well-trained seafarers from the Crimea. Maritime school begins with courses in the afternoons from the fifth class (10/11 years old).

Captain Derevyanchuk has been going to sea since he was 10 years old.

Once again he takes a look at the weather forecast on the navigation monitor, the radar screen, and says: "Hardly any traffic, good weather. A piece of cake!"

Because of the tides and the relatively narrow fairway, the approach up the Elbe to Hamburg is one of the major nautical challenges in the world. Captain Derevyanchuk is very relaxed, as well he should be, three hours ago the Elbe pilots, Ringo Gollnest and Ralf Haag came on board. They immediately took over their advisory role for the ship, which according to its design details is exactly 366.07 metres long. Among the most important items of equipment for Elbe pilots is their tie underlining the importance of their job. And the portable pilot unit, the PPU, which shows all ships movements with a precision of 30 milliseconds on a tablet.

The pilots take a meal in the officers' mess. "You like Chinese food?" asks the ship's cook. Haag and Gollnest nod with pleasure and two plates of crispy duck are served. "Last week I was on a Korean ship. And what did we get to eat? A typical German sausage and fries," says Ralf Haag laughing.

Navigating on an empty stomach is no fun. The pilots have a four-hour night watch to complete from the outer roadstead to Brunsbüttel. A stretch that can hold surprises even on a calm day like this. The Elbe is not easy for seafarers who are not familiar with local conditions. The river is wide but the fairway or navigation channel is often very narrow. It also passes very close to a sand bank. The river is ever changing its appearance with the tides and sediment deposits. Added to the adversities is the fact that it simply does not want to flow in any one direction. This is why all ships over 90 metres long and all tankers take a pilot on board.



Entry into the Elbe 'funnel' demands high nautical expertise and familiarity with local conditions.



The pilots arrive in fast double-hulled boats bringing the portable pilot unit with them.



The pilots Haag and Gollnest come on board – on a calm day like this, it's a pleasant stroll.

The aim of the calculation is to reach the port half-an-hour before high water: to be able to use the short time before the tide turns for the ship's precise turning manoeuvre off Waltershof.

After enjoying their meal, Haag and Gollnest now take over the advice on the bridge. Haag, born in 1956, has been a pilot for 23 years. Gollnest was himself master of a large Maersk Line container-ship. They both work out what seems to be a complex calculation, relating to the ship's draft, the depth of certain port basins and the actual height of the incoming tide.

Ships with extremely deep drafts - very large container-ships and big bulk carriers - can very often only reach Hamburg on the tide, surfing the swell as the water surges towards the city. The larger the draft, the smaller the time window for safe arrival.

"The incoming tide will be 40 centimetres less than average, according to the Federal Maritime and Hydrographic Agency (BSH)," says Ringo Gollnest. The difference is calculated by the BSH taking into account the influence of the moon, wind direction and strength. The Hamburg Port Authority compiles the tables in cooperation with the Elbe and port pilots,

showing the time windows for arrival and departure. The missing 40 centimetres must be added to the draft of the ship. At the end of the Shanghai - Hamburg voyage the 'Mercury' is no longer fully loaded with boxes. "With a draft of 12.70, in freshwater that is 13.10 metres," calculates Ralf Haag. In freshwater the draft of a ship is greater than in salt water.

If the 'Mercury' were fully loaded with her maximum draft of 15.50 metres she would have to lay a few days in the roads waiting for a higher tide. Over 15.10 draft no further depth can be added. "Then on duty, twiddling your thumbs in the roads until the water rises again," says Ringo Gollnest.

The aim of the calculation is to reach the port half-an-hour before high water: to be able to use the short time before the tide turns for the ship's precise turning manoeuvre off Waltershof. "That is the schedule", 'Mercury' is exactly timed. 21.00 the Elbe 1 beacon, 23.30 pilot change at Brunsbüttel, 02.10

port pilots on board, 03.00 berth at EUROGATE's Predöhl 2 quay, in Hamburg Waltershof.

At 19.00 the powerful anchor slowly begins to move. The chain is almost 200 metres long, every link weighs about 200 kilograms, and the anchor alone is 30 tons, as much as five fully-grown African elephants. Half-an-hour later Ringo Gollnest reports by radio to the Elbe traffic control room for the German Bight.

– "This is 'CSCL Mercury' calling, we are continuing our approach to the Elbe".
– "Understood. Arrive safely and have a good watch."

Gollnest has the lights on the foredeck switched off, all monitors are dimmed to improve visibility, covering the bridge in a sombre, eerie light. The pilots, Captain, first officer, helmsman and second nautical officer are only dimly visible.

Ahead a few nautical miles apart lie the 'Rubin Phoenix', a bulk carrier that loaded coal in Narvik, and the tanker 'Energy Protector' destined by fate to wait for deeper

water. She must wait two more days in the roads until the wind turns from east to west. Wind from the west forces the water into the mouth of the river bringing with it more depth.

"We will now pass gently between the two," says Ralf Haag.

Five minutes later his colleagues bring him his first mug of coffee.

Slowly the 'Mercury' moves in the direction of the first target, the buoy Elbe 1. Gollnest has the ship's sidelines lit up: "The ship is so big that some fishing boats think they can pass between the stern and the bow lights."

In 2011 the 'Mercury' and her seven sister-ships owned by China Shipping Container Lines, were still among the largest in the world. Today the 'CSCL Globe' passes

the 400-metre mark, she was handed over to her owners in mid-November and on 13 January she called in Hamburg for the first time. "16 Elbe pilots have already taken her into Hamburg on the simulator with no problems," says Ralf Haag.

The Captain slides out of his chair and says goodbye for the moment. Until they change pilots before Brunsbüttel in about three hours it is enough to have the first officer Valentin Chursin keeping an eye on proceedings. "The Elbe pilots are good at their job, I can take a rest. Although that is certainly not the case all over the world," says the Captain.

The 'Mercury' sets off slowly. She lies very calmly in the water. You could repair a Swiss watch on the chart table, without losing even the smallest screw.

At 20.50 light buoy Elbe 1 comes into sight. It is a radar beacon referred to as racon for short. When the radar

beam hits the ship the racon answers with a signal that is easy to see on the radar screen.

From Elbe 1 onwards, 'Mercury' receives exclusive treatment, special radar as must all very large vessels. The ships, each with two pilots on board are allotted an extra radar pilot. These are regular pilots based at the nautical vessel traffic service (VTS) control centre, who monitor the ship keeping continual radio contact.

"The special radar divides the area into many small sections, identified by intersections. These divisions give us important information, for example for changes in course," explains Ringo Gollnest. "We are practically led by the nose to take the most precise, ideal route to Hamburg." The pilot makes contact to his radar colleague: – "Hello Michael, here is Ringo." – "Hello Ringo, welcome, you have another 4000 meters to Elbe 1."

A short time later when the 'Mercury' has passed Elbe 1, a small brightly-lit ship is visible on the port side. "The Christmas lights are on our pilot mother-ship Elbe,"

The pilots are expected. Without their expertise the approach in the Elbe would be very risky, for those who are not familiar with local conditions.



Gerrit und Frederik Braun, Inhaber des „Miniatur Wunderland“



„Unser Berater hat von Anfang an im großen Maßstab gedacht.“

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THE LEADING EXHIBITION



During 'radar accompaniment' the radar pilots are in constant radio contact. The first officer watches the entry into the port.

says Ralf Haag. From there the pilots transfer ship, the tender that takes them to and collects them from the customers: 365 days a year 24/7. Only once in the last 12 years during winter storm Jeanette, was there a three-hour break in the piloting service. "We are very proud of our record," says Ralf Haag. SWATH boats are in operation. SWATH stands for small waterplane area twin hull, the design allows high speeds and is unaffected by the swell.

Visibility has become worse, a milky veil hangs over the calm water. The force two to three wind is coming from the east. Radar pilot Michael reports: "And the 'Mercury' is on course, 600 metres from the intersection." The ship is moving over ground at 16.9 knots, achieving 15.3 knots from its own power. That means, the tide from behind is pushing with 1.6 knots, that's 3 kilometres per hour, just like the pace of a brisk walk.

"The mouth of the Elbe may be 15 kilometres wide but the fairway is not, soon it is hardly 500 metres wide," says Ingo Gollnest as the 'Mercury' passes south of the 'great bird' sandbank, 'Großer Vogelsand'. The big bird is a hungry creature: Those who go aground there do not escape. At the beginning of the 1960s two vessels, 'Ondo' and 'Fides' sank there within a week of each other. The sea chart showing this area is marked with 'wk', for 'wreck'. The remains of the two stranded ships are not visible in the dark, but during the day the sight is enough to send shivers down the spines of travellers en route to Helgoland.

The pilots are now informed of a 'giant approaching': The 'CSCL Pusan', 335.7 metres long and 45.6 metres wide. She does not come as a complete surprise, rather the opposite. Such meetings, or encounters,



must be well planned long in advance. On a good 50-kilometre stretch between the River Stör bend east of Brunsbüttel and the Port of Hamburg no ships can pass each other that have a combined width of 90 metres or more. For years the number of large ships calling at the Port of Hamburg has been increasing. Some 900 ships with a width of over 45 metres or a length of over 330 metres are calling at the Port of Hamburg every year. The trend has been rising fast for many years. The shipyards' order books are among others full of ships with a capacity of between 10,000 and 18,000 TEU, or standard 20-foot containers. More than 500 vessels of this class have been or will be built until 2017, with a total capacity of almost 4 million TEU.

Today around 90 percent of the world's general cargo is transported in containers. The more containers a vessel can carry, the lower the fuel cost per container. Those who sail big, save big. Increases in the number of ever-larger ships calling is also inevitable for Hamburg. Recently almost ten million containers were landed annually. A third of the goods brought here remain in the metropolitan region, two thirds are carried into the hinterland. The Hanseatic city's hinterland logistics extend as far as Warsaw, Prague and Vienna. Hamburg is the deep-sea port for these regions.

Concentrating, Ralf Haag looks at a fax from the Hamburg Port Authority. The 'giant approaching', the 'Pusan' passed Finkenwerder an hour ago. Timing the large container ships exactly is extraordinarily important for the Port of Hamburg. In 2014 nautical terminal coordination (NTK) was put into operation in order to facilitate on-time arrivals despite all difficulties in pilotage waters. So as to determine incoming and outgoing



Breakfast is ready. Mr Wang, the cook fries pasta rings for the morning soup.

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Almost 100,000 HP, and in addition most of the time in permanent operation daily - skilled mechanics are in demand to maintain the engines.

times NTK often has incoming vessels on the radar as from Gibraltar, accurately planning the giants meeting places in good time. "That works very well. After all this is Germany," says pilot Haag positively.

The radio pilot reports an 'approaching giant,' the 'Hanjin Korea', 350 metres long, 45.6 metres wide.

On the ECDIS monitor (or sat nav) and both radar screens is data from the A.I.S. automatic identification system, displayed in different-sized circles. It gives ships' positions in real time, and other details about them. The radar shows the 'Hanjin Korea' as a massive blip with a blue tail. That tells us that the object is moving.

For the encounter the radar pilot for the outgoing ship takes over communicating with both Elbe pilots. Just to be on the safe side, so that they do not misunder-

stand each other. A bundle of light appears from nowhere like an approaching comet. It is getting bigger and coming nearer very fast. As the 'Hanjin Korea' becomes visible in all its glory for the first time she is almost alongside. 200 metres lie between the ships but it seems like a stone's throw. Then Michael's friendly voice comes out of the dark, saying that bunkering will take place off Cuxhaven, a ship will be re-fuelled. He asks them to keep a sharp lookout.

At 21.30 Ralf Haag takes over the watch. He talks to the radio pilot immediately, because he sees a small blip on the radar screen moving slowly up the Elbe. And a larger one in the opposite direction but still a good five nautical miles away. "Mike, what do you think, who will be first?" The first is a 'Lady', the 'Sea Lady', a small coaster on its way to the Kiel Canal. At the other end, the radio is silent for a moment.

Then Michael's voice comes out of the dark: "Out-bound is the 'Balthasar Schulte'. Stefan Kurtzius is pilot on board the 'Sea Lady', she is moving a little

to the side. They are then 100 metres south of your course and can pass very well." A quarter of an hour later the 'Balthasar Schulte' slides past, the lights of the 'Sea Lady' already disappearing to stern.

"Because we talk together such situations are easy to master", explains Ralf Haag. "But if I really had to stop that takes a good fifteen minutes: This ship cannot stop that fast. I have to decide two or three kilometres beforehand. Like this we can all steadily make way. And the colleagues have no stress when carrying out the turning manoeuvre at the end."

At 22.45 at half speed the 'Mercury' passes a ship bunkering. Then there is silence for some time. Meanwhile the tide presses forward from the stern at three knots and so our speed is about 5.5 kilometres per hour. At 22.57 the Haag / Gollnest team bid Michael farewell. The radio pilot from VTS centre Brunsbüttel takes over saying, "Hello, here's Martin."

In the background Ringo Gollnest is rinsing out the coffee mugs: A pilot change is coming up. At 23.15 the first "white over red" is in sight, the light of the pilot transfer boat. Ralf Haag has to laugh: "In 1991 when I began here they said: Next year we'll get a new tender. It didn't quite happen, the 'Osteriff' went into service in 1961 when I was only five years old."

