

# railways

THE DB CARGO CUSTOMER MAGAZINE



No. 02|17

Europe's biggest rail freight operator  
goes digital with its customers

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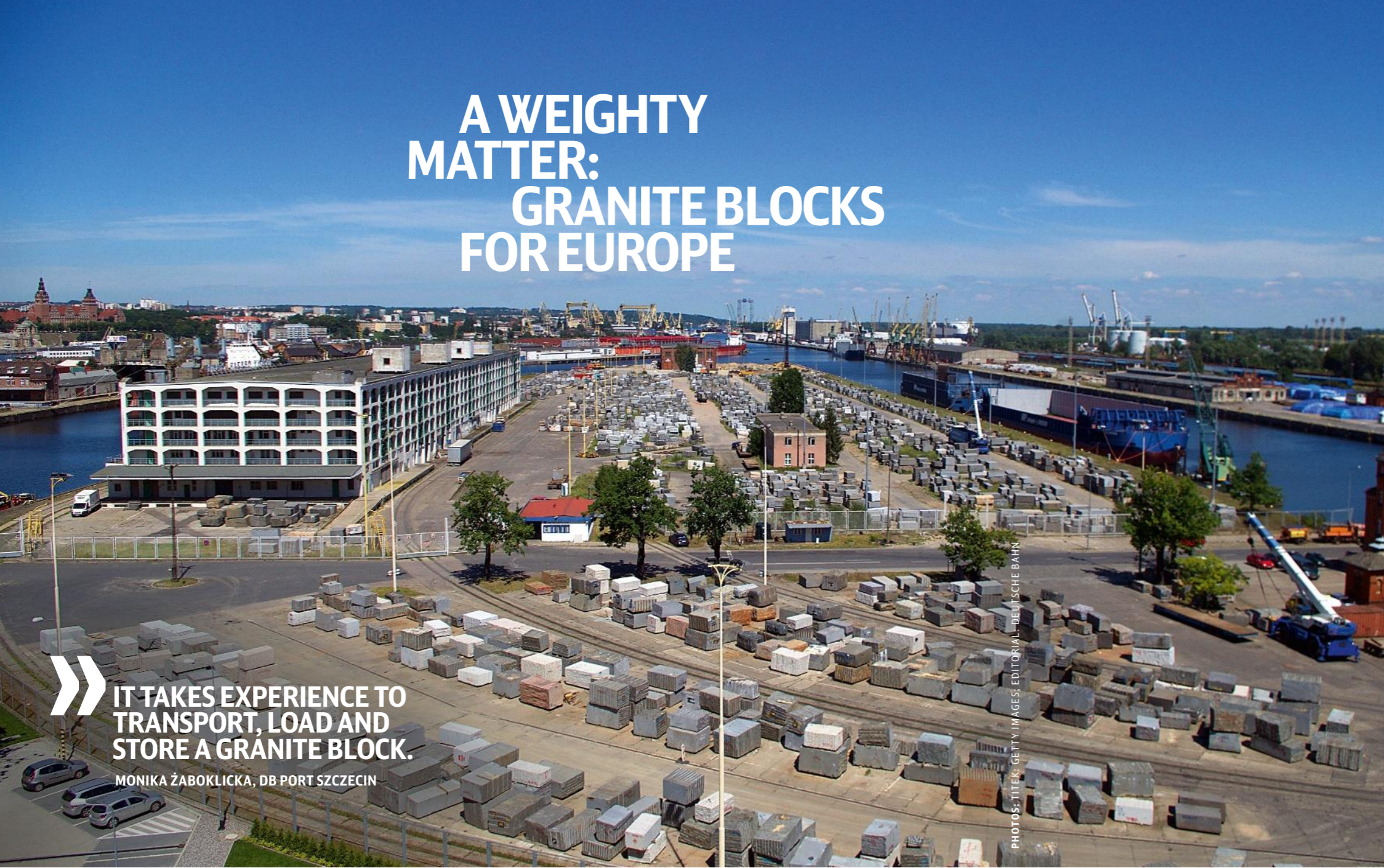
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# A WEIGHTY MATTER: GRANITE BLOCKS FOR EUROPE



**IT TAKES EXPERIENCE TO TRANSPORT, LOAD AND STORE A GRANITE BLOCK.**

MONIKA ŻABOKLIKA, DB PORT SZCZECIN

PHOTOS: TITEK; GETTY IMAGES; EDITORIAL-DEUTSCHE BAHN

**In Szczecin, DB operates one of the largest granite transshipment centres.**

Polished granite can glow in all the colours of the rainbow. Granite blocks, however, mostly look grey or reddish. This freight is not only particularly heavy, but it also has some specific properties. “It takes experience to transport, load and store a granite block,” Monika Żaboklicka of DB Port Szczecin explains. The Polish Baltic Sea port is home to one of the largest granite terminals in Europe: 150,000 tonnes of granite are transhipped here every year.

The rock reaches Szczecin by ship, mainly from South Africa, Zimbabwe, China, India or Brazil. “Years can pass between unloading and reloading for delivery to the end cus-

tomer,” Żaboklicka explains. Therefore, the storage has to be well planned. It does not matter if the surroundings are damp, because granite repels water. However, the natural stone must not come into contact with grease or oil. “Sometimes the blocks have different markings,” Żaboklicka says. “Then you need to know which markings are important and which have to be visible to the customer.”

The granite blocks are stored in the duty-free zone of the Port of Szczecin. Loads can stay there for a long time without any need to pay customs duties or import fees. Until recently, the granite had to be transported there from the loading terminal in a

complex operation. Following extensive renovations in the duty-free zone, ships have been unloaded directly there since the beginning of 2017. *mb* ■

**Contact |** Monika Żaboklicka  
Telephone: +48 (0)91 430-8674  
monika.zaboklicka@deutschebahn.com

## A FRESH APPROACH!

There is hardly anything that is affecting our business as much as the transformation into a digital society. Today, we are facing the tremendous task of further developing our business model in what is a hugely competitive market. This is something we are keen to undertake together with you, our customers. Working in close partnerships is a key principle for us.

We have taken an important step forward over the last few months. We have set new milestones and we presented these at the transport logistic trade fair in Munich. These included the development of intelligent systems as well as the digitisation, automation and customisation of processes with the aim of making them more efficient.

The course is set. We are taking a fresh approach and are actively restructuring DB Cargo to ensure that Europe’s biggest rail freight company is ready for the future. We are working on new ideas and even better solutions so that we can jointly capitalise on the opportunities that the future holds in store.

**In this issue, we present you with what we’ve already developed and what is yet to come.**

**I hope you enjoy the magazine!**

**Raimund Stüer**  
Member of the Management Board for Sales and Marketing, DB Cargo



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# railways

# 02/ 2017

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### THE NEW CODE OF DB CARGO

Digitisation is transforming the entire economy. Disruptive business models and the platform economy are creating virtual spaces in the real world and enabling new business models. This is also placing logistics operators under pressure.



railways is available as an app or in printed form - in German, too.

PHOTOS: ANDREAS REEG

GERMANY/BERLIN

### Dr Richard Lutz is new DB AG Management Board Chairman

The Supervisory Board of Deutsche Bahn AG has appointed Dr Richard Lutz as new Chairman of the DB Management Board. The 52-year-old business economist has been working for Deutsche Bahn since 1994 and has been responsible for the Board division Finance & Controlling since April 2010. "Nobody knows Deutsche Bahn as well as Dr Lutz," said the Chairman of the Supervisory Board, Professor Utz-Hellmuth Felcht. "His expertise and experience represent the necessary continuity that the company requires in the midst of rapid transformation." The Supervisory Board also decided to set up new divisions for Digitisation & Technology and Freight Transport & Logistics. Until heads for these two divisions are appointed, the Freight Transport & Logistics division will come provisionally under Berthold Huber; Richard Lutz will temporarily also head the Digitisation & Technology division. *an* ■



GERMANY/BREMEN

### New solutions for automobile logistics

At this year's Automobile Logistics Forum, which was held in February in the Mercedes-Benz customer centre in Bremen, DB Cargo presented the latest tools and projects related to digitisation. A "map" portraying the automotive supply chain was used to show at what points of the supply chain DB Cargo Logistics is working on developing digital solutions, such as data analytics scenarios. "We deliberately avoided presenting finished applications and instead gave visitors a glimpse of our workshop," explains Jahn Reich, Project Manager at DB Cargo Logistics' Automotive Competence Centre. The conference programme also included a visit to Auto Terminal Bremen, where visitors were able to take a closer look at the processes involved in the bimodal links and vehicle distribution. DB Cargo Logistics has been operating Auto Terminal Bremen, which is located in close proximity to the Daimler production plant, since 2014. From here, the automobile logistics company takes on the finished vehicles and transports them to Sindelfingen and the international seaports. *mh* ■



PHOTOS: DEUTSCHE BAHN; DPA PICTURE-ALLIANCE; ULLSTEIN BILD; KALMAR

GERMANY/NUREMBURG

### DB Intermodal Services expands its vehicle pool

DB Intermodal Services put its 25th Kalmar empty-container handler into operation in February. It can stack up to seven containers and move two empty containers at a time. The new vehicle is in use at the DB Intermodal Services depot at the Port of Nuremberg, where 30 employees move some 64,000 containers per year. DB Intermodal Services, as a subsidiary of Deutsche Bahn, specialises in complementary transport services and operates several container depots. Because intermodal transport is growing strongly, the company expects that more and more containers will need to be moved in the years to come. For the procurement of new handlers, DB Intermodal Services and its sister companies in the DB Group prepare common parameters and performance requirements, so that they can hold a Europe-wide tender for the order. *mh* ■

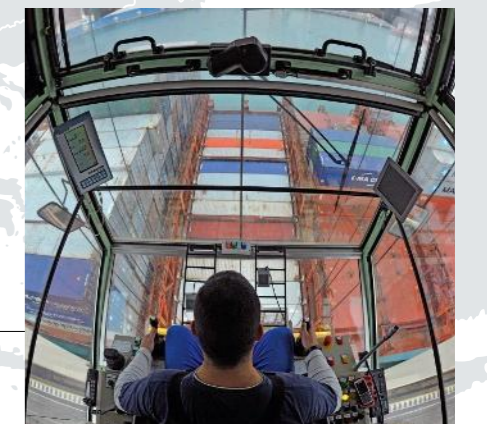


GERMANY/WILHELMSHAVEN  
SLOVENIA/KOPER

### TFG Transfracht expands its network

TFG Transfracht, the market leader in seaport-hinterland traffic, is expanding its international network. With effect from May 2017, the company has been linking the Jade-Weser-Port to the AlbatrosExpress network. Three weekly connections on 20 routes now link Wilhelmshaven to the most important commercial centres in Germany, Austria and Switzerland.

