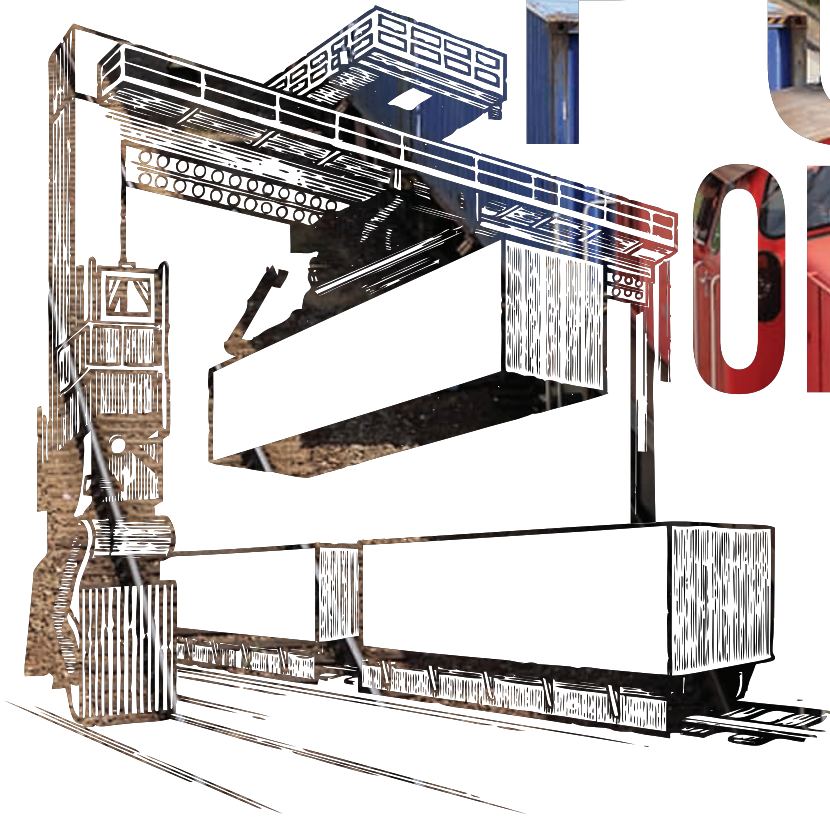


TRAINS PORT ON RAILS



PORT OF HAMBURG
Magazine 4.15

Dear Readers,



At 4.5 million TEU, first-half container throughput in the Port of Hamburg was distinctly lower, being 6.8 percent down on the same period of the previous year. Yet the picture on seaport-hinterland transport for the first six months was completely different. With a total of 2.9 million containers transported, the port even reported a 2.3 percent increase. Many people have failed to notice that this was a fresh record for land-side container transport.

Along with trucking, rail is of immense importance for the universal port of Hamburg's inbound and outbound freight traffic. Rail's first-half total of 1.2 million TEU represented a 6.4 percent gain. What makes Hamburg a notable hub port for rail freight transport? What rail, road and corporate developments shape cutting-edge rail logistics for freight of all types? How are rail's prospects of gaining market share in a tough competitive environment?

In this issue of the magazine we aim to present you with a selection of interesting topics on rail's significance for ports and for the economy. In addition, we bring you some solutions for transporting bulk and general freight by rail, and even watch people at work on the trackside.

We trust that you have an enjoyable read – and perhaps discover some fresh ideas for your logistics processes?

Ingo Egloff

Axel Mattern



**WHY RAILWAYS PLAY A KEY ROLE
IN SEAPORT-HINTERLAND TRANSPORT
AND WHICH CHALLENGES RAIL TRANSPORT
WILL HAVE TO FACE IN THE FUTURE.**

Never before have so many containers been transported to the hinterland by rail as this year.

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A modern control tower reigns over the Alte Süderelbe seaport rail terminal just like an airport tower. From the control centre, towering 20-metres high, the dispatchers and planners have an excellent overview of the sprawling facility. Working in shifts from their tower they coordinate rail traffic in the Port.

efficient and environmentally friendly freight transport

A universal port's success rests on several factors. One of these is the quality of its hinterland infrastructure. For distances of above 300 kilometres, on many routes in Europe the systemic advantages of rail as a carrier hit gold when compared to trucking and inland waterway vessels: Rapidity, suitability for transport of large and compact volumes, value for money, reliability and environmental compatibility. A single 800-metre freight train can transport as much as some 50 trucks.

Trade and industry call for transport services causing less environmental impact. The Port of Hamburg has backed rail ever since the dawn of the railway age. Today it offers access to all terminals and industrial firms in the port via the Port Railway, founded in 1866. With total volume transported of 44 million tons, including 2.2 million TEU, the Port Railway takes top place among Europe's ports. In public areas within the Port of Hamburg, the Port Railway owned by Hamburg Port Authority (HPA) operates the rail network. This extends around 300 kilometres, integrating 850 sets of points. An additional 160 kilometres of track are located in 130 private sidings owned by industrial, cargo handling and logistics companies.

The Port of Hamburg is immensely significant for German rail freight traffic. Hamburg is the source or destination for at least twelve percent of national rail freight traffic. Two statistics provide striking evidence of that. Around 200 freight trains reach or leave the port on every working day. Bulk cargoes, containers and other freight are transported by rail. In 2014 rail services between the Port of Hamburg and its hinterland carried a total of about 103.7 million tons. Around 43 percent of all freight went by rail, 11 percent by inland waterway ship and 47 percent by truck.

Everyday sights in the port include block trains loaded with up to 6,600 tons of iron ore for steelworks in



The Port of Hamburg has excellent multimodal traffic connections. All containers, multi-purpose and bulk goods terminals are connected by rail, road and waterway.

Salzgitter and Eisenhüttenstadt, and trainloads of potash salt from Werratal region bound for K+S's Kalikari. Altogether around 5,000 railcars roll along the Port Railway network every day. DB Schenker Rail is the largest provider of rail freight transport services. Besides Schenker, more than 100 registered rail operating companies meanwhile use the Port Railway network. These offer a tightly meshed network of wagonload services, and shuttle and block train links throughout Europe. Among the most important destinations outside Germany for container train services with the Port of Hamburg are the Czech Republic, Austria, Poland and Switzerland. The top German states by freight volume transported on domestic seaport-hinterland rail services are Baden-Württemberg, Bavaria and North Rhine-Westphalia.

Rail access to all Hamburg terminals

To ensure smooth rail traffic, all the port's container, multi-purpose and bulk cargo terminals possess high-performance, state-of-the-art rail facilities. Container block trains, for example, can run directly into container terminals without any preliminary shunting. On-

dock container rail terminals feature 700-metre sidings, sufficient for handling entire freight trains. Cutting-edge gantry cranes facilitate rapid loading and unloading. IT systems store and manage all container transport data. The success of Europe's largest rail port is reflected in the volumes handled at its container terminals. In 2014, a total of 785,000 TEU were handled at the on-dock rail terminal of HHLA Container Terminal Altenwerder, for example. That makes it Germany's largest container rail terminal. In recent years considerable effort has been put into expanding the container rail terminal on Burchardkai, the Port of Hamburg's largest container terminal. Last year 629,000 TEU were handled there, representing over 20 percent growth on the previous year.

New bridges disentangle rail and road traffic

To enable rail and road traffic in the port to roll even more smoothly, in constructing new bridges HPA is pursuing the deliberate separation of transport modes and traffic flows. The new Rethe bascule bridge is just one exemplary project, replacing the Rethe lift bridge taken into service in 1934. The new structure will en-

ter service in 2016. Separate wings will then be available for road and rail traffic. Being no longer required, the old lift bridge will then be removed. Taken into service in 1973, Kattwyk Lift Bridge is an additional example of separation of rail and road traffic. This is Germany's largest lift bridge catering for both. In parallel to the bridge, which is 290 metres long and 90 metres high, a new, second bridge is to be built by the end of the decade. This will be reserved entirely for rail traffic.

Important gateway for international rail transport services

Hamburg-Billwerder Terminal has a high reputation as a hub interlinking truck and rail, or what are primarily known as continental, intermodal road/rail transport services. Not least due to its geographical location, the terminal performs a growing number of other functions. It is not only an arrival and departure point for German and international shuttle trains, but also a significant rail/rail gateway terminal for international long-haul transport services. With what are known as short shuttle-trains, Hamburg-Billwerder also links the Baltic ports of Kiel, Lübeck and Rostock with the European intermodal network. For some maritime containers from the Port of Hamburg, the inland terminal also functions as an additional hub that enables these to reach the hinterland from Hamburg.



The Billwerder Terminal handles continental intermodal services.

Accessible from Billwerder: Norway, Sweden, Finland, Denmark, the Baltic, Netherlands, Belgium, Spain, Portugal, Switzerland, Austria, Italy, Slovenia, Czech Republic, Rumania, Hungary, Croatia, Bosnia, Serbia, Macedonia, Turkey, Greece, China. ■

Schedule information and emission calculations on: www.kombiverkehr.de

How are rail movements controlled in the Port of Hamburg?