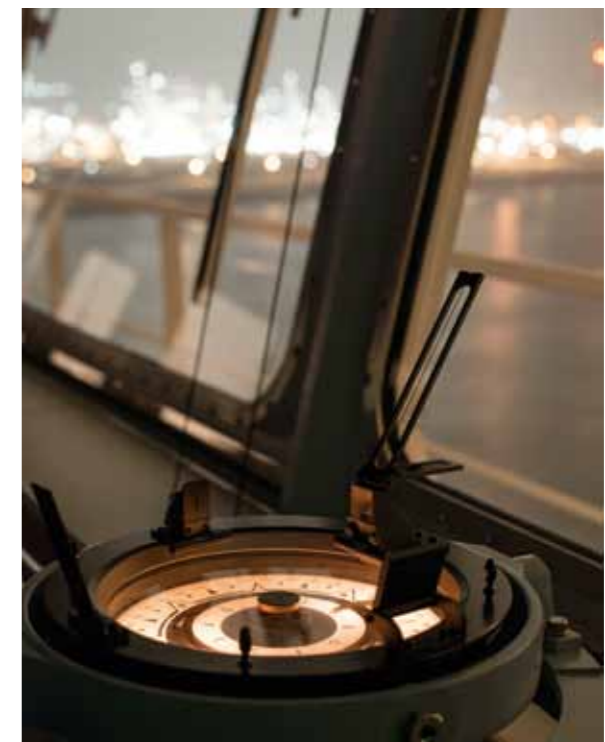
The Elbe pilots cannot be held responsible for their antique fleet. The Federal Government is responsible for piloting issues. They collect the charges for maintaining the infrastructure from the shipping lines. The pilots themselves receive their pilotage dues.

At 23.21 the relief pilots come through the pilots hatch to port. Norbert Schumacher and Daniel Felgner are on the bridge shortly afterwards. Their appearance works like a shot of adrenalin. They are wide awake, concentrated, and bring with them a blast of cold air from outside. Ralf Haag greets them: "Moin, this is the 'Mercury', 12.70 draft and everything in good order!"

Ringo Gollnest adds: "In 20 minutes we will meet the 'CSCL Pusan' as planned."

The Elbe pilots association with 276 members describes its work like this: "The Elbe pilots are purely the captains' advisors for the ease and safety of traffic." They must hold the highest nautical licence and have served at least two years as a captain or first nautical officer, including experience on the high seas.

The history of the Elbe pilots is long and colourful. They can be traced back to the 13th century in the Port of Hamburg. The fishermen from the islands of Helgoland and Neuwerk were the first pilots on the Elbe in Hanseatic League times. They had experience of the condition of the currents and the shallows in the river mouth. At the beginning of the 17th century



The pilots know each other but there are no fixed teams. The duty plan works on a rotating system, like a taxi stand. The Elbe pilots report in at the end of their task and join the end of the line behind their colleagues who are already waiting.

The gyrocompass can rest, very soon the 'Mercury' will make fast.

Efficient coordination for large ships arrivals

For years the number of ultra-large ships calling at the Port of Hamburg has been increasing. This poses great challenges for port operations, shipping lines and the authorities. Since 2014 the nautical terminal coordination (NTK) centre organizes large ships arrivals, long before the ship reaches the pilotage waters on the River Elbe. This affects not only containerships but also cruise ships, bulk carriers and others. In the Elbe approaches they are all subject to various restrictions, Elbe water level or the width of the navigation channel. Coordinating the ships' arrivals must take these limitations into account.

This could cause interplays in arrival and departure times of other ships. NTK accompanies the ship long before it arrives, in the whole of northern Europe, recognizes conflict situations and works out and agrees solutions in good time. In so doing they pool the communication channels of port operations involved, shipping lines, port service providers and the authorities.

Hamburg set up the cog harbour, known as Koogshaven, later becoming Cuxhaven. The sea pilot services slowly became established on the lower Elbe and the river mouth. In 1610 Hamburg enrolled the first pilots for the city. They even had to swear an oath.

Piloting rules have existed since 1656, for the first time they linked the obligation to have a pilot to the draft of the ship.

If the captain gave a too low figure for his draft to save piloting charges then the pilots were not responsible for accidents.

The pilots are proud people. According to an old Low German saying, those who made fun of or were jealous of them said: "When he is awake he moans, and when he is asleep he snores. But what he thinks is correct and what he does is important."

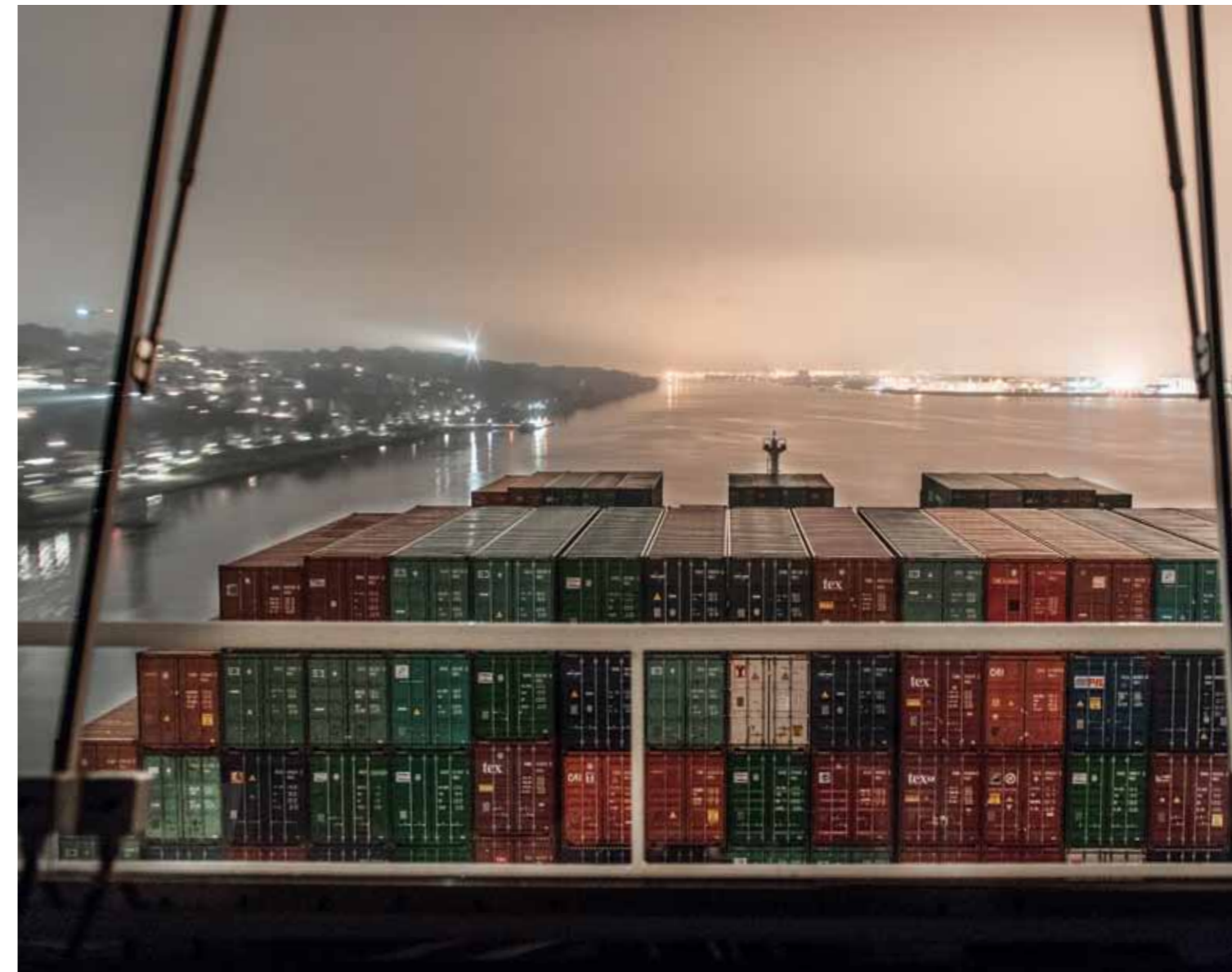
Haag and Gollnest, the descendants of the moaning and snoring predecessors, have disembarked: Daniel Felgner has taken over the watch. They pass the end of the Kiel Canal. The oncoming 'Pusan' can once again be seen as a large blip on the radar screen. It looks like an enormous lighting exhibition approaching. And she is out of sight again very fast.

From this point on 'encounters' are not allowed on the Elbe. Here the Elbe and its fairway are getting tighter. Those who get too close risk shipwreck. "The pilots have great respect for this stretch," says Daniel Felgner. The ships direction and the flow in the opposite direction create a suction effect that in the worst case can pull the stern of the ship towards the bank.

At around midnight Glückstadt comes into view, as the 'Grande Africa' passes by. At a quarter to one yellow shimmering light comes from the industrial port in Bützfleth. It looks like the first Christmas markets have opened their doors much too soon. Night fog packs the Dow Chemicals, Bayer and Aluminium Oxid works in a romantic light.

Visibility should have improved slowly between Krückaumündung and Hetlinger Schanze, but it hasn't. "There is not much going on and I am not unhappy about that," says the pilot. At 01.05 a message comes over the radio: The 'Pusan' had to leave the middle of the navigation channel, because there was an unidentified craft there and radio contact could not be established with it. At 01.08 the Captain calls by on the bridge: "Is everything ok?" He checks position and course, then satisfied, disappears through a blackout curtain into his neighbouring office. Daniel checks the clock and nods: "Seems ok again. It is as if I rode the 150 kilometres from Hamburg to Hanover on a moped, and had a time window of five minutes for my arrival."

The bulbous bow comes to rest (top left). Then the anchor is thrown in the outer roads of the Elbe in the German Bight (top right). The Captain follows the manoeuvres from the bridge.



'Moin, Moin' we're back again. After the round voyage lasting 56 days 'Mercury' is on the home straight, with Blankenese to port and the Airbus works to starboard.

Now a port pilot takes over as radar advisor at the HPA nautical centre. "Thank you for the good work Martin. Have a good night," says pilot Felgner at 01.30. A short time later the welcoming committee in the form of the first tug meeting the 'Mercury' - just in case. The power station in Wedel passes by with its two striking chimneys, followed by the lighthouse in Wittenbergen.

Then to starboard two dredgers are in sight, a bucket-chain dredger and a pump dredger, both fully lit. The widening and deepening measure plans to create an 'encounter box' that will be 385 metres wide and eight kilometres long, on a level with Wedel, from the Hamburg border to the curve in the River Lühe. Here the largest ships could pass each other, something that is up to now strictly limited on stretches of the river. It would be a safe meeting point for the steel heavyweights and would relieve the pilots: "When we meet another ship, at Blankenese, opposite Mühlenberger Loch, sometimes it can be rather tight in the 220-metre-wide fairway. With a south-west wind the ship can drift sideways, increasing the real width considerably," recounts Daniel Felgner: "Sometimes there is only 30 metres left between the ships. For us pilots it feels as if we could hand each other a coffee."

The Airbus plant comes into sight at 01.45: 'Mercury' is on the home straight. At 01.55 Daniel Felgner sights the port pilots' transfer tender. Punctually at 02.10 they take over consulting at the bridge, with a new burst of energy. The men have no time to introduce themselves, from now on every second counts.

Three tugs manoeuvre the 'Mercury' now at walking pace towards the entrance of the port basin at Waltershof. At 02.23 the incoming tide is already weakening, covering only half a metre per second. The carousel ride begins, stern first, the 'Mercury' is turned a good 140 degrees and pulled backwards to the mooring at Predöhl 2.

From the lateral extension of the bridge wing Captain Derevyanchuk looks down at the part of the quay he can still see, as if he is visiting 'Miniatur Wunderland', the largest model railway in the world, in Hamburg's HafenCity. The docking manoeuvre runs smoothly, centimetre for centimetre. At 03.10 the first officer gives the order to switch off the engines, a light shuddering signals the end of the four-week trip from Shanghai: "Arrival Hamburg, finish with engine!" ■

SEDIMENT MANAGEMENT

The Port of Hamburg lies 120 kilometres inland. That is a big economic and environmental advantage. Goods are brought in large quantities close to the market.

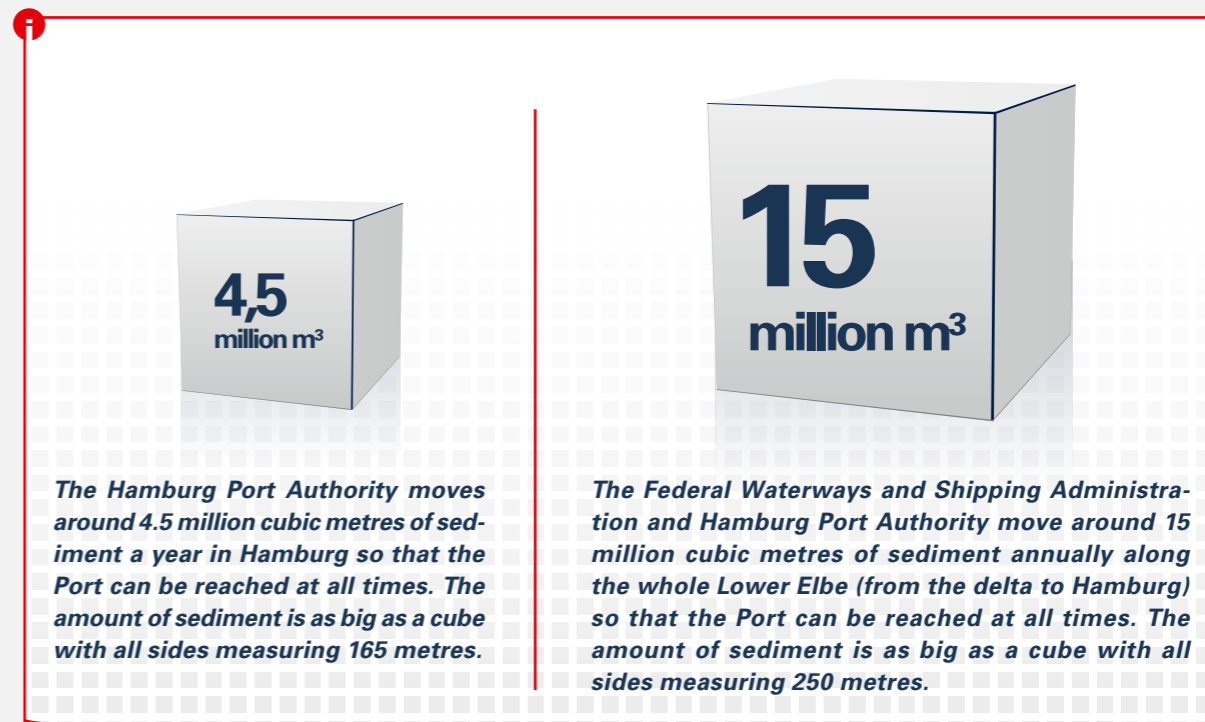
That large ships have an unequalled advantage over trucks and railways is an accepted fact. But this can only be so if the waterways are navigable. The Elbe is a natural system that always carries thousands of tons of sand with it. When the sand forms underwater dunes ships cannot pass by. To enable vessels such as 'CSCL Globe'

to reach their target, the Hamburg Port Authority and the Federal Waterways and Shipping Administration move several million cubic metres of sediment every year.

