# HEAVY CARGO

PORT OF HAMBURG
MAGAZINE 3.16

# Dear Readers,


For many players, container throughput is the all-important benchmark for assessing the performance of a port hub like Hamburg. With the containerization level put at 98 percent, that is also logical. Yet it is the variety of specialized services on offer that ultimately determines the quality of a port.

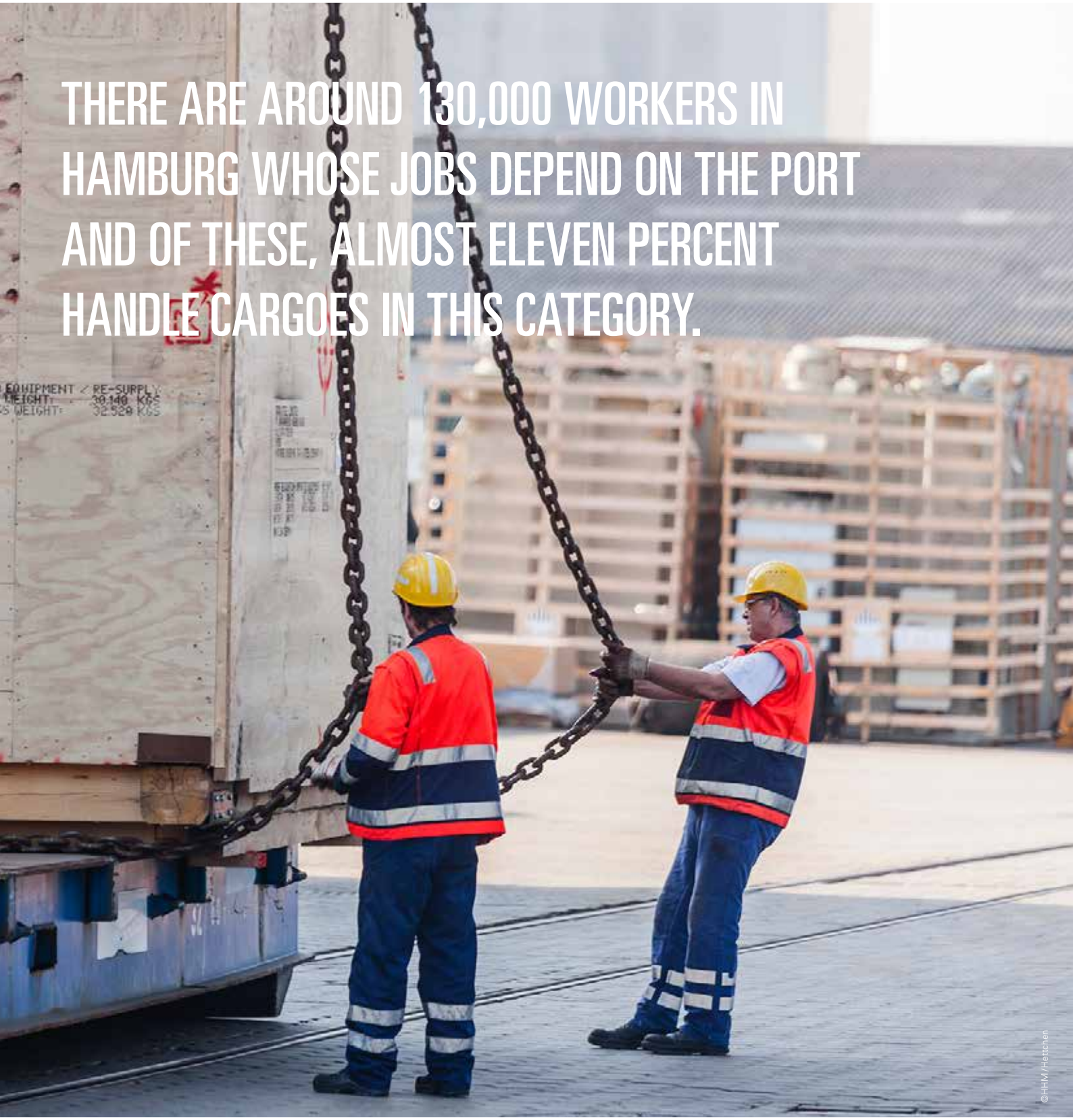
For a universal port like Hamburg, conventional general cargo handling is therefore of immense importance. At just under two million tons per year, this does not account for even one and a half percent of total throughput. Look more closely, however, it is obvious that such cargo gives a tremendous boost to added value. There are around 130,000 workers in Hamburg whose jobs depend on the port and of these, almost eleven percent handle cargoes in this category. Heavy-lift, project and similar cargoes also score with their positive effect on employment. Statistically, not even one single worker is needed to handle 1,000 tons of containerized freight, while the same volume of conventional general cargo requires eight. Remarkable figures!

Against this backdrop, the current issue of the Magazine turns the spotlight on to this small but select cargo segment, consisting of conventional heavy-lift cargoes and project shipments. We introduce service providers in Hamburg and its Metropolitan Region and cover the challenges of hinterland transport. We give shippers, forwarders and carriers a platform. We report views from others involved in different modes of transport.

I trust that this number will prove an entertaining read and provide you with helpful suggestions and insights on heavy-lift cargoes and project shipments.

*Axel Mattern*

*CEO, Port of Hamburg Marketing*


THERE ARE AROUND 130,000 WORKERS IN HAMBURG WHOSE JOBS DEPEND ON THE PORT AND OF THESE, ALMOST ELEVEN PERCENT HANDLE CARGOES IN THIS CATEGORY.
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# Content





# SCHRAMM
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# 4.0 Out-of-gauge and heavy-load transport in Germany

**As a lobby group the German Federal Working Group Heavy Transport and Crane Work (BSK) association was involved, along with associations, ministries and commerce, in creating the Master Plan for Heavy Loads. Port of Hamburg Magazine (POHM) spoke with Wolfgang Draaf, CEO of BSK about current challenges in the sector.**

***POHM: Germany as a very strongly export-oriented industrial location, can very quickly fall behind in international competition, for example, when large and heavy project elements cannot punctually and reliably be transported from inland production sites to seaports for loading. How do you see the current market situation for the sector?***
Draaf: The current market situation is characterised at present by rather limited demand for out-of-gauge and heavy-load project and plant transport. In addition to moving wind energy plants, transportation of new machinery and building industry machinery already in operation play an important role. But demand for transportation in the renewable energy sector also seems likely to fall in the next few years too. Although machinery and plant manufacturers are reporting an increase in orders, this growth will make itself felt at a later date.

***And how do you evaluate the traffic situation?***
The traffic situation is more than worrying: Almost every week we hear bad news on sub-standard structures. There are not many autobahns left that can be used all the way. The connection to the North Sea ports for traffic from the south is at present only possible via Berlin, if you want to remain on the motorways. This increases transit times. Currently, we can talk about doubling the time and distance for a shipment. This increases the transport costs and the additional costs, such as traffic guidance measures or police escorts.

***Can you already see some results in implementing your needs from the Master Plan for Heavy Loads?***
First fruits can be seen in the corridor solutions. Both the Federal Government and the chair of the Transport Minister Conference have agreed to support this. At the same time, it is only possible when all the Federal states pull together. The corridor solution means open routes, north-south just as east-west. The first suggestions on multimodal heavy-load traffic are currently being assessed by the BSK working group. The increase in multimodal transport chains can also be seen as successful in getting the cargo to its destination.

***From your point of view, can these multimodal heavy-loads into the Port of Hamburg be developed further?***
On the roads realistic payloads of up to 80 tons on approach roads to the North Sea ports are an accepted maximum, if drivers do not want to leave the motorways too often. Some seaports impose more restrictions on permissible payloads by road. This makes it clear that increasing multimodal transport chains are essential for the survival of Germany as an economic location and in turn for a port location like Hamburg. The infrastructure in Hamburg cannot be regarded as being without problems.

**"In addition to moving wind energy plants, transportation of new machinery and building industry machinery already in operation play an important role."**

***What problems do you see for transport chain planning in implementing several different modes of transport in Germany?***
The problems in planning multimodal chains are both complex and varied. One needs to know where which handling facilities are located, what capacities are available where. The access routes are not always unproblematic. This is why the BSK has made it possible, at www.bsk-ffm.de, for everyone to see all handling facilities for inland waterways, whether it be ports or temporary handling facilities. Diverse search features facilitate making choices.

***You point out that the German North Sea and westerly Baltic ports have limited access by road for heavy loads. What happens with larger elements weighing over 80 tons? Is it possible for them to reach the westerly ports by road?***
If you do not have to cross the Rhine, since many Rhine bridges permit only limited weights. Accessibility to the ZARA ports by road is in fact easier at present. Otherwise with high individual unit weights, there are in fact only the two alternative modes of transport, inland-waterway vessels or rail which come into question for the main carriage. Even by rail, DB network is fighting approval procedures because of eroding infrastructure and the clearance gauge.

# INTERVIEW

***What will have to happen in order to simplify today's frequently bureaucratic approval procedures?***

Just as with the keyword '4.0' for industry, the approval procedures for this must be changed in the same direction step by step. Digital alternatives must be exploited to the full, as for example with interactive maps. The first talks are already under way and contact to the Federal Government has been made. ■■

***Master plan heavy cargo***

*Solutions and requirements from the multimodal heavy cargo committee, led by the Federal specialist group 'heavy cargo and crane operations'.*

***Details and Download in German language: www.bsk-ffm.de/masterplan-schwergut.html***

*Wolfgang Draaf, CEO of the BSK trade association*

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INTERVIEW

# Epochal change in maritime sector

**The German Mechanical Engineering Industry Association (VDMA) represents over 3100 mainly medium-sized enterprises in the capital goods industry making it the largest industrial association in Europe. In this interview, VDMA CEO Hauke Schlegel and Ingo Elste, responsible for its logistics sector, explain the current logistics challenges in Germany.**

***POHM: Herr Schlegel, you are CEO of the German Engineering Industry Association. What is the importance of this industrial sector for the German economy and how do you evaluate the current order situation?***

Schlegel: With a turnover of around 218 billion euros in 2015, machinery and plant engineering is one of the leading industrial sectors in Germany. At the same time with over one million employees, it is the largest industrial employer. It develops and produces key technologies for the world market. German mechanical engineering industry leads internationally, in 25 of 31 comparable specialist sectors German companies are among the top three in the world, in half of them world market leader.