In handling rail movements in the Port of Hamburg, loading centres and rail operators require access to transPORT rail, the Port Railway's traffic management system. This forms the interface for freight and data transport. Users can obtain access either through an interface or via the Internet (Web Client).



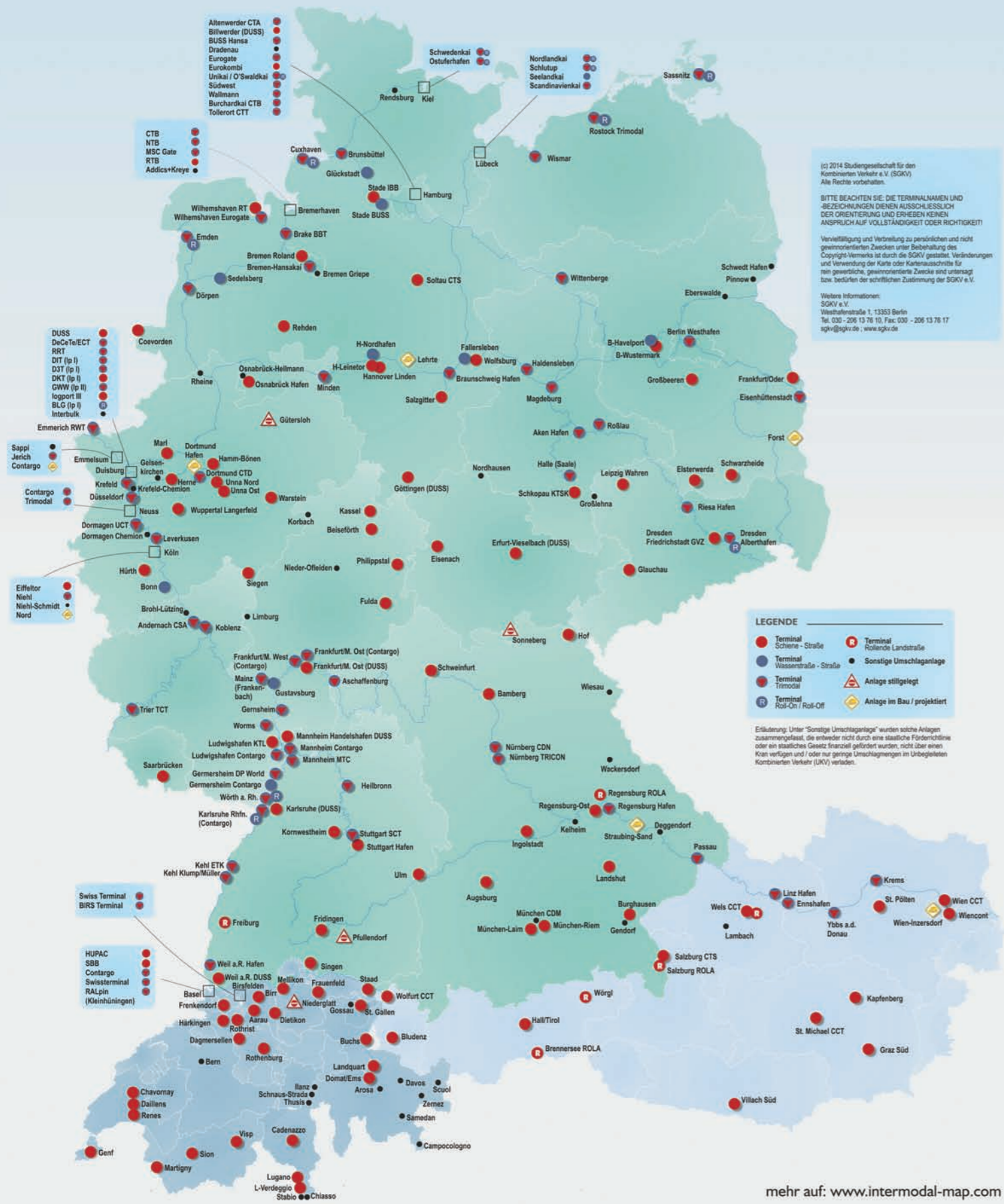
Via transPORT rail, users can:

- Call up data on train movements
- Pre-register railcar sequences
- Check track occupancy
- Place transport contracts
- Determine railcar destinations
- Arrange freight and/or railcar movements
- Monitor engine locations
- Notify dangerous goods details (GEGIS)
- Maintain master data
- Adjust user settings

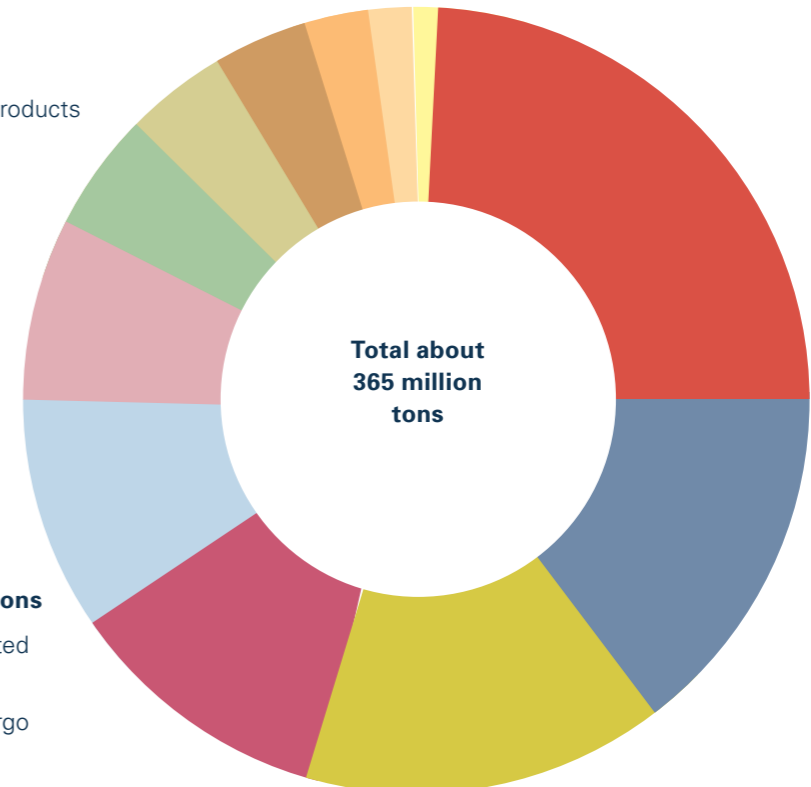
To use transPORT rail, rail operators enter a contract with the Hamburg Port Authority that also regulates the fees. They can authorize their operators or service providers to process their transport data by granting them the appropriate authorization.

The Intermodal Transport

Terminal Map for Germany, Austria and Switzerland

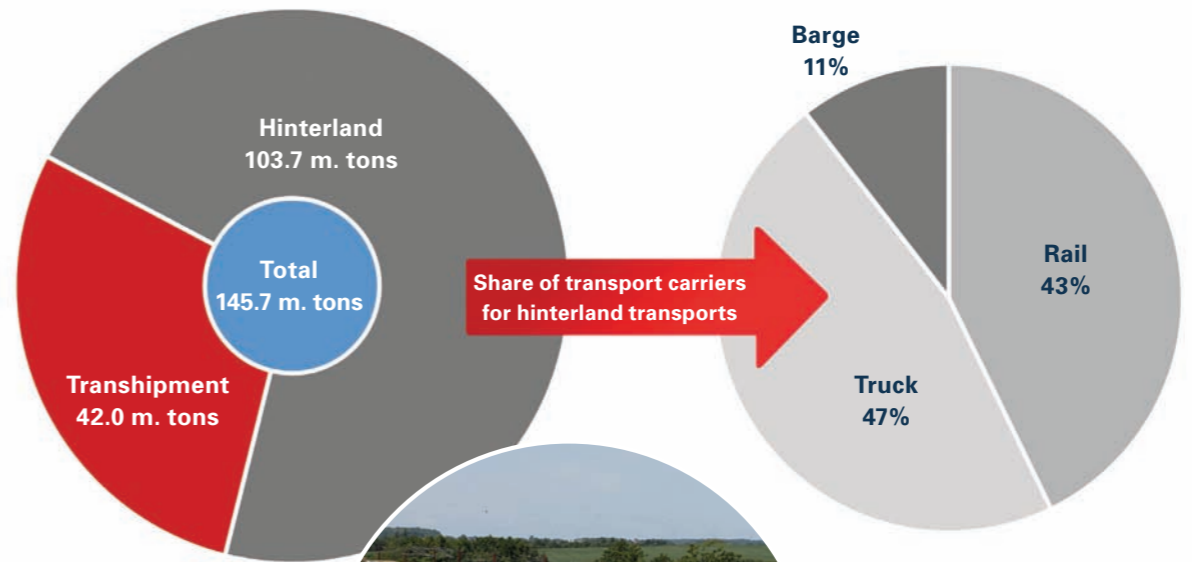


mehr auf: www.intermodal-map.com



Items that are transported on the German rail network:

Amount and type of goods moved by rail in million tons.