Estuaries are only formed on coasts under powerful tidal influence. The ebb and flow of the tide

spreads the river mouth like a funnel. Seawater enters the river system on the tide. A strong tide will erode a lot of material in the river delta and carry it up river.

Most weaker ebb tides do not take all this material back. Sediment accumulates upstream from the river mouth. ■



RIVER ELBE NAVIGATION CHANNEL ADJUSTMENT



400 METRES

NAVIGATION CHANNEL ADJUSTMENT NOT NECESSARY

from 300 to 320 m

widening to 385 m for the Encounter Box

from 250 to 275 m

from 230 to 250 m

WIDENING THE NAVIGATION CHANNEL BY MAX. 20 METRES

To improve accessibility to the Port of Hamburg for the largest ships the navigation channel must be made not only deeper but in several places also wider, so that the ships can pass each other. A total of 38.5 million cubic metres of sediment will be moved during adjustment of the fairway.



© Achim Mulhaupt

A long journey

Deepening the Elbe navigation channel is breaking new legal ground in many ways. Never before has a case brought by associations had such an effect on a project so important. Only now is it becoming clear that the EU Water Legislation lacks precision.

TEXT Olaf Preuß

For more than ten years there has been general agreement that Hamburg and Germany really need the widening and deepening of the Elbe navigation channel. Larger and ever-larger ships need to reach Germany's most important sea port. This agreement has become broader over the years. During the early planning phase most opposition came from Lower Saxony because of worries about dike safety. After years of political discussion and improved planning, Lower Saxony and the other federal states, Hamburg

and Schleswig-Holstein, agreed to the planning approval order in 2012. At the end of 2011 the European Commission notified the Hamburg Senate in a legal opinion that there were no objections to the project under European law on the environment and water. The court confirmed that this major project was a must for the economic development of the European Union. On 2 October 2014 the 7th division of the German Administrative Court made an inter-

im ruling suggesting that the planning approval has various shortcomings concerning flora & fauna and environmental impact. However, these can be overcome and will not lead to revoking planning approval either individually or as a whole.

Ten wasted years on adjusting the navigation channel

The commercial sense and necessity from a logistics angle of adjusting the Lower Elbe to the re-

quirements of a growing number of vessels, especially containerships, are widely recognized. Among those sharing this view are the international logistics sector, industry and foreign trade, the German government and northern states, the highest German administrative court and the EU. Even a good ten years after the start of planning, it is still not possible for the Elbe to be deepened and broadened enough for very large bulk carriers, containerships and cruise ships. In 2012 the environmental associations BUND and NABU, supported by the WWF, successfully objected to the City of Hamburg and federal authorities planning procedure. They did so on the basis of a relatively new right for associations to bring class actions causing a temporary halt to construction. After a five-day hearing in July 2014, the

court criticized some points in October. For instance, the court called for an in-depth expert opinion on the situation of certain threatened animal and plant species. These included the twaite schad, a fish found in the Elbe, and the hemlock water dropwort found nowhere else in the world except on the Lower Elbe. At the same time, the two Federal judges and the three judges of the 7th division did not question the planning approval for dredging the navigation channel.

The German Administrative Court on hold

The German Administrative Court delayed its ruling until the European Court of Justice (ECJ) in Luxembourg explained how the EU Water Framework Directive (WFD) should be interpreted. This fundamentally

outlaws any deterioration in water quality caused by construction, such as dredging navigation channels. The ECJ must decide how strictly this ban should be interpreted and when exceptions may be made. Since last year, the ECJ has been considering these questions of EU Water Legislation in the context of deepening the Weser. More clarity can be expected in spring 2015.

Speaking on behalf of the Hamburg government, Olaf Scholz (SPD), Mayor of Hamburg, made a statement on the channel dredging to the Hamburg state parliament on 8 October 2014. He stated that the interpretation of the EU Water Legislation would be crucial for this major project. He expressly praised the planning authorities and also, irrespective of political party, all those who in the



On 2 October 2014 the German Administrative Court delayed the decision again.

© Olaf Preuß

past ten years had supported implementation of the project. "This decision by the ECJ will have great impact on the whole of Europe," said Scholz. "The legal principles that it will interpret from the few sentences of the WFD will have consequences everywhere in Germany and Europe as a whole. It is not only for the sake of our own competitiveness, but also as committed Europeans we must ensure that when applying the WFD, we do not overreact, and throw the baby out with the bathwater. Interpretation of a European environmental directive for river basins in Germany and Europe should not create a general threat to industry there. Instead we must discuss how we can

achieve a balance between environmental protection and economic growth."

Preferably by truck? – The environmentalists dilemma

Yet the environmental associations continue to doubt whether this major project makes sense from a commercial or logistics point of view. They also hope that the ECJ will use European Water Legislation to topple any dredging of the navigation channel. The associations are asking for a kind of division of work among the ports in Northern Germany. But they have not provided any logical explanation of how international shipping

lines can be motivated to divide their cargo among different German ports, because this makes no commercial sense for them whatsoever. The environmental associations also owe us some explanation of how the negative environmental impact of heavier shore-based transport of containers can be compensated, should the dredging of the channel fail. Transport routes would then be shifted to competing ports such as Rotterdam or Antwerpen. Far more containers than at present would have to be trucked around Northern Germany. Involving heavier traffic on the roads and the resultant additional CO₂ emissions, such a shift can hardly represent an alternative. ■

Time is pressing

The initiators of the project to upgrade the navigation channel were far ahead of their time. "When the last Elbe deepening was under way, we went to Mayor Ortwin Runde and told him: This is just the beginning, not the end. We must carry on," said former Hamburg Minister of Economics Thomas Mirow some time ago. Preparations for further deepening and widening the Elbe navigation channel started in the early 2000s. At that time, a vessel around 350 metres long and about 45 metres wide, with 8,500 container units (TEU), was seen as a very large ship. Enormous strides in development followed. In January this year, Chinese shipping line CSCL's new flagship 'CSCL Globe' arrived in Hamburg: She has a capacity of 19,000 TEU, is 400 metres long and 58.6 metres wide. That currently makes her the World's largest containership, following the 'Mærsk McKinney Møller' from 2013.

Court by the environmental associations BUND and NABU, supported by WWF, are blocking the project.

The port business community's main aim is for oceangoing ships with a draft of 13.5 metres to be able to leave Hamburg irrespective of the tide and those with a draft of 14.5 metres with high tide. In both cases this means one extra metre of draft. Achieving this requires deepening the channel from 16.98 to 19 metres on the German Bight, from 15.8 to 17.3 metres in the central section between the North Sea and Hamburg; from the confluence of the North and South Elbe (marker 626) as far as Container Terminal Altenwerder (marker 619.5) from 16.7 to 17.4 metres. Widening is also planned on the final section before Hamburg, between Wedel and Wittenbergen.

The channel must be deeper and wider

If a port aims to remain in the world league, then it has to adjust to this trend. Hamburg's terminal infrastructure, i.e. container gantry cranes and quay walls are well equipped for the world's largest containerships. So far, the Lower Elbe is not. The case brought before the German Administrative

Widening the channel at certain points is at least as important as increasing the depth. During the public debate on the Elbe dredging project, the channel width was hardly mentioned for many years. Yet the growing number of mega-ships demonstrates that the depth

limits are an economic irritation for shipowners who cannot arrive in, or leave Hamburg fully loaded. The limitation on ship breadth even causes a general nautical problem: On the section immediately downstream from Hamburg, vessels with a combined breadth of more than 90 metres may not pass in the 300-metre wide channel. Otherwise, dangerous suction effects and accidents threaten. Downstream from Hamburg, the channel is to be widened to 320 metres, and also boosted with the addition of an 'encounter box' between Wedel and Wittenbergen. A navigation channel width of 385 metres is planned there.

In recent years, shipping companies have put into service more than 300 mega-ships with a capacity of more than 10,000 TEU, each with a breadth of 50 metres or more. These ships are used mainly on Europe-Far East trade routes that are crucial for Hamburg. Especially on these intercontinental long-haul routes, enormous cargo volumes make ever-larger ships worthwhile. Hamburg is the most important destination port in Europe for goods exchange between Europe and China. If Hamburg is not allowed to adjust the channel, it will affect the port's most important international links. ■

Hamburg's plans for upgrading the navigation channel have for a long time been behind the times, rather than ahead of them.

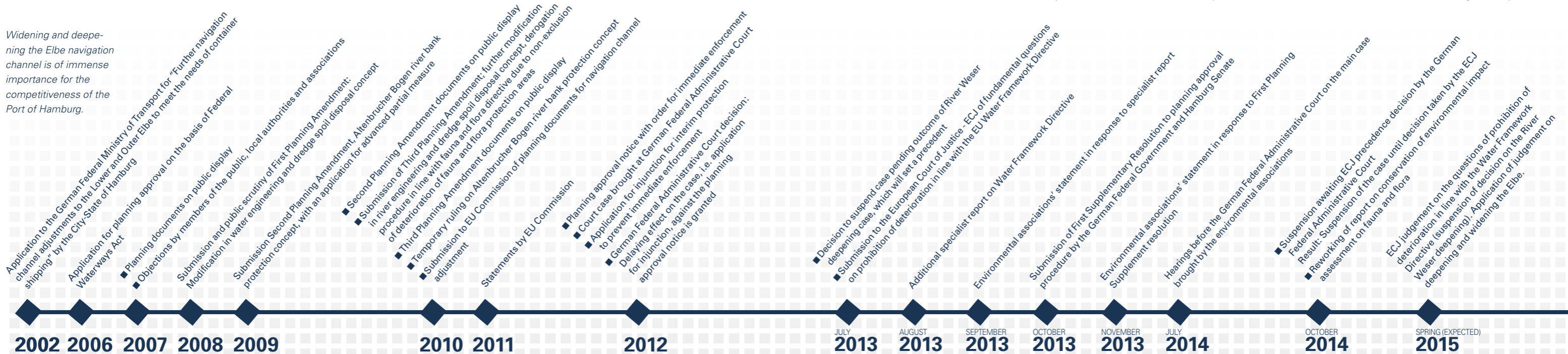
In a previously unknown series of leaps in development, containerships have grown bigger and bigger. The main driving force is commercial. This involves high fuel costs and tough competition between shipowners. The advantage lies with those able to transport containers at the lowest cost with the largest ships.

European Water Framework Directive

By early 2015 it should have been in force, but it has already become one of the most prominent regulations for environmental questions in Europe: The European water framework directive states that every body of water must be in a good environmental condition, but does not exactly define the word 'good'. In the future the interpretation of this word will have wide-reaching consequences for every expansion project on European rivers.

In Hamburg this question has already lead the judge responsible for the decision on the deepening and widening of the Elbe, in the German Federal Administrative Court in Leipzig, to wait until the European Court interprets the improvement or deterioration of water. Shortly the European judges will consider the issue. Afterwards the Federal Administrative Court in Leipzig will make a decision on the navigation channel adjustment.

Widening and deepening the Elbe navigation channel is of immense importance for the competitiveness of the Port of Hamburg.





© Port of Gdynia

Port in Gdynia (Poland): Hamburg is a central hub for exports to the Baltic Sea countries.

Gateway to Central and Eastern Europe

No other European deep-sea port has such close connections to its hinterland. Hamburg is continually building up its links to Central and Eastern Europe.

TEXT Olaf Preuß

In the logistics field the Port of Hamburg is often referred to as the “most westerly port of Eastern Europe”. We take this as recognition and a great compliment for Hamburg. Even in difficult political times Hamburg remains a busy central hub for trade between east and west. Since the end of a divided Europe the Port has been continually building up its links on land and at sea. European unity, a historic gift, has given Hamburg the opportunity to renew traditional trade routes into the Baltic region and Eastern Europe. “Hanseatic trading companies were happy to do this,” said Gunther Bonz, president of the association of port companies (UVHH) and authorized representative for the terminal operator EUROGATE.

East European countries like the Czech Republic see Hamburg’s port almost as their own for international trading. This year the Czech Republic expects seaborne

exports of 600,000 TEU, container units, a good 57 percent of which will be handled in the Port of Hamburg. “For the Czech Republic the Elbe is the entry point into the European waterway network essential for environmentally-friendly processing our freight traffic,” says Karel Dobeš, the country’s Deputy Transport Minister.

Regional infrastructure issues in and around the Port of Hamburg have long had an international dimension. Export volumes from a great many east European countries are increasingly organized via Hamburg. The Port can rely on 160 feedership connections weekly to the Baltic region, says Thomas Lütje, managing director of HHLA Container Terminals, a segment of the major port operator HHLA. “We are closely linked with all the countries bordering on the Baltic Sea, including Russia,” says Lütje. Through seaborne feeder traffic Baltic Sea states such as Poland and Sweden are also

becoming increasingly important for the Port of Hamburg. Container handling between Hamburg and Sweden rose from 2012 to 2013 by 24 percent, figures for Poland increased by 22 percent. Feeder traffic to Finland rose by about five percent and to Russia by 2.9 percent. In 2013 Russia was Hamburg’s second largest trading partner for seaborne containers. Finland was in sixth place, Sweden seventh and Poland eighth.