At the same time, TFG Transfracht is integrating the Port of Koper in Slovenia into the network, with three trains per week. This makes it the fourth port in TFG Transfracht's system, alongside the German sea ports of Hamburg, Bremen and Wilhelmshaven. With more than 13,000 connections each year and over 22 terminals, the Albatros-Express train system is the densest rail network in European seaport-hinterland traffic. *mh* ■



GERMANY/FRANKFURT

### Customer satisfaction up

In the customer survey carried out in March, DB Cargo was able to boost overall satisfaction, by comparison with the previous survey, from 3.6 to 3.7, on a scale from 1 (= completely dissatisfied) to 5 (= completely satisfied). Especially in Germany and Poland, customers gave DB Cargo's services a better rating than in 2015. Small decreases were recorded for the UK, Spain and Romania. We are very grateful to the almost 1,000 respondents for their feedback.

# THE NEW CODE OF DB CARGO

**Digitisation is transforming the entire economy. Disruptive business models and the platform economy are enabling new models of interaction with customers. This is also placing logistics operators under pressure. DB Cargo is responding to these developments, so as to in future be able to continue to combine traditional block trains from Europe's coal and ore ports with state-of-the-art supply chains for the automotive industry and to offer innovative, tailored solutions to its customers.**

**T**he rail freight operator plans to invest up to 500 million euros in digital transformation in the medium term, in order to achieve more transparency and controllability, better quality and optimised production structures. Digitisation at DB Cargo extends through the whole company – from customer interfaces to internal processes, monitoring of locomotives and wagons or the search for ideas for new business models and value-added services in the sea of historical journey and transport data.

## CUSTOMERLAB

An appointment in Duisburg: the bright April sun breaks through the low cloud. The contours of the DB Cargo Customer Service Centre on Masurenallee stand out sharply against the unsettled sky. These are turbulent times.

Inside this spacious building there is a specially designed room. Red carpets radiate tastefulness. Displays on the wall are evidence of modern equipment. There are desks, chairs and a couch in this place, where customers and DB Cargo employees are holding discussions in an industrious atmosphere. This is the room known as the CustomerLab. Just now, they are talking about the management of feeder traffic. The customers, two logistics executives from a coal and steel company, want to organise their feeder traffic by rail more flexibly and to improve their own structures at the same time – by digital means. Together with two DB Cargo employees, the customers are discussing possible solutions, being shown various options for implementation – and talking about what they themselves need to do to get connected to the digital future.

This is a place for workshops, project discussions and refinement of existing solutions. “Here, at the CustomerLab in Duisburg, we – together with our customers – are laying the foundations for the future,” says Jürgen Bosse, Head of myRailportal at DB Cargo. “In an intensive dialogue with our customers, we are working together on concrete solutions.” Rather than make exaggerated demands on

technology, DB Cargo is focusing on what is doable in order to develop, with customers, the opportunities that digitisation holds.

Our employees are also benefiting from the fact that, as well as the rail freight operator, many other companies are embracing the digitisation trend. Major customers from the automotive or chemical industries, which are operating and have developed worldwide supply networks, are far advanced technologically. They have drawn up and implemented their own digitisation strategies, are analysing their own data and are using this to develop projects and plans for the years ahead. The rail freight operator is working with these customers to develop interfaces for integrating data systems and exploiting the benefits of the flow of data in terms of transparency.

DB Cargo is also taking small and medium-sized companies along on the journey to the digital future. Thanks to simple access to DB Cargo's digital platform, they can access smart services and gradually obtain new opportunities for digital exchanges.

## ACCESS VIA MYRAILPORTAL

One of DB Cargo's most important instruments is myRailportal. Instead of the present large number of channels and interfaces, the myRailportal customer portal will in future pull all processes together and cover all rail freight transport processes under one roof, ranging from the order to monitoring of transport operations and reporting and factoring. As a web-based interface, myRailportal is intended to cover all basic customer service functions: order placement, commissioning of empty wagons, tracking of consignments and payment data. The vision here is that the various pieces of information should be connected with each other, thus offering customers a simple, quick overview of their entire contact with DB Cargo.

When placing orders, customers will in future be able to order empty wagons or cancel such orders, and bookings will be quick and easy to make. By comparison with the present interfaces, this will offer clear added value to customers.

Another basic function, which is already possible, is the tracking of consignments. Customers have an overview of their transport operations and can configure specific functions or alerts. Since data about consignments can be uploaded to the portal and linked to geographical data about trains, customers have the ability to identify where which goods are at a particular time. This is very important in the automotive industry, for example, when it is necessary to ensure the flexible and reliable management of the

inflow of consignments to plants.

The true platform nature of myRailportal is revealed in what is known as the event file. This pulls together the events that belong together from a customer's perspective: information on wagon, train and empty-wagon orders and on order placements. A central workflow makes it easy to assign pieces of information that extend across several business processes. Special apps for industry-wide solutions make the portal a helpful tool for transport programme planning for whole industrial sectors. This approach to providing comprehensive information is new and unique. On the way to that goal, the functions described will be developed and launched live gradually, in small steps.

"By developing myRailportal as a basis portal with basic functions, we are driving the reconstruction of existing functionalities in the Internet. As a first step, we have created an entry portal for our customers through which customers can access all of DB Cargo's online tools and services with a single login," Bosse explains. "As a second step, we will then refine these tools and services to make them even more useful to our customers."

## INTELLIGENT VEHICLES

However, digitisation means not just customer orientation in communication but also improvements to our own processes, more efficient planning or better availability of locomotives and wagons. Considering that the company has a fleet of 90,000 wagons and 3,400 locomotives in operation across Europe, this is a substantial task. One lever for achieving better availability is what is known as asset intelligence - and, as a result, the technical upgrading of rolling stock. Here, the digital transformation in asset management and maintenance means that intelligent wagons and locomotives are able to provide detailed information on their own condition and, thus, to be monitored better in respect of maintenance and repair. Condition monitoring for wagons and locomotives contributes to reducing material costs and, at the same time, to increasing the availability of vehicles.

The company is making rapid advances here. For example, tank containers have been equipped with a variety of telemetric devices and sensors. The entire coil and motor vehicle transport fleet is due to be similarly equipped by 2018 - and even today, whole wagon fleets at DB Cargo already have the relevant devices and sensors enabling them to measure physical impacts, temperatures or air humidity levels and to either communicate them directly or record them for documentation. The information obtained here can be processed

**CUSTOMERLAB:**  
Customers and DB Cargo employees analyse the requirements for new digital tools.



**EXCHANGE:**  
DB Cargo employees create solutions for the future together with customers working for Europe's largest rail freight operator.

and made available to customers via myRailportal, thus providing additional benefit.

It is not just wagon sequences and inflows to customers that can be planned better. Transparent information also enables drastic reductions to be made to the "unproductive" phases of freight wagons through the monitoring of wagon downtimes at home and abroad. In addition, DB Cargo will soon convert its 1,000<sup>th</sup> locomotive into a "TechLOK" - and it aims by 2019 to equip all its locomotives to enable them to cope with the transition to condition-based maintenance. For some of these, DB Cargo is being supported here by suppliers including GE Transportation. DB Cargo agreed a contract with that group in January 2017 for 250 locomotives to be equipped in Germany, Britain, France and Poland. "Our pilot project with GE Transportation has improved the availability of the fleet considerably and reduced vehicle downtimes in our operations," says Steffen Bobsien, Senior Vice President European Assets & Technology at DB Cargo. "These factors are hugely important to our customers in ensuring smooth deliveries throughout their global value chains."

## A COMPELLING DIGITAL STRATEGY

This is because the individual phases of digitisation become intertwined through data about locomotives and wagons. Electronic

reporting enables damage to locomotives to be communicated digitally to the Asset Intelligence Centre, the central data and analysis platform. Sensors and automatic camera systems document damage to - and the condition of - wagons and their loads. This data is then pulled together and analysed. Next, the findings obtained from the data enable digital fleet management, meaning the optimised planning, allocation and commissioning of maintenance measures.

Here, life cycle analyses can uncover the technical potential for improvement over a wagon's whole life cycle. In view of the fact that freight wagons are normally in use for several decades, intelligent maintenance planning leads, at a stroke, to more wagons in the system. Something similar applies to locomotives. By means of condition-based, predictive maintenance, the condition of individual locomotive components is measured and assessed so as to achieve optimum maintenance intervals, and the vehicle is then sent to the workshop when it is not in use and is located close to a workshop. However, the data flowing from the vehicles to the centre also influences processes at the workshops. It forms the basis of workshop management systems, through which the handling of jobs in the workshops is managed digitally. Instead of processing mountains of paper, workshop employees work with mobile applications.

## RULES AND REGULATIONS 4.0

At the same time, DB Cargo is facing the task of systematically pulling together and digitising its various rules and regulations. This means the whole range of regulations that make sure that rail transport, though highly complex, provides a safe and high-quality rail freight transport service that can rightly be regarded as the backbone of European industry.