The modal split in hinterland traffic/transport in 2014:

In 2014 a total of some 103.7 million tons were handled in hinterland operations of the Port of Hamburg. About 43 percent of the cargo was transported by rail, 11 percent by inland waterway vessels and 47 percent by truck.



Deutsche Bahn between mega-ships, smartPORT and long trucks

The development departments of rail operators such as DB Schenker Rail are humming just now. New IT systems for boosting efficiency by rail and intelligently linking carriers, ever larger ocean-going vessels, and intensifying competition between carriers, represent tremendous challenges for the rail sector. Dr Bernd Pahnke, Vice President Port Development for DB Schenker Rail tells us about the new products, innovations and approaches to cooperation being used by Deutsche Bahn (DB) to position itself in this fast developing environment.

In the first half of 2015 about 1.2 million containers were transported by rail to and from the Port.



A total of 178.3 million tons were transported on rail freight services in Germany in the first half of 2015, or three percent less than in the previous year. What accounts for the fall and how are your expectations for the current year?

With only few exceptions, all rail freight operators in Europe operate in adverse conditions. These severely handicap them in competition with trucking and inland waterway vessels. A variety of causes are behind this situation. Following nine long strikes in 2014/15, many

customers shifted their services to trucking for the medium term. It is also a fact that for several years, rail freight services have been structurally distinctly worse treated than road. Trucks are not affected by rising track usage fees. Other costs, for example for staff, are much lower. Levies such as those under the Renewable Energies Act (EEG) are a disproportionate burden on rail freight services. On top of these come costs such as those for re-equipping railcars with whisper brakes. Between now and 2020, those will hit DB Schenker Rail's results by around 230 million euros.



Dr Bernd Pahnke

As DB Schenker Rail's Vice-President Port Development, Dr Pahnke opens up new markets and finds new customers, optimizes production, develops appropriate products and backs up his sales colleagues. In doing so, he maintains close contact with terminals, shipping companies, forwarders and shippers and monitors the development of markets and competitors.

At the same time the sharp drop in the oil/diesel price enhances the competitive position of trucking and inland waterway vessels. The latter also profit from mineral oil tax exemption to the tune of around 170 million euros per year. Operating parameters conflict with the declared political aim of transferring more services to environmentally friendly rail. In the few European countries where rail freight services are tending to fare better, rail companies operate in better conditions. In Austria, for instance, the truck toll is at two and a half times the German level. Strict bans also apply to road haulage services at night.

For the first half of 2015, nevertheless, the Port of Hamburg was able to report a very gratifying result on its hinterland rail freight services, with 1.2 million TEU transported. That represented growth of 6.4 percent, trend upwards. How is your company preparing for the forecast growth rates for the Port of Hamburg's seaport-hinterland rail services?

According to all analyses and our own planning, in the next few years the Port of Hamburg will continue to grow, above all on container services. With growth calculated at approx. 3.3 percent in the container business, in 2030 we shall annually be transporting a volume of 3.5 million TEU, compared to 2.2 million TEU now. We shall do everything to remain the market leader and to meet the wishes of markets and our customers. In other words, further investments are required in locomotives and railcars, in even higher flexibility to conform to customer requirements, in IT processes, developing new products and further improvement of production forms.

In the interplay of players in transport chains, do developments such as smartPORT or other IT systems like Hamburg Port Railway's 'TransPORT rail' system provide any distinct improvement, or increased security, for rail freight services in the port and beyond?

Modern logistics now demand that suitable IT systems should be established between several companies in the same value-added chain. Although all the data are available and accessible, such a "door to door" solution does not yet exist across the board. Here we must do better. It is essential that all transport chains receive

a maximum volume of precise transport data. Detailed train planning demands precise details of ship arrivals plus the timing of cargo availability. Such data are now supplied by existing systems. To give you a specific answer: Yes, the systems mentioned make a contribution to rail freight services in order to enhance supply chain stability. Yet plenty still remains for us to do here.

Constant growth in ship sizes, both in container and bulk shipping, is a perpetual topic in Hamburg. How does this trend affect the organisation of your hinterland logistics?

The increasing presence in ports of mega-carriers carrying more than 16,000 TEU creates fresh challenges for all partners in maritime value-added chains. When the arrival of one vessel involves clearance of 12,000 import and export TEU within less than three days, the entire system must function properly. Every weakness causes major repercussions in supply chains of a kind previously unknown to us. In our language, that means that we need to master such volatilities with great flexibility, a closely meshed overall system combining many partners and suitable IT processes. The form of production selected as well as the resources deployed – shunting, railcars, locomotives – are also of tremendous importance for rail freight services in the ports. Does consolidation and deconsolidation of trains bound for a specific terminal take place within or outside the port? How many resources do I combine to overcome volatilities, yet without endangering commercial viability? How do we optimally reconcile customer requirements, port or inland terminal slots, shunting and train capacity, and feasible routes in the network? As you see, however, the partners in the Port of Hamburg are capable of mastering these new challenges. Hamburg would not otherwise be Europe's No. 1 Rail Port.

Container services with China are of great importance for the Port of Hamburg. Around one container in every three handled in Hamburg arrives from China or is being transported there by sea. For some time, rail freight services have also been available between Hamburg and China. From your angle, does this land link with Chinese destinations provide an alternative to sea transport?



Deutsche Bahn AG

Hamburg, Waltershof Basin: A model 291 diesel locomotive pulls a container train out of HHLA Container Terminal Burchardkai towards the rail terminal in Waltershof, Hamburg. In the background: a containership at Eurogate's Container Terminal.

Rail freight companies can facilitate transport from China to Central Europe within less than 20 days via this "Silk Road". Due to the high logistics costs payable, it especially predestined for use for high-value cargoes and loads with tight deadlines. In my view it is not a product in competition with the sea trade but rather an optimal complement to these, which can also be used by shipowners, incidentally, to ensure they meet deadlines. In terms of volumes transported, I firmly believe in the growth of rail services between Europe and China. Statements by partners in the Asia-Europe region suggest an upcoming improvement and expansion of rail infrastructure. That will produce further potential in which the economic powerhouse of Hamburg will participate as the North's logistics hub.

With a share of almost 60 percent of freight trains cleared in Hamburg, DB Schenker Rail is the largest player in this segment. Meanwhile, however, more than 100 rail operators are registered with Hamburg's Port Railway. At DB Schenker Rail, how do you assess competition in rail freight traffic? In which segments is this primarily apparent?

In principle, competition is the most crucial driver for motivation and innovation. That applies for most divisions of our company and hence also to rail freight traffic in the seaports. Without competition, our companies would be lacklustre, forfeit customer loyalty, and simply react rather than being pro-active. In the Port of

Hamburg, we notice competition to a special extent on container transport services with the hinterland. This segment, particularly, produces high volumes, enjoys good growth and facilitates a point-point system by rail. Competition does not exclude forming alliances between rail transport companies of a kind desired by our customers, and producing win-win situations. Rail undertakings set up a Working Party (Rail) almost twelve months ago for this purpose. I head this. At this stage we can already look back on a successful year. For example, we shall be organizing shunting for container services in the Port of Hamburg in a completely new form. While improving performance, we shall also be considerably reducing utilization of infrastructure.

Trucking is a completely different competitor for your rail freight services. Thinking especially of the Gigaliner, do you see any danger of transfer of shipments from rail to road?

Naturally competition also exists between modes of transport. I am firmly convinced, however, that anybody who succeeds is selecting the right combination in a supply chain will win. All modes of transport have their particular strengths and so what matters is the correct combination. On intermodal services, for instance, our companies use the flexible truck for the first and final miles in the hinterland, while organizing the main long-distance stretch economically and ecologically by rail.

On the subject of Giga liners, DB cannot and will not turn its back on innovations on freight services by road. Yet it is important to us that when these are actually implemented, additional competitive disadvantages for rail freight traffic should as far possible be avoided. DB Schenker Logistics will be participating, for example, in the Federal field trials of Giga liners now in progress for three and a half years on just a few selected routes in Germany. On these links, tight-deadline general cargoes are being transported that from the customer's angle are non-starters for transport by rail. Here, therefore, no shift of services from rail to road needs to be feared.

Which further developments in rail innovation are currently outstanding, on longer freight trains, traction and freight railcars, for example?