Above all European inland rail connections illustrate Hamburg’s excellent position. “A good 40 percent of all containers bound for the port’s hinterland are transported by freight trains. For shore-based long-haul traffic the proportion is higher. This is unique for a deep-sea port,” says Gunther Bonz. “Hamburg is the largest railway port in Europe and the second largest transit hub for container movements by rail. This is because the freight marshalling yard in Maschen was planned in the 1960s and 70s and with great far-sight was very generously sized. Today’s building and planning laws would make this almost impossible.” Within the port the railway has been modernized in recent years and made more efficient. Terminals have improved their rail connections and strengthened their cooperation with a

variety of rail services. “The railways are an important factor that must be underlined even more strongly in the coming years,” says Thomas Lütje. “At present more than 100 rail companies serve the Port of Hamburg, more than 80 of them providing container transportation. This shows that privatization in this transport sector is far ahead of rail passenger transportation.”

The Port of Hamburg has rail links to all regions in continental Europe and Scandinavia, at present with more than 1200 freight trains per week, more than 900 of them exclusively for containers. Rail connections to Eastern and South-Eastern Europe have special strategic importance for the port. Approximately 100 freight trains link Hamburg and the Czech Republic weekly, more than 80 with Austria and over 40 with Poland. Both of Hamburg’s largest terminal operators, HHLA and EUROGATE have themselves built up this business considerably in recent years.

For their intermodal transport divisions, linking seaborne and overland transport, freight train investments play an important role. In the 1990s HHLA introduced rail services to Poland and the Czech Republic. POLZUG rail



In the logistics field the Port of Hamburg is often referred to as the “most westerly port of Eastern Europe”. We take this as recognition and a great compliment for Hamburg.

company is now wholly owned by HHLA, that also holds 86.5 percent of METRANS, located in Prague. In recent years both companies have invested considerably in new terminals, locomotives and modern railcars. METRANS has built new terminals in Prague and Česká Třebová. POLZUG has done the same near Poznań and in Dąbrowa Górnicza. “Today Hamburg is the most important deep-sea port for the Czech Republic and Central Europe”, says Jiří Samek, managing director of METRANS, who was one of the founders of the Czech rail freight company in 1991. “Hamburg has an immense opportunity to develop this business”. EUROGATE links the Port of Hamburg by rail, having various interests in rail and logistics companies, including FLOYD, located in Hungary’s capital Budapest, which was the first privately owned rail company in the country. EUROGATE owns 64 percent of FLOYD.

To keep these close and intensive traffic connections fit for the future and to keep pace with further growth in the East European economies, considerable investments in infrastructure must be made, in road and rail

as well as inland waterways. The widening and deepening of the River Elbe is foremost in the public eye. For Hamburg’s feeder and rail connections there are other important topics. The Federal Government will invest more than a billion euros by 2025 in improving the efficiency of the Kiel Canal, the most used man-made waterway in the world. Renewing the locks primarily on the north side in Brunsbüttel is most important. About 100 kilometres in the eastern section near Holtenau must be made suitable for larger feederships. The Kiel Canal shortens the route from Hamburg to Gdansk, the most important Polish port, by 437 nautical miles. To round Skagen, the most northerly point of Denmark, vessels from Hamburg must cover 874 nautical miles. Considering higher fuel costs and stricter exhaust gas levels in the North Sea and the Baltic Sea since 2015, and ever-tighter time-cycles in container shipping schedules the Kiel Canal is a big advantage. “Taking into account transport performance and fuel consumption, no other mode of transport is as environmentally-friendly as a ship,” says Gunther Bonz. “Hamburg and the Federal Government must exploit this advantage, especially by

modernizing waterside infrastructure”. From Hamburg’s point of view this includes rebuilding or extending the old shiplift in Scharnebeck, near Lüneburg on the Elbe Lateral Canal. The structure is no longer adequate for today’s inland waterway vessels. A political decision on rebuilding has yet to be taken.

Discussions will also be continued on whether the upper Elbe can be used by inland waterway vessels between North Germany and the Czech Republic in coming decades. A concept needs to be worked out that ensures a sustainable balance between the environment and nature protection issues and the increased use of the upper Elbe waterway. “With our partners in the Hamburg Metropolitan Region we must continue to emphasise our common interests to the Federal Government and the European Union, to improve navigability of the entire Elbe,” says the Czech Republic’s Deputy Transport Minister Karel Dobeš. On the whole, Hamburg’s hinterland traffic in the container transportation sector by inland waterway vessel - recently about 2 percent - is expandable. ■

Kiel Canal

The Kiel Canal opened in 1895. It is almost 100 kilometres long connecting the North Sea with the Baltic. It is one of the most important and most sailed artificial waterways in the world. Ships gain an advantage of around 463 kilometres compared to the sea route via Skagen at the northern tip of Denmark. More than 130 feeder connections use this stretch per week between Hamburg and the Baltic region. It is the fastest and the most environmentally-friendly route.

Today the Kiel Canal is lined up for a major overhaul, the largest of recent decades. In the next ten years the German government will invest a good 750 million euros in two major projects for the waterway. A fifth lock chamber in Brunsbüttel and straightening a 20-kilometre-stretch in the east between Königsförde and Kiel.

SUSTAINABILITY ALL ALONG THE LINE.



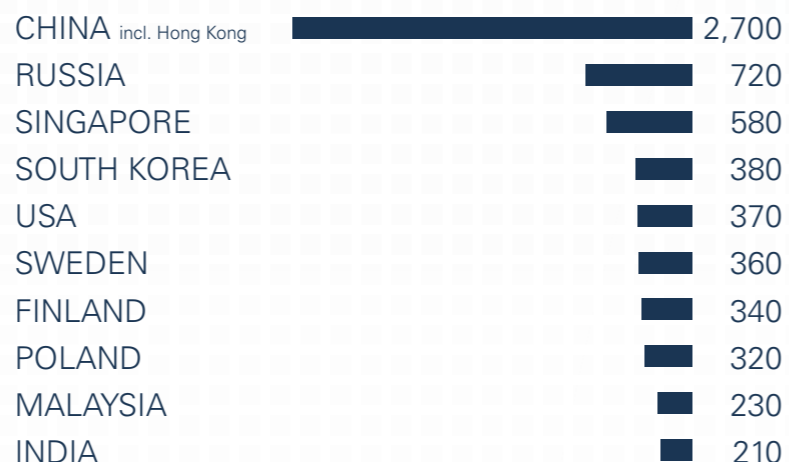
HHLA links the port with the European hinterland in a way that is as efficient as it is eco-friendly. At our state-of-the-art seaport terminals we connect ships and trains to form environmentally friendly logistics chains. Our innovative rail companies transport goods to areas located deep inland. Find out more about this consistently sustainable concept at hhlade/en/sustainability

GROWING TOGETHER.



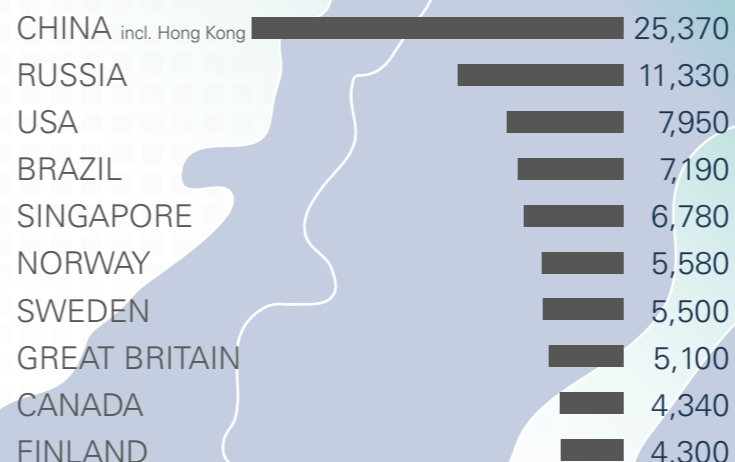
C PORT OF HAMBURG CONTAINER HANDLING 2013

Top 10 trading partners in 1,000 TEU



S PORT OF HAMBURG SEA FREIGHT HANDLING 2013

Top 10 trading partners in 1,000 tons (incl. weight of container)



Northern Hub

The Port of Hamburg lies at the heart of international traffic routes. With its dense network of more than one hundred worldwide liner services and its well developed traffic infrastructure it takes on an important role for Germany's economy and foreign trade of the European neighbours in worldwide trading. Around 160 feeder and short-sea links per week make the port a transshipment hub for countries in the North Sea and Baltic regions. Daily more than 200 cargo trains run into the European hinterland carrying exports and imports in both directions. In addition eleven motorways in and around the Hanseatic city and, via the Elbe Lateral Canal and the Mittelland Canal, Hamburg is linked into the German inland waterway network.

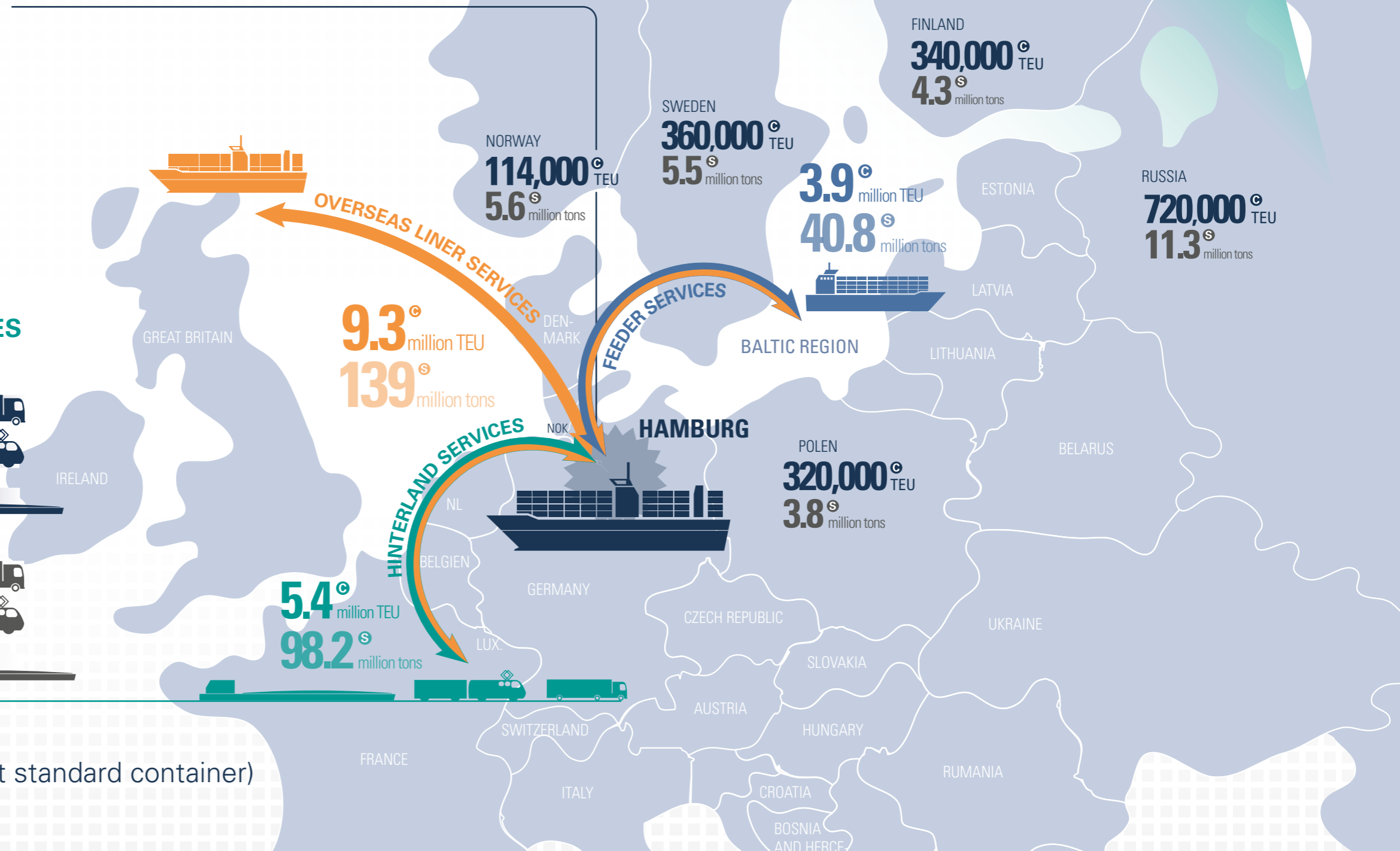


HINTERLAND SERVICES

C CONTAINER



S SEA FREIGHT



C Containers in TEU (20-foot standard container)

S Sea freight (tons)

“We’re working on it”

Logistics expert Carlos Jahn talks about autonomous ships, the trend to ever-larger freighters and his own personal dream ship.



Progressive thinker: Professor Carlos Jahn develops innovative logistics solutions for shipping and ports.

? **Professor Jahn, in California the first automobiles will very soon be rolling along the highways autonomously. Today even passenger planes can fly and land automatically. For how long shall we still need a captain and crew to take a ship from A to B?**

The autonomous ship is certainly a project which we are already working on. Nevertheless, it will be three decades before we get that far. Yet several technologies that we will need for a ship to run autonomously are already in use today, for instance collision avoidance systems. On others, I see a need for further development, for example on sensors. We shall also need absolutely stable satellite communication links to enable the shore station to supervise the ship and to intervene if needed.

? **But don’t ships without human eyes and ears pose a serious risk for seaborne traffic?**

No. Nor are we contemplating allowing ships to sail without crews in ports and constricted waterways. We are concerned with the major deepwater routes.

With the majority of accidents at sea attributable to human error, we are convinced that autonomous vessels even offer a significant safety advantage there. Unmanned shipping, moreover, also offers many economic and ecological advantages. If in the absence of crew, longer voyage times are not linked to higher manning costs, that makes slow steaming commercially more attractive. That saves a lot of fuel and reduces emissions.