**"From this we expect our advantage in the sector 'Industry 4.0' to strengthen and to expand our role as worldwide leader."**

***Shipbuilding and offshore suppliers are an important segment in German machinery and plant engineering. A very international sector, with more than 67,000 employees, almost 80 percent of the turnover is achieved through exports. Which developments do you anticipate in the coming years for shipyards, suppliers and shipping?***

Schlegel: The shipbuilding and offshore suppliers in Germany are world benchmark leaders, shown especially in their strong export records. Due to the global split in the shipping and shipyard industry, the sector is over 50 percent dependent on worldwide market outside Europe. Currently the number of newbuild projects in our most important markets in Asia has for various reasons reduced considerably.

We do not expect a short-term improvement in the market situation, but are oriented towards mid- to long-term growth. A key role will be the increasing digitalisation and networking. From this we expect our advantage in the sector 'Industry 4.0' to strengthen and to expand our role as worldwide leader.

In our view the whole maritime sector is currently undergoing an epochal change. The market is consolidating with international acquisitions and alliances at all levels, new business models are developing and driving innovation and development into uncharted waters.

***Are shifts in export markets creating new transportation channels? Which particular challenges in planning and executing out-of-gauge and heavy-lift shipments create business problems for your members?***

Elste: Mechanical engineering is in international competition. Especially in the large-scale plant construction sector, there are clear tendencies towards global sourcing. Often in these major projects only core components still come from Germany, but these are at the heart of these plants, and are predominantly out-of-



*Ingo Elste, responsible for the VDMA's Logistics section*

*Hauke Schlegel, VDMA's CEO – Shipbuilding and Offshore Supplies Industry*

# INTERVIEW

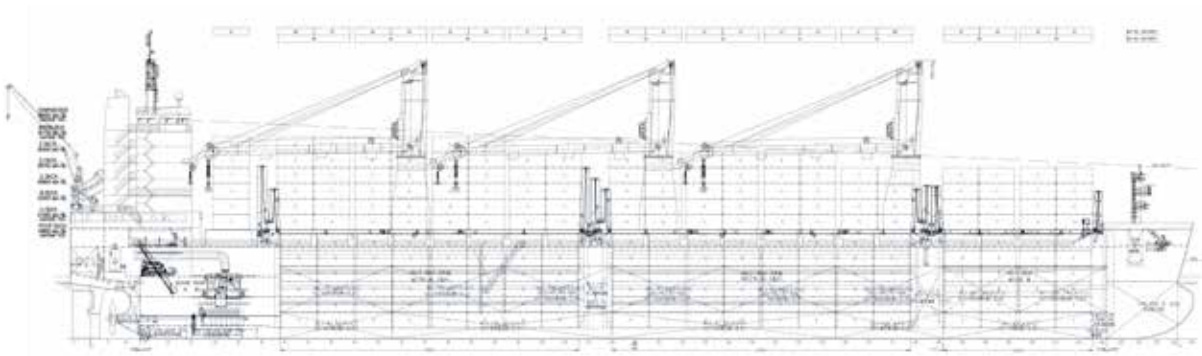
gauge and heavy. Here it is increasingly more difficult to find acceptable transport routes. Because of the bad condition of the road infrastructure in Germany the distance and time required has sometimes become three times as long, not to mention the marked increase in costs.

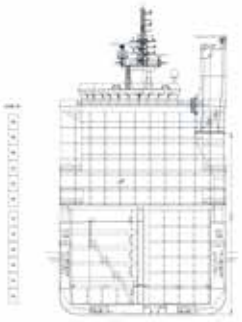
***How do the companies cope with that?***

Elste: Transfer from road to other modes of transport has become the norm. Without the combination of road, inland-waterway vessel and rail network, the German ports are hardly accessible. This can only work when the interfaces are reached at all, which is becoming more and more difficult. We should also not forget that not everything is exported. Many products stay within Germany and shipments are travelling further and further off the beaten track. When out-of-gauge and heavy-lift shipments in Germany are only possible at high cost and with undue effort, or no longer possible at all, then production will be forced to move to other locations and often into other countries. This is why something must happen soon.

***Are there any interesting developments in the metropolitan area of Hamburg that you can report on?***

Schlegel: The marine mechanical engineering industry is located throughout Germany, but a particular centre for innovation, international cooperation, and an increasing network of companies, are forming in the metropolitan region around the Port of Hamburg. The city can only maintain this position when the infrastructure is prepared for the future. This applies not only to the routes for all modes of transport, but far more especially to the digital infrastructure. ■






# Difficult times for heavy lift shipping

**Heavy-lift and project shipping does not have it easy just now. It's not just that the former growth motors for the world economy, with China way ahead, but also Brazil and other threshold countries, are faltering. Low raw material prices are also making life difficult for heavy-lift shipping companies.**

Too little cargo for too much tonnage: That neatly sums up the present situation for heavy-lift and project shipping. Analysts and even some of the players involved may repeatedly conjure up a pending improvement in the situation. Yet just now there's no sign whatever of any significant recovery of the market.

Low raw material prices are what are mainly hampering business at present. Conditions for oil and for other products, for example for steel, have noticeably improved since the beginning of the year, but this is not yet reflected in investment activity. The result is a massive downturn in major projects in the oil and gas industry as well as in mining. Savings are being made right across the board. New projects and investments are being deferred far into the future or even put on ice and halted. That's also confirmed by Volker Sinnig, Line Manager at Ernst Gläsel in Hamburg for the Chinese-Polish heavy cargo specialist Chipolbrok: "Growth in the alternative energy field may mean that more wind power units are being shipped. Yet that cannot offset the downturn in cargo for oil and gas projects." In the opinion of Gerhard Janssen, Director Global Sales & Marketing with Hamburg-based Rickmers Line, this situation will only improve when raw material prices clearly and sustainably climb to a level that once again justifies investments.

Despite generally low cargo volume, market development differs regionally. "We are seeing acceptable volumes on the trade route from Asia to North America as well as stable demand in the Near East," says Janssen. The South American market, by contrast, is rather weak. The collapse in raw material prices has global repercussions that are being further boosted by local political problems of the kind seen in Brazil. Rickmers Line's experts forecast a positive trend for Iran. Glässel's Volker Sinnig describes the continent of Africa as a significant future market. "Africa will further grow in importance thanks to its wealth of natural resources," he forecasts.

According to Drewry, the British consultant, in the past twelve months demand for multipurpose shipments fell by three percent, with over-capacities remaining. Published in mid-year, the Drewry report states that it can be assumed that cargo volume could at the earliest significantly rise again from the beginning of 2018. Until then heavy-lift carriers must just muddle through, since the lull in cargoes has caused a drop in both charter and freight rates that threatens their survival. "A heavy load weighing 200 tons was shipped four years ago from Hamburg to the Arabian Gulf for around 120,000 US dollars. Today for the same cargo one might perhaps still receive 24,000 US dollars," is how Sinnig explains the fall in rates.

The weak state of bookings and the rate situation are aggravated by additional competition. Since the outlook is no better in other segments such as container and bulk shipping, these players are increasingly pushing into the project cargo market and attempting to snatch loads from the heavy-lift shipping companies. Especially on the main routes, for example between Europe and East Asia, container carriers are making greater efforts to acquire lucrative breakbulk business. "Container shipping has developed into a serious competitor – mainly on stretches served by VLCCs (Very


*In 2015/2016 Chipolbrok put into service four 31,600-dwt newbuilds – to load these profitably is no easy task*

Large Crude Carriers) and ULCCs (Ultra Large Crude Carriers), and where the corresponding port infrastructure exists", says Janssen. However, he does see any risk that container carriers will entirely take over the heavy cargo market: "Most new power stations or major plants are being built in regions that have no large, completely equipped ports immediately adjacent, and therefore need shipboard cranes. Customized cargo mixes make the solutions for transporting project cargo very complex, and by no means always feasible for a containership." Sinnig thinks the same: "With out-of-gauge cargo, container shipping companies forfeit too much stowage space for boxes, and taking along project cargo no longer pays. And even for voyages along niche routes, for containerships project cargo is usually not much of an option."

Against a background of difficult operating conditions, a wave of consolidations has hit the breakbulk segment, of a kind long evident in container shipping. Shipowners Harren & Partner and Brise Schifffahrt have initiated a shipping pool in the shape of the "BHS Pool Weser-Ems". Similarly, heavy- lift specialists Peter Döhle and AAL (formerly Austral Asia Line) have joined forces. Only in June this year, furthermore, Rickmers Line acquired the activities of the tramp and charter operator Nordana Project & Chartering. "Takeover of NPC Projects puts us in a position to offer our customers transport solutions on a scale that did not previously form part of our range. Acquisition of materials for major projects is organized on a worldwide basis. Along with NPC, together we are equipped to develop total solutions for such projects." And Ernst Glässel too functions both as a liner agent for Chipolbrok and as a shipbroker in spot business. Says Sinnig: "There's no conflict of interest there. On the contrary – that's an excellent fit." ■


© Marko Stampehl

*According to Rickmers, as before the load factor for the fleet remains acceptable*

# Breakbulk shipping is not only a niche market

**One third of 125 regular services at Hamburg as a universal port mainly transport general cargo.**

Over 25 different shipping lines are active in Hamburg in the conventional sea transport segment. Forms of organization, cargo types and trade routes all vary. From weekly fruit services from the Caribbean to vehicle shipments to West Africa to multi-purpose services eastwards every two weeks, in the Port of Hamburg all manner of types of organization and trade routes are represented. In addition, incidental calls by project and heavy-lift tonnage for the onward worldwide shipment of plant elements are also possible. Some providers even combine different trade routes and cargo types on the same service, for instance ConRo cargoes for West Africa and South America. Some general cargo services also make irregular calls in the port.

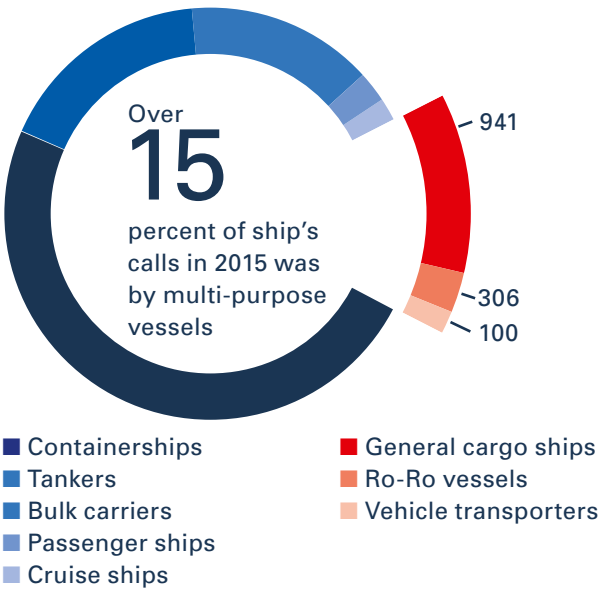
Over 15 percent of altogether around 9000 ship's calls in the Port of Hamburg in 2015 was by general or heavy-lift cargo vessels or specialized units for rolling or refrigerated cargoes.