Investigation is now under way into which main rail freight transport corridors can be prepared for use by 835-metre trains, and in which time frame. Among examples of our innovation are the practical applications we have implemented in the area of intelligent railcars

and control data. On the 'Silk Road' already mentioned, for example, use of a Smartbox linked with railcars and containers provides a mass of data on location, temperature, atmospheric humidity, inclination/tilt, vibrations, etc. These data ensure optimal traffic management and provide information on possible hazards to products. Under 'Rolling Stock Intelligence', our company already operates over 400 locomotives that in the same way supply real-time data on their respective location and technical state. That enables us to coordinate maintenance work with the transport schedule far better and to avoid cancellations.

Finally, how is the situation on timetable reliability and punctuality on rail freight traffic generally and on seaport-hinterland traffic with Hamburg in particular?

Official HPA statistics indicate that on transport to and from the Port of Hamburg, our performance on punctuality and timetable reliability is good, indeed way above average. All the same – we are not satisfied and aim to do better. ■

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Germany's heaviest trains

The trains travelling between Hamburg and Salzgitter can carry up to 4,000 tons ore.



Salzgitter Flachstahl
is the Salzgitter Group's largest steel-making subsidiary. In 2014 over 5,700 staff manufactured around 4.7 million tons of crude steel and generated revenues of 2.6 billion euros.

It takes four hours to unload a complete ore train.

Salzgitter-Flachstahl steel company needs more than 6 million tons of ore in the year.

Cars, building machinery, pipes, household appliances – all of these have something in common. They are made largely of steel. A significant proportion of German steel is produced in Salzgitter. For this, Salzgitter Flachstahl annually requires more than six million tons of iron ore. Ore is the most essential raw material in steel production and the basic material for the smelting process in the blast furnace. Raw materials are supplied via HANSAPORT in the Port of Hamburg, where large quantities of ore and coal are delivered by oceangoing vessels from Scandinavia, Canada, South Africa and Brazil and temporarily stored. The onward journey by rail is to the smelting plant in Salzgitter. Weighing up to 5,400 tons, these trains are the heaviest in use on Germany's railways.

INTERVIEW PARTNERS Uwe Harder, Verkehrsbetriebe Peine-Salzgitter (VPS), Bernhard Reinecke, Salzgitter Flachstahl, Erhard Meller, Managing Director, HANSAPORT

The shuttle trains are operated by DB Schenker Rail and Verkehrsbetriebe Peine-Salzgitter (VPS). Mr Harder, you are Head of Iron Ore Transportation and Logistics for VPS and ensure that sufficient ore reaches Salzgitter by rail. How often do your block trains operate between HANSAPORT and the smelting plant and how many tons of ore are you able to transport?



Uwe Harder

smelting plant in Salzgitter. Four of these are "big" trains run at six-hour intervals, operated directly by DB Schenker Rail. There is also a "small" train that we operate on behalf of DB Schenker Rail. This is mainly deployed on the early shift for supplying the sintering plant. All trains operate daily from Monday to Sunday. The only gaps are on some public holidays, e.g. at Easter and Christmas. Also known as AC (automatic coupling)

Uwe Harder: Day in, day out, five ore trains of up to 44 railcars travel between the terminal and the integrated

trains, the "big" trains can load 4,000 tons of ore laden, the "small" ones around 2,700 tons. Including the empty weight of locomotives and railcars, the trains reach weights of up to 5,400 tons and are the heaviest to be found on German rail tracks.

What differentiates these especially heavy trains from normal container or bulk freight trains?

Uwe Harder: The trains are always hauled by two locomotives in double traction. This means that the two engines are driven by one driver in the front cabin. The "small" train is made up of habitual four-axle Fa1ns freight cars and two series 185 engines. The AK trains feature several special features: The Faals 151 six-axle freight cars are specially designed for transporting ore. Since ore has a very high specific weight, the volume of the freight moved is relatively small. In addition, these vehicles are equipped with an automatic UIC 69e central buffer coupling without side buffers. In Central Europe this type of coupling is utilized only on these ore trains and it is what renders their high loads possible. Using standard couplings, we should be unable to

move these heavy trains. For the AK trains, two engines of Series 151 with a combined output of 8,400 HP are deployed. Even fully loaded, equipped like this, these trains reach speeds of up to 90 kph.

Herr Reinecke, at Salzgitter Flachstahl you are responsible for sourcing logistics. Why did you opt for the transport chain via the Port of Hamburg and for rail to Salzgitter? Where are the advantages? What alternatives were there?



Bernhard Reinecke

Bernhard Reinecke: Feeding our smelters for virtually 365 days a year is only feasible by rail. Being so close to our production, the Port of Hamburg with its HANSAPORT handling facility was an obvious choice. The port is only 200 kilometres away. With our block trains, we can bring the ore to Salzgitter within a few hours. As an alternative mode of transport, the inland waterway vessel comes into use sporadically.

How many tons of ore can you accommodate at your plant? Do you have a warehouse of your own or do you store ore at HANSAPORT until it is processed?

Bernhard Reinecke: Bunker capacity at the smelters is around 80,000 to 85,000 tons. In addition, we can accept around 250,000 tons of ore mixture at our sintering plant. We also use HANSAPORT for interim storage. We collect a daily average of 18,500 tons from there.

What happens to the ore, Mr Reinecke, once it has reached your steelworks in Salzgitter? Which products result from processing there, and where do these go from there?

Bernhard Reinecke: In our integrated smelting works we produce hot-rolled wide strip, steel strip, steel plate, cold-rolled sheet and surface-sheeted products with a thickness of between 0.4 and 25 millimetres, and up to 2,000 millimetres wide. The production programme also includes ductile, deep-drawn and special deep-drawn steels, constructional and fine-grained steels, as well as high-strength and maximum-strength steels. We sell these products to car manufacturers and their suppliers, tubing/large-diameter tubing manufacturers, cold-rolling plants, household appliance manufacturers and the construction industry. In addition, our delivery range includes such further innovative products as high-strength micro-alloyed steels as well as multiphase steels, for use for example in areas of vehicle bodywork liable to be damaged in crashes, or organic thin-film coated thin sheet with improved corrosion protection properties, particularly for use in body cavities. In our sister works in Ilsenburg we convert some of the preliminary material from Salzgitter into heavy plates. The areas of use for these in-

clude steel piping, tank construction, the construction industry, onshore/offshore windpower units and building machinery.

Mr Meller, HANSAPORT is Germany's largest seaport terminal handling coal and ore, and one of the world's most modern trimodal facilities. How do you ensure that trainloads are available punctually, i.e., timely arrival in Salzgitter of the required material?



Erhard Meller

Erhard Meller: Our automated processes enable us to regularly ensure that the trains we load are available punctually. A more demanding challenge is to see that empty trains for reloading arrive on time at our terminal. These trains have previously been unloaded by our customers and then return to us at regular intervals. However, they are moving along the general rail network – and are correspondingly vulnerable to disruption.

You say that the processes at your terminal are automated. How in practice can one envisage the loading or discharge of an oceangoing vessel or a goods train?

Erhard Meller: HANSAPORT is one of the world's most completely automated port facilities. Over the last 20 years we have roughly doubled our throughput, and that with a slightly reduced workforce. That was only made possible by automation. The process often takes us into new territory. For the 3D-Scanner, fitted in the driver's cabins of our unloaders, for example, which scan the cargo inside the ship, we use technology originally developed for the aerospace industry.

This is being used around-the-clock for the first time at HANSAPORT. The automation of the unloader is especially impressive, for sure. Logically, the scoops used to remove the ore from the ship must be capable of reaching into the entire cargo hold. But the hatch available to reach into the ship's interior is relatively small. The scoop therefore needs precise positioning, and for this exploits the centrifugal moment. Many people had previously doubted whether that would function in automated operation. We proved that it can.

Do you need any human intervention/manual operation at all at the terminal?

Erhard Meller: Naturally we do. We have more than 100 employees at HANSAPORT. These are mainly trained technicians, such as fitters and electricians, for example, or work in the administration. We also need staff as a fall-back for the special situations which, incidentally, do not often occur. Man has the last word in our system, yet only needs to speak out very seldom, since automation ensures a very high degree of reliability.

Handling ore and coal is of course an extremely dusty business, and very sensitive to rain, snow or high winds. How do you guarantee that handling is as emission-free as possible? Do you lose



It takes 36 hours before a bulk carrier like this one is unloaded in Hamburg at HANSAPORT.

quantities of material during loading and unloading in severe weather?

Erhard Meller: With us, handling ore and coals is actually not a dusty business at all. We use computer-controlled spraying to minimize emissions. HANSAPORT's proximity to the city makes that especially important. With us, there's no question of quantity losses caused by drifting.

Many thanks for this fascinating glimpse of steel production. ■

Here at HANSAPORT the ore for Salzgitter Flachstahl is delivered by ship.



RHENUS MIDGARD HAMBURG GMBH

Die Rhenus-Gruppe ist ein weltweit operierendes Logistikunternehmen mit einem Umsatz von über 4,1 Mrd. Euro und mehr als 24.000 Beschäftigten.