? **One mega-trend in shipping is constant growth of ship size. The first containership capable of transporting 19,100 standard containers (TEU) was delivered at the end of 2014. Is any end to this trend foreseeable?**

Many people in shipping declared that the end of the line had already been reached with 10,000- or 12,000-TEU vessels. As we now know, that has not proved to be the case. The size and layout of ports, also ship-building requirements will definitely set limits somewhere. Yet nobody can tell you precisely where these will lie. Plans are already being drawn up for ships with 20,000 or even 24,000 TEU and lengths of more than 400 metres.

INTERVIEW

Prof. Dr. Carlos Jahn
 heads the Institute for Maritime Logistics at the Technical University of Hamburg-Harburg and the Fraunhofer Center for Maritime Logistics and Services in Hamburg

- born in 1966 in Osterrode
- went to sea as OS and maritime officer
- Studied mechanical engineering and economics

? **Aren’t such ships that discharge or load vast quantities of cargo within a minimum length of time a nightmare from the ports’ point of view?**

Certainly not a nightmare, but rather, a challenge. Ports along with their terminals are adapting to these vessels. That’s already going fine.

? **Are there any ideal ship sizes from the logistics angle?**

You cannot generalize on that. It depends on the cargo and the available ports. On long routes with many deepwater ports, such as those between Asia and Europe, mega-containerships are the answer. On other trade routes such as those between Europe and South America, smaller ports mean that smaller ships sizes have become established. So you can only define an ideal size in the light of the routes concerned.

? **Tough competition rages between large ports worldwide. What are the crucial factors determining the success of port locations?**

One important factor is accessibility from the sea. Others are speed of handling, reliability of tranship-

ment processes, and hinterland connections. Just now, the hinterland link is proving a vital factor in competition. Other important trends are the automation of port cargo handling and the related processes. Electrification of propulsion systems and the related reduction of emissions are also an important topic. On that, incidentally, Hamburg is playing a pioneering role.

? **All the same, isn’t a port like Hamburg, developed over the years and only accessible via a 130-kilometre stretch of river, sometimes depending on the state of the tide, nowadays really an anachronism?**

On the contrary, Hamburg’s inland location is actually very advantageous, since a high proportion of the cargo remains in the Metropolitan Region or originates there. It would hardly make sense to transport everything into this region from the far distant coast by rail or truck.

? **As a port adjacent to the city, Hamburg can barely grow further in area. Isn’t that a drawback?**

Hamburg is among the world’s most efficient ports despite this restriction. Naturally a port needs space





for cargo handling. Yet there is still immense potential for utilizing existing areas more efficiently. Networked use of IT systems in planning and control is one obvious course here. Hamburg is making excellent progress there and can look to the future with optimism. Its excellent hinterland links, especially by rail, represent one decisive locational advantage for Hamburg.

Which important courses of action are in hand to enable Hamburg to further extend its market position in the North Range?

The planned deepening of the navigation channel is a highly significant project. In the light of further growing cargo volumes, it is also clear that investment is needed in infrastructure. Continuous improvement is planned in the hinterland link. Upgrading the Kiel Canal locks is also essential, since a high proportion of transshipment traffic to/from the Baltic region passes through the canal. In addition, the Fehmarn Belt crossing is a major infrastructure project for linking up areas of economic

activity. The Hamburg Metropolitan Region will profit. It is not yet possible to assess the repercussions on the Port of Hamburg.

Professor Jahn, you are far more than an academic, since as the holder of a nautical licence you may also command a ship. Does the fact that you have swapped the bridge for a seminar room sometimes upset you?

Basically, no, for if it had, I should not have taken that step. Yet when I face a lot of stress sometimes and see a lovely sunset outside, then I do consider whether it wouldn't be much nicer to be able to enjoy that from a ship's bridge, without a cellphone and constant interruptions.

As a captain, what would be your dream ship?

That would certainly be a tall ship.

INTERVIEW Till Behrend

Ever more, ever faster: Today tremendous quantities of freight handled in the Port in shortest time possible.



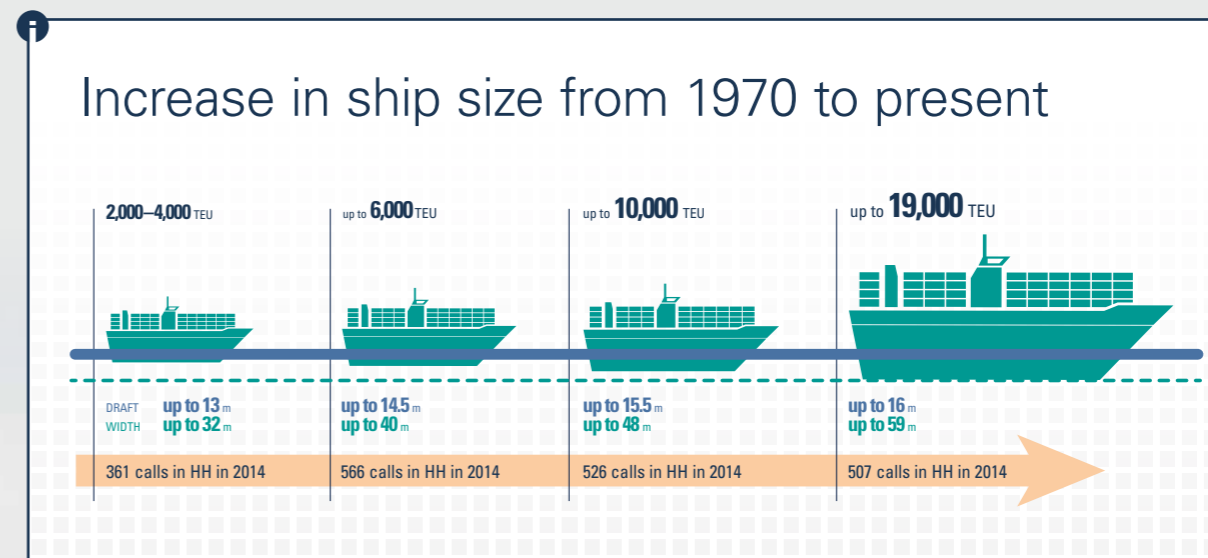
How will this go on? In Hamburg alone in 2014 almost ten million containers were handled. The boxes were taken further by rail, truck and feederships.



Precise timing: Van carriers and gantry cranes dominate the picture of modern port facilities, just as here at the HHLA Container Terminal Tollerort in Hamburg.

A NEW GIANT IN PORT!

The 19,100 TEU containership calls at Hamburg for the first time



13 January 2015 presented a special challenge for the Port of Hamburg. On this day, for the first time a containership with a capacity for 19,100 standard containers, TEU arrives. The 'CSCL Globe' is 400 metres long and 56.60 metres wide, making her the largest ship in the world at the time of her arrival. Fully loaded the 'CSCL Globe' on her trade route between China and Europe can unfortunately not reach the Port of Hamburg. The Elbe navigation channel is not deep enough. Port operations and shipping lines are pushing for fast adjustment of the Lower and Outer Elbe (see report on page 18).

Photos and further information for this ship on www.hafen-hamburg.de/vessel/cscl-globe. ■

Nautical masterpiece: With tug assistance 'CSCL Globe' manoeuvres in the Port of Hamburg.





The RoRo carrier 'Kugelbake' transports large aircraft sections (l.); Airbus uses a variety of transport options in Hamburg (r.).

Plane kits for China

The Port of Hamburg powers the economy of the entire region. Airbus and other global players also use it as a hub for their international operations.

TEXT Till Behrend

Hamburg is Northern Europe's leading hub and transshipment centre for global cargo flows. Annual container throughput recently reached almost ten million TEU. The boxes are packed with textiles, foodstuffs, consumer electronics, machinery and many other goods. In addition, the port is an extremely dynamic economic powerhouse and for many people, a guarantee of prosperity. Around 260,000 jobs throughout Germany depend on it directly or indirectly. In the Hamburg Metropolitan Region

alone, it accounts for 150,000 workplaces. In 2013 the Port of Hamburg accounted for added value of nearly 20 billion euros across Germany.

One of the reasons for this success story is that besides numerous port, shipping and logistics companies, producers and manufacturers have settled here on a large scale. Apart from numerous small and medium-sized enterprises that often handle and process imported wares such as tea or coffee, leading

global players such as consumer goods giant Unilever, copper producer Aurubis and plane manufacturer Airbus have discovered the advantages of the Port of Hamburg.

They all profit from its splendid infrastructure and close networking among carriers. The region's immense potential of skilled workers is a further bonus.

"The Elbe is extremely important for us. A multitude of components

are delivered to us by sea," explains Andrea Heinrich, Airbus Logistics Coordinator. Airbus is the largest industrial employer in Hamburg, with around 13,000 workers. Bremen, with 3,000 staff, Buxtehude employing 350, and Stade with 1,800 staff, are other sites in Northern Germany.

Successful models roll off Hamburg production line

Final assembly for round half of annual output of the extremely successful Airbus A320 Family is at Hamburg-Finkenwerder. The large longhaul A380 passenger airliners are also fitted with their cabin inte-

riors here. The plant is also responsible for painting the world's largest passenger aircraft, and delivery to clients from Europe and the Middle East. Essential development and production work is also done on the new A350XWB in Hamburg.

For Airbus, Hamburg is one of the most important interfaces between its worldwide locations. For many locals, the sight of freshly painted, four-engine A380 planes flying across the River Elbe into or out of Finkenwerder is now as much part of the city panorama as container-ships or cruise ships. The same applies to the immense white Beluga airlifters used to ferry entire aircraft

sections for final assembly. Transport of aircraft sections by ship is not necessarily any less spectacular, but remains less obvious to the general public.

Today the various sections of an A320 await onward transport to China: An aircraft rudder section from Hamburg, a vertical tail plane manufactured in nearby Stade, an elevator off the Spanish production line and the forward fuselage section from Airbus's Saint Nazaire facility in France. This is just the place to learn about the leading European plane manufacturer's international production style. The Chinese lettering on the transport frame is a pointer to its destination.

Photos and further information on 200th shipset on www.hafen-hamburg.de/news/shipset



Hamburg as aerospace centre: Final assembly of the Airbus A320 is done in Finkenwerder.



A responsible job: Andrea Heinrich coordinates despatch of large shipsets to China (l.). Gigantic: Sections of the Super-Airbus A380 are transported by ship (r.).

On the south bank of the Elbe, in Finkenwerder, the components manufactured there and elsewhere are assembled into shipsets. These resemble oversize model-making kits and are loaded on to the special transport vessel 'Kugelbake'. "Here on the south bank of the Elbe we can load and unload irrespective of the state of the tide," says an appreciative Andrea Heinrich. Then the 'Kugelbake' takes the load up river to the Container Terminal Tollerort operated by Hamburger Hafen und Logistik AG (HHLA). "There the components are mounted on special frames on a containership and shipped to China for final assembly,"

says Andrea Heinrich. "Practically every week, we send off one of these shipsets to East Asia on a liner service," continues Airbus's Logistics Coordinator.

Hamburg profits from China

The success of splitting up work between Europe and China like this became obvious long ago: Shipset No. 200 left Hamburg for Asia last summer. With that, Hamburg as the universal port underlined its outstanding part as one of the transshipment centres for project cargo from Germany, Eastern and Central Europe. In 2013 more than half a million tons

of project cargo were shipped from the port. This year the RoRo carrier 'Kugelbake' should have even more to do. From 2015 onwards, the A320 is to be assembled in the USA as well as Toulouse, Hamburg and Tianjin. Supply of components to the new Airbus plant in Alabama will also be handled via Hamburg. The new US business should prove a boon for those employed in Europe. "The final assembly lines in China and the USA are opening up fresh markets for Airbus," emphasizes company spokesperson Nina Ohlerich. Every workplace in Alabama generates "four new jobs at the sites in Europe." ■



The port is an attractive location for industry

Hamburg with its 2,500 industrial companies, employing around 240,000 people, is one of the most important industrial locations in Germany. One reason for this concentrated network is the Port of Hamburg. As a hub for worldwide cargo flows it is attractive for production companies, which rely on continual import and export of raw materials, semi-finished and finished products. On the 3,400 hectares landside the port industries take up around 859 hectares housing 113 companies. Well developed infrastructure for rail, truck, feeders and inland waterway vessels provide fast arrival and despatch of goods.

Many companies locate directly in the port vicinity and profit from their own quay facilities providing supplies of raw materials very fast. Especially in the face of increasing energy and transport costs premises near handling areas and trade centres are an important factor when choosing a location.

Pub, chapel and sweet-shop ...

'Duckdalben' seamen's club offers its international guests a little piece of home along with many other services.

TEXT Ilka Fiori ■ PHOTOS Sebastian Hartz

The final metres into Hamburg's cosy oasis lead visitors along a cobbled road through lush greenery; after thousands of nautical miles on board, a real joy. Entering the redbrick building, the visitor faces two smiling young people behind the counter. The young woman is uncorking two lemonades, while the young man is recording ship's names, group numbers and times of day on a planning board.

"Here it's like coming home," says Madara, 34, and leans back against the counter, satisfied.

Guitar music floats across from a plush sofa set by the window. Hermino from Manila is plucking away at the Cuban evergreen 'Guantanamera' accompanied by four young Filipinos, singing and drumming. Pork

crackling chips and drinks await them on a coffee table covered with a blue and white Bavarian chequered tablecloth. An older captain from Malaysia takes a seat there; neither origin nor rank count in the 'Duckdalben' seamen's club.

"Here it's like coming home," says Madara, 34, and leans back against the counter, satisfied. He is the second officer on a containership. After endless months, today his ship has "at last berthed again in Hamburg." "I love this port," he says with great pleasure. Nowhere else is there such a wonderful club as this one. Thousands feel the same way: in 2011 they voted 'Duckdalben' the nicest seamen's club in the world.

The mood and the reputation of a place are seldom in such contrast to its immediate surroundings. For shore-based visitors the 'Duckdalben' feels like the end of the world, located in the tangle of Waltershof auto-bahn exit, freight-train sidings and high-voltage power lines. A wind turbine overshadows the quaint building. Now and then port dust or the smell of the Dradenau sewage farm drift across. Incidentally, the name has nothing to do with ducks, but is rather the German word meaning tree trunks rammed into the riverbed as short-term mooring for ships.