"This is about digitising the whole world of rules and regulations. For every vehicle there is a collection - guidance to maintenance, including safety and use," says Fabian Stöffler, Vice President Asset Digitisation at DB Cargo. "Rules and regulations are arranged differently from country to country, and this naturally has a big impact on requirements for the whole value chain in the case of a European logistics operator like DB Cargo. Everybody involved in this has to be familiar with many sets of rules and regulations. Digitisation helps here, because we can at last consolidate the relevant regulations and use digital tools such as tablets to pull them together," Stöffler says. The regulations will also enable improvements to the digitised processes to be made in the future.



## AUTOMATION OF OPERATIONS

Last but not least, digital data from everyday activities enable operational processes to be improved. Applications and processes along the entire value chain are capable of being automated.

This, ultimately, is one of the great aims of digitisation – to transfer onerous routine tasks to machines and programmes that can complete the same activity, even for the thousandth time, reliably and always with the same quality.

Automation is a major topic for the rail freight operator. This is not so much a matter of autonomous locomotives that can independently find their way through the countryside and follow far-flung routes to reach customers. Rather, as with road transport, it is mainly about assistance systems that are intended to help engine drivers to concentrate on their core tasks and, at the same time, to drive more efficiently with digital aid.

Sophisticated algorithms can help to make transport operations safer and more efficient.

For example, DB Cargo is the first European rail freight operator to have introduced an assistance system in regular operations in a large sub-fleet to help engine drivers. The LEADER system uses the current speed, the timetable and the route profile to give continuous driving recommendations that help the engine driver to proceed in an energy-efficient manner and within the planned journey time. “The LEADER assistance system is very clearly an important digitisation project, because we are, for the first time, pulling timetable and topographical data together digitally and using this to calculate driving recommendations live,” explains LEADER project head Niels Weigelt. He says that the company had recognised, on the basis of its

extensive activities in recent years, that it could not make any further progress in energy efficiency without technical assistance and that it therefore collaborated with a partner, Knorr-Bremse, to develop and introduce this system. “With the introduction of LEADER, DB Cargo is improving its efficiency and thus becoming more effective and sustainable,” Weigelt says.

## EMPLOYEES’ DIGITAL MINDSET

The tasks that a company such as DB Cargo has to accomplish in its digital transformation are immense. After all, it is not just a matter of technical achievements that have to be attained and put into practice. It is also about employees, who operate in line with strict processes and procedures and communicate with each other according to clearly defined guidelines to keep this complex system going. Consequently, digitisation would be doomed to failure without a digital mindset, i.e. the ability to acquire digital experience and to identify how further improvements can be made possible.

DB is trying all the harder to take its employees with it on its journey to the future. DB Cargo has, for example, been providing its engine drivers with tablets for some years: these mobile devices have enabled engine drivers to have important documents with them in digital form in the driver’s cabin. This means they no longer have to cover long distances to pick up a lot of paper and regulations and take them with them to the locomotive. Instead, the tablet increasingly gives them access to all the necessary paperwork. This saves time that the engine driver can now use to carry out a job or make his way to a customer.

The LEADER assistance system, too, is about the company taking its employees with it, making the benefits of the system clear but without patronising them. Specific points of contact are widely available, and a specially established hotline and dedicated email address enable engine drivers to submit feedback.

## LABS OF THE FUTURE

For those who are also interested in seeing how rail freight transport will look in the future – meaning, in 10 or 15 years – and what services the railways will then offer their customers without abandoning the traditional transport business, Frankfurt/Main is the place to come to. In the Gateway Gardens district near Frankfurt Airport the HOLM, the House of Logistics and Mobility, is located – and at HOLM you will find the

Deutsche Bahn Asset & Maintenance Digital Lab. Up to 50 rail experts, data scientists and technicians are working on concepts for the rail freight company of the future. The lab’s present focus is on rail freight transport. Further projects dealing with passenger transport and vehicle maintenance are to follow before the end of this year. “A year ago, I would have said that we’re inviting our colleagues to the lab on a rotational basis so that they can learn all about the latest developments and digitisation projects,” Bobsien says. “Now, though, the topic has gone mainstream. Many staff members proactively come to us and ask with great interest about what’s currently happening in the lab, and they often bring in their own ideas, too.”

In addition to all the digitisation projects that are already up and running in practice, the lab is analysing data from past and present transport operations and examining whole industries, the climate and other transport modes. Data is being brought together in highly complex programmes, and new business models are being developed on that foundation – new services to help customers now and in the future. This is where the code of the new DB Cargo is being written. *an* ■

# FOLLOW THE LEADER

With the introduction of a new driver assistance system, DB Cargo is breaking new – digital – ground in the rail freight sector. Project Lead Niels Weigelt explains how it works.

INTERVIEW: **\_\_\_Axel Novak**

Mr Weigelt, what is LEADER?

**WEIGELT\_\_\_** LEADER is a driver assistance system that functions in the locomotive as a personal assistant for the engine driver. It makes the driver’s work easier, because it calculates the optimal speed on the basis of the timetable cushion and the topography of the route. This allows the train to adhere to scheduled journey times while travelling in a more energy-efficient way. Our aim is to improve energy efficiency and punctuality at the same time.

At what stage is the project now?

**WEIGELT\_\_\_** We introduced LEADER in October 2016. Three hundred e-traction units (Type 145, 152 and 185) are already fitted with the system and all 4,500 of DB Cargo’s engine drivers have passed the relevant training. During the first few months, we carried out a fine-tuning process on the LEADER parameter and eliminated teething problems. We are constantly receiving feedback and improvement suggestions via a dedicated hotline and email address for engine drivers – all these ideas flow into the development of the system.

How important is the system for DB Cargo?

**WEIGELT\_\_\_** The introduction of LEADER is an innovation project with which for the first time we are taking a step towards automation support by using driver assistance for the train drivers. LEADER is to help DB Cargo increase the energy efficiency and become even more sustainable as a transport carrier. We have realised that we won’t make much headway in terms of energy efficiency unless we employ technical solutions. And so we are now the first major European rail company to introduce this kind of assistance system in a significant part of the fleet in regular operations.

What kind of data is used to optimise operations?

**WEIGELT\_\_\_** LEADER uses digitalised timetable and topography data. The data is uploaded from a server to the LEADER device at the time of departure. Then, during the journey, LEADER is able to locate itself using its own GPS antenna: it knows where the train is on the route profile and what kind of a cushion it has in terms of the timetable. The driver recommendations are continuously optimised and displayed on the LEADER device.

Did the drivers have any reservations about the new system?

**WEIGELT\_\_\_** The introduction of any new assistance system involves a significant change in the day-to-day work of engine drivers. All of a sudden there’s a little box in the cabin that seems to know everything best. It takes time to get used to that. We certainly don’t want to patronise engine drivers; on the contrary – we want them to continue to leverage their experience, while also factoring LEADER’s recommendations into their driving decisions. Our engine drivers are still very much in charge of the locomotives. Under the motto “Leading the way with LEADER”, the system was introduced with posters, a film and personal starter kits for every engine driver. In innovation projects, not everything works right from the start. The train drivers’ good level of participation in proposed improvements also shows us, though, that this system is gaining increasing acceptance.

What’s the next step?

**WEIGELT\_\_\_** We are continuing to work with engine drivers to develop LEADER step-by-step. Certain elements like the route profile display have received an enthusiastic reception. As a next step, we will develop the display layout further. Next year, we plan to integrate electronic driving recommendations from DB Netz about trains travelling ahead on the line, and further live data will follow. Later, LEADER will also be implemented on an international scale. ■

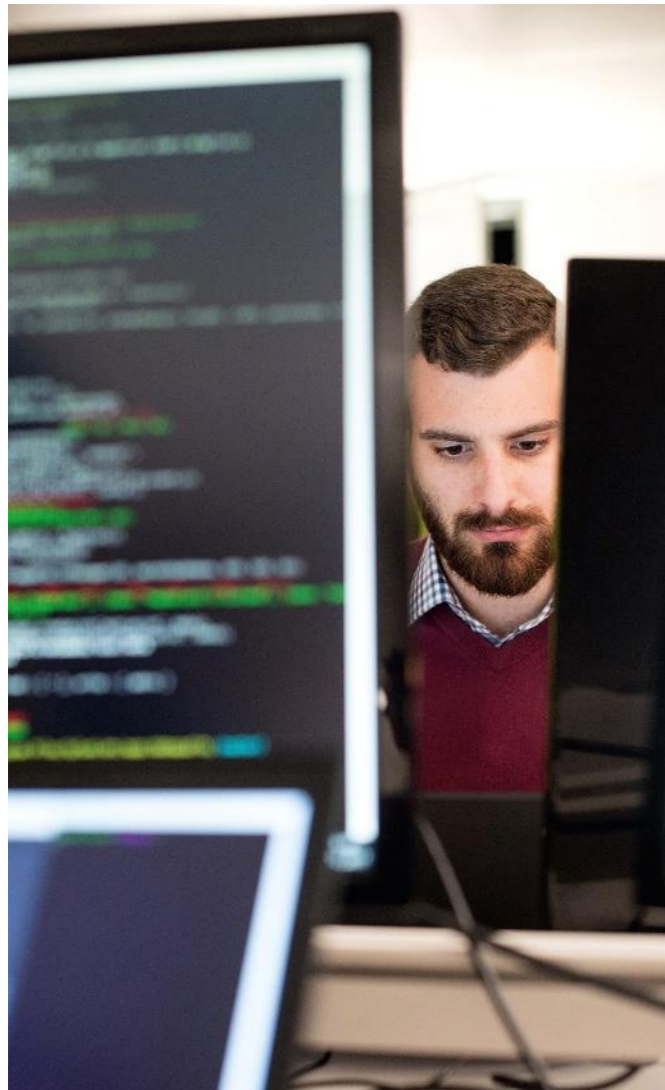


Contact | Niels Weigelt  
Telephone: +49 (0)69 265-34267  
niels.weigelt@deutschebahn.com

## A UNIQUE SYSTEM

The idea for this kind of driver assistance system first arose at DB Cargo four years ago. Comparable systems were already available in rail passenger transport at the time, but nothing in the rail freight sector.