This makes clear that conventional handling and transport of general cargoes is not just a niche market but a highly important segment – particularly for export-oriented trade and industry.

While requiring top-quality handling, the general cargo and project cargo shipping lines operating in Hamburg are notable for being client-oriented, flexible capacities and excellent cooperation with its container and multi-purpose terminals. Hamburg's importance as a port handling general cargo in the framework of international transport chains is still further enhanced by its terminals that are generally linked trimodally and equipped with state-of-the-art handling gear, and also boost their operations by providing logistics and other relevant service ranges.

In 2015 more than 1.7 million tons of general cargoes – two thirds of them for export – were handled conventionally in the Port of Hamburg. The main categories of freight were vehicles, iron & steel, fruit and vegetables, paper, timber and machinery & plant, or project cargo. ■

SHIP'S CALLS 2015 IN THE PORT OF HAMBURG BY SHIP TYPES




### *DIN for breakbulk cargoes*

*Breakbulk cargoes consist of 'dimensionally stable freight' that can be 'handled in units', or in other words, transported and transhipped. There are no specific ceilings on the dimensions or weights of breakbulk cargoes. These commence with large parcels and no upper limits exist. Larger units are unavoidable, when the units or so-called 'bundles' or Kolli cannot be transported separately. Outsize or overweight pieces then require out-of-gauge or heavy-lift shipment, for loading which special equipment is used as a rule.*

### *How are general cargoes transported?*

*Conventional transport of general cargoes is generally organized house-to-house and supplied by different carriers. The forms of transport used vary just as much as the properties of the objects packed. On board ocean-going vessels, general and heavy-lift cargoes are either loaded on to multi-purpose vessels with or without their own lifting gear, or transported on ships especially constructed for special types of cargo. In particular, such ships are deployed for reefer, heavy-lift and rolling cargoes. General and heavy-lift cargoes are also transported on board containerships as additional cargo. In return, general cargo freighters often carry containers on board.*

# Three questions to …

# … David Piel, 33, Senior Manager Special Cargo with Hapag-Lloyd

**Hapag-Lloyd is among the pioneers for loading non-containerized heavy cargo and project shipments onto containerships. For over 50 years the traditional Hamburg line has had its own department concentrating on special cargo, of a kind unsuitable for shipping in standard containers. Port of Hamburg Magazine met the Head of the Special Cargo Department to learn more about his work.**

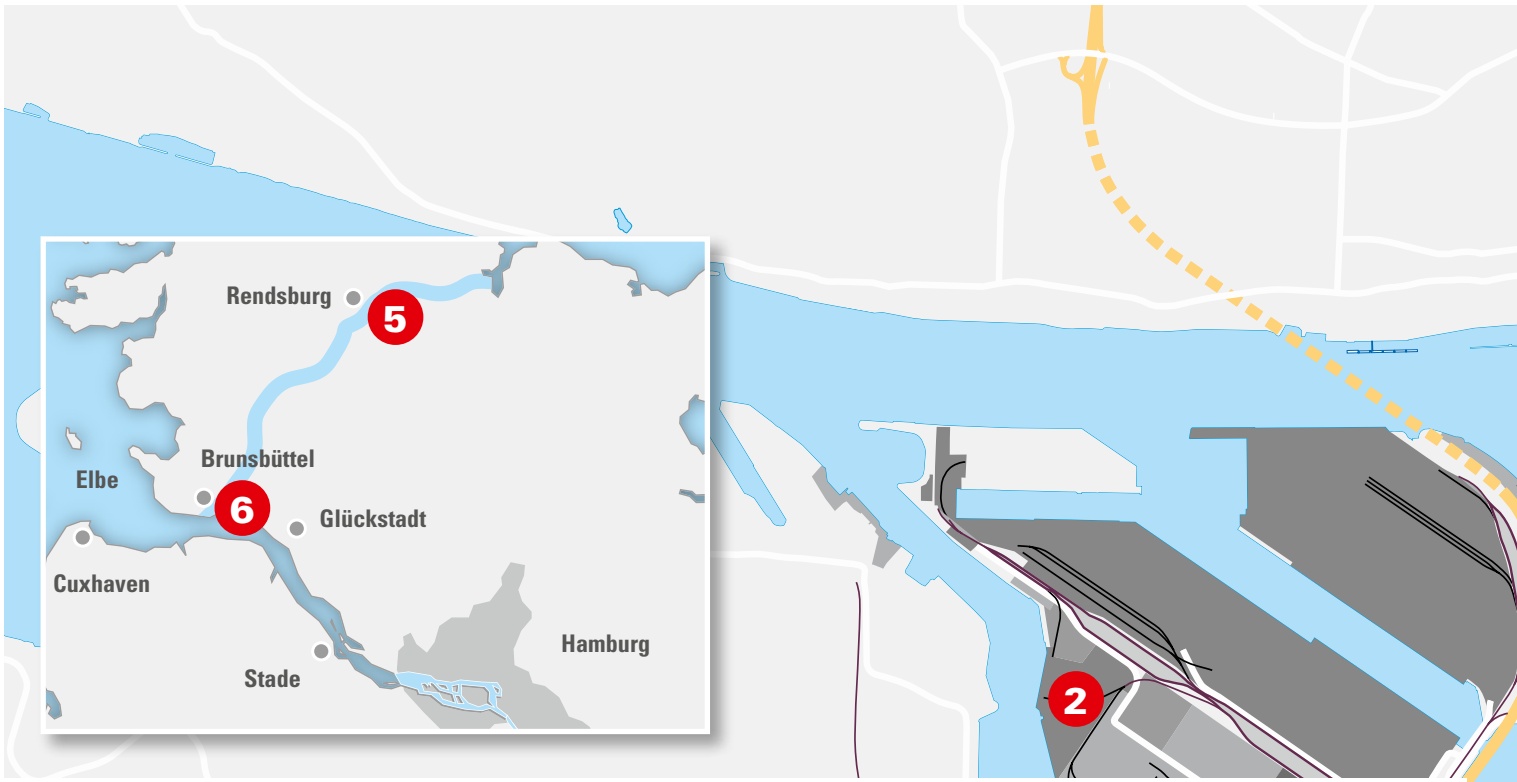
***How does one become Senior Manager Special Cargo with Hapag-Lloyd?***
I first completed an apprenticeship as a ship's mechanic with Hapag-Lloyd, and then studied ship operation in Flensburg. That involved taking a combined nautical & technical course. Then I went to sea. Shortly before being promoted to First Officer, I decided for personal reasons to go ashore. Hapag-Lloyd just then had a vacancy in the special cargo field and I applied for that and got it. That was in September 2013, and meanwhile I am Head of the Global Special Cargo Department that can call on around 50 experts worldwide. That career path is really nothing unusual. With us, almost all special cargo people come from the nautical-technical area.

***For you, where's the limit for heavy cargo shipments on board Hapag-Lloyd containerships?***
Our business is somewhat heavyweight and quite large-scale, but on our containerships we draw the line at 500 tons. Here one can only envy the specialized heavy-cargo shipping companies: Their vessels know practically no limits. A ship with her own 750-ton cranes on board can be truly fascinating.

***Is there a shipment that you especially remember?***
Shipping test trains from Qingdao to Europe and back was certainly spectacular. We swung them through the hatches with practically no room to spare. We'd actually done innumerable sketches and 3D-views beforehand, but in the end everything went fine. And then we once transported a dinosaur – but naturally not a live one. This plastic T-Rex travelled with us on board in an Open-Top container and was bound for a leisure park. Loading it was really not anything special, but of course the sight of the creature remains hard to forget. ■



*David Piel, 33, Senior Manager Special Cargo with Hapag Lloyd*




# Handling heavy-lift cargo in the Port of Hamburg and the Hamburg Metropolitan Region

Cargo that cannot be containerized, above all heavy goods, over-sized packing units, or cargo on wheels, are all handled in Hamburg at the four multi-purpose facilities. Here, heavy lift and project cargo with single units weighing up to four hundred tons can be loaded and discharged using special equipment. In the Hamburg Metropolitan Region the ports in Brunsbüttel and Rendsburg offer optimal conditions for handling heavy-lift cargoes. A perfect complement to the shore-based heavy-lift crane capacities at Hamburg's multipurpose terminals are the two floating cranes operated by Hamburger Hafen und Logistik AG (HHLA). These are in use along the Lower Elbe, but mainly in the Port of Hamburg, for example at the container terminals.

| | | *Max. Draught* | *Traffic connections* *Rail* | *Road* | *Inland waterway* | *ro-ro ramps* | *Max. crane capacity* | *Storage capacities* *Warehouse capacity* | *Outdoor storage area* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | *Wallmann & Co. (GmbH & Co. KG)* | *13.0 m* | ✔ | ✔ | ✔ | – | *406 tons* | *55,000 sqm* | *45,000 sqm* |
| 2 | *Rhenus Midgard Hamburg GmbH* | *10.5 m* | ✔ | ✔ | ✔ | ✔ | *104 tons* | *55,000 sqm* | *115,000 sqm* |
| 3 | *UNIKAI Lagerei- und Speditionsges. mbH* | *11.5 m* | ✔ | ✔ | ✔ | ✔ | *104 tons* | *43,500 sqm* | *430,000 sqm* |
| 4 | *C. Steinweg (Süd-West Terminal) GmbH & Co. KG* | *11.5 m* | ✔ | ✔ | ✔ | ✔ | *300 tons* | *65,000 sqm* | *210,000 sqm* |
| 5 | *Brunsbütttel Ports GmbH* | *14.8 m* | ✔ | ✔ | ✔ | – | *120 tons* | *27,900 sqm* | *483,900 sqm* |
| 6 | *Rendsburg Port GmbH* | *9.5 m* | – | ✔ | ✔ | – | *250 tons* | – | *36,500 sqm* |
| 7 | *HHLA floating cranes* | – | – | – | – | – | *300 tons (100 + 200 tons)* | – | – |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4
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1

*More customers and increased space are boosting heavy-lift cargo business for C. Steinweg*


# C. Steinweg on course for growth

**Tradition confronts the future. Hamburg's specialized C. Steinweg terminal is equipping itself for that process with expansion based on long-term planning in several areas. These range from expanding space, superstructure investments and a wider range of services, to the successful acquisition of new liner services. C. Steinweg in Hamburg is consolidating its competitive position and growing.**