Rhenus Midgard Hamburg ist Ihr Ansprechpartner für individuelle Seehafenlogistik. Wir leisten sämtliche Umschlags-, Lasch- und Stauarbeiten, sicher und zuverlässig. An unseren Hafenanlagen sorgen wir mit modernen Umschlagskapazitäten für die reibungslose Abfertigung von See- und Binnenschiffen sowie weiterer Verkehrsträger. Zudem bieten wir den GREENLINER für den ökologischen und effizienten Transport von Gütern über den Wasserweg innerhalb des Hamburger Hafens.

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HHLA

HHLA/Thies Rätzke

Illustration of the hub terminal in Budapest: it will be one of the most important hubs for container transportation in central and east Europe.

Bringing the network closer

The starting signal has now been given. Along with Péter Szijjártó, Hungarian Minister of Trade and Foreign Affairs, on 22 October HHLA Executive Board Chairman Klaus-Dieter Peters and Peter Kiss, Managing Director of Metrans, laid the foundation stone for the new Metrans hub-terminal in Budapest. For all those involved, this container hub is a project of strategic significance.

TEXT Björn Helmke

The site is ideal for a logistics hub: The River Danube flows past on its Western edge, and to the North and East stretches the spacious Csepel Industrial Park, housing more than 100 companies. Here in the 21st district of Budapest, the Hungarian capital, HHLA's intermodal subsidiary Metrans is constructing a new rail-hub terminal on a site covering 165,000 square metres. The first container block trains should be handled in 2017. "We have been examining a stronger commitment in Hungary for a long time. Now we have found the ideal location," said a delighted Peter Kiss, Managing Director of Metrans. After Prague, Ceska Trebova (Czech Republic) and Dunajska Streda (Slovakia), Budapest will be the intermodal specialist's fourth hub-terminal.

"The new hub-terminal in Budapest will have a key strategic function. With this, we shall have an additional hub for the container transport services linking the growth markets of Central and Eastern Europe still more closely with our hinterland network," stressed Klaus-Dieter Peters, HHLA Executive Board Chairman, during the ceremony on 22 October. At the same time, the terminal is designed to improve coverage of the Southern and SE European region, and especially of

Adriatic and Greek ports. In the long term, trimodal expansion of the facility is conceivable. An inland waterway vessel terminal immediately adjacent to the rail terminal is certainly a possibility – even if not planned for the first stage.

Like the Metrans terminals in the Czech Republic and Slovakia, the new terminal in Budapest is conceived as a hub and shuttle terminal. This means that containers are brought to the hinterland terminal from the seaports, unsorted, by shuttle trains on regular scheduled services. There they are sorted, and either loaded for on-carriage to onward trains into the destination regions, or taken direct to the consignee by truck. According to Kiss, in Budapest the proportion of local containers to transit containers is roughly 50:50.

One major advantage of the shuttle trains is the regular 'commuting' between the seaport and hinterland hub at very high frequency. This reduces storage time for the containers at terminals and considerably boosts the transport chain's reliability and attractiveness. Thanks to the deployment of identical whole-train rail-car sets, the time and energy-consuming shunting of separate railcars is unnecessary. To equip the compa-

ny to exert maximum all-round influence on the quality of the production systems, Metrans relies on its own rolling-stock (1,450 railcars) and 55 owned or leased locomotives. "The proportion of own traction is meanwhile around 60 percent, trend upwards," reports HHLA's Executive Board Chairman, Klaus-Dieter Peters. The intermodal company has ordered additional locomotives for 2016.

A glance at the map shows why Budapest is so attractive for Metrans as a base. Several transport axes intersect there. To the NW lie the three other Metrans terminals and finally the North Sea ports. According to Peter Kiss, these are used by Hungarian business especially for exporting. To the SW lie the Adriatic ports of Koper and Rijeka, via which numerous containers bound for Hungary and its neighbouring states arrive. So far, Metrans has been serving Koper from Budapest twice a day, and the Slovakian hub Dunajska Streda once a day.

Four times per week, Metrans organizes services with Istanbul/Halkali – a connection of ever-growing importance. Last but not least, the Greek port of Piraeus, whose container terminal has been taken over by Chinese operators, is easily accessible via Budapest. "Today Metrans in Hungary is already transporting around 170,000 standard containers (TEU) per year," says Peter Kiss. The signs point to growth. The Metrans Terminal on Csepel Island is planned for a capacity of 250,000 TEU.

The project has a strategic dimension, not just for Metrans and HHLA, but also for the Hungarian national economy. In his speech at the laying of the foundation stone, Péter Szijjártó, Minister of Trade and Foreign Affairs, emphasized the importance of modern infra-

structure for Hungary. Its geographical location as the Gateway to the SE is one of the country's main resources. In recent years the country has invested heavily in its rail infrastructure and aims to continue doing so. The plans include a southern orbital rail route around Budapest that should reduce transit time for freight transport through Hungary from four to two days. Also at the planning stage is an upgrading of the rail route to Serbia with Chinese assistance. The Chinese see the upgrading of this stretch as one element of their "One Belt, One Road" initiative intended to create a new traffic corridor between Europe and China. ■

The Metrans Terminal in Budapest at a glance

- Total area:** 165,000 square metres
- Sidings:** six 650-metre tracks and two 500 metres tracks in the empty container depot
- Handling capacity:** Around 250 trains per month
- Capacity:** 250,000 TEU per year
- Handling plant:** Two gantry cranes and two reach-stackers, with an additional two reach-stackers in the empty container depot
- Special features:** Could be expanded for trimodal use: rail, road, River Danube
- Services:** Container repairs, On-site Customs office, Reefer sockets, Trucking by long-service sub-contractors
- Construction start:** October 2015
- Opening:** 2017



ECL handles block trains with trailers, containers and swapbodies at the Baltic Rail Gate Terminal, Skandinavienkai in Lübeck-Travemünde.

ECL creates attractive intermodal transport links

Port of Hamburg Magazine in conversation with Tobias Behncke, European Cargo Logistics GmbH (ECL)

Mr Behncke, you head the Intermodal Services Division at European Cargo Logistics GmbH (ECL) in Lübeck. How have the first nine months of 2015 been for ECL from your point of view?



Tobias Behncke

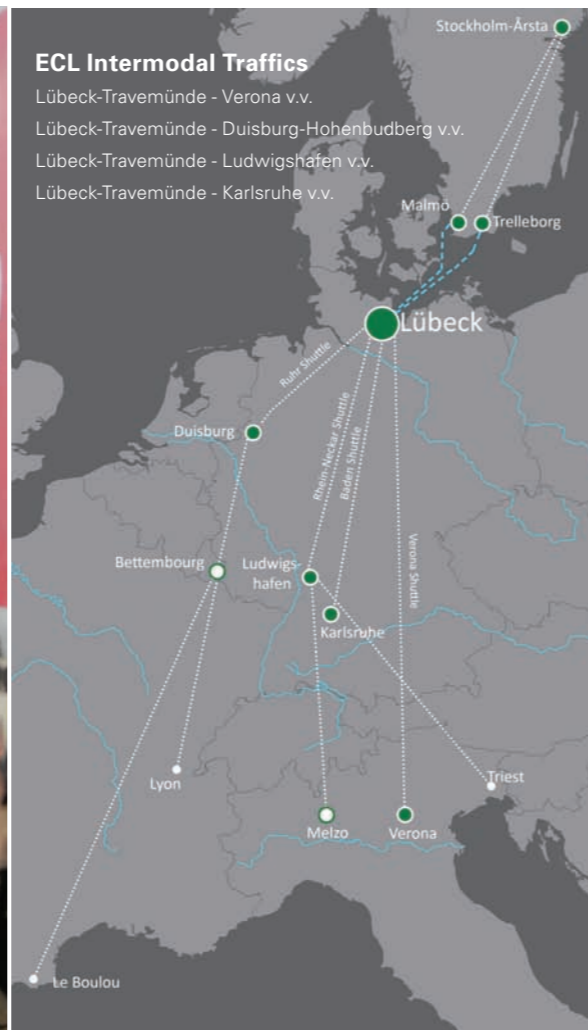
At ECL, we are delighted about the generally very favourable trend on the intermodal services that we run via the Port of Lübeck. The figures for the first nine months of 2015 deliver a clear message. Compared to the previous year, a total of 31,000 units were transported with ECL. That represents an increase of 19 percent. The growth trend that shaped the previous year's totals has therefore been maintained. In 2014, as an intermodal operator ECL succeeded in transferring around 37,000 trailer and containers from road

to rail thanks to its intermodal rail links, or more than twice as many units as in 2013.

To what do you attribute this successful trend?

As a subsidiary of Lübecker Hafen-Gesellschaft, ECL is closely associated with the Port of Lübeck. This successful trend can therefore be explained by the strength of our performance in Lübeck as a location, and also by our success in positioning ECL's intermodal connections on the market. This was and is only feasible given strong partners and sturdy relationships with our service providers and customers.