DB Cargo selected Knorr-Bremse as a partner and has been developing and testing LEADER since 2013. The aim was to find a relatively simple solution for a range of different engine types. The device is installed in the driver’s cabin and has its own GPS unit, but is not connected to the locomotive’s systems.



**NEW IDEAS:** Creative contractors and sales professionals from the rail freight operator work together to find digital solutions.

## THE DB LAB OF THE FUTURE

DB staff investigate digital processes at HOLM near Frankfurt Airport.

**D**igitisation is a topic that affects Deutsche Bahn across the board. In February 2017, Dr Jürgen Wilder, Chairman and CEO of DB Cargo, and Tarek Al-Wazir, Hesse's Minister for Economy, Energy, Transport and State Development, officially opened DB's Asset & Maintenance Digital Lab. The 100-square-metre facility is located in the House of Logistics & Mobility (HOLM), not far from Frankfurt Airport, and employs around 50 rail specialists, IT developers, data scientists and transformation experts. They are all working together to drive forward automation and digitisation topics relating to all aspects of vehicles and maintenance. They're doing so by employing agile working methods: new ways of working that incorporate a constant exchange of information are being combined with smart project management methods.

"The advantage of the lab is that experts from various disciplines are working together in one place in a very open and creative

atmosphere," says Katrin Höhne, Projects and Communication European Assets & Technology at DB Cargo. "Colleagues from different projects get to know each other, they find points of intersection, learn from each other, can exchange ideas directly and therefore more quickly."

### LEADING THE WAY IN DIGITISATION

"As Europe's biggest rail freight company we have to assume a pioneering role in digitisation. That is the only way we can remain a reliable partner for our customers in future," says DB Cargo's CEO Jürgen Wilder at the official opening of the lab. This opinion is also shared by many politicians. "It is important for DB to meet the challenges of increasing digitisation because the railways, as the most environmentally friendly transport mode, must remain competitive," says Hesse's minister Al-Wazir. "Digital technologies can make a significant contribution towards increasing the company's capacity."

Rail freight transport is the lab's current focus. Further projects on passenger transport and vehicle maintenance will follow later this year. Establishing good cooperation between experts from the various DB departments is hugely important. "The lab is a clear signal to our customers: it's not exclusively a DB Cargo lab, but a DB lab," says Fabian Stöffler, Vice President Asset Digitisation DB Cargo. "And with the findings from the work on site and their implementation in practice, we are aiming to initiate positive change in the supply chains of our customers. The services of the future are being developed in the lab today."

### INNOVATIONS IN WAGONS AND LOCOMOTIVES

The staff at the lab are currently working on innovation projects in the field of maintenance, and in vehicle provision and development. "Digital transformation in asset management and in maintenance covers intelligent vehicles, central data gathering and analytics, and process automation," explains Stöffler. In future, there will be more flexible and condition-based maintenance for the wagons and locomotives, based on data. Intelligent sensors on the vehicles make a constant stream of data available, thereby making it possible to provide accurate diagnoses. This will allow maintenance



**HOLM:** Tarek Al-Wazir, Hesse's Minister for Economy and Transport, welcomes projects such as the lab in Frankfurt.

work to be customised, which in turn improves availability and quality, and reduces costs.

In addition to the intelligent locomotives, the first freight wagons were fitted last year with sensors that not only give the wagon's current location, but also measure the humidity and temperature inside. By 2020, DB Cargo expects to be able to monitor all wagons and locomotives in Europe live via diagnosis data, which will represent a fundamental improvement in its processes. The staff at the lab will then start on new projects that promise to shape the future further. *an* ■

**Contact** | Fabian Stöffler  
Telephone: +49 (0)160 97497201  
fabian.stoeffler@deutschebahn.com



PHOTOS: ANDREAS REEG





**TRANSPARENCY:** The ScrapPortal helps the industry and the rail freight operator to manage the inflow of materials into the steelworks.

## SCRAPPORTAL - DIGITAL MANAGEMENT UNDER ONE ROOF

With its portal for the steel industry, DB Cargo is proving itself an innovative and flexible partner.

Supporting and managing supply-chain processes digitally – this is what the ScrapPortal provides for DB Cargo’s customers. The portal is aimed at the steel industry in Europe and integrates all supply-chain processes in the scrap market after purchase up to delivery to the works. “We have made great progress on the digital customer interface in the past year,” says Ralph List, Project Lead for strategic projects in Industrial Product Management at DB Cargo. “With this portal, we not only manage the raw materials chain but also offer our customers numerous value-added services that minimise effort on their part.”

The background lies in the specific requirements of this industry. DB Cargo transports around eight million tonnes of scrap to steelworks – this scrap metal goes straight into the blast furnaces. However, an uncoordinated inflow of scrap leads to logistical inefficiencies. These result in high demurrage charges, poor utilisation of unloading capacity at steelworks, long turnaround times and problems in the provision of empty wagons to suppliers.

This is where the portal helps. “The ScrapPortal is a veritable transparency tool and offers an overview of scheduling, inflow and shipments,” List explains. “In addition, it provides an abundance of reports and streamlines the entire communication process.”

Interfaces enable customers’ ERP systems to be integrated with each other. This means

a transport order can be sent directly to DB Cargo via the ScrapPortal, with no need for any other orders to be placed through different interfaces, such as RSO. Arrival numbers are allocated through the portal, and this manages capacity so that the right volume of the right type of scrap arrives at the right time. The system remains highly flexible: “If customers cannot use an existing arrival number at a planned location, the system’s brokering function lets them check whether that arrival number can be used for a different shipping location,” List explains.

With the integrated empty-wagon monitoring function, customers will in future receive an overview of wagons that are arriving and those that have been made available. Finally, if there are delays to shipments, the track & trace function will notify these very soon after the event. It will also be possible to use the portal to monitor damage to freight wagons and to shipments in transit much more easily.

“We involved scrap-shipping customers and steelworks in the development of the ScrapPortal,” List says. “They were able to feed scrap suppliers’ and recipients’ needs and requirements into the development process at first hand.” For this reason, he adds, the ScrapPortal and the DB *scrap-solution* product can be described as a truly tailored industry solution that combines all the advantages of digitisation with an effective and reliable partner.

DB Cargo now also plans to use the portal’s systems in other areas. DB Cargo is currently developing digitised management approaches for the logistics centre in Hagen and for railports where coil shipments are managed with pre- and post-rail haulage by heavy goods vehicles. Dangerous goods and Class P wagons can also be managed digitally with DB Cargo’s Supply Chain Portal. “Our great advantage,” List concludes, “is that we can respond to specific customer needs, with the result that individual solutions are possible.” *an* ■

**Contact** | Ralph List  
Telephone: +49 (0)203 454-1474  
ralph.list@deutschebahn.com

## DB CARGO SOON TO MAKE ITS 1,000<sup>TH</sup> LOCOMOTIVE INTELLIGENT

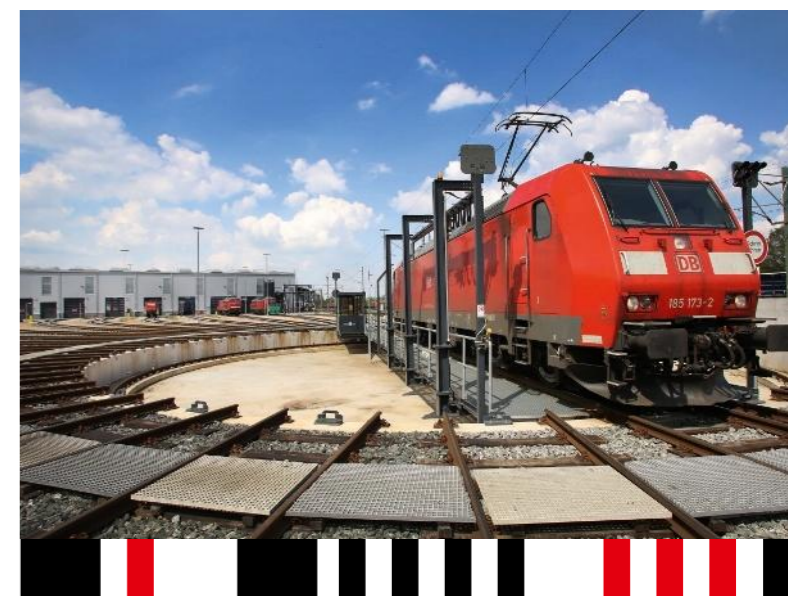
The rail freight company is improving the availability of locomotives with the TechLOK project.

The availability of locomotives is a critical factor in making the rail freight company’s services economical and reliable. Digitisation plays a key part in this and DB Cargo is fitting locomotives and wagons with sensors and on-board computers to optimise the deployment of rolling stock through the analysis of accurate vehicle data.

TechLOK is the name of the project through which DB Cargo gathers, processes and visualises the constant stream of diagnostic and sensor data from its European fleet of locomotives. DB Cargo will soon be fitting its 1,000<sup>th</sup> locomotive with digital technology. By 2019, it is expected that around 2,000 locomotives will have been upgraded to TechLOK status, which will, via a central interface, allow them to transfer data that can be visualised for a more in-depth analysis. At present, the focus is on the large fleets of electric and diesel-electric mainline locomotives and the extensive fleets of shunting locomotives in DB Cargo’s European production network.