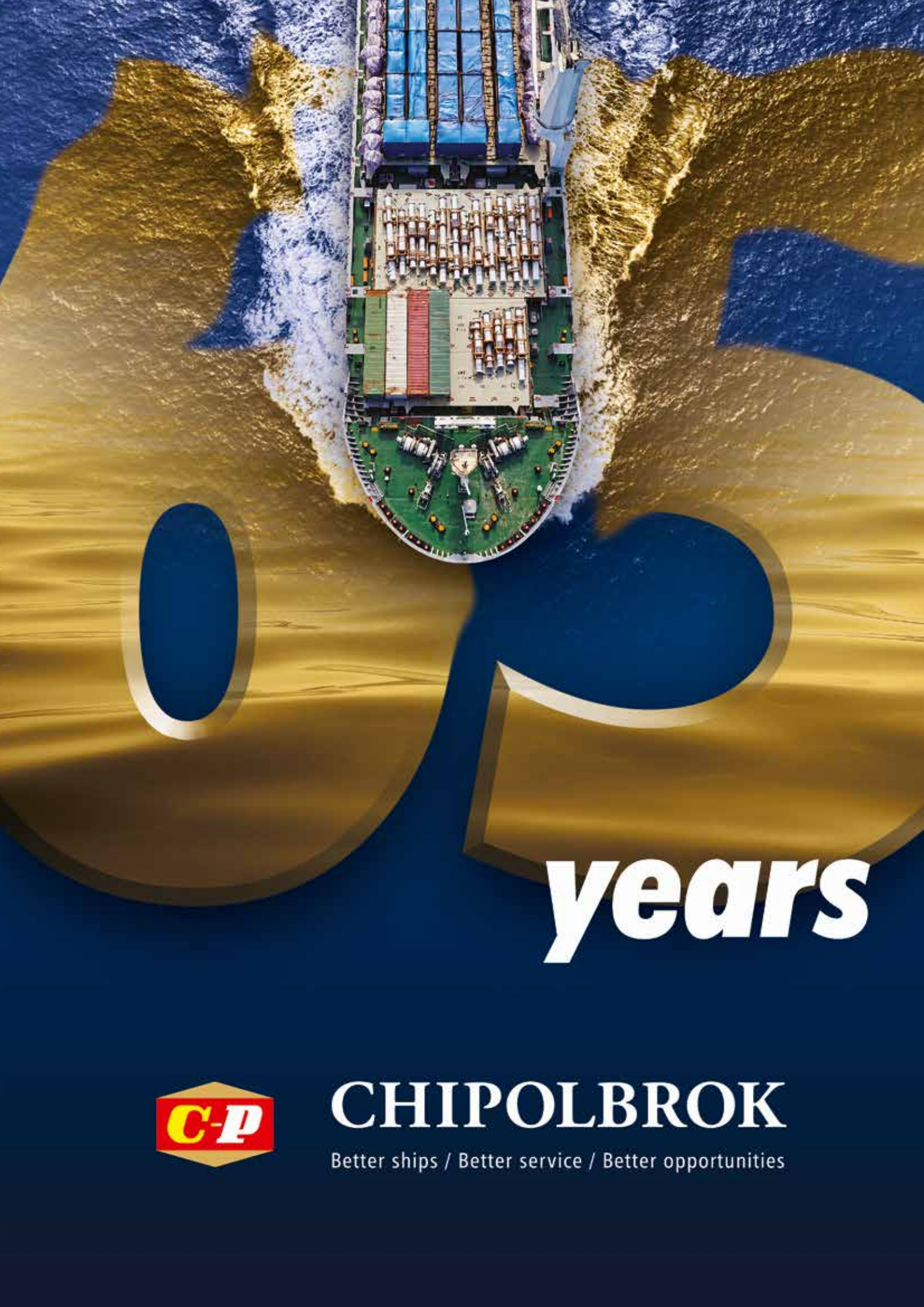
Since being launched in 1858, the company has already mastered many challenges, survived numerous great changes, and achieved many milestones in its own history. With a staff of 120, today the universal terminal on Kamerunkai is a cargo handling, stowage and storage operation for conventional general and heavy-lift cargo. This is well prepared to meet future requirements. Hamburg's Süd-West Terminal is owned by the C. Steinweg / Handelsveem of Rotterdam alliance, combining both in philosophy and activities the impact of an internationally operating logistics firm with traditional Hanseatic merchant values. Sustained growth plus farsightedness are therefore the watchwords for these multi-purpose experts.

The biggest step in pursuit of expansion is evident in terms of infrastructure. The project for filling of part of the Steinwerder-Hafen basin is making rapid strides. The Southern part of Steinwerder docks is being filled to create 40,000 square metres of new terminal space. Construction work was initiated last year by Hamburg Port Authority and the intention is to complete it by mid-2018, alongside substantial investments in superstructure by C. Steinweg as the operator. Just now, the basin has been almost totally filled. This provides fresh space for handling general cargoes and storage of additional freight and containers. In addition, the extension will facilitate considerable improvement in transport links and accessibility. "The new area creates optimal conditions for us to boost cargo handling potential and further optimizes our commercial and transport processes," states Rainer Fabian, CEO of C. Steinweg.

This terminal operator at present has available over 1,350 metres of quay wall with five berths, and total space, including off-dock warehouses, of 210,000 square metres, of which 65,000 square metres are covered. The heavy-lift cargoes loaded at Süd-West Terminal are bound for worldwide destinations. There are regular sailings to Southern Africa, North Africa or also South America. There has also been a revival of export business with Iran since the lifting of the trade embargo.

Acquisition of a new liner service is a further highlight of this expansion. From September, C. Steinweg is regularly handling the liner shipping company Chipolbrok. "With this new service we shall be strengthening our position as a partner for shippers engaged in exporting to Asia," reports Fabian. Among short-sea activities, there will be a weekly service to Finland, while in future C. Steinweg's portfolio will also include destinations in North Africa and Russia. Handling conventional general cargoes such as cellulose from Germany, copper from Russia and steel products from Asia as well as the Baltic, will also be an important staple for this terminal operator.

The company is also investing in its ability to face the future and the competition by increasing the depth of its range of services: From now on, it will be offering its customers the opportunity for further processing of their wares at the terminal itself. This can include packing, or also assembly and/or welding work. To optimize all processes for the long term, C. Steinweg is making extensive investments in on-site infrastructure. To cater for the growing quantities of freight handled, for instance, the firm plans acquisition of a new crane in the near future. ■




CHIPOLBROK

Better ships / Better service / Better opportunities

# The strongest is really solid – Wallmann heavy cargo terminal

**With over 90 years of company tradition, today, after successfully specialising in a niche market the mid-sized family business seems to have got it right. At least at Wallmann & Co., Universal Terminal operator in the Port of Hamburg. In addition to diverse logistics services all relating to goods handling and warehousing, the company has established project & plant and heavy cargo as its core business.**

"We have always observed the market and being flexible have changed to meet its needs. In this way we have developed our specialisation and we will continue to follow this path and increase our market," said Hubertus Ritzke, CEO of Wallmann & Co, describing their market strategy. The lawyer has been on the board at Wallmann since 2014. During his career, he also served as CEO at Unternehmensverbands Hafen Hamburg and the Gesamthafenbetriebs in Bremen, getting to know port business very well. From his office window he can see the hustle and bustle of the port near the warehouses and at the quayside.


© Wallmann

*Knowhow and passion for heavy cargo are the keynotes at Wallmann*

**The heavy cargo market in deep water**

The original family forwarding business was established in 1922, and then from 1967 the family business began extending the terminal providing warehousing and cargo handling in Hamburg. The company made a name for itself as heavy cargo specialists many years ago. Today Wallmann has 75 employees, 30 of them in the administration. For this terminal operator, handling heavy and bulky cargo, from locomotives to turbines and even complete industrial plants, has become daily business. "Although one cargo is never the same as the next. Handling project and plant cargo from loading to handling is always very individual, it requires experienced teams and professional planning at every step," explained Ritzke in describing the activities at the quay wall. The CEO went on to say: "Similar challenges are now taking place in the heavy cargo market. For us it is important to keep pace with the competition and to safeguard jobs." This is how Ritzke, for instance, sees the market debut of container shipping companies that are increasingly acquiring cargoes in the breakbulk area in order to operate their enormous – and not fully loaded – containerships more effectively. In Ritzke's view, this development is taking both breakbulk shipowners and terminal operators specializing in heavy-lift cargoes 'into deep water', since this is a distinct, niche market. The quintessence of the matter is a wish for a recovery in the container market from which all will profit.

**Market and Customers in focus**

In order to fully optimise use of the capacity of three ships' berths on the 130,000 square metre premises, Wallmann is continually investing in the facility and its equipment. Heavy-lift cargo, especially, demands modern, resilient equipment. In recent years, Wallmann invested double-digit millions in four new mobile port cranes, with a lifting capacity of 208 tons, or over 400 tons in twin operation. Wallmann's heavy cargo goods terminal has the highest crane strength in the Port of Hamburg. In addition to other cranes, the vehicle pool also has all the necessary equipment from forklifts to tractor units. Wallmann provides all landside services for ships' handling, for waterside activities such as stowing and tally services external providers are brought in.

Even in warehousing, as in every business sector, companies must orient themselves to the market. In the past large storage areas for cocoa and coffee were in demand, today at Wallmann its tobacco, rubber and dry fat. Rubber requires a special storage technique, as it must not get cold. Wallmann has an extra heated storage shed to maintain a constant temperature. In total, the company site has over 11 storage sheds with a total area of 55,000 square metres of covered area as well as a 6,000 square metre area for seaworthy packing. For non-packed project & plant and general cargo, Wallmann employs a sub-contractor on the premises to ensure suitable packaging for export. This includes other services such as incoming goods checking, picking and packing shipments for various shippers, and packing according to individual design guidelines. ■


© Wallmann

*Strong performers: In twin operation Wallmann's mobile port cranes can hoist 400 tons*

# Buss stevedoring expertise remains in the Port of Hamburg

**Nothing is as permanent as change. Big changes are on the cards next year for Buss Port Logistics. At the end of the year the lease agreement for the Buss Hansa Terminal expires and the long-standing operations of the multi-purpose terminal will end on 31 December. Buss will no longer run a conventional general cargo business in Hamburg.**

But the services provided by Gerd Buss Stevedoring will remain in the Port of Hamburg and beyond its borders. The stevedoring operation began in 1920 in the Port of Hamburg. In future these operations and the plant logistics involved will characterise the business of Buss Port Logistics even more. Expertise gained over decades, and highly valued by customers, will be used to strengthen other terminals. Gerd Buss Stevedoring, together with other port related service providers, has made a name for itself in the project & plant and heavy cargo areas especially.