Welcome to the club:
For over 25 years the
German Seafarers'
Mission in Hamburg has
been welcoming guests
from all over the world in
'Duckdalben'.



Lending a sympathetic ear:
Werner Tantzsch is one of the many volunteers in 'Duckdalben'. The winding blue staircase leads into the Quiet Room.



Tolerant and open minded:
Religions and cultures from all over the world find their place in 'Duckdalben' – often there are gifts from seafarers.



Relaxed atmosphere:
Hermino from Manila is playing 'Guantanamera': Of course, there must be a bar in the club.

While containerships and feeders are loaded and discharged at high speed at the quayside facilities a few kilometres away, here in the 'Duckdalben' their crews can take a break. They find a lot here that they have been missing for weeks or even months in cramped conditions onboard. 'Duckdalben' is a mixture of leisure centre, pub, post office, foreign currency exchange, chapel and sweet-shop, with an integrated Internet café, karaoke bar and small sports ground. And, of special importance, it's also a point of contact with really helpful people. They come to the aid of seafarers during their trips ashore, who have worries, or sometimes even major problems.

Here alone, there are 17 points for very low-cost telephoning and skypeing. Among these are yellow telephone boxes, colourful cabins decorated with bull's eyes, or cosy couches. These allow seafarers to communicate with their loved ones as if they were sitting in their living-room at home. Many make contact with their families here for the first time in weeks. "Sure, they all have cellphones nowadays," says Bernd Schröder, "but telephoning via satellite costs such a lot that it could rapidly swallow all a seaman's pay."

This versatile place contains an especially fascinating room on the first floor: Anke Wibel leads us between life-saving rings up the winding blue staircase into the Quiet Room. As she closes the sound-proofed door, the babble of many nations, the singing and the din of the port disappear. Behind tall windows facing east, trucks rush past along the autobahn with the Köhlbrand Bridge as the backdrop. Then one's glance is caught by different places of worship with altars along the wall. Each of the world religions has a worthy place here, some of them actually in different versions. "Look," says Wibel as an example, "we even have an Afro, an oriental looking and a female Jesus on crucifixes."

Far more seafarers come here than was originally anticipated. This refuge by the Köhlbrand Bridge has been extended several times during its 28 years. "So far we have had 900,000 seafarers and visitors from 177 countries here," explains Anke Wibel. The seamen's deacon, 52, deliberately does not say 'guests'.

"Here everybody is received as a friend." Along with her colleague Jan Oltmanns, Anke heads the club. On average there are around 100 seafarers there every day of the week, and on some days twice as many.

If nobody comes by and talks to them, they may get very bored and lonely.

Bernd Schröder, 63, is today driving one of the five VW buses used to collect the seamen from the quay on request and free of charge. The pensioner used to be an engineer with Lufthansa. Now he is one of 60 volunteer 'Duckdalben'. "It's a real joy to work here," he says. Feedback from the seafarers is "invariably positive and so heartfelt." He's on the work rota several times a week.

"The link with the crews often doesn't come to an end when we take them back at night to the quay gate," says Werner Tantzsch. This retired supervisory nurse for the elderly, himself aged 71, has spent the whole day visiting seriously ill seafarers in Hamburg hospitals. "If nobody comes by and talks to them, they may get very bored and lonely." He has taken along a Filipino for an hour or so, Nonilon Olmedo, one of the 18 permanent staff, a former seaman now recovering from a heart operation, who can speak to them in their own language, Tagalog. Later, he uses a computer to transfer pay home for another deckhand.

Seven days a week, 60 honorary helpers support the work of the full-time team. Without them the range of services provided by 'Duckdalben' would not be possible. Annika Bühner and Malte Dietz, the two young people behind the counter, are at 19 currently the youngest of them. After completing their high school leaving certificate, they are each working here voluntarily for a year. "To meet so many nice people from all over the world and to be able to help them is truly exciting," says the young woman from Swabia in Southern Germany. "I am learning a lot that is new." Nor can Malte imagine anywhere better than this for him just now: "When I can feel how much pleasure my work gives the seafarers, then every day means more to me than Christmas." His eyes light up as he speaks.

f Seafarers in Hamburg

About 10,000 oceangoing ships arrive in the Port of Hamburg every year. There are numerous crew members from all over the world on board besides the cargo. In the past when it took many days to load and discharge ships in the port the seafarers had time to spend in the city. Today the lay times are so short, there is hardly any time to even leave the terminal.

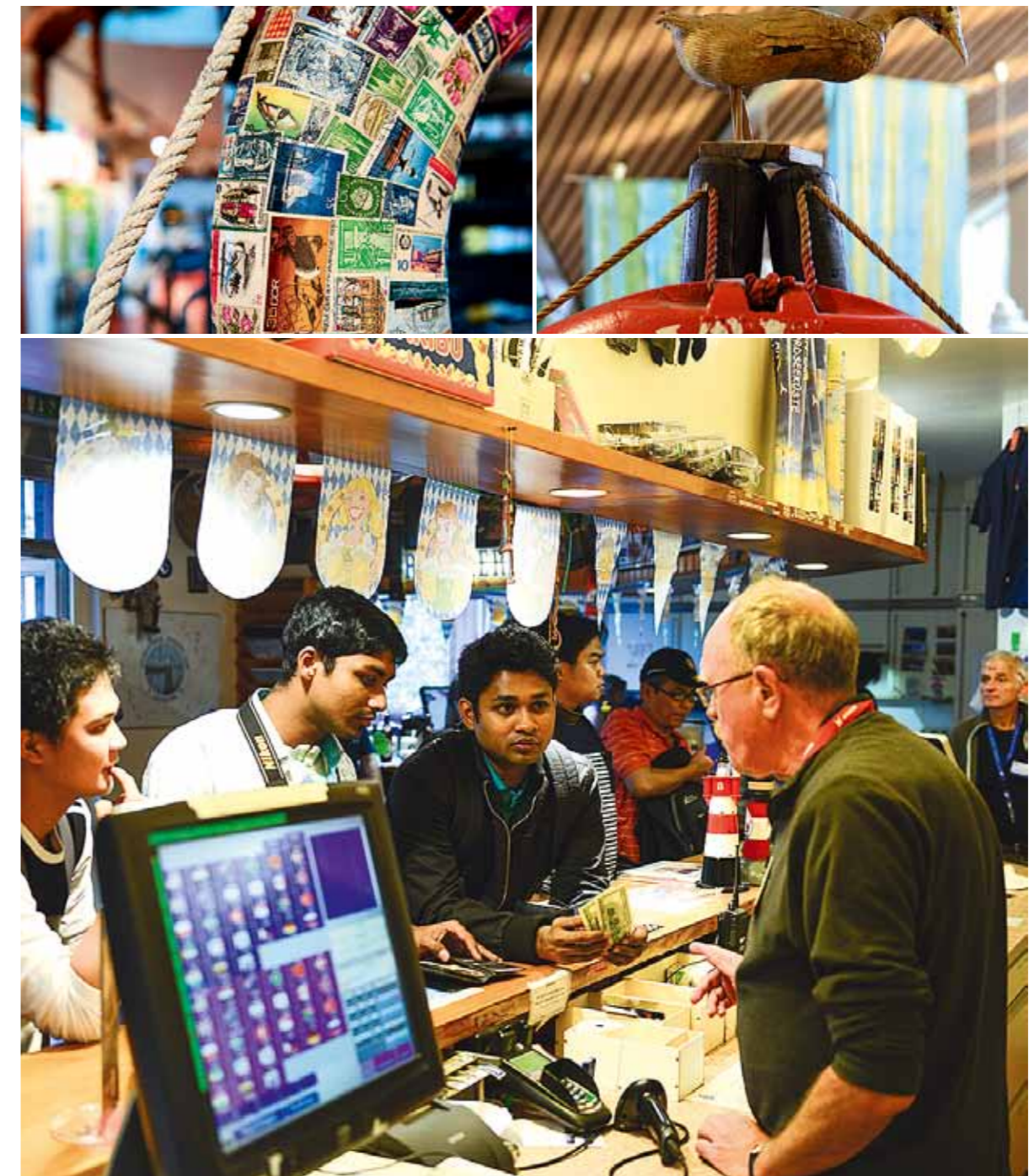
In Hamburg there are many meeting places for crew members of all creeds and cultures to go. Besides 'Duckdalben' seafarers club, there are the seamen's missions in Altona and Harburg, and the Seafarers' Lounge they run together as well as the hostel in Krayenkamp. The seamen's mission in Altona is home to around 14,000 crew members every year. The German Seamen's mission at the cruise terminals alone welcomes 15,000.

The thankfulness of the seafarers is evident almost everywhere in the 'Duckdalben', and especially on the walls and ceilings. These are hung with almost one hundred life-saving rings, with names and thank-you messages inscribed, and sometimes with even post-age stamps and passport photos attached. Between these hang or stand gifts from all over the world and all its cultures: Souvenirs, postcards and lovingly fashioned handicrafts wherever you look, and even some oil paintings done at sea for the 'Duckdalben'.

Janneck Oelker, 30, is somebody else who did a year's voluntary work in this melting pot ten years ago. "Ever since I have remained glued to the place," he recalls, grinning. He's been working in the civil service as an

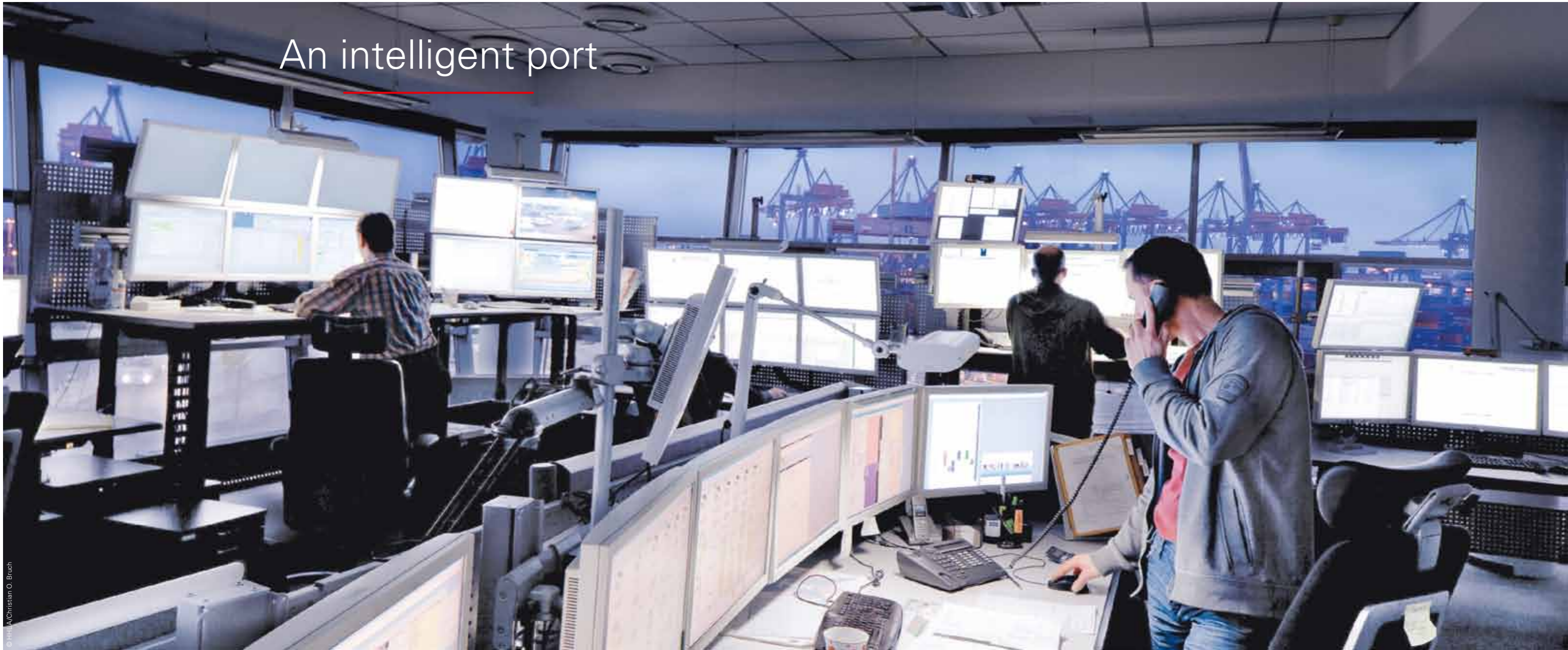
urban planner for years, but he tries "to help out as often as I can on Sundays." Just now, he's at the kiosk, sorting out confectionery at cost price. It's comfort food at sea. 3,000 bars of chocolate change hands across the counter here – every month.

Tourists have also recognized what is special about this seamen's club. One coach operator includes a stop at 'Duckdalben' on its tour that takes in gigantic oceangoing ships and container gantry cranes. That was what brought Diana Livotto, 47, here for the first time. The lawyer was thrilled and has since been here as a volunteer a couple of days every month. "Seafarers are really special people," she says, "I find this work really fulfilling." ■



A varied collection: Souvenirs given by seafarers from all over the world decorate the club.

An intelligent port



© HHLA/Christian O. Brush

State-of-the-art IT systems and intensive networking between all those involved in the transport chain give the Port of Hamburg its technological edge.