DB Cargo’s development engineers are currently working on various areas in an effort to reduce operational failures and simplify the maintenance of locomotives. The roll-out of TechLOK is currently being driven forward in the various European subsidiaries, with additional Class 66 and 77 vehicles introduced by DB Cargo UK, DB Cargo Polska and the French subsidiary ECR. The engineers are also designing new dashboards – web-based display surfaces for the various user groups and vehicle types – in these countries. “We can identify certain failures and statuses via this dashboard. Making vehicle diagnostic data available on the TechLOK dashboards opens up new possibilities for us when searching for the source of a breakdown

**DATA MINE:** Locomotives generate a lot of data that are interesting for maintenance and repair.



and in damage limitation efforts, and it allows us to diagnose vehicles in live operation, giving us new insights into the technical behaviour of the engines. The dashboard allows us to identify certain parameters and conditions, for example technical failures, the precise position of the vehicle and the engine operating hours. This means we can plan exactly which vehicle can be used for which customer and when,” explains Mathias Thomas, Vice President Asset Projects and TechLOK Project Lead at DB Cargo.

To achieve this, it is necessary to create the corresponding interfaces with the SAP system at DB Cargo and with the maintenance department systems so that condition-based maintenance becomes possible. In addition, the introduction of TechLOK action recommendations for the technical hotline and close coordination with the Wagon Intelligence project (see infographic on page 20) are necessary because the data is processed on the same IT platform. *an* ■

### TECHLOK - WHAT'S IN IT FOR THE CUSTOMER:

- Shorter downtimes and improved availability of locomotives
- More efficient fleet management
- Bundled maintenance and targeted deployment of resources
- Better fault analysis

**Contact** | Mathias Thomas  
Telephone: +49 (0)69 265-34259  
mathias.thomas@deutschebahn.com

# TRANSPARENCY AND EFFICIENCY - WE MEET THE NEEDS OF OUR CUSTOMERS

**Steffen Bobsien, Senior Vice President European Assets & Technology, explains why DB Cargo is going digital.**

**INTERVIEW:**      Axel Novak

Mr Bobsien, DB Cargo has been transporting freight for customers across Germany and Europe for more than a century. Why is digitisation such a big topic these days?

**BOBSIEN**      Deutsche Bahn is a service provider. The main challenge for a company like ours is to meet the needs of the customer, right down to the last detail. We have a number of measures in place to help us do so, for example digital monitoring of the service provision and of the customer's information.

Let me give you an example. In car transport operations for customers in the auto industry, it's important to know in which direction the train will be arriving into the customer's sidings so that cars can roll off the transporter in the right direction. Digital monitoring allows us to do that and, if necessary, to plan a rotation so that the train arrives at the end customer's site exactly as the customer wants it to. So you see, digitisation means improved controllability, more transparency, better quality and optimised production structures. One figure reveals how seriously we take this topic: DB Cargo is investing up to 500 million euros in digitisation over the medium term.

DB operates an "Asset & Maintenance Digital Lab" in the "House of Logistics & Mobility" in Frankfurt am Main. What is being developed there? What do you expect from the lab?

**BOBSIEN**      A lot of ideas can be generated when you are actively working in a field, and that is particularly true about digitisation. That's why we decided to bring together sales leaders, IT developers, data scientists and technology experts – creative minds from a range of disciplines – in the lab to develop and test ideas. We check how much scope for improvement there is in our processes and interfaces, and what additional services we can offer our customers. We then test and develop these ideas further in the lab. In that sense, the lab functions as a mix between a project room and a creative space. Up to 50 colleagues are active there.

We're continuously seeing a kind of domino effect, whereby users from various sectors discover new potential application scenarios when they start using the apps. These arise from the new level of data transparency and the smart utilisation of data. This approach – identifying possibilities – is hugely important to us so that we can build on a number of small ideas to arrive at comprehensive approaches that have the potential to fundamentally change products and concepts.

Can you mention any examples?

**BOBSIEN**      Yes, of course. Our TechLOK locomotives, which independently report their current status on the basis of the data gathered. As a result of these accurate and reliable error messages, maintenance and conveyance times are cut, which improves availability overall – not just in Germany, but internationally. The 1,000<sup>th</sup> locomotive will soon be joining the TechLOK system. We recently signed a contract with GE Transportation that will see a further 250 locomotives going digital in Germany, Poland, France and the UK. We're also fitting our wagons with sensors – to optimise dispatching decisions for damaged wagons, for example. On top of that, we're improving the way we plan services such as collecting vehicles on the tracks, invoicing shunting journeys and delivering freight across international borders. We're always working on developing services like these.

How many wagons are being fitted with this technology?

**BOBSIEN**      We've introduced prototype fleets with a basic configuration in our system. By the end of 2019, we'll have a total of around 65,000 freight wagons. The aim in the medium term is to fit the whole fleet with "intelligent" technology. During the process of fitting the first few fleets, we realised that our customers very often ask for data about the status of the freight, for example information about impacts and the geo-position of wagons. Depending on the sector and the needs of the customer, we're fitting wagons with additional sensors that can precisely record the condition of the freight and the wagons, and which can therefore be used along the whole logistics chain.

For us the question today is not when we will be seeing the first applications. The question is rather when the



applications will be operational. Over the coming year, we expect the number of possible applications, products and service ideas to increase dramatically.

Are the lab and this approach what set DB Cargo apart from the competition?

**BOBSIEN**      Our competitors generally take a similar approach for their workplace environments. But what sets our lab apart is that we only work on applications and topics that have a high probability – 50 per cent or above – of being realised in our service's value-added chain. So we're really engaging with the needs of the market and of our customers. At the same time, the fact that DB is bundling all its digitisation activity relating to asset management and maintenance in this lab is highly advantageous – the lab thereby becomes a nucleus for all of DB's rolling stock when it comes to these focus areas.

How far along this path are the customers?

**BOBSIEN**      It varies. Some major customers are already a step ahead of us. Companies such as Volkswagen and BASF, for example, digitised large parts of their logistics chains at a very early stage on their own initiative. With other customers we're seeing a huge need for us to partner with them to introduce digital processes.

What does that mean?

**BOBSIEN**      Customers are keen to work with us to push forward the development of ideas and concrete projects together. At the same time, they still need to stick to their own demanding profile of requirements. We've

noticed that some customers rely on our opinion as a logistics expert. They're telling us that they already have a huge amount of data, but they're not sure how to use it in their logistics chain.

For us, digitisation and our whole approach with customers obviously bring about the advantage that we gain a deeper understanding of the customers and their requirements, and we get to work more closely with them and their specific needs. As a result, we're not simply working as a service provider, but can also increasingly take on the data-based management of logistics chains.

But how do you identify the needs of the market? How do you know what customers want?

**BOBSIEN**      We work very closely with our customers. We talk with them and other parties involved in the market. We discuss ideas with the sales divisions. We make available a huge amount of data, for example via our online customer portal myRailportal. Sometimes we also invite customers to meet with us so that we can develop ideas together – we've been doing that very successfully at the Duisburg Customer Lab (see article on page 9). This intensive exchange with customers is very important to us. It helps us to develop technologies that meet the needs of the market.

The success of digitisation also depends on your staff. How are you involving them?

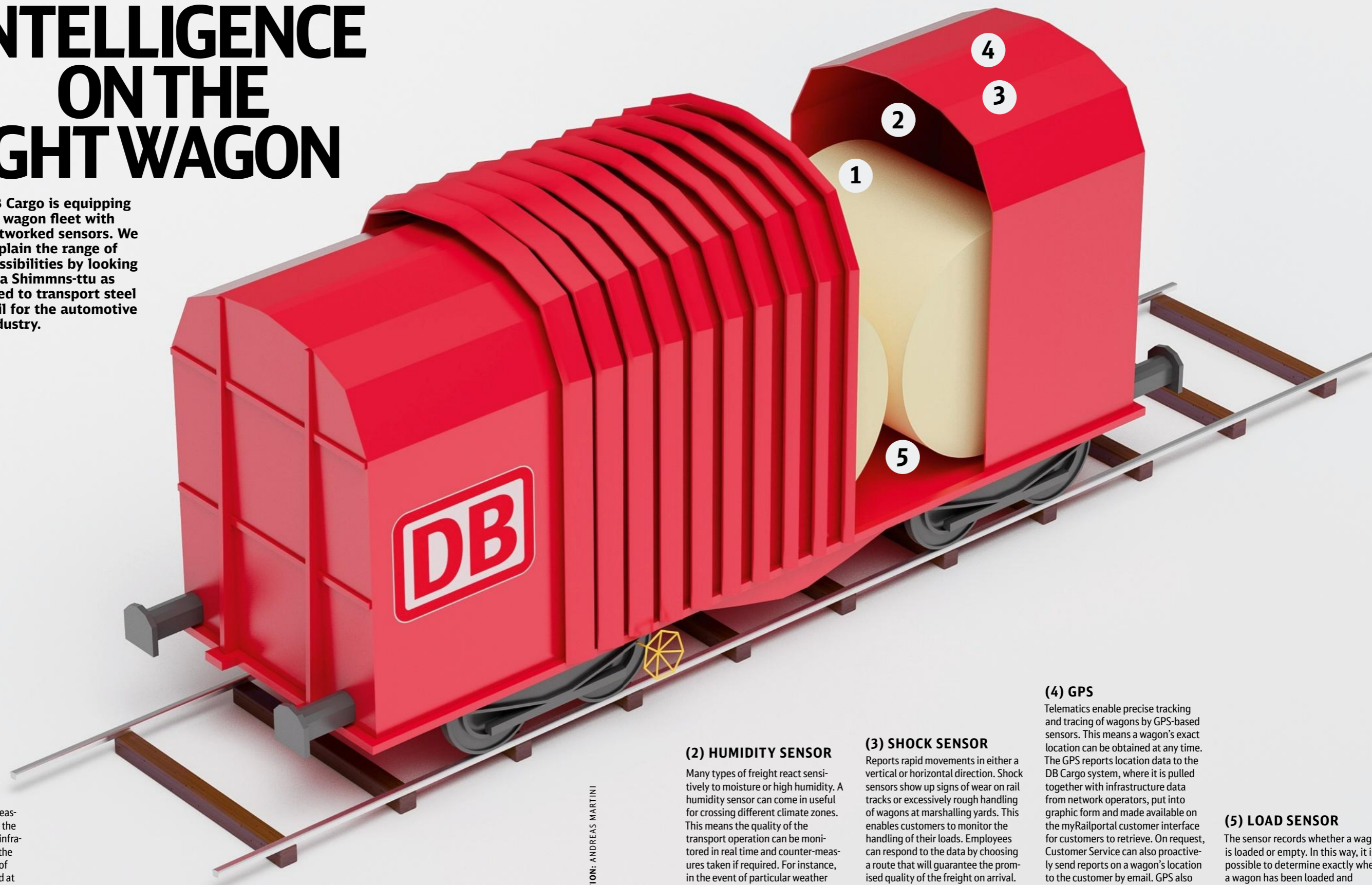
**BOBSIEN**      A year ago I would have said that we're inviting our colleagues to the lab on a rotational basis so that they can learn all about the latest developments and digitisation projects, and we work with them to develop the applications. That continues to be the case but the topic has now gone mainstream. Many staff members come to us and ask what's currently happening in the lab. They often bring in their own ideas, too. By the way, in the area of digital transformation in particular, the problem of attracting young talent is minimal. Young people find the work we do in the lab so exciting that we don't need to fight for junior staff. In other areas, however, there is a lack of junior staff, one example being technical fleet management. Future fleet managers not only need to have a thorough understanding of locomotives and rail processes, they also increasingly need to know about digitisation and data analysis. We're currently working with TU Dresden and RWTH Aachen on how to train the next generation of staff in these fields. ■