The offering for plant logistics includes all services for loading and in-house transport from warehousing to maintenance and value added services. By way of an example, since April this year the firm has operated coal handling for Vattenfall's Tiefstack power plant in Hamburg-Billbrook. Approx. 600,000 tons of coal per year is transported from Hansaport to Billbrook by barge and inland-waterway vessel. Working in each of two shifts, three employees ensure smooth daily operation. A grabber loads the coal onto a conveyor belt that takes it directly to two silos or into the furnace. The process is continually monitored to ensure an optimal supply of coal. The stevedores have gained experience in this work by working in the power plant in Wedel, which also belongs to the Vattenfall group, since December 2012.

Meanwhile the Gerd Buss team have achieved convincingly fast handling times. At the end of April,

*Buss Port Logistics offers a broad spectrum of services for project cargo*

they needed only three days to load five gas turbines and a generator from Siemens AG, for the trip to Burullus in Egypt. This was the first part of cargo totalling over 2,700 tons of heavy components moved by barge and inland-waterway vessel to the Blexen Heavy Lift Terminal in Nordenham. On-site a special crane loaded everything onto the coaster with the utmost precision. These projects really profit from the firm's flexible versatility in combination with the stevedores' expertise.

The service is completed by Hamburger Geschirrbude. This is a joint venture between Carl Tiedemann and Gerd Buss Stevedoring, which provides handling equipment and lashing materials of all types in Hamburg and beyond. An important part of this cooperation is the development of new handling equipment for special uses for project cargo. Other services provided include the issue of test certificates and carrying out training in the professional use of handling equipment.

With this portfolio of services from the Port of Hamburg and operating multi-purpose terminals and works docks in Germany, Netherlands and Turkey, Buss Port Logistics will continue to be a major factor in the general cargo and project business. ■

*Stevedores from Gerd Buss Stevedoring are deployed worldwide at heavy-lift cargo terminals*

© Buss Port Logistics


*The floating crane "HHLA IV" has a maximum lifting capacity of 200 tons*



# Very heavy work at a great age

**Working is well known to keep people young, even far into pensionable age. In the Port of Hamburg that applies to nobody more than to the two floating cranes operated by Hamburger Hafen und Logistik AG (HHLA). Built in 1941 and 1957, these two spirited ladies are far from belonging on the scrap heap, instead continuing to do very heavy work without any let-up.**

Despite all the state-of-the-art multipurpose terminals, these elderly floating cranes are doing a stint every second or third weekday along the Lower Elbe, but mainly in the Port of Hamburg, says HHLA. "The main focus is on the big container terminals that handle special cargoes such as ship's propellers or jumbo engine parts, gearboxes, crankshafts or entire track construction machines," explains Dr Thomas Koch, Managing Director of HHLA's Container Terminal Tollerort, and also responsible for the two floating cranes 'HHLA III' and 'HHLA IV'.

One example of the jobs done by a double-jib luffing crane that can be rotated without limit is loading the gigantic ship's propellers manufactured by Mecklenburger Metallguss in Waren on the Lake Müritz. Koch: "The development of new, fuel-saving propellers has led to serial re-equipment of a number of mega-containerships. As a result, not only have new propellers had to be shipped to East Asia, but returns have been taken on board to be made available for re-use by the manufacturers." The two floating cranes are also deployed, for example, on assign-

ments such as handling lock gates, jobs in shipyards, or exchanging the rescue equipment on large cruise ships.

Koch sees his two floating Amazons as back-up for shore-based heavy-lift crane capacities at Hamburg's multipurpose terminals, where the strongest cranes in the port are located. "As far as weight allows, project cargo loaded on to containerships will in future also remain a domain of the floating cranes, because the capacity of even state-of-the-art container gantry cranes is not always up to handling the loads involved, and moreover a floating crane offers advantages with delivery." For example, they are capable of accepting cargo at any desired point in the port, either from the shore, whether from a truck or a train, or even out of the holds of heavy-lift barges or inland waterway craft.

But what happens if their lifting capacities do not suffice? Working in tandem, the "HHLA III" (100 tons) and "HHLA IV" (200 tons) achieve a maximum hoist load of 300 tons. Specialized heavy cargo terminals can handle unit loads of just over 400 tons with their port cranes. In addition, heavy cargo is frequently loaded on to RoRo freighters as wheeled cargo. For heavy loads, as a rule self-loading heavy cargo vessels are used, which carry their own loading gear designed for the job. Where needed, the floating crane 'Enak' can be summoned from the Bugsier-, Reederei- und Bergungs-Gesellschaft. Built in 1967 and modernized in 1993, this goliath crane has a lifting capacity of 600 tons, making it the largest unit of this kind operated under the German flag. However, mighty 'Enak' is moored in Bremerhaven.

Demands are therefore often heard for a more powerful floating crane to be based in Hamburg. "The availability of a strong floating crane is of elementary importance for our plant and project business," says Steffen Rudkowsky, for example, Senior Vice President and Head of Supply Chain/Logistics in the Energy Management Division of Siemens AG. For the technology group, Hamburg with its specialized multipurpose terminals is the most important port in the North Range, for loading such energy supply equipment as gas turbines from Berlin or transformers from Nuremberg. Yet sometimes the port on the Elbe is at a disadvantage. "Our largest transformers have a unit weight of up to 550 tons. Shore and floating crane capacities in Hamburg are not up to handling that," says Rudkowsky. Use of the floating crane 'Enak' is invariably included in the calculations, but bringing it to Hamburg involves a massive effort. "If cargo is not to be lost to Hamburg, investment is needed in appropriate floating crane capacities for the port," says the Siemens heavy cargo specialist. ■

# Ample space for heavy-lift cargo in the Hamburg Metropolitan Region

**Out-of-gauge transport by rail is something special. In the windpower sector, especially, this is still a relatively new logistics concept. In Brunsbüttel and in its Elbe port, it is already well accepted. Since autumn last year, plant parts have been delivered there by rail. With a length of 430 metres, the first block train transported 32 ENERCON windpower plant components on railcars. The transport route for windpower plant elements in and out of the Elbe port became trimodal. These out-of-gauge cargoes are delivered by water on oceangoing or inland water ships, landed, and stored in the interim before being transported onwards to the wind farm construction site.**

This example shows how simply heavy-life cargo handling can be in the Hamburg Metropolitan Region. Many experts for plant and project cargo of all types, irrespective of size, quantity or weight actually work on the outskirts of the Port of Hamburg. Apart from knowhow, essential equipment and many years of experience in handling different cargoes, the ports of the Metropolitan Region score by offering adequate amounts of space, namely, for the interim storage of even sometimes extremely sprawling heavy cargoes. Operated by the SCHRAMM group, the ports in Brunsbüttel and Rendsburg offer optimal conditions for handling heavy-lift cargoes.

Situated on the Lower Elbe and the Kiel Canal, Brunsbüttel Ports offers a broad range of facilities for handling project cargo. From tower segments or rotor blades for the windpower sector to gigantic transformers, to a lighthouse, heavy-lift cargoes of all types have already been handled by the Elbe port. In the first half of 2016, more than 930 elements and containers were handled and given interim storage for the windpower sector alone. That represented about 39 percent growth on the previous year. The owner & operator of Brunsbüttel Ports therefore succeeded in consolidating the Elbe port's function as the logistics hub for large elements for the windpower industry. In recent years, Brunsbüttel Ports has invested in their expansion as a handling & storage centre for general cargoes. The upgrading of the central berth in the Elbe port has equipped the universal quay to meet the stiff requirements for handling the general and heavy-lift cargoes of the future. In addition, last summer over 7,300 square metres of new storage space were secured for heavy cargoes. This area has been continually fully used for various windpower elements ever since being opened.

*A block train with 32 components for windpower energy units reaches the Elbe port of Brunsbüttel*

© Brunsbüttel Ports

Rendsburg Port, the heavy cargo port in Osterrönfeld on the Kiel Canal, has specialized in handling general cargoes, and in particular windpower equipment. Since being taken into service in summer 2012 by Rendsburg Port, a company in the SCHRAMM group, this heavy-lift cargo port has developed into a significant handling hub for onshore windpower components for the whole of Schleswig-Holstein and Northern Germany. Specifically for the loading and storage of windpower plant segments, in 2014 the Rendsburg Port Authority as owner of the port infrastructure secured additional land. Its situation, traffic links and capacities for industrial developments are the key factors for the business and the site's further growth. As the heavy-lift cargo port has developed, for instance, Max Bög has opted for this location on the Kiel Canal. The consturction group has sited a production facility for hybrid towers in the immediate vicinity of the port. With hub heights of over 140 metres, from there the towers can be rapidly and safely loaded on to ships via Rendsburg Port. ■

# Not on, mate, that's a non-starter! A stevedore on the job

**Whenever bulky, unwieldy objects and cargo weighing tons need to loaded, stowed or unloaded in the Port of Hamburg, who are deployed? Stevedores. They look after every cargo that doesn't fit into a standard container. That requires individual solutions for loading and securing the objects and above all, tough manual labour. It's a job for really strong men.**

Innumerable boxes and crates, steel beams with a length of several metres and gigantic engine parts are standing at Wallmann & Co.'s terminal – ready for the voyage on the heavy-lift freighter 'Rickmers Tokyo'. These valuable items still need to be stowed and secured in the ship's various cargo holds and at different levels on deck. That's a job for the next day and a half. The men on the late shift are already hard at it. Among them is Achim.


Achim works for Carl Tiedemann, one of the oldest established traditional Hamburg companies in the stowage and lashing field. He's been with them for 16 years. Having started as a casual worker, Achim has worked his way up to become a stevedore. "You really grow into it," says Achim, now 49. He has worked at different times as a deck man, as a lasher in the hatches, or 16 metres down in the ship's belly, and on the quay as a 'Muli' driver. 'Muli'? That the Hamburg port slang for the forklifts that are daily in action. A team or 'gang' of three or four colleagues handles the work, led by a foreman. As the shift commences at 15:00, the team gathers in the appropriate office on the ship to discuss the job. Achim will be working as the deck man today. When the objects weighing up to 400 tons are manoeuvred into one of the ship's hatches by the crane driver, looking down from a height of a good 25 metres. Achim stands up on the deck of the freighter and coordinates loading. "I instruct the crane driver by radio and watch the colleagues in the hatch to ensure that nothing happens. That's my responsibility," explains Achim. That's a task requiring intense concentration, for safety is paramount in the loading, stowing and discharging of the bulky and unwieldy loads. There's barely any talk during the work, just maybe the odd irrelevant jest. The language among the guys – for Achim doesn't have a single female colleague – can be salty, but the tone is warm and matey. Real Hamburg banter.