TEXT Olaf Preuß

Hamburg is one of the world's most unusual ports. It lies on the River Elbe a good 130 kilometres up river from the sea, at the centre of the Hamburg Metropolitan Region, one of the most powerful economic conurbations in Europe. Beyond its borders, Germany's largest universal port is the most important import and export port for the German economy and large areas of the neighbouring states of Europe. That applies not just to container handling that is usually a central feature of seaborne foreign trade, but also to the growing volumes of oversized, heavy and bulk cargoes

such as ores, coal, petroleum and agricultural produce. Cargoes bound for Hamburg can be taken further inland than to any other world ranking port. Outbound cargoes reach the ecologically and economically highly efficient oceangoing ship sooner than anywhere involving road or rail. By comparison with other major ports in Europe, Hamburg possesses the best rail connections with Central and Eastern European markets. At the same time, Hamburg's port users need to offset the restrictions that a long run up the river inevitably involves. In recent years ship sizes and cargoes

have been growing much more rapidly than infrastructure is being adapted. This applies to the deepening of the Elbe navigation channel as well as to road and rail links. The worlds of both politics and business are now focused on wholesale modernization of German transport infrastructure.

Networking advantages

In recent years Hamburg has further extended its market share in container traffic compared to other ports in the North Range. One of the main reasons for this is that for

decades now, the Port has been pursuing development of cutting-edge IT systems, and continuous improvement, networking all those involved into a single transport chain. The most important example of this in April 2014 was the official launch of the new Port River Information System Elbe (PRISE) after a test phase lasting over a year. This is an IT system specially conceived to optimize registration of mega-ships more than 38 metres wide. All those concerned in the port, feed data into PRISE. Working together both the approach and departure of mega-ships run optimally and these oceangoing giants can be handled in the port with maximum efficiency. The new IT system links up Hamburg Port Authority, port terminals that initiated

and financed it, Elbe and Port Pilots' Associations, relevant authorities such as Customs, Federal Waterways and Shipping Administration, tugboat and line runner services, shipowners and brokers, and the AIS Automatic Identification System for Oceangoing Ships. This makes every mega-ship movement considerably more transparent for PRISE subscribers.

Intelligent technology masters bottlenecks

This is also essential because more and more mega-ships with growing quantities of cargo are being cleared in the Port of Hamburg within an extremely tight time-frame. "In 1968 Burchardkai was Hamburg's first terminal to handle containers. Nor-

mally, perhaps 300 boxes would be moved for one of the novel containerships. For a mega-containership, today more than 6,000 containers are discharged and loaded," says Dr Stefan Behn, HHLA Executive Board member. Nowadays container terminals need to plan their storage capacities and their available reserve space far more precisely than before. When delays occur, for example through late arrivals of containerships caused by the weather or scheduling delays, all those involved in the logistics chains need to offset these as rapidly and smoothly as possible. For nautical reasons, two ships with a combined breadth of more than 90 metres may not pass each other on the stretch between the mouth of the River Stör and the Hamburg state boundary. To elimi-

All systems at a glance: The cutting-edge control centre at Altenwerder Container Terminal.

nate this bottleneck, it is planned to create an 'encounter box' as part of the deepening of the navigation channel. This is primarily of importance for container shipping: In 2013, of 9,681 approaches by vessels, 4,922 were by containerships. Especially on Asia-Europe trades, more and more are mega-ships currently subject to the ban on encountering. To be able to clear such mega-ships with precision and to offset delays is a growing logistics and commercial challenge. "If the Port of Hamburg

wishes to retain and extend its competitive position as a world port, it will have to depend on innovative IT technologies such as PRISE," says Senator Frank Horch, Hamburg's Minister of Economics. "PRISE improves traffic flow in the port and on the Elbe."

Improved networking facilitates further growth

Hamburg-based DAKOSY AG developed the software for PRISE and operates the system. DAKOSY

also built up the Port Community System for the Port of Hamburg. It was founded in 1982 by companies in the port operating business, liner agents, forwarders and cargo handling firms. Ever since the early days of digital information technology, DAKOSY with its staff of 160 has continuously been introducing new logistics platforms and electronic services for cargo handling companies and public agencies involved in transshipment processes. This has made a substantial contribution to

securing the conditions required for rapid growth in containerized cargo handling. DAKOSY's Port Community system made cargo routing along the logistics chain transparent for all those involved. Whether on Customs formalities, securing hazardous cargoes, or capacity planning by transport and storage companies, this is the only way of boosting handling efficiency further. The Port Community System is meanwhile of outstanding importance for rapidly and efficiently

handling import and export goods. More than 2,200 subscribers are networked via DAKOSY's computer centre. Among them are shipping companies and agents, importers and exporters, Customs, waterway police, fire brigade, forwarders, terminal operators, rail operators and truckers, trading houses and brand name producers. "Data networking is vital for the future of the Port of Hamburg," says Frank Horch, Hamburg's Minister of Economics.

Motivated by the need for more intensive networking to benefit the entire port, the Feeder Logistics Centre (FLZ) was established in 2004. It was launched as a pilot project at HHLA's Container Terminal Tollerort. In 2009 Hamburg terminal operators HHLA and EURO-GATE then set up a joint company, with the former holding a 67 percent stake, and the latter, 33 percent. Based at HHLA's Tollerort terminal, FLZ is manned 24/7. The staff of twelve annually coordinates more



Logistics chain: Feeder ships like the one in the foreground are an important mode of transport for further distribution of containers arriving in Hamburg.

© Shutterstock/Frank Giermer



BESIC pilot project: Since 2013 automated guided vehicles powered by batteries using excess 'green' electricity have been tested at Altenwerder Container Terminal.

© HHLA

than 5,000 terminal calls. Generally before leaving Hamburg again feederships, especially in the Baltic trades, call at several terminals, mostly at very short notice. In the past feedership companies and terminals organized these separately for every feeder. Yet with the complex processes in a growing port, today that would no longer be in line with the times. The Feeder Logistics Centre is applauded by the entire port operating sector as a highly efficient enhancement. "The work of the Feeder Logistics Centre has optimized utilization of the port infrastructure," says Harbour Master Jörg Pollmann. "The FLZ relieves such sovereign bodies as the Harbour Master's Office's Nautical Centre from itself coordinating the rotation of feederships in the port. So we are able to concentrate on our core tasks." In addition to

coordinating what tend to be small vessels, the centre also oversees nautical terminal coordination of mega-ships. The increasing number of ever larger containerships, numerous giant bulk carriers, and the prospect of cruise ships, visiting the port demand even better communication. That applies both to manoeuvres within the port and the bottleneck at the transition from the port to the Lower Elbe.

Priority for renewable energies

For all its gains in efficiency on logistics processes, the Port of Hamburg is always aiming to save energy. By 2050, the City's political goal is to cover at least 80 percent of its energy needs from renewable sources. The port is the city's economic powerhouse and at the same time, its heaviest consumer of energy – but also its most prominent display window for demonstrating the numerous paths to an energy revolution. Wind turbines, for example at the EUROGATE Terminal, supply power regeneratively within the extremely restricted confines of Hamburg's inner city. There should be more of these in the next few years. The opportunities for saving energy in the port are immense: Exploiting new technologies, improving coordination of shore-based and seaborne traffic, and traffic flows throughout the port.

Battery-powered unmanned automated guided vehicles

Two projects have been especially to the fore in recent months: Since 2013 HHLA has been testing the new BESIC system (Battery-Electric

Heavy Goods Vehicles in Intelligent Container Terminal Operation) at its Container Terminal Altenwerder. At this highly automated terminal, containers are moved from the quay into storage blocks by automated guided vehicles (AGVs). Ten of these unmanned transport platforms are meanwhile entirely battery-powered. Along with Hamburg energy supplier Vattenfall and other partners, HHLA launched a pilot project aimed at charging the AGV batteries, from regional wind turbines, precisely when an especially heavy flow of ecological power can be anticipated in the network. The project partners hope to learn a variety of lessons from this, e.g.: optimized coordination of feeding power and consumption in a more and more regeneratively fed system, for fleet management of electric vehicles, especially trucks and for the

further development of batteries. The anticipated lower energy costs are especially attractive for terminal operators. Power storage, especially with a particularly heavy supply of wind energy, for example, will contribute to relieving the network. On the other hand, mobile power storage units could theoretically help to stabilize the network where required, especially when high-capacity truck batteries are available for recharging just when required. "We are boosting the energy turnaround with this project. Once again, we are demonstrating that electrically-powered mobility makes ecological and commercial sense," says Dr Stefan Behn, HHLA Executive Board member.

A completely new system for the Port arrived in the Hanseatic City at the beginning of October 2014.

With the LNG Hybrid Barge, Hamburg ship suppliers Becker Marine Systems and AIDA Cruises aim to supply power to cruise ships in Hamburg from 2015.

Environmentally-friendlier power for the Port

That means the end of nitric and sulphuric acid emissions from ship's engines. The barge is a floating power station, its engines fuelled by refrigerated Liquid Natural Gas (LNG).

In addition, from 2015 the first stationary shore-based power supply for cruise ships will enter service at Altona Cruise Terminal. These two technologies will make the Port of Hamburg an international pioneer in power supply for cruise ships. ■

The human factor: Advanced technology in the port only works with highly-qualified staff.



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“Efforts really bearing fruit”

Why Hamburg is one of the best ports in Northern Europe for Reinhard Peschel, Managing Director of CMA CGM Hamburg.



© Franco Zahner



Reinhard Peschel, boss of CMA CGM Germany, the third largest container shipping line in the world with 443 ships and its headquarters in Marseille.

? **Mr. Peschel, in 2013 you had the 396-metre-long 'CMA CGM Alexander von Humboldt' christened in Hamburg. At the time she was the largest containership in the world. The worlds of politics and business saw this as recognition for the Port of Hamburg from CMA CGM. Were they right?**

Absolutely. We enjoy being in Hamburg, we wanted to underline this to the public with the christening of the 'CMA CGM Alexander von Humboldt'. The CMA CGM Group has been calling at the Port of Hamburg since 1983. During these 32 years it has become the Port's largest customer.

? **Are you sure that you will be able to reach Hamburg in the future with even larger vessels? The German Federal Administrative Court delayed the decision on widening and deepening the Elbe last Autumn.**

For us it is important that the adjustment of the navigation channel will take place. We all expect

that it will happen. For us widening is more important than deepening, since there are too few passing places for very wide vessels. In the future when ever-larger ships call at Hamburg it could lead to bottlenecks without the planned adjustment. Then we could just be forced to change our port rotation.

? **Despite all the prophecies of doom ultra-large containerships are still calling in Hamburg. Is the discussion on the adjustment given too much importance by the business world?**

No. The ships come, but are not fully laden, and that is very expensive. If the navigation channel were one metre deeper our largest ships could carry 800 more TEU.

? **How large can containerships become?**

In 2015/16 CMA CGM will put six 18,000 TEU vessels into operation. Our competitors already have 19,000 TEU containerships that are also intended

INTERVIEW

calling in Hamburg. At the moment it looks as if the trend towards larger ships will continue. Vessels for 20,500 or even 22,000 TEU are already being discussed. They would be perhaps 415 to 418-metres-long and also wider than today's ships. The reason is simple, larger ships are more economical to run.

? **The ultra-large ships are very expensive though, and have very large capacities to fill. The shipping lines seem to be reacting to this development by building alliances. Is the future of shipping in these consortia?**

All the largest shipping lines have formed alliances. We too have joined with China Shipping and United Arab Shipping to form Ocean Three Alliance. We are very pleased with this development. Only a few of the small shipping companies have not yet formed alliances. Our Ocean Three Alliance customers will profit from the expertise and services offered by the group with shorter transit times and an increase in the number of ports called.

? **At the end of 2014 you acquired the Oldenburg Portugiesische Dampfschiffs-Rhederei (OPDR), a well-established traditional Hamburg company, operating in the short-sea sector. How does that fit into the picture?**

The size was not decisive. OPDR represented a meaningful addition to our business. Our subsidiary, MacAndrews operates door-to-door services in Europe. OPDR complements our services adding Morocco and the Canary Islands. They all fit together well.

? **Coming back to Hamburg: what are the location advantages keeping you at this Port?**

For us Hamburg is the most important hub in Northern Europe. It has an exceptionally advantageous position. Large ships can sail far

into the hinterland. Excellent traffic connections are also available by road, rail and to a lesser extent inland waterways. The links into the hinterland and the very good services at all terminals compensate for higher costs compared with the Benelux ports.

? **In recent years the Port of Hamburg has invested heavily in intelligent technology to increase handling efficiency. How do the shipping lines react to this?**

Very positively! The new control system works well. Handling in the terminals has improved considerably. Congestion like last spring is no longer evident. The efforts are really bearing fruit.

? **Acceptance of a port so close to the city as in Hamburg depends on environmental compatibility. What is CMA CGM doing in this area? Air quality is an important issue for people living near the coast and the port. Are improvements in sight?**

Container shipping certainly compares very favourably with air and road traffic. But we are still making great efforts to be even more environmentally friendly. For example, CMA CGM was the first shipping line to use bamboo rather than tropical wood for container flooring. Another example is slow-steaming. For some time now our ships have been sailing at a maximum speed of 14 to 16 knots rather than 20 as in the past. These measures have saved considerably on fuel; at the same time reducing emissions. We have re-designed the bulbous bow on our ships. It is now much slimmer. The screws we use today are lighter and their shape has been changed. Special paint also adds to the savings. With this optimization the CMA CGM Group has reinforced its commitment to environmental management. The aim is a 50 percent reduction in CO₂/TEU per km between 2005 and 2015.

SEVEN DAYS AND SEVEN NIGHTS ON STANDBY

20 Hamburg tugs guarantee service round-the-clock. For the crews, their vessel becomes both work place and home for a whole week.

TEXT Till Behrend ■ PHOTOS Marc Ihle

"Peter, slow... Peter, half... Peter, full." - with a calm voice the pilot on the bridge of the containership 'SCI Nhava Sheva' gives his instructions over the radio to the crew of the tug, 'Peter'. 'Nhava Sheva', almost 300 metres long operates on the trade route between Hamburg, India, Sri Lanka and Oman. At the EUROGATE Terminal in Waltershof, Port of Hamburg she has loaded and discharged containers. Now the captain is preparing to depart, next stop Antwerp.