One of our core products offers six departures per week in each direction on the Lübeck-Duisburg, Lübeck-Verona and Lübeck-Ludwigshafen routes. Last year, these helped our Intermodal Services Division to



Intermodal transport is a growth market. We anticipate growing interest among shippers in using environmentally friendly transport. A major part is played by external influences on competition between road and rail as well as the various support programmes for

rail services. In future it will be essential to ensure that competition is fair while remembering the need for quality transport. More than in past when the market was out for growth, in the future quality plus a broad range of intermodal services will be crucial. ■

European Cargo Logistics GmbH (ECL)

European Cargo Logistics (ECL) is a neutral and independent forwarding and logistics provider offering a client-oriented, comprehensive and customized logistics service. ECL is the market leader in the paper and forestry products logistics sector, having been active at its Lübeck base for 45 years. Irrespective of industry and throughout Europe, ECL offers a host of road and rail transport, intermodal and forwarding services. With its sites in Lübeck, Rostock and Saint Petersburg, ECL is represented in the most important ports on the Baltic. ECL interlinks and optimizes interplay within the transport network.

Some dates and facts:

- Founded: 1999 (Predecessor: 1970)
- Staff: 50 in Lübeck and 10 in Rostock
- Owner: 100 % Lübecker Hafen-Gesellschaft

The ECL network stretches from Sweden, through Germany to France and Italy.

set a new record, with around 37,000 units transported. That made ECL one of the major intermodal operators in Lübeck in 2014. Yet this market status is no more than a gratifying snapshot. We see it as a spur to continue working hard, establishing this further development as a permanent process, and ideally also expanding in specific areas.

Along with our basic range, we offer supplementary services that are well received by our customers and generate value-added. One example is our expanded trucking range. Along with our partner Kersten Transporte, we truck trailers between Port of Lübeck terminals and supra-regional destinations. That involves us matching up our trucking operations with trailers and containers to the arrival and sailing times of RoRo ferries at the various terminals, as well as the departure and arrival times of our intermodal train links.

That is an impressive development, clearly demonstrating that ECL is well positioned. Which new routes are you offering in expanding your intermodal range?

The stiffest challenge is, and will remain, to be positioned as broadly as possible so that we can react steadily to any external effects from the market and our customers. At the beginning of October, for instance, we opened up a new link between Lübeck-Travemünde and Karlsruhe. The new Baden Shuttle

runs three times a week in both directions between the Rhine metropolis in Baden-Württemberg and the Baltic. The Baden Shuttle offers our customers attractive transit times, and arrival and departure timings that optimally match their requirements. The schedule for this new link also fits in with outbound and inbound routing via Lübeck with Sweden, Finland and Russia as well as into the Baltic, and provides excellent accessibility for recipients and shippers in both short- and long-haul transport.

Along with the DUSS Terminal in Karlsruhe and Baltic Rail Gate (BRG) terminal on Skandinavienkai in Lübeck-Travemünde, we clear block trains made up of trailers, containers and swapbodies. The Baden Shuttle is at the same time an extension of the successful Rhine-Neckar Shuttle between Lübeck-Travemünde and Ludwigshafen that is also operated as a direct rail link and continues to offer six departures per week. The alliance formed between ECL and Green Cargo, Sweden's largest rail operator represents a further extension of the intermodal network. This enables us to offer direct transport from Lübeck as far Stockholm on all the links that we offer. All the connections offered under this alliance, including cross-border and ferry links, can be booked direct through ECL.

And what are your expectations for 2016? How do you see markets and competition on intermodal services developing?

Birga-Maria Möller,
Unternehmenskunden-Betreuerin

„Unternehmer brauchen schnelle Entscheidungen.
Ich bin die Erste, die sie ihnen liefert.“

meine-bank-heisst-birga-maria.de



Railcar inspector Fred closely checks a tank wagon. He can see from the label that the car is carrying inflammable and environmentally dangerous goods.



The shunting yards in Maschen have a total of over 88 sidings to assemble and control trains.

The master of railcars

In Maschen, 20 kilometres south of Hamburg, lies Europe's biggest marshalling yard. Up to 150 freight trains arrive here daily from the North Sea and Baltic ports, from the German hinterland and Scandinavia. In this 7,000 metre-long yard the majority of arriving and departing railcars are sorted according to their destination, assembled into new trains and then despatched en route to their goal. Up to 4,000 railcars are sorted everyday. More than 500 employees are in action here round-the-clock in shifts. One of them is Fred Lünsmann, a railcar inspector.

Today there are six freight trains on the list that Fred has received from the planners for brakes and technical inspection. That means a good 150 to 180 wagons. They are kicking off on track 1447, where a pretty mixed train made up of tank cars, car transporters and container carriers is waiting for confirmation that they are operationally safe and secure. If all goes well, the train will be able to start its journey to Hanover in a few hours.

Fred puts on his orange safety helmet, pulls on his high visibility vest, grabs a long hammer and his CDD and protected by his safety boots makes his way out to the tracks. The CDD is a digital mobile computer containing data on the location of the trains, the railcar sequence plus details on the cargo and destination. CDD is the abbreviation for Cargo Digital Data Communication. That means that the CDD is also linked to the computer on Fred's desk. Everything that Fred en-

ters while out in action, he can call up later in his office, adding and altering data. This, for example, includes any damage to the cars subject to checking.

„Fortunately the tracks are numbered in sequence so that orientation is easy.“

With a total of 88 tracks, where trains can be assembled in this enormous marshalling yard, you soon notice the distance you are walking. On any given day Fred covers a good eight to ten kilometres. Fortunately the tracks are numbered in sequence so that orientation is easy. "Track 1447 – This is the one," Fred confirms. At the start of the track is a yellow box – the control unit for the braking tests. "Here I choose the train that I want to work on and press the button for the braking test. The unit communicates with the train setting the compressed air supply in motion, applying the brakes, and for example testing the impermeability of the braking system on that train," he explains. Fred goes to

the first wagon, a tank car. Then he inspects whether the brake block is properly applied to the wheel, confirming in his CDD, that the brakes are fully operative. The railcar has hazardous goods and environmentally dangerous substance labels. "The No. 3 on the dangerous goods label indicates that an inflammable substance is contained in it. In this case, it is especially important to carefully inspect the outer casing and back-pressure valve. Some substances are, for example, immediately inflammable when they come into contact with oxygen. That can very quickly become dangerous," Fred explains. A quick glance at the UN table shows mineral oil is in the tank. Fred carefully checks whether the tank cars back-pressure valve screws are properly secured and that nothing is leaking. Are the ladders, steps and handholds safe and secure? Is everything in order with the axles, wheel sets and suspension? Just in case dangerous substances should be leaking from an insecure point, Maschen marshalling yard has its own railway fire service that must be immediately informed. When switching from one car to the next,



Fred has been responsible for ensuring that railcars are operationally safe and secure safety in Maschen for 34 years.

it is very important to continue with in-service training, because you are carrying a lot of responsibility. If I miss damage and release a railcar, even though it was not operationally safe, in the event of a later accident I am at least partially liable," he stresses.

Fred previously worked as a car mechanic and consequently has a very good understanding of metalwork. The normal path into the profession of railcar inspector comes after qualifying as a fitter, electrician or industrial mechanic. In any event, you need a metalworking qualification, before being allowed to begin the six-month training as a railcar inspector. "For young people starting out on their careers, who are thinking of becoming a railcar inspector, you must have a great interest in all things technical, be very reliable and have a real sense of responsibility," advises Fred. When he set out on his career, he did not know what a car inspector was: "I thought I would be standing in front of expensive hotels, driving hotel guest's cars down into the underground carpark," he remembers with a smile. "After vocational training as a car mechanic and my military service, I started at DB Schenker Rail. I was happy with my employer. They were just looking for an assistant railcar inspector and I wanted an attractive, permanent job. So, that's how my career began," he adds. Fred enjoys both the ongoing in-service training and the physical work in the fresh air. He is immune to rain. Alongside him, there are 50 more railcar inspectors at DB Schenker Rail in Maschen, working in three shifts, at night too and weekends. The profession is still very male dominated, but there is a wind of change: Recently the first female at DB Schenker Rail started her vocational training as a railcar inspector.

Then it's on to the next railcar at a brisk pace, since Fred does not have a lot of time for any one car. He has judged the two car transporters to be operationally safe and secure. He has now already checked four cars. In the coming eight hours today another 146 are waiting for the x-ray eyes of the railcar inspector. ■

Fred checks the condition of the couplings. "If the buffers are too far apart, a component may be defective." He knocks on the buffer with his hammer. He confirms that: "These are stable and well-linked." When Fred discovers damage, this is noted in the CDD and a note is fixed to the railcar. "As a railcar inspector I'm a bit like a ministry of transport inspector," he explains. Then he confirms that: "This railcar is safe for operation and roadworthy," making the appropriate entry in his CDD. Small repairs, e.g. to the brake blocks, can be carried out by the railcar inspectors themselves. For bigger repairs the marshalling yard workshop is right there.