*Handling bundles weighing tons demands a lot from the men during shift work. Whether on shore, on deck or in the hold – the stevedore's work calls for brains, concentration and brawn*

One essential for working as a stevedore is immense physical strength. The chains, special ropes, hooks and steel/plastic grommets for stowing and lashing cargo are heavy and handled manually. It's immediately obvious that Achim can tackle this. And even if the work is frequently heavy, he wouldn't want to change his job. "After an eight-hour shift, one's really aware of what you have done. I am also somebody who needs to be in the fresh air, sitting around in an office is not for me!" Achim smiles. A few more hours, and the shift will be over. Then his hard hat, warning vest and gloves will be stowed in the locker for a while. ■

# Demanding and always different

**Services for out-of-gauge cargoes are by no means 'off-the-peg'**

Fit a 500-ton cable drum, 236 tons of heavy rolls and two tanks, each 5.18 metres wide, into a ship with a beam of twelve metres – loading heavy-lift cargoes is a special job that is challenging and constantly changing. These extraordinary cargoes require special handling. With weights and dimensions that are anything but standard, services cannot be 'off-the-peg'. Handling an out-of-gauge shipment involves stowing, securing and checking the cargo; and on some occasions, also the formal scrutiny of the freight known as a survey.

*No job is the same as any other: STAQ's team always adapts its services to the individual needs of the shipment*

© STAQ

STAQ is a service provider in the Port of Hamburg offering this broad range, either in complete packages or as separate services. Derek Stafford, Managing Director, can already look back on decades of experience of the stevedoring business. When he came to Hamburg in 1982, he signed on a stevedore. He has not left the port since then. His career has extended from foreman to inspector (supervisor), operations manager, authorized signatory and general manager, to running his own business. Today Stafford is therefore well aware of just what concerns his workers at all levels and of the challenges confronting them. With a staff of 32 plus three trainees, he is a successful player in the Port of Hamburg market for services relating to heavy-lift cargoes.

The service range and the commissioning of individual providers by the terminals is something special to Hamburg. Internationally, as a rule these services are covered directly by the terminal, or otherwise ordered directly by the shipping company. In Hamburg, by contrast, an enquiry is often made just prior to a ship's call. The ship's probable cargo and tonnage are notified, and providers like STAQ tender for the service requested. Whether the requirement is for a complete package, or just specific elements, is sometimes only apparent shortly before loading. "In such cases the crew may tell us while stowage is already in progress that thanks, but they will take over lashing of the cargo themselves," reports Stafford. In practice, it has proved best for him to invariably quote separately for stowing and lashing. Of all orders, providing stowage is the one for which demand is heaviest. In a hotly contested market, cooperation with a shipping line is worth a lot to a company. STAQ, for example, is regularly commissioned for stowage by terminal operator C. Steinweg that handles several notable liner shipping companies at its Süd-West Terminal.

Basically, STAQ operates flexibly at all ports and terminals, whether in Brake or Bremen or at one of Hamburg's heavy-lift, bulk cargo or container terminals. In the out-of-gauge sector, especially, there's no such thing as a typical working day or everyday routine. Stafford: "Following a request for prices, it is by no means uncommon for us to receive confirmation of an order just the day before the job is required. So at whatever time, night or day, the foreman then needs to collect information as fast as possible." What cargoes are to be loaded, the format of both these and the vessel, what else has the ship loaded, which shipping company is involved and is it providing the lashing material – these are just a few of the questions to be answered. Despite the digital age and cutting-edge means of communication, data flow in the out-of-gauge sector can still be sluggish. As soon as possible, the inspector examines the load so as to draw up the plan for obtaining extra material and timing of the job.

Under time pressure, the staff organize lifting gear along with lashing and welding material, where this is not available on board. Just as no order is identical with another, each cargo involves special needs. Securing it is a customized and precision job. That applies equally to the welding work to suit the ship and the cargo, and to the lashing material purchased specially for each

shipment. STAQ therefore only maintains a small stock of basic materials, since for every commission, purchases are made to meet the specific requirements. For an especially challenging shipment of locomotives, on one occasion Stafford along with his team even designed special lifting gear and had it manufactured.

Once on the quay, a 'gang' usually consists of a foreman plus three or four stevedores. Two more are required for any lashing. Work then proceeds on the basis of the First Officer's Stowage Plan, which in the light of STAQ's experience and the subsequent securing of the cargo is for various reasons very frequently altered again on the spot. Ideally, a start is made with the smaller elements, before the large bundles are stowed. This has the advantage that initially, forklifts can be moved around flexibly on board. The foreman maintains an overview throughout the operation, being responsible from schedule planning until the final check for the secure stowage and lashing of all items. Loading may be labour-intensive, but in fact this practical side only takes up about 30 percent of the work. Taking around 70 percent of the total, advance planning is the most time-consuming part of the job.

Human elements are especially vital in providing services for out-of-gauge cargoes. These are constantly of a 'hands-on' kind. That begins with the individual planning and advance coordination between the service provider, the terminal and the shipping line, and is especially apparent on board and at the terminal: Several hands are needed to attach lifting gear, crane drivers and stevedores use manual signals to communicate, and working with the ship's crew is on equal terms. It is just these personal relationships that pay off in the long term, since a continuously novel and changing operation only functions on the basis of excellent teamwork and communication. ■




# Germany still very popular for heavy cargo logistics

**Expertise, customer proximity, continuity - the project & plant forwarder Alfons Köster knows what counts in heavy cargo logistics. Alfons Köster CEO, Peter Vasilopoulos discusses the development of this challenging market.**

***POHM: How do you judge the general development in the market for project and plant cargoes?***

Vasilopoulos: In general, the mood in project logistics is improving. The general cargo business is recovering and demand for transporting larger cargoes is picking up again. Naturally, this varies in the individual sectors. In the oil and gas industries for example, as previously it is not easy for a mid-sized company to position itself. However, for us there are diverse industries, which appreciate being represented by a mid-sized forwarder with a flat hierarchy.

***Do you see special challenges or trends in international heavy cargo logistics?***
We recognise a certain trend in shifting production sites. While just a few years ago complete plants and production sites were transported, today those inviting tenders try to produce the components required in their home countries and purchase only the high-tech equipment abroad. Then the greater added value stays in the home country.

***How is Germany positioned in comparison to the international market?***
In our opinion Germany still holds a leading position in the international market. This also means though that international groups keep an eye on brands of interest in our markets, on occasion even making offers for competing brands. If there is a takeover, the production sites and the knowhow are protected for a certain period of time. This also happened to some of our customers in the past, with several takeovers from the People's Republic of China where the desired German sites were secured.

***Which modes of transport are most sought after, or most used for heavy-load cargoes?***
In this sector waterways are still well used. These are not affected by roadworks on motorways and main roads, making long-term planning possible.

***Alfons Köster has eight sites in Germany as well as in the Netherlands, the Czech Republic and Shanghai. How different is your business in the various markets?***
Basically our aim is to offer our customers in all locations a comprehensive package. Therefore, we do not push differences in focus at our domestic or overseas branches. In Baden-Württemberg we are traditionally the largest overseas forwarder, almost all of our employees there are involved in overseas business. In addition, our branch in Waiblingen successfully carries out project logistics for some of our customers. The Düsseldorf branch is intensively involved in business with Iran. We are well positioned, from consolidated and part loads by road to standard containers through to dismantling, packaging and shipping of used production plants.

Thanks to strong investment from foreign companies in the last ten years, we have been able to install Europe-wide overland transport in Prague. The


*A brewery tank being shipped to Mexico – just one of the heavy-lift shipments effected by Alfons Köster*

country has proved to be more favourable, with high-quality production sites and offers ideal conditions to supply the European market, free from customs duty or tax.

***What have been the greatest challenges since the founding in 1929 and how have you prepared for the next ones?***

One of the greatest challenges was surely the crisis at the end of the 1980s and beginning of the 90s, overcome by our sole owner Fritz Wessel with targeted consolidation measures and by bringing in the juniors, Olaf and Frank Wessel. Alfons Köster then surely profited from the expertise gained by Olaf Wessel during his long stay in the United States. This formed the basis for today's strategy and market positioning of the enterprise as a specialist for heavy-lift and project cargoes. I, myself have been working in the company since 1999, starting as a department head and 10 years later becoming a member of the management board. I am very pleased to be part of the success. Since 1999 we have tripled our turnover and our workforce.

The aim for the coming years is, as in the past remain close to our customers and together with them to develop and implement logistics concepts taking optimisation and saving potential into consideration. ■

***Alfons Köster & Co. GmbH***

*Alfons Köster is a family owned and run company with almost 200 employees. Established in 1920 the company is lead today by owners Fritz Wessel, Olaf Wessel and Frank Wessel. The headquarters is in Hamburg with branch offices in Stuttgart, Tauberbischofsheim, Munich, Frankfurt, Düsseldorf, Bremen, Hamm, Prague and Shanghai. The project & plant forwarder has been successfully placed in the Top Ten of the German heavy cargo market for several years.*

# Project and heavy-lift freight shipments on the Elbe

**The trend among European plant manufacturers is easy to see: Plant and machinery elements are growing ever more powerful and accordingly even larger and/or heavier. For the Czech and German manufacturers along the Upper Elbe, inland waterway shipping therefore plays a major role in freight transport.**

Whereas project and heavy-lift shipments by road often require traffic lights to be uprooted, crash barriers dismantled, or sign bridges lifted, on the Elbe the transport of gigantic turbines, generators or elements for wind power units often proves simpler. The Elbe's high clearance zone, especially under bridges, means that barely any restrictions exist on freight dimensions or weights.