**DIGITISATION:** Steffen Bobsien, Senior Vice President European Assets & Technology, and his team are optimising DB Cargo's processes for a data-driven future.

PHOTO: ANDREAS REEG

# INTELLIGENCE ON THE FREIGHT WAGON

DB Cargo is equipping its wagon fleet with networked sensors. We explain the range of possibilities by looking at a Shimmns-ttu as used to transport steel coil for the automotive industry.



## (1) TEMPERATURE SENSOR

The temperature can either be measured as room temperature inside the wagon or – for example, with an infrared sensor – taken directly from the load. This enables the condition of the consignment to be monitored at all times – for instance, to ensure the cold chain is maintained. In conjunction with humidity sensors, predictions can also be made about the possible occurrence of condensation.

## (2) HUMIDITY SENSOR

Many types of freight react sensitively to moisture or high humidity. A humidity sensor can come in useful for crossing different climate zones. This means the quality of the transport operation can be monitored in real time and counter-measures taken if required. For instance, in the event of particular weather conditions en route, dispatchers can take decisions to prioritise consignments or choose alternative transport routes to guarantee the quality of the freight.

## (3) SHOCK SENSOR

Reports rapid movements in either a vertical or horizontal direction. Shock sensors show up signs of wear on rail tracks or excessively rough handling of wagons at marshalling yards. This enables customers to monitor the handling of their loads. Employees can respond to the data by choosing a route that will guarantee the promised quality of the freight on arrival. They can also pass on information about the condition of the tracks to network operators and remind shunting locomotive drivers about sensitive loads.

## (4) GPS

Telematics enable precise tracking and tracing of wagons by GPS-based sensors. This means a wagon's exact location can be obtained at any time. The GPS reports location data to the DB Cargo system, where it is pulled together with infrastructure data from network operators, put into graphic form and made available on the myRailportal customer interface for customers to retrieve. On request, Customer Service can also proactively send reports on a wagon's location to the customer by email. GPS also enables the duration of stops in desired areas to be captured. In this way, customers can be supported in their fleet management – even on their own sites.

## (5) LOAD SENSOR

The sensor records whether a wagon is loaded or empty. In this way, it is possible to determine exactly when a wagon has been loaded and unloaded. As a result, DB Cargo can put its wagons back into circulation sooner, and customers can more quickly release wagons that have already been processed.

ILLUSTRATION: ANDREAS MARTINI

# WOMEN AT WORK

THE TEAM (f.l.t.r): Viktor Schreiner (Karl Schmidt Spedition), Markus Keller (Crane Operator), Romy Salinger (Trainee), Stefan Reitmajer (Dispatching and Maintenance), Vera Schickhuber (Accounting), Tom Schimmel (Terminal Director).

## TIME FOR GROWTH

**M**orale is high at Kombiterminal Burghausen (KTB). "We all work together well and there's a very friendly atmosphere here," says Terminal Director Tom Schimmel. With just 16 members of staff, and the same number of HGV drivers on top of that, it's a small team.

But perhaps the congenial atmosphere also has something to do with success. The terminal is growing. The figures have been on the rise ever since the combined transport terminal to the east of Munich was officially opened in January 2015. There is a growing number of departures and routes for customers to choose from. A daily Burghausen-Maschen shuttle train service provides links to the ports of Hamburg and Bremerhaven, and there are three departures each week from Neuss to the Rhine-Ruhr region, with the option of further transport to Rotterdam and Antwerp. In addition, the weekly Trieste train provides a link to the Adriatic seaport.

The terminal's location at the heart of the Bavarian chemicals triangle is great for business. Thirty major companies are based within close proximity of the terminal, and most of these work in the chemicals industry. DB Cargo BTT operates the terminal in partnership with Deutsche Umschlaggesellschaft Schiene-Straße (DUSS) and Karl Schmidt Spedition. As a public terminal, its services are available to all customers.

Growth is still very much on the agenda. A new weekly service providing links to Ludwigshafen and the Rhine-Neckar region will be introduced in late 2017. At the end of the year, a second gantry crane will be added, which will allow around 1,000 trains a year to be processed here. There are also plans to expand the depot to an area of 20,000 square metres. *mb* ■

**Contact** | Tom Schimmel  
Telephone: +49 (0)8677 876000-0  
tom.schimmel@kt-burghausen.de

# THE BENCHMARK FOR SAFETY IN THE SECTOR

DB Cargo BTT and DB Cargo offer Rail Safety Days on handling hazardous goods – and demand for the event is growing. The rail experts are sharing their experience to help participants improve safety management.

**S**afety is the foremost priority at DB Cargo BTT. This is especially true in transport operations for the chemicals industry. Since rail is statistically the safest transport mode, certain hazardous freight may only be transported by rail. 17 per cent of the total freight volume transported in the EU and one in seven tonnes transported by DB Cargo involves hazardous goods.

DB Cargo staff have therefore always had a huge amount of experience dealing with hazardous goods. When several parties are working together to complete huge numbers of transport journeys every day, it is vital that even the smallest incident is avoided – and every conceivable precautionary measure must be taken. This is the only way to ensure that everyone involved in the supply chain is able to act quickly and efficiently to protect people and the environment.

“Safety takes top priority in chemicals logistics and we go beyond the minimum requirements set out in the statutory regulations. We are therefore keen to develop a transnational safety culture,” explains Dr Carsten Hinne, CEO of DB Cargo BTT. DB Cargo has developed a concept that is unique in the industry in order to bring forward safety efforts. With its Rail Safety Days, the company brings together all the stakeholders



PHOTO: DEUTSCHE BAHN

on the topic of safety around one table, including representatives from the European chemicals industry and safety sectors, as well as the emergency services, infrastructure operators and public officials.

The concept has met with strong demand. More and more companies are interested in BTT's training and exercise programmes as a way of bringing their staff and other participants together to train them on handling hazardous goods safely. In October 2017, the biggest Rail Safety Days yet will be held at the Evonik chemicals company in Marl. Over the five days, more than 300 people will receive training on how to handle hazardous goods and around 180 guests are expected to attend the lectures and networking meetings. Participants will include representatives from the German Federal Railway Authority, managers and executives, chemicals and mineral oil logisticians, and representatives from the plant's fire brigade and the VCI (the German chemicals industry association). In addition to lectures, networking meetings and training measures, the programme of planned events also includes a fire exercise. One of the focus areas of the programme is “logistics 4.0 and safety”.

At the training sessions, the experts not only explain how the technology of a tank

## RAIL SAFETY DAYS

DB Cargo BTT and DB Cargo organise Rail Safety Days directly with customers every year. The events include general information sessions on hazardous goods, training sessions for “agents and representatives” in accordance with Section 6 of the German Hazardous Goods Advisor Ordinance (GbV), the designation of hazardous goods transport operations, tank wagon types and valves, the handling of hazardous goods irregularities, and the emergency management of DB AG.

Rail Safety Days can be organised anywhere in Europe and can be customised for individual needs. The range of options includes one-day safety exercises in the customer's manufacturing plant and multi-day training events involving several companies and their staff, fire brigades, official bodies, workshops and a comprehensive conference programme.

**EXPERTISE:**  
Handling the different valves takes practice.



## OUR AIM IS TO GIVE A COMPLETE PICTURE OF THE TOPIC OF RAIL SAFETY IN THE ENTIRE CHEMICALS SUPPLY CHAIN.

DR CARSTEN HINNE, CEO DB CARGO BTT

wagon works and carry out leakage exercises; they also practise deployments in potential emergency scenarios with all the relevant stakeholders. Additionally, they explain the extensive loading and transport regulations for liquids and gases, and go over the variations to these rules in foreign countries. "Our aim is to give a complete picture of the topic of rail safety in the whole chemicals supply chain," says Dr Hinne.