„I really prefer railcars that are easy to see your way around.“

After another tank car of the same design, come two empty car transporters, then carrying on with container cars. As a railcar inspector Fred is confronted daily with dozens of different railcar types: Ones for containers, bulk, general cargo, one is already 30-years old, the next is state-of-the-art built this year, one was built in Spain, the next in Poland... The wagons vary in so many ways. "I really prefer railcars that are easy to see your way around. Some are built so flat that I first have to crawl under the car, to see the suspension or wheel sets," he explains. Just in case functionalities or safety regulations for a very special design are so strange that he is unsure during the inspection, he always has a small regulation manual in his jacket pocket: With 34 years of experience behind him, it is pretty rare that he actually has to look anything up. "As a railcar inspector

Marshalling yard Maschen in numbers

- Trains daily: **up to 150**
- Railcars in/out daily: **approx. 3,500**
- Land covers: **280 ha**
- Length: **7,000 m**
- Width: **700 m**
- Marshalling track: **272 km**
- Points: **750**
- Overhead traction wire: **210 km**
- Train assembly control towers: **2**
- Arrival & processing signal boxes: **2**

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A career with the railways – an attractive future in the rail sector

Deutsche Bahn AG

**Rail as a Sunrise Industry:
Jobs & Careers 2015/2016**



The current issue of the career manual "Rail as a Sunrise Industry" presents the whole range of careers, study courses and vocational training opportunities in the rail industry. Interviews, reports and portraits inject life into job descriptions and provide valuable tips from insiders. Practical advice, and guidance on the job hunt, drafting applications and the introductory interview, complete this information package.

For further facts about the manual in German and ways it can be ordered, visit www.zukunftsbranche-bahn.de

Rail is one of the most variegated sectors powering jobs in Germany. Only a handful of industries provide a livelihood for so many people with such a variety of differing qualifications. Around 405,000 employees provide its elaborate array of services. Firms in the industry vary in size and can be small firms with 50 workers or major companies with 10,000 staff, found on rural sites or in big cities.

Ingo Schmittman finds the railway industry sexy. He heads the AirRail Competence Centre for Frankfurt-based management consultants De Causmaecker & Partner. "Recognition that the traditional idea of engine drivers and ticket collectors is no longer in line with the times is only gradually gaining acceptance. Co-

existence of the rail sector with civil aviation and road haulage represents both an opportunity and a risk for the railways, since all modes of transport feature equally as competitors and partners," he explains in the current issue of the German-language manual 'Rail as a Sunrise Industry: Jobs & Careers 2015/16'.

Rail's image for the general public is decisively shaped by passenger traffic. Only a handful of people realize how many private operators exist alongside Deutsche Bahn. These meanwhile have a share of around 20 percent.

The importance of passenger and freight transport is also reflected in the universities. New study courses on subjects such as "Intelligent traffic systems and



De Causmaecker & Partner

Ingo Schmittmann

mobility management" indicate that fresh visions are needed on society's mobility. With Alstom, Bombardier and Siemens, three brands enjoying strong recognition worldwide are based in Germany. As a pendant to these global groups, hundreds of small companies in the supply and service areas operate in cities and the countryside. Without these, rail as a high-tech system would be totally unable to function. "Germany is one of the few countries in the world where all companies manufacturing the entire range of technical rail equipment and complete rail systems are located," explains Ingo Schmittmann.

So rail seems to constitute just what many anticipate it will become: A genuine sunrise industry. Ingo Schmittmann stresses that "in 2012 the European Union published the 'White Paper on Transport 2050'. This prescribed the aim of shifting 50 percent of all passenger and freight traffic to rail. The first step towards implementing this ambitious target was taken in 2015 with the 'LivingRail – Living in a sustainable world focused on electrified rail' project. Initiated by the EU Commission, this research project describes how a sustainable transport system can look in 2050, run by rail as an environmentally friendly mode of transport, and assuming at least a threefold increase in passenger and freight volumes by rail. Focused on this target, the rail industry becomes even sexier!" ■

WHAT DO YOU DO ...



... Dispatcher?

A dispatcher navigates trains safely through the network and ensures that trains operate punctually. The bulk of the work takes place in train operation control centres. Among other tasks, trains are formed and shunted there, using cutting-edge technologies. Training lasts a maximum of three years. With good results, the course can be finished more quickly.

... Skilled civil engineering worker?



Skilled civil engineering workers lay and improve rail infrastructure. The two-year training covers excavation, foundation pits, trenches, and access paths/roads, etc. An additional one-year training as tracklayer also qualifies them for laying and maintaining track, points and level crossings. Some of their jobs can only be carried out at night so that everyday rail traffic is not disrupted.



Assistant engineer (control, command & signalling)?

Assistant engineers (control, command & signalling) install, maintain and repair operating, production and process equipment. This includes switch and control units, for example, along with equipment for power supply, communications and lighting technology. They also check the electric and electronic equipment used for traction-current supply, signalling and points technology, as well as surface and underground station equipment. They work mostly on rail vehicles in rolling stock workshops.

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“Hinterland transport remains a growth segment for DB Netz”

INTERVIEW & PHOTOS Thomas Wöhrle, journalist, Karlsruhe

INTERVIEW

Rail plays a key role for the Port of Hamburg in seaport-hinterland transport. We have discussed how existing bottlenecks can be eliminated and where further challenges now arise with Wolfgang Bohrer, DB Netz’s Head of Infrastructure Planning/Projects, and Bernhard Schmid, the company’s Ports Manager.

?
How important is rail freight transport for infrastructure operator DB Netz just now?

Wolfgang Bohrer: With at least one percent per year, rail freight traffic will probably grow roughly twice as rapidly as passenger traffic in terms of train-path kilometres – although from a distinctly lower baseline. As the infrastructure operator we derive around 80 percent of our revenues from passenger traffic. The challenge for us will accordingly be to facilitate this growth for freight traffic at the same time as we continue to provide optimal service for our passenger traffic. That will involve such smaller-scale measures as completely extending pass tracks in the entire network to cater for 740-metre freight trains as well as the upgrading of entire routes such as the ‘East Corridor’, Germany Unity Project 8 and the new Rhine/Main – Rhine/Neckar rail route. All traffic, both freight and passenger, will benefit.

?
How does your transport planning see the future development of seaport-hinterland transport generally, and with German seaports?

Wolfgang Bohrer: We are once again some way away from the euphoric growth forecasts of a few years’ ago – the economic crisis put paid to our calculations. As before, however, we regard seaport-hinterland transport as a growth segment, since Federal government will be investing a total of 250 million euros in two instalments through its special ‘seaport-hinterland transport (SHHV)’ programme by 2020. Over the next three years, an additional 85 million euros will be spent in improving noise insulation along the routes being upgraded. We neither can, nor wish to, implement projects like that without heeding the interests of local residents.



“We must facilitate growth for freight traffic and continue to give our passenger traffic optimal service.”

Wolfgang Bohrer

?
What’s the significance here of the Port of Hamburg?

Bernhard Schmid: Seaports generally are of great importance for our growth story on freight transport. The Port of Hamburg’s excellent rail links with the hinterland give it special significance. Around 200 freight trains to and from the Port of Hamburg use our DB Netz



“The Port of Hamburg is an important Gateway to the World and it is essential that its rail link functions really well.”

Bernhard Schmid

infrastructure every day. This shows just how important the port is for us. That’s why we have done a great deal in recent years to improve the accessibility of the Port of Hamburg. Examples are the measures in the ‘Seaport-Hinterland Traffic I’ crash programme, the current expansion of the ‘East Corridor’, or the upgrading of the 200 kilometres of track between the HANSAPORT seaport terminal in Hamburg-Altenwerder and Salzgitter

to a maximum axle load of 25 tons. Otherwise, we cooperate with all seaports and do not discriminate.

?
Are there bottlenecks in rail infrastructure, and how does this need to be further developed to master the challenges facing seaport-hinterland traffic?

Wolfgang Bohrer: Following months of discussions, the dialogue forum “Rail North” opted for the Alpha variation. Upgrading will produce additional train path capacities in the Hamburg/Bremen area in the direction of the South/East Corridor. One crucial step here for the Port of Hamburg is the third track, for example, between Lüneburg and Uelzen.

The foremost aim on the ‘East Corridor’ – or the link in the SE direction towards Bavaria, Austria and Hungary that is so vital for the Port of Hamburg – will be better utilization of existing paths. Two essentials here are the provision of both dual track and electrification throughout. Only if these conditions are satisfied shall we be able to handle high payloads in the long term, and achieve maximum efficiency and therefore further growth. Our basic aim is to attract more traffic for environmentally friendly rail. We are currently working very hard on that.