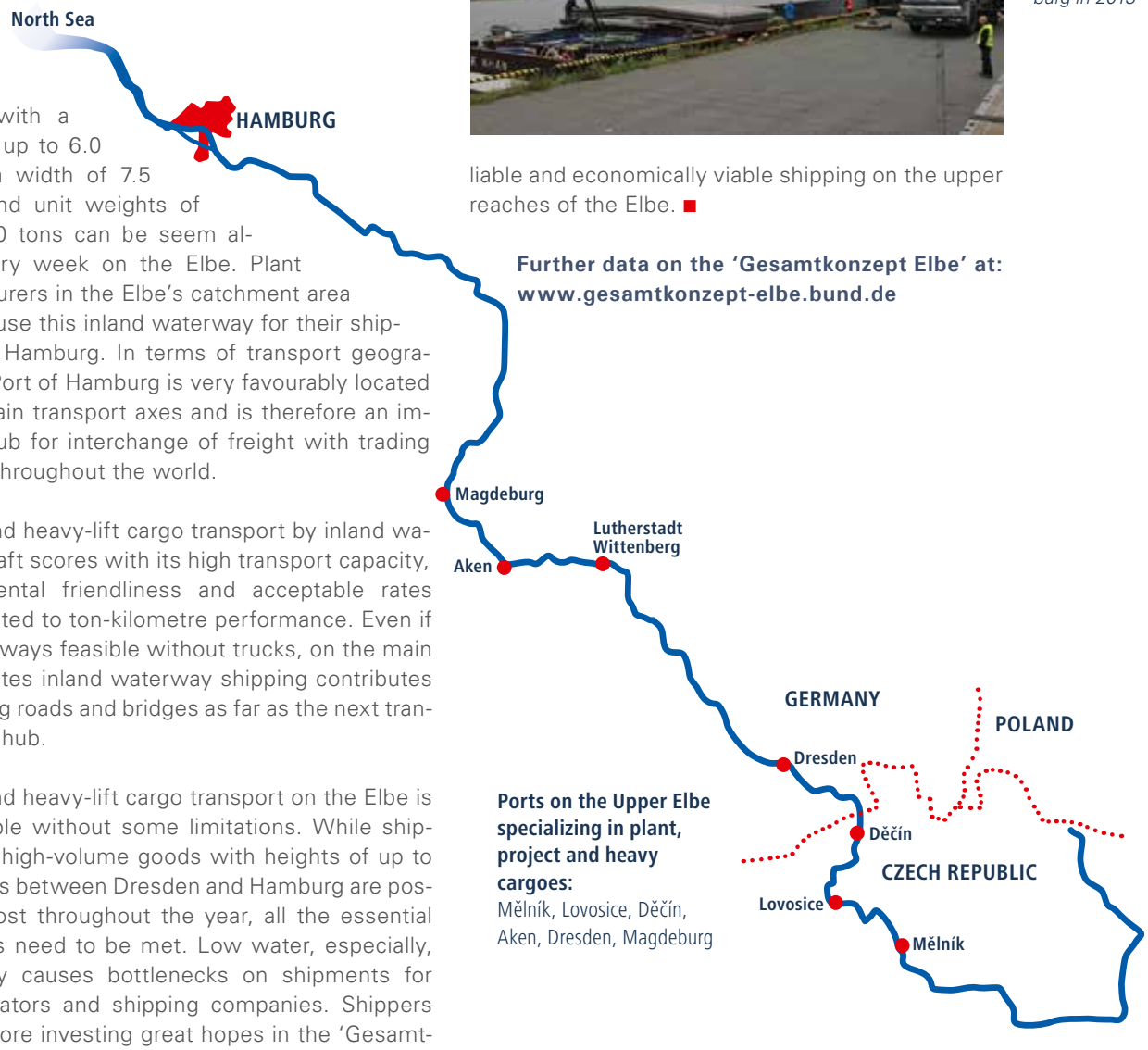
*A colossus departs: The central fuselage section of an Airbus A380 was the largest object ever transported on the Elbe to date. With a height of 9.30 metres, this aircraft element was shipped from Dresden to Hamburg in 2013*

Objects with a height of up to 6.0 metres, a width of 7.5 metres and unit weights of up to 300 tons can be seem almost every week on the Elbe. Plant manufacturers in the Elbe's catchment area regularly use this inland waterway for their shipments to Hamburg. In terms of transport geography, the Port of Hamburg is very favourably located on the main transport axes and is therefore an important hub for interchange of freight with trading partners throughout the world.

Project and heavy-lift cargo transport by inland waterway craft scores with its high transport capacity, environmental friendliness and acceptable rates when related to ton-kilometre performance. Even if it is not always feasible without trucks, on the main traffic routes inland waterway shipping contributes to relieving roads and bridges as far as the next transhipment hub.

Project and heavy-lift cargo transport on the Elbe is not feasible without some limitations. While shipments of high-volume goods with heights of up to 8.0 metres between Dresden and Hamburg are possible almost throughout the year, all the essential conditions need to be met. Low water, especially, repeatedly causes bottlenecks on shipments for port operators and shipping companies. Shippers are therefore investing great hopes in the 'Gesamtkonzept Elbe', or Elbe Master Plan, providing for reliable and economically viable shipping on the upper reaches of the Elbe. ■

**Further data on the 'Gesamtkonzept Elbe' at: www.gesamtkonzept-elbe.bund.de**




**Ports on the Upper Elbe specializing in plant, project and heavy cargoes:**
Mělník, Lovosice, Děčín, Aken, Dresden, Magdeburg

# Dancing giants
# Through the provinces with a heavy cargo shipment

**Cruise ships, giant containerships and heavy-lift cargo ships all have something in common: ship newbuilds are constantly breaking size records. The number of megaships has been growing for years, repeatedly putting existing infrastructure along waterway to the test. The onward march of ship's sizes also has a land-side dimension for road infrastructure that only becomes apparent at second glance.**

The residents of the idyllic health resort of Waren on the River Müritz are familiar with the spectacle. Up to two times a week, at a late hour whole stretches of road are blocked off by the police to make the way clear for the town's most valuable products: gigantic ship's propellers.

A truly model enterprise is based amid the tourists in pursuit of relaxation in the Mecklenburg lake district, a company that does not really fit into the economically shaky north-east area of the Federal Republic. Mecklenburger Metallguss, or MMG for short, produces the enormous ship's propellers that play an essential role in thrusting cruise ships or gigantic containerships across the oceans of the world. Along with its Japanese competitor Nakashima, MMG is among the world's leading propeller


*The first propeller is ready for transport but must wait outside the works shed until evening, since the move can only start at 21:00*

manufacturers, exporting these worldwide to numerous shipyards. Initially, however, these out-of-gauge loads need to be transported by low-loading truck to the Port of Hamburg for shipment overseas. And that involves clearing various hurdles.

### Measuring load width to the last millimetre

Departure point for the journey: The shed at the MMG plant where numerous propellers are manufactured. Today two five-bladed screws wait loading prior to departure in convoy. Rostock forwarder Trans's low-loaders already stand waiting. Daniel Sass from MMG's sales department takes a final look to check these screws and gives the starting signal for loading. Four men are involved, two from MMG who move the crane by remote control, and the two truck drivers. All those involved have the look typical of truckers and skilled workers: muscular, tattooed and also pretty rugged. Yet the precision evident as the propeller is lowered by the shed crane on to the load surface speaks another language. This job is being done by well versed and experienced experts. With simple implements such as folding rulers, measuring tape and a plumb line comprising thread and a small weight they optimize load breadth before the propeller is finally deposited. The two here have actual diameters of 9.00 and 9.20 metres. The largest examples currently manufactured are 10.60 metres wide, but with clever positioning the width of the load can be reduced. Why this is so crucial becomes clear later: During the trip every centimetre counts. After some adjustment and subsequent measurement the correct angle is selected. The hydraulics of the low-loader groan under the burden of almost 72 tons, the weight of the larger of the two propellers.

**MMG's plant in Waren/Müritz**

- *Start of propeller production for the then GDR: 1949*
- *Approx. 230 staff*
- *Around 130 propellers per year from customized casting moulds*
- *400-metre productions shed with 22 mould sites*

### Precise clearances along chosen route

The fact that MMG's very largest propellers are not being transported slightly simplifies route planning today. The road through the villages of Sietow and Malchow to the autobahn junction at Waren can be used. From there, the plan is to use the A19, initially towards Brandenburg. That's a very long but essential diversion on the way to Hamburg.


*A member of the Rostock Trans team uses a folding ruler to calculate the optimal position for positioning the propeller.*


© HHM / Marcel Peter

*Three vehicles of the convoy on the main road: The police patrol car (l.), low-loader (centre) and escort vehicle (r.)*

Once loading and lashing are completed, a pause is needed. To avoid disrupting the evening rush hour, a start will only follow later. All the other vehicles forming parts of the long convoy slowly roll up. Three escort vehicles are already waiting as three Mecklenburg police cars arrive. After checking that tyres, lights and lashing are correct, the police still have time to exchange small talk with the truckers. The prevailing mood is excellent, since they all know each other from previous shipments. All the same, the police bear the responsibility and have the last word on the load transported, in the event of ice or fog, for example. In today's conditions, this is less relevant, since even as dusk closes in, the thermometer still indicates temperatures in the upper twenties (Celsius). One of the policemen explains that he wants to go to Hamburg, since he and his colleague will not be accompanying the load to the port. Otherwise every crossing of a state border entails a change in the police escort: Mecklenburg-Western Pomerania, Brandenburg, Mecklenburg-Western Pomerania, Schleswig-Holstein, and finally Hamburg. Four complete changes, or Federal bureaucracy rampant.

### "A fraction to the left"

21:00: Now they are off at last. The convoy forges ahead, led by two police cars to block the road and with escort vehicles and trucks then alternating. The view from the last truck is fascinating. The truck and its escort vehicle zigzag from side to side like snakes, needing to react to every tree and every road sign, and to manoeuvre to avoid these. The escort vehicle moves out a little farther, looking left and right along the extreme edge of the road to see whether the propeller is allowing enough clearance with the obstacles. At a speed averaging 20 kph, wildly differing associations run through your head: Dancing giants, Formula 1 racing cars on the warm-up round, or even animals dragging their tails along behind them – none of these everyday sights on German roads.

The drivers of the trucks and escort vehicles are in constant walkie-talkie contact. Trucker Bernd receives brief but crucial instructions: "A fraction to your left, immediately after that right again," or "reduce speed immediately", when approaching a tree-lined stretch. Bernd declares that the local council might cut back the trees again. He himself does not look into his outside mirror much, preferring to trust his own experience and the guidance from the escorting drivers. There's very little space between the propeller and the obstacles to be avoided. Especially with trees and road signs located in parallel on both sides, the lack of scope for avoiding these always makes the situation 'cosy', as Bernd calls it.

This evening also brings its share of the curiosities and risks than can crop up in the course of a shipment. Coming from behind, an ambulance with flashing blue lights can just squeeze past the trucks. An accident involving deer and a quite separate car forces the police escort to interrupt the run for a short while. A forbidden and unsuccessful attempt to overtake by another driver also ends harmlessly. As in almost every case, today all went smoothly, with the autobahn reached in just under an hour. Ten to fifteen years ago, the trip would have lasted at least five hours longer for some of the bigger propellers. In those days the propellers had to be manoeuvred around obstacles with a specially designed twisting device, but nowadays many trees are planted a few metres further off the trunk roads used.

### The Port of Hamburg as stopover

After a six-hour drive, the propellers arrived at Hamburg's Unikai RoRo and general cargo terminal at three in the morning. For the two truckers and their co-driver, the trip ends here. Once again, a heavy load has successfully been transported through Northern Germany.