Depending on the specific requirements of the individual Rail Safety Days, DB Cargo BTT provides a tank wagon for demonstration purposes, an exercise train and experts on requested specialist topics. The experts use the tank wagons to simulate various leaks caused by damage and explain how the common valves are operated. Working in close collaboration with plant fire brigades, safety personnel and logistics experts, various scenarios are run through under realistic conditions. The DB experts also provide advice about accident risks, technical issues and emergency plans.

The Rail Safety Days can involve a single training session or a series of events, or even a communication platform providing opportunities to network and share experiences. "We are always working to further develop the concept," explains Dr Hinne. "Because that is the only way we can help our customers, safety services and the authorities to be well prepared. We want the Rail Safety Days to become the benchmark for safety in the sector." *mb* ■

**Contact** | Patrick Schlicht  
Telephone: +49 (0)6131 15-73771  
communication@railsafetydays.com

## EMERGENCY EXERCISE AT HEALEY MILLS

Safety is a top priority at DB Cargo UK and now the British rail freight operator is making one of its sites available for emergency training exercises.

**A** dramatic scene greeted visitors to the rail yard at Healey Mills near the English city of Wakefield. Behind a locomotive and several passenger carriages another derailed carriage lay on its side. Firefighters helped injured passengers out of the carriage. Paramedics, who were already waiting outside, administered first aid and the police cordoned off the scene of the accident as they began their investigations.

Fortunately, this was only an exercise, with a simulated derailment and actors playing the roles of injured passengers.

Safe working practices are imperative at DB Cargo UK and the company supports other organisations to practice and promote safety on the railway. At the Healey Mills site, customers, Train Operating Companies (TOCs), Freight Operating Companies (FOCs) and others can work with the relevant authorities to practise safety training.

West Yorkshire Fire and Rescue Service, Yorkshire Ambulance, the British Transport Police and West Yorkshire Police spent three days with DB Cargo UK, simulating the accident on the tracks at Healey Mills.

"The successful delivery of the project has showcased Healey Mills as an ideal location for future training exercises as we can recreate a number of different emergency scenarios," says Dave Jenkinson, DB Cargo UK Safety Assurance Manager, in his assessment of the exercise.

PHOTO: DEUTSCHE BAHN



**EMERGENCY TRAINING:** Fortunately, this scene is only part of an exercise.

DB Cargo UK had placed the locomotive and several out-of-service rail carriages on the unused track. Volunteers from first aid charity St John's Ambulance were inside the carriages acting as trapped and injured victims. The secondary school in the nearby town of Ossett was used as a tactical command location.

"West Yorkshire Fire and Rescue Service and the other parties involved were very pleased with the facilities provided and will be using the site again in the future," Dave Jenkinson adds. "We are proud to be able to provide such invaluable training opportunities at Healey Mills."

Healey Mills can currently be used by in-

terested parties. These will include TOCs and FOCs, freight forwarders, DB Cargo UK customers and the emergency services. The site is based near the city of Wakefield in the county of West Yorkshire and is easy to reach. It comes with a railroad connection and is located not far from the M1 motorway. *mb* ■

**Contact** | David Jenkinson  
Telephone: +44 (0)1302 576036  
david.jenkinson@deutschebahn.com



**EXPERIENCE:** Participants get an inside look at a tank wagon.

## A LOOK INTO THE TANK WAGON

Staff from the chemicals company Ineos took part in a safety training session organised by DB Cargo BTT. The feedback was very positive.

For two days in autumn 2016, one of DB Cargo BTT's bright red tank wagons could be seen standing in front of INEOS' locomotive shed. Around 60 of the Cologne-based chemical company's staff, among them 25 apprentices, used the tank wagon as part of a training programme that brought them up-to-date on the subject of rail safety. However, the tank wagon wasn't the only thing the BTT staff brought with them. They also provided a huge amount of expertise. One of the experts was Senior Consultant and Trainer Wiel Vrolings, who had previously overseen the Rail Safety Days at Dow Chemicals in Terneuzen. After attending the Rail Safety Days, Fleet Manager & Logistics SHE Advisor Peter Sommer hit upon the idea of holding this event at Ineos' Cologne site.

The event involved several new experiences for the Ineos staff, including an inside look at a tank wagon. "It wasn't just a matter of wanting to see some goosebumps, we were aiming for a very concrete learning outcome," explains Wiel Vrolings. "The experience of seeing and touching the structure of the tank wagon from the inside makes a far bigger impression than teaching on a purely theoretical

level. As a result, they will remember what they've learnt for longer."

The participants were particularly interested in the explanation of how the valves and other instruments work. "Our demonstration wagon is fitted with all the valves and instruments that can currently be used on tank wagons in the chemicals industry," says Vrolings. "This allows us to show the variety available and to point out the advantages and disadvantages of each. In this practical training session, the goal is to deepen employees' knowledge of the wagon's operating modes and to help identify sources of potential errors at an early stage."

Wiel Vrolings also explained the operating modes and the various inscriptions on the tank wagons, and pointed out potential mistakes when loading and unloading tank wagons. After the end of the training session, the INEOS staff were grateful for the opportunity to refresh their knowledge and to learn about new types of valves they had not previously been familiar with. One member of staff said the training session had been very helpful in explaining the various operating modes of the tank wagons to new employees.

"The safety training programme was specially tailored for the customer, but it is certainly not only relevant to them," emphasises Carsten Kock, Key Account Man-



PHOTOS: DEUTSCHE BAHN



**IN THIS TRAINING, WE WANT TO HELP IDENTIFY SOURCES OF POTENTIAL ERRORS AT AN EARLY STAGE.**

WIEL VROLINGS,  
TRAINER, DB CARGO BTT

ager for INEOS at DB Cargo. "Any one of our customers can book us for this kind of event." The scope of the event is significantly smaller than the large-scale Rail Safety Days, which are held over a number of days and attended by representatives of public administration bodies, local businesses and the fire service.

Site Logistics Manager Christian Rodde and Fleet Manager Peter Sommer are also convinced and want to work even more closely with BTT's safety experts in future: "The training session in the tank wagon is going to serve as the start of a series of regular safety events. We are planning to offer one practical training event per year on top of the statutory training on a range of topics," say Rodde and Sommer.

This opens up a broader field for collaboration between the chemicals manufacturer and DB Cargo BTT. The rail company already transports around 5,000 tank containers and tank wagons for INEOS every year on routes across Europe. INEOS uses both block trains and DB Cargo's single-wagon network to convey 450,000 tonnes on the European rail network each year. *mb* ■

**Contact** | Carsten Kock  
Telephone: +49 (0)40 3918-6911  
carsten.kock@deutschebahn.com

## NEVER DAUNTED

**Charlotte Breckheimer works with time-critical transport operations and hazardous freight, and is a good role model when it comes to acting calmly and flexibly in a crisis. She makes sure DB Cargo BTT remains a reliable and trusted partner for the chemicals industry.**

**C**harlotte Breckheimer knows exactly what high safety requirements mean in practice. After four and a half years of working in automobile transport, the logistics expert moved to work in the chemicals sector. She has now been working as a Key Account Manager with DB Cargo BTT for a year and a half, organising time-critical transport operations, dealing with hazardous goods and overcoming major challenges. “We are working in a very sensitive intersection between a number of industrial partners, between manufacturing steps, and between producers and customers. That’s a great responsibility,” explains the 35-year-old. “And it’s a fantastic feeling when everything goes smoothly.”

### INTELLIGENT RESPONSE

And what if things don’t go smoothly? That’s when her technical skills and personal qual-

ities come to the fore. Charlotte Breckheimer was quite literally given a baptism of fire around six months into her new job. That experience taught her what it can mean for a company when it is not allowed to transport much of its freight in any way other than by rail or inland waterway owing to their high hazard rating.

When a major fire broke out at a customer’s site, Charlotte Breckheimer proved how flexibly DB Cargo can respond. Not only did she keep transport operations running despite an overhead line failure by quickly deploying diesel locomotives, she also worked with the relevant departments at DB Cargo and the customer to divert trains via other routes, and she quickly and unbureaucratically helped other rail companies to load and unload their trains. As if that wasn’t enough, the inland waterway vessels were also ruled out as a transport option. They were unable to berth and production was about to grind to a halt. Charlotte Breckheimer stepped in and helped to arrange for the freight to be transported in DB Cargo’s single-wagon network.

### FAMILIAR WITH HAZARDOUS GOODS

When you ask her today about this feat, she reports events with a matter-of-factness that implies that such tasks are part of her day-to-day work. And there is a reason for that. In the chemicals industry, safety is the number one priority. Employees are trained to handle hazardous goods, tank wagons, valves and fittings until they could do it all in their sleep. When Charlotte Breckheimer started at BTT as a Key Account Manager, she first had to pass a hazardous goods seminar course, which covered topics such as the dangerous goods classes, how gases respond to heat, how materials and objects are classified, and the labelling and documentation regulations.

Before joining BTT she organised transports of finished vehicles for the automobile industry. That involved managing trains reliably across the whole of Europe, including to Spain, where the wagons had to change gauge on the border so that they could continue their journeys on the Iberian broad gauge tracks. This experience of interdisciplinary thinking and clear communication with various teams around Europe is coming in useful today at BTT. Shuttle trains connect chemicals clusters across Europe, and when a customer books the rail freight forwarder, Charlotte Breckheimer or one of her colleagues, in case of doubt, also organises the initial and final legs by road.

Things are changing at BTT. DB Cargo’s chemicals subsidiary is currently evolving

into a rail freight forwarder with a strong focus on the railways. Customers that are developing logistics solutions across transport modes and that are looking to exploit optimisation potential, or that are simply looking for a lead logistics provider, will find in BTT a partner for the whole supply chain, including container logistics, tank wagon management and various other services relating to all aspects of transport, equipment and consulting.