?
What interfaces do you have with the Port of Hamburg Railway and what form does cooperation take?

Bernhard Schmid: In recent years, cooperation between the port railway, the terminals, the rail operators involved and DB Netz has improved tremendously. Communication is today absolutely different. The mutual trust built up between the partners naturally makes an impact on the quality of the transport provided. We are busy collaborating on projects to further optimize production quality and to make optimal use of existing infrastructure. Not only DB Netz’s infrastructure has become far more efficient. So too has the Port of Hamburg Railway’s. ■

In the workshop hall with two 48-metre-long sidings a lot of damage to the rail cars can be quickly repaired.



Rapid assistance with breakdowns

More than 5,000 railcars roll daily along the tracks of the Hamburg Port Railway to offload goods for transport overseas at Hamburg terminals, or to distribute imports from all over the world in Germany and Europe. Here damage or faults that have arisen during the journey are discovered on some freight cars. These can render any further safe movement impossible. In such cases the Hamburg Port Authority (HPA)'s Port Railway workshop or mobile repair units come to the rescue – and look after maintenance and repair of the railcars.



Brake inspections, exchange of wheel sets, new wagon parts, or maintenance of movable side walls and roofs – built in 2014, the new 1,200-square metre shed, with two 48-metre rail tracks, enables staff of the Port Railway Workshop to apply rapid remedies for damage of many kinds. They can even collect damaged railcars from anywhere in the port.

Hamburg Port Railway's wheeled vehicles have been maintained for over 70 years now on Spreehafeninsel in the Eastern part of the port. This centrally located site saves rail operators additional distances, time and delivery costs. Sidings do not become unnecessarily blocked by damaged wagons. Up to four railcars can be dealt with simultaneously in the new workshops. Eight 8-ton lifting blocks plus one ceiling crane with a capacity of up to 10 tons simplify handling of the railcars. Vertical wheel forces can be established here, and wagon measurements checked on a calibrated measuring track. The site also offers around 600 metres of sidings.

Rail operators preferring to have a service technician attend to their faulty wagon on the spot, or wishing to have brakes or wheels checked during terminal lay time, can approach providers of mobile services. One of these is ajax Loktechnik. Apart from freight cars, the company has made a speciality of diesel locomotives, conducting general inspections and tests at various sites. Its stores hold a wide variety of spare parts. Where required, mobile units also function at night, at weekends or on public holidays. The Hamburg Port Authority's Hamburg Süd, Waltershof and Hohe Schaar port rail terminals contain sidings for use during mobile repair work on damaged freight railcars. ■

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VECTRON AND THE PORT – A PERFECT MATCH

It is mainly container and bulk cargoes that are transported along rail infrastructure. In 2014 the volume of goods transported out of the Port of Hamburg by rail exceeded 40 million tons. That included around 2 million containers (TEU) – one of Europe's top performances.

Many of the trains leaving the Port of Hamburg are run by private operators. These either purchase or lease

the locomotives required. The working life of a vehicle is at least 30 years. Yet who knows today precisely how traffic flows will develop in ten or twenty years' time? Even the best crystal ball rapidly becomes clouded over. So it is essential to invest in an engine that in the course of its working life can at reasonable expense be adapted to changes, for example in transport corridors. With its highly modular concept, the Vectron from the Siemens stable

Hamburg is one of Europe's most important ports. Yet even the best ports cannot operate effectively if hinterland transport of the cargoes landed fails to function smoothly. A well-developed infrastructure is vital.

PHOTO Siemens AG, Thomas Szymanowski

represents an optimal response to this challenge. The design concept allocates every component unchanging interfaces and a fixed position. Provision is already made with slots for extension and/or change of control-command devices and the required cabling is already in place.

The Vectron is available in several versions so that customers can freely opt to obtain only the equipment needed to meet their current transport requirement. Depending on the route to be operated, a purely AC locomotive of type Vectron AC can suffice, or perhaps a multisystem locomotive of type Vectron MS will be required. A refitting package permits subsequent re-configuration of an AC locomotive as a multisystem engine.

The containers transported inland from Hamburg are predominantly bound for destinations in Germany. Yet certain countries in Central and Eastern Europe are also very well connected by rail with Hamburg, for example Austria, Poland, Slovakia, Czech Republic and

Hungary. The Vectron is now already certified there. For services from Germany to Poland, the Czech Republic or Slovakia, the multisystem Vectron MS locomotive is required. For transport within Germany and Austria, and from there to Hungary, a Vectron AC suffices completely. Thanks to its modular design and its far-reaching coverage of Europe, the Vectron represents the ideal traction unit for hauling the Port of Hamburg's efficient seaport-hinterland services.

Siemens as a locomotive builder can be delighted that over 140 Vectron locomotives have already been put into service by 16 customers from seven countries. The company has firm orders for another 273. Today the Vectron is certified for operation in a total of 13 countries: Germany, Italy, Croatia, Norway, Austria, Poland, Rumania, Sweden, Slovakia, Slovenia, Czech Republic, Hungary and Turkey. Application has been made for further certifications. Many of these high-performance locomotives also operate in the Port of Hamburg. ■



Engine room layout multi-system locomotive



Engine room layout Vectron DC locomotive, medium power



Engine room layout AC locomotive, high power



Vektron engine room views

- 1 Main transformer
- 2 Traction converter
- 3 Oil and water cooler
- 4 DC-high-voltage equipment cabinet
- 5 Traction-motor blowers
- 6 Auxiliary transformer rack
- 7 Compressed-air equipment rack
- 8 Brake rack
- 9 Dynamic braking resistor
- 10 Low-voltage equipment cabinet
- 11 Battery box
- 12 AC-high-voltage equipment cabinet
- 13 Auxiliary equipment rack
- 14 Train protection cabinet 1/2
- 15 Train protection cabinet 3
- 16 Fire-extinguishing system
- 17 Shunting module

Grafiken: Siemens AG



SOME HELPFUL HINTS FROM PETER PICKHUBEN



38,000 kilometres of public rail network

Did you know that Germany has the longest rail network in Europe? At around 38,000 kilometres, it's more than three times as long as all the country's autobahns. Lined up end-to-end, all its tracks would almost encircle the globe. The bulk of the rail network, 33,000 kilometres, is operated by DB Netze. Germany has around 400 rail operators that daily despatch around 39,000 trains along DB tracks.

Safety checked every 30 seconds

An ability to react fast is required of train drivers in Germany. They bear responsibility for train safety and during the whole journey must be able to react within seconds in emergency situations. Whether a driver is in good health, alert and hence able to react, is something tested by a driver safety switch (or Sifa). During the run, the driver keeps a pedal or a button depressed. He has to interrupt the pressure every 30 seconds to confirm to the Sifa that he is capable of reacting. If he fails to do so, the system first delivers an optical warning, then within a few seconds an acoustic one, and if he/she still fails to react, then emergency brakes are applied.



Hamburg's dream team for 150 years now - seagoing ships and railway engines

Seagoing ships and locomotives have been a dream team in the Port of Hamburg ever since 1866. A first steam locomotive was handled then at the just inaugurated Sandthorquai. This was Hamburg's first trimodal port facility. The rail waggons ran so close to the quay wall that cargo could be unloaded from the ship into these, or loaded directly. From Sandthorquai goods trains ran via the Hamburg Railway network directly to Kiel, Berlin or Lübeck. Via Harburg, there was also a rail link to Hanover. When the first Elbe bridges were opened in 1872, those services were at last handled via Hamburg.



How long does a train require to reach Munich from Hamburg?

Between the Hamburg Maschen marshalling yard and the intermodal terminal in Munich-Riem 900 kilometres away, a freight train takes ten hours. Furniture, textiles and electronic equipment can often be found in the containers on board. On the return leg to Hamburg, trains will mainly be transporting pharmaceutical and chemical products, beer, machinery and automotive parts for onward export by oceangoing ships.



Focus on transport chains

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.

Port of Hamburg Marketing

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All Hamburg’s freight train links in one database

Our Intermodal Services Database gives you an overview of all freight train services via Hamburg. Select a country plus the desired rail terminal and view all operators in the direction required. Give it a try now: <http://www.hafen-hamburg.de/de/intermodal>.



Let PORTlog simplify your search for services providers

With just a few clicks, PORTlog shows you appropriate providers for transport, forwarding, storage and other services in Hamburg, the Metropolitan Region, and along the transport chain. Around 1,000 maritime companies are already listed in PORTlog. Convince yourself on www.portlog.de.



Port of Hamburg statistics

How many containers were handled in the Port of Hamburg in 1990 and how many are nowadays? Which are the top partner countries for exchange of seaborne cargo? What quantities of freight are transported onwards into the hinterland by truck, rail or inland waterway vessel? Our statistics tell you all this and much more at www.hafen-hamburg.de/de/statistiken.

Credits

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