The 'Peter' is carefully manoeuvring the vessel's stern away from the quay. Another tug pulls the bows of the 'Nhava Sheva'. Tug skipper Udo Post (27) sets

full speed ahead. The two caterpillar engines each generate 2800 hp. At 1600 rpm they reach full pulling power. Just like a strong coach horse, the tug pulls on the harness and seems to rear up. Both propellers, each with a diameter of 2.60 metres, are now turning 250 times per minute churning up the water in the port basin. The towing cable worth 19,000 euros, made of synthetic Dyneema, with a breaking load of 280 tons, becomes taught. Slowly the 'Nhava Sheva' moves away from the quay. "The Peter achieves a 70-bollard pull, enough to handle the largest containerships on the Elbe," explains skipper Udo Post.

The 'Nhava Sheva' slowly moves forward and pushes herself out of Parkhafen. The crew release the towing lines. "Bye, till next time," Post says farewell to the vessel's captain and the pilot on the radio. The deck hand on the 'Peter', Michael Leininger (57) pulls the cables in, using a large winch. "A Dyneema cable like this can handle about 1,000 jobs, and then it has to be replaced," he explains.

The ship's clock shows shortly before 2 pm as the 'Peter' and crew return to the Neumühlen tug station. Today, in calm weather, the 'Nhava Sheva' was a routine job for Post and his men. "It gets really tense when it's dark, raining, snowing or maybe when we have icy conditions," explains the skipper. With their strong engines and extreme manoeuvrability the Hamburg tugs master even those challenges reliably.

The crew of the 'Peter' is taking a break now, but it's nowhere near the end of the day. "We are on standby round-the-clock, seven days a week," says skipper Post. The 'Nhava Sheva' was our fourth job today: "The day began for us at 2.30 am with a vessel casting off at the Eurogate Terminal," reported the third man aboard, engineer Werner Rinka. On a modern tug belonging to the traditional Hamburg company Petersen & Alpers each of

the three men has his own small cabin. Every tour lasts seven days - always Wednesday at 10 am till the following Wednesday at 10 am - the three-man crew create their own small shared all-male world.

Then they have one week free. Long leisurely strolls through the city are barely possible when on duty as the jobs sometimes come in very fast.

In the Port of Hamburg about 20 tugs belonging to six owners share the work. Five of these special shipping firms have joined together to form an association of ship assistance companies for the Port of Hamburg. "We work like the taxi system. Whoever has just had a job goes to the back of the line. We get very little notice as to when the next job is coming in," explains Post. Meals are usually cooked and eaten onboard. "Only on Sundays we have a tradition of going to a Turkish restaurant in Altona," explains Werner Rinka.

For these experienced seafarers, who sailed the oceans for many years, the challenging and ever-changing work on a tug in the Port of Hamburg is a dream job. You can really believe what Rinka says: In fact, the 65-year old could have retired in December 2014. "I arranged with my boss that I can carry on a bit longer," he explains laughing. ■

(from left to right) Tug Skipper Udo Post on the bridge; a Dyneema cable; at the stern of the 'Nhava Sheva'; Engineer Werner Rinka; 'Peter' at anchor at the tug station in Neumühlen.



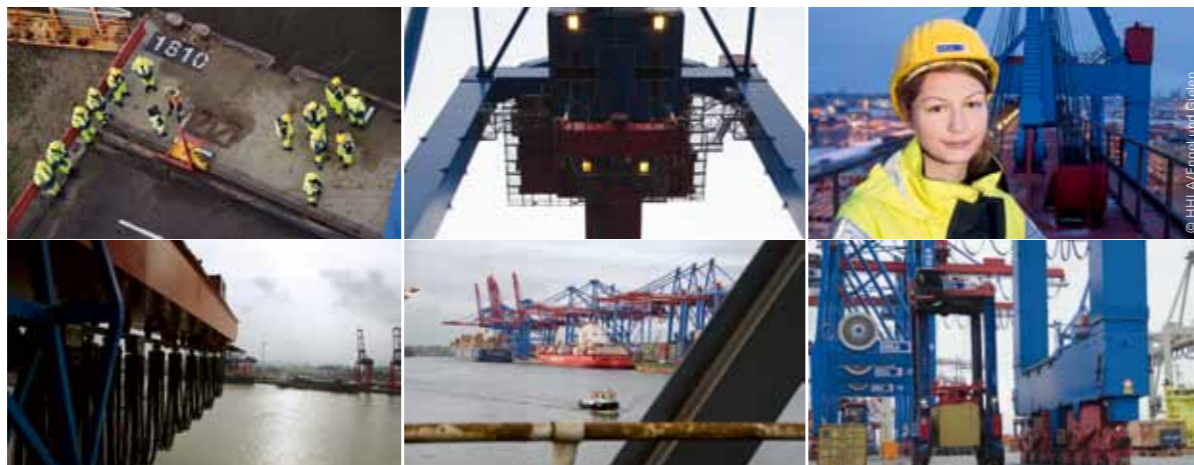


Only for those not afraid of heights: Christian Semprich's work place, 37 metres above the ground. The glass bottom of his cabin gives a clear view of the cargo.

HIGH ABOVE THE PORT

Working a gantry crane is a challenge. To load and unload today's gigantic containerships calls for intense concentration, a sensitive touch, and teamwork.

TEXT Till Behrend ■ PHOTOS Marc Ihle



Christian Semprich reaches his workplace by elevator. Now 47, the crane operator swings into his seat 37 metres above the Elbe and starts his systems. His glass cabin gives him a breath-taking panorama view from high above the HHLA Container Terminal Burchardkai and across the river towards St. Pauli landing stages. In the background: St. Michael's church and Elbe Philharmonic Hall. Yet Semprich has barely any time to enjoy the view of Hamburg's landmarks old and new: his work on the crane demands maximum concentration and minimum delay.

The Port of Hamburg is busier than ever. The two top port operators HHLA and EUROGATE are working at record levels. The Port of Hamburg handled almost ten million containers in 2014. Work continues around the clock on 360 days of the year. The vessels being loaded and unloaded are growing ever larger.

Christian Semprich, who has worked in the port for 30 years, has experienced the transformation of cargo

handling at close quarters. "It used to be nearly all general cargo. Physically it was very hard work. Ships still had lay times of up to six weeks," he recalls. Today a modern containership remains in port for at most around 48 hours.

507 ultra-large containerships called at Hamburg in 2014. These can transport 10,000 and more standard containers (TEU). Early in 2015, the first 19,100-TEU ship, more than 400 metres long, berthed here. By installing cutting-edge gantry cranes, the Port of Hamburg adapted to the trend in good time. Both HHLA and EUROGATE are already equipped to handle ships with up to 19,000 TEU, with tightly packed rows of up to 24 steel boxes side-by-side.

Two operators share the work on the container gantry cranes. The crane driver manoeuvres the trolley along the boom between ship and shore. He also positions the hefty spreaders that grab and lift the boxes. He needs to rely one-hundred-percent on the deck operator down on the ship, who gives instructions by radio and hand signals. Precise cooperation is essential, especially at night or in bad weather, with poor visibility and wind shaking the containers. "In some situations I am driving practically blind, and then I rely completely on my colleague on deck," reports Semprich. Halfway through each shift, after four hours, the colleagues swap places.

This coveted job remained a male preserve for a long time. Women too have been employed on container gantry cranes since 2008. Franziska Müller, 28, is one of currently eleven women crane drivers at HHLA. "I wanted to work in the port, come what may. As there were no women crane operators then, I trained first in office work," she says. When the opportunity at last arose, she didn't hesitate one moment. She became the first woman in the Port of Hamburg to gain a licence. Teamwork and facing new challenges almost daily still appeal to her immensely: "Again and again, we handle tricky and testing situations." Franziska Müller (photo on the left) has never once regretted moving out of the office and up into the glass cabin high over the terminal. "Here in the port I have faced many different tasks. Nevertheless, for me operating a gantry crane is just the job." ■



SOME HELPFUL HINTS FROM PETER PICKHUBEN



How to take a trip on a containership?

Anybody who has always yearned for a close-up view of everyday life at sea can book a trip on a cargo ship with some shipping companies. Whether for a passage through Northern Europe, or to South Africa or the Caribbean – on a freighter everything revolves around transporting its load undamaged and punctually to journey's end. There's usually time to have a look around the town while the ship is unloaded and loaded down in port. Everybody who is anticipating a luxury spa, a full entertainment programme, first-class suites or the Captain's Dinner, should better book a cruise trip.

The home page of the German Shipowners' Association (VDR) features a survey of lines offering cargo ship voyages: www.reederverband.de/de/service/frachtschiffreisen.html.

Which ships are lying in the Port of Hamburg just now?

The port map at www.hafen-hamburg.de/hafenplan enables you to follow all vessels between the mouth of the Elbe and the Port of Hamburg in real time. A click on the ship produces photos, basic data and notes on her current voyage route. Sailing schedules underneath the map reveal when the 'Queen Mary 2' or the world's largest containership is visiting Hamburg the next time.



How to become a ship's pilot?

A pilot's training opens up a fine array of international opportunities. Demand for upcoming talent remains strong! Anybody opting to become a pilot has an exciting career ahead. To qualify for training, you need a Master's Ticket for "Captains in deep-sea trades without limitations".

Any job starter or newcomer can obtain their licence from a nautical school or a technical university. In addition, a new pilot needs to have held a responsible post on board an oceangoing ship for two years. Then an eight-month training can commence in the pilotage waters concerned. That ends with a public examination. After five years' experience on ships of different sizes, trainee pilots are then licenced to pilot ships with no restrictions on size.

For further details: en.bundeslotsenkammer.de.



Focus on seaborne foreign trade

Exploiting synergies, pooling resources and being on the ground in essential markets – Port of Hamburg Marketing’s worldwide network forms the basis for achieving its aim, to successfully market and position the Port of Hamburg internationally.

Of special importance for this are our 14 representative offices. These are committed to furthering the interests of the Port of Hamburg and our members in Germany and abroad. These are superbly networked in the seaport business and possess outstanding contacts in their respective markets to companies in trade and industry, transport and logistics, trade associations and political decision-makers.

As a central point of contact, we brief German and foreign port customers on the Port of Hamburg’s performance. A host of marketing activities such as market research, trade fair showcasing and special events, programs for visiting delegations, publications, press activities and Internet services, we daily boost the competitive position of Germany’s largest universal port.

Port of Hamburg Marketing

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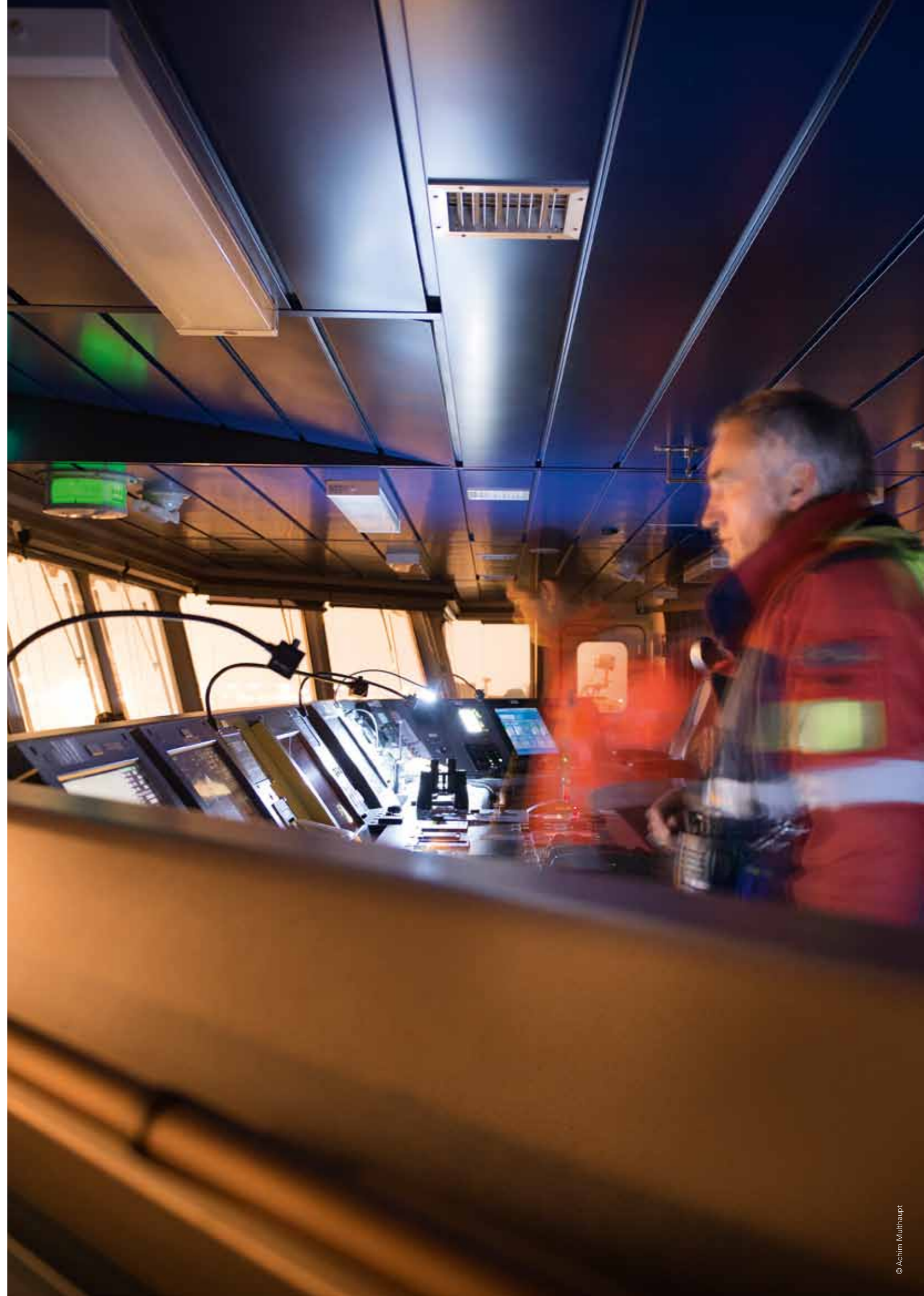
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