The propellers themselves have only covered a fraction of their trip, since as the next step they will be despatched to shipyards in Shanghai and Zhou Shan. With assistance from HHLA floating cranes, they will first be shifted from Unikai, the only terminal accessible to propellers of this size, either directly to the ship or to storage on Hachmannkai for later shipment.

MMG's Daniel Sass stresses the fundamentally excellent cooperation between all involved, with the town of Waren and the planning office of Neustrelitz there particularly helpful. "There are two construction sites that worry us, but we are always involved

***MMG ship's propellers***

- *Cast from of an alloy comprising copper, aluminium, nickel, manganese, iron and other metals*
- *Temperature during casting: 1150°C*
- *Production capacity of max. 11.60 m diameter / 160 t unit weight*
- *Purchases price for the largest propellers: Upwards of one million euros*
- *Production duration: Around 100-110 days*

at the planning stage for new construction," says MMG's Sales Manager. Remarkable importance is attached to the interests of the region's leading employer. That's a more difficult matter once the heavy-lift shipments reach Hamburg. "The authorization procedures for specific routes last at least four weeks in Hamburg, or twice as long as in Mecklenburg-Western Pomerania," complains Sass. In the worst scenario, this could lead to delays on loading that involve substantial extra costs, and would be infuriating for all concerned.

The immense importance of heavy freight for the German export industry and the unusual requirements for transporting these loads do not seem to encounter the same reaction in every fussy office as out in Waren on the Müritz, where residents stoically tolerate regular road closures – for the sake of their local world market leader. ■


*Several propellers await subsequent shipment at the floating-crane berth on Hachmannkai in the Port of Hamburg*

# "Basically, it doesn't matter to our customers which port they use"

**Interview with Holger Dechant, Managing Director of Universal Transport Michels**

***POHM: Mr Dechant, Universal Transport commenced in 1953 by handling silo transport in Paderborn and has been engaged in the out-of-gauge and heavy-lift transport business since 1970. Over the years, the company has become Germany's highest-revenue heavy lift specialist. Your company fills the top place in the current ranking of the country's heavy-lift forwarders. Are you satisfied with the current situation on bookings?***

Dechant: Firstly, I should like to mention that Universal Transport still operates a substantial silo vehicle fleet from its Paderborn base. In the heavy-lift area, sheer variety – precast concrete elements, wind energy units, railcars, out-of-gauge vehicles including agricultural, engineering and plant construction machinery – enables us to achieve our targets ultimately. Yet at the same time, we are always striving to further boost performance quantitatively and qualitatively in the different sectors.

***Following the completion early in 2016 of the takeover of project & plant logistics specialists Züst & Bachmeier Project, Universal Transport is operating still more internationally. In which countries and regions are you meanwhile active, and in which markets you expecting growth?***

Along with Germany, Poland, Czechia, Rumania, Russia, Austria and Hungary, we are now operating in Turkey as well as Egypt. Through acquisition of Züst & Bachmeier, further locations in Russia and in Malaysia have been added. In addition, we have discovered other countries in Africa as interesting growth markets.


*Holger Dechant, Managing Director of Universal Transport Michels*



***How significant is the Port of Hamburg for handling international projects? Are the dense network of liner services and the performance of the multipurpose terminals available in Hamburg an important advantage in handling land/sea heavy-lift transhipments?***

Naturally our branch in Hamburg is of great importance when it comes to worldwide handling. Our Hamburg office has made splendid progress, something for which we primarily have branch manager Stephan Stender's team to thank. Yet we have to recognize that Hamburg is increasingly operating in competition with other ports. In the last resort, which port they use doesn't matter at all to our customers. The chief consideration is that the both the price and the service are right.

***Port accessibility and the route planning involved for heavy-lift and out-of-gauge transport shipments certainly represent a major challenge for your staff. Where you do see the main priorities on infrastructure?***

Naturally infrastructure in the port hinterland plays a crucial part. Problems with roadworks and sub-standard roads and bridges are sufficiently familiar. All of that now needs to be dealt with systematically. True to the motto "Freight transport is like water – it always seeks out the best and most favourable routing", we are always concerned to discover what's best for everybody involved. What counts in the end is the overall concept. And that's not necessarily a truck. With our branches in Nuremberg, Straubing and Dresden, we are close to water everywhere. And we also keep an eye on rail.

***And how do things look with permit procedure? The sector has been complaining for a long time now about time-consuming and uncoordinated procedures.***

On permits, in my opinion we all need to put our heads together again. That German plant and project cargo shippers should be dependent on specific individuals in the public sector is simply unacceptable. On the other

hand, now and then we have to ask ourselves why technical drawings and hence dimensions are only handed out to those responsible at the very last moment. We are experiencing that with imports again and again. A ship's funnel heaves into sight in Hamburg, and only then does an enquiry reach a heavy cargo forwarder. The cargo could have come from Asia and have been on the way for four weeks. Weights and dimensions will hardly have changed during that time. On the whole, however, one also finds that such neighbouring countries as France and Poland are more pragmatic on permits.

***Providing mandatory escorts to ensure safety for out-of-gauge and heavy-lift transport is the job of the police. To relieve them, this task is meanwhile being undertaken by private companies with specially trained personnel. Universal Transport has been tackling it since the beginning of April. What has been your experience so far with this scheme?***

For some years we have been ensuring safety for transport from Brake on the Lower Weser to the A27 autobahn – with around 3,000 runs so far, and not even one dent to report. The police in Oldenburg are very grateful for this relief and are able to pursue other police duties. Naturally the prime consideration for us here is traffic safety. At the same time, that enables us to offer shippers planning certainty. If other incidents such as burglaries or road accidents prevent the police from escorting a shipment, meaning that they appear at midnight instead of 22:00, then at first glance only two hours have been lost. But if you remember that out-of-gauge and heavy-lift transport runs have to cease at 06:00, then two out of a maximum of eight possible hours have been lost. That means 25 percent less time for the job! Failure to reach the port on time can mean that a sailing is missed. The shipper also bears the costs and the frustration. ■

***Universal Transport***

*Universal Transport manages out-of-gauge and heavy-lift transport and irrespective of the transport mode used, organizes heavy cargo projects on land, water and in the air for customers that include firms from the building industry, wind power, rail and machinery/plant construction – and this worldwide. With over 600 staff and 350 vehicles, in 2015 the group generated revenues of 150 million euros. With over a century of experience in worldwide project logistics, since early 2016 Züst & Bachmeier Project has become part of this Universal Transport group.*

# Out-of-Gauge Puzzle

**Transporting and assembling a 580-ton hydraulic pile hammer. In spring this year the Universal Transport's Hamburg branch moved building elements for a hydraulic pile hammer from Lower Saxony to the Port of Hamburg, for MENCK, manufacturer of special equipment for offshore installations.**


*Due to height and heavy weight the hydraulic hammer must be assembled on board*

© HHM/Hasenpusch

In Osnabrück, Lower Saxony, piling guides were built for the 580-ton heavyweight, consisting of an upper and a lower element. The larger of the two has a diameter of almost 7.6 metres and weighs 37 tons.

The two piling guide elements were transported during the night in a convoy of Universal Transport trucks to the Port of Osnabrück. During the next working day the cargo was loaded onto an inland-waterway vessel using a 200 tons telescopic crane. Three days later the vessel reached Wallmann & Co.'s multipurpose terminal in Hamburg. The two pile guiding elements came together with other components, which had made their way to the Wallmann terminal by land and waterway, for assembly.

After temporary storage at Wallmann, loading onto the freighter for sea transportation was successfully carried out using the terminal's special cranes. Only once on board could the MENCK specialists begin assembling the hydraulic hammer. Assembly was not possible before because of the height of the special equipment, over 25 metres and a total weight of 584 tons. Logistically, the fastest and easiest solution was to handle the elements, each weighing up to 340 tons individually. Loading stowing and securing the MENCK giant hammer required absolute precision. The complete loading procedure including assembly took almost 10 hours.

The hydraulic hammer subsequently went into operation in the 'Burbo Bank' offshore wind park in the Irish Sea off Liverpool. It successfully rammed 32 monopiles into the seabed to act as the support structure ensuring that all units are firmly and securely lodged in the seabed for the wind generators off the coast of England. ■

# Versicherungsexperten für Transport seit 1987

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# PETER PICKHUBEN'S PINBOARD

© Sandra Kunze

Barcelona: Panorama of the port

© Sandra Kunze

Argelès-sur-Mer:
Sunset on the Atlantic

© Sandra Kunze

Impressions of my European tour this summer

Paris: A view from the Eiffel Tower

## Maiden Visit for 'Jumbo Kinetic'

On 1 August 2016 the 'Jumbo Kinetic' one of the world's strongest heavy-load carriers made her maiden visit to the Port of Hamburg. At 10.45 the heavy-cargo vessel made fast at C. Steinweg (Süd-West Terminal) to load project cargo bound for Turkey. You could not miss the two 1,500 ton hydraulic slewing cranes, built by Huisman. The two shipboard cranes can, in tandem, lift up to 3,000 tons.
The 'Jumbo Kinetic' was built at the Brodogradiliste yard in Split, Croatia and delivered to the Dutch line, Jumbo Shipping in December 2014. The ship is 152.6 metres long, 27.45 metres wide and has a carrying capacity of 14,000 tons with a maximum draft of 8.10 metres.


© HHM / Hasenpusch

© BUSS

# When container gantry cranes become project cargo


© HHLA / Hasenpusch

On the late evening of 14 August sightseers in Hamburg were treated to a rare sight and a mighty delivery: Three new container gantry cranes for HHLA's Container Terminal Burchardkai (CTB) were brought from China to Hamburg by a special ship. These container gantry cranes manufactured near Shanghai by world leader ZPMC, feature 74-metre booms and each weigh 2,400 tons. Shipping this out-of-gauge project cargo on a rebuilt tanker lasted around ten weeks. Having taken the cranes into service, CTB is capable of simultaneously handling two vessels with a capacity of 20,000 TEU and more.

© HPA

# Model builder tackles heavy-lift truck

Model making has fascinated hobby craftsmen old and young for decades now. Planes and vehicles, especially, are frequently available in kit form, later to be admired at exhibitions. Passionate tinkerers even go a step farther and design their own models in hours of painstaking work. Down in North Rhine-Westphalia, for example, a Mr Krawinkel put in over three years on this 1:24 model of a heavy cargo truck operated by Universal Transport Michels. His models resemble actual heavy goods shipments in always being distinctive and very demanding. Chapeau!


© Universal Transport

# Heavy cargo handling – then and now

© HHLA

# Focus on transport chains and networking

**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 13 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.

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