### RAIL IS THE LIFELINE OF THE INDUSTRY

In her work each day Charlotte Breckheimer gets to see how vital rail transport is for the chemicals industry. She knows she is in good hands among her 130 BTT colleagues. It’s only when she talks about her job to people outside the industry that she realises how few people are aware of the important role chemicals play in our daily lives. “Did you know that chemical compounds are used in more than 90 per cent of all the products we use every day?”

She is now looking forward to the next Rail Safety Days, which will be held at the chemicals company Evonik in October 2017 (see also page 25). It’s very important to learn as much as possible about handling hazardous goods on rail, she says. “But I’m looking just as much forward to talking and exchanging ideas with colleagues from the industry.” *mb* ■

**Contact** | Charlotte Breckheimer  
Telephone: +49 (0)6131 15-73523  
charlotte.breckheimer@deutschebahn.com

PHOTO: ANDREAS REEG

**CHARLOTTE BRECKHEIMER:**  
The logistics specialist directs hazardous goods across all of Europe.





SMART SOLUTION: DB Cargo trains on their rounds through Europe.

# FROM ONE

**There's never been a round trip like this before: DB Cargo carries iron ore in one direction and steel coils in the other – all in the same wagons. How does it do it?**

# MAKE TWO

**B**efore now, it would not have been thought possible that sensitive coils for the automotive sector and ore for the steel industry could be transported half-way across Europe by rail in the same wagons. However, this is precisely the solution that DB Cargo experts and their customer Bavaria AG have devised and put into practice: an innovative backloading concept, under which a round trip is made in identical trains with completely different types of freight. “As far as I know, this type of rail transport is unique,” says Stephan Denzer of DB Cargo.

Here the details: Stephan Denzer is a Key Account Manager in the Industrial Sales Division and works closely with Bavaria on this transport operation. The freight forwarder, for its part, looks after the transport of production-critical supplies for the Austrian steel group voestalpine. One of this steel manufacturer's biggest works is in Linz. While Bavaria is responsible for transporting the raw material, iron ore, DB Cargo carries the end product, steel, to its international destinations. Almost one million tonnes per year are delivered by DB Cargo across international borders to a variety of recipients in Western Europe.

## MULTIFUNCTIONAL FREIGHT WAGONS

Under the new concept, it is now not only the steel, but also the raw material, iron ore, that is being transported by rail. An important ore supply transport operation begins in Rotterdam, in the Maasvlakte deep-water port. Iron ore that is used to run the blast furnaces in Austria arrives at Maasvlakte in large quantities. The ore is transhipped onto Eanos open freight wagons. These are common, four-axle bulk-freight wagons that can also be used to transport coal, rocks, scrap metal or timber. Eanos wagons can carry a weight of up to 65 tonnes and have numerous fastening options. A wooden floor reduces impact during loading and protects freight during the journey. The dimensions of the cargo space are 14.50 metres long and 2.72 metres wide.

With these specifications in mind, an idea occurred to Stephan Denzer and the freight forwarder Bavaria, which is responsible for transporting the ore. The ISO shipping containers commonly used have a width of eight feet, equivalent to 2.43 metres, and their length is 40 feet, or 12.19 metres. Might it be possible to fit a 40-foot container into an Eanos wagon – and thus, if not actually to kill two birds with one stone, to accommodate two types of freight in one wagon?

This idea was put into practice, and since October 2016, one 40-foot container or two 20-foot ISO containers per Eanos wagon have been making their way to Rotterdam. Stephan Denzer is delighted with this successful achievement, which is not merely saving resources and improving the availability of wagons but is also boosting the speed of the time-sensitive round trip. “This is because, otherwise, the Eanos wagons would be running empty from Linz to Rotterdam,” Denzer explains. “Now, we are making full use of the scope for backloading and are transporting loads in both directions.”

Here is what actually happens. After the ore train arrives at voestalpine, the ore is unloaded by crane. Then, the empty Eanos wagons are driven on to the Linz city port. The ore residue is removed and the wagon is cleaned. Next, a gantry crane lifts the containers holding the steel coils onto the wagons.

The containers are specifically designed for transporting the sensitive coils. They are loaded by a special forklift, which uses a long arm to lift the coil by the “eye”, the hole in the middle. It lifts it through the open wall into the container, where the coil rests on a bed of foam.

## RELIABLE AND COST-SAVING

The containers are secured in the Eanos wagon and the journey from the Linz city port to Rotterdam begins. There, cranes lift the containers with the coils out at the unloading terminals and tranship them. Then they are shipped overseas to India, China, the USA or Central America. Meanwhile, the empty Eanos wagons are driven on to the ore-loading terminal in the Maasvlakte deep-water port.

At present, 34 Eanos wagons are completing this round trip once a week. For voestalpine, the new system does not just save costs, as the rail operator's trump card is reliability. Freed from the uncertainties of heavy goods vehicles or barges and without the time-related risks posed by jams, flooding or low water levels, the steel manufacturer can now make firm plans for its loading and unloading and synchronise its production with the schedule of the round trip.

Stephan Denzer is pleased that the concept is being so well received. These transport operations are currently at the trial stage, but the official schedule was due to start running on 1 June. There will be even more work for everybody involved, as the number of transport operations is going to double, to two round trips a week. *mb* ■

**Contact** | Stephan Denzer  
Telephone: +49 (0)6131 15-61105  
stephan.denzer@deutschebahn.com

## INTERNATIONAL TRACKING & TRACING AT DB CARGO

LogServ/voestalpine uses DB Cargo to dispatch just-in-time deliveries of steel and coils for the automotive industry that have to be integrated into current production. These shipments are carried throughout Europe by single-wagon transport, they sometimes cross several national borders and they spend days on the move.

“In the international single-wagon system, it used to be hard to find out where a particular wagon was at a specific time,” explains Christoph Heibach, DB Cargo's Key Account Manager for the voestalpine logistics subsidiary LogServ. In its new, precise tracking & tracing service, DB Cargo pulls together and evaluates infrastructure data from DB Netz, as well as data from border processes and foreign network operators and information from the handling systems at marshalling yards.

“When a border is crossed or a specific location is reached, we inform the customer by email,” Heibach says. “Especially for large customers such as LogServ, which dispatches around 200 freight wagons a day, proactive information is a great help.” The new tracking & tracing service enables recipients to prepare in good time for the arrival of their shipments.

Every DB Cargo customer – and not just LogServ – will benefit from the new system. According to preference, location information can be retrieved via the myRailportal customer interface or through customer service in Duisburg, or it can be sent to customers proactively by email. *mb* ■

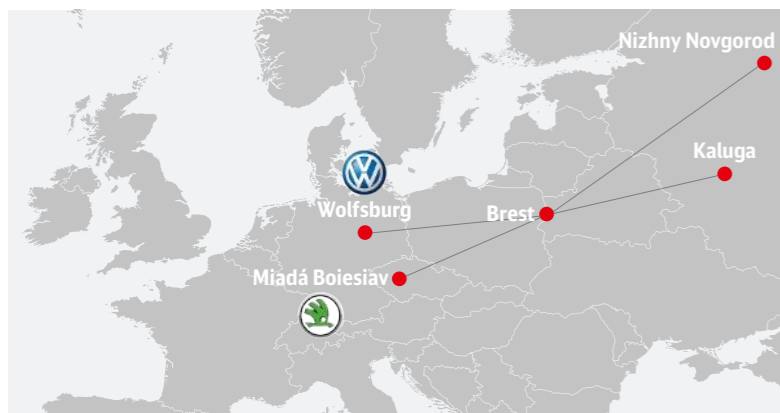
# A DECADE OF PARTNERSHIP

**DB Cargo has been supplying automotive components to Volkswagen's plants in Russia for ten years. Despite numerous challenges, these transport operations are running like clockwork – reliably and punctually.**

**F**irst, the good news: Volkswagen is extending its contracts with DB Cargo Logistics for container transport operations to the Russian car plants in Kaluga and Nizhny Novgorod. The second piece of news, equally good: thanks to increased demand for Volkswagen and Škoda car models, transport volumes are rising again following three years of crisis.

And the bad news? There is none. Admittedly, the past ten years have seen changeable times in business with Russia. However, the tenth anniversary, in particular, comes during a period of optimism. “Together with DB Cargo, we have built up a process that has been running in a stable manner for years,” says Matthias Braun, Head of Planning, Network and Location Projects at Volkswagen Konzernlogistik. “DB Cargo is a reliable partner, with which we will also face the challenges of the future together.” Senior executives at DB Cargo are pleased that this partnership has been extended. “It is proof of the stable quality and high level of commitment with which our team meet the requirements of our customers at Volkswagen, Škoda and Volkswagen Group Rus, day in, day out,”

Around 700 containers are on the move every week in both directions between the European plants and Russia. In Brest on the Belarusian frontier, the containers are reloaded onto broad-gauge wagons. The trains take four to five days for the journey through several countries.



explains Gunnar Grahlmann, Key Account Manager at DB Cargo Logistics. “We are running transport operations to Eastern Europe, across national frontiers and with other rail operators as our partners, and despite the high level of complexity there has not been a single production-threatening situation for Volkswagen in our deliveries over the past ten years. We are fully committed to this work.”

Grahlmann is very familiar with the opportunities and challenges of this business. He has been responsible for the Volkswagen transport operations to Russia for six years. An automotive expert, he followed the establishment of the “Kaluga connection” in 2007 with keen interest. “At that time, I was responsible for transport operations to France and Spain, also for Volkswagen, but I was naturally fascinated by Russia,” Grahlmann says. “First, there are great logistical challenges to overcome in this project. Second, the sheer distances that we cover with our trains are impressive.”

## AWARD AS BEST SERVICE PROVIDER OF THE YEAR

Both these points apply especially when one considers that these are inter-plant transport operations feeding into an ongoing car-production process. The trains cover 2,000 km from Autostadt at Wolfsburg to the Russian car plant in Kaluga, 180 km south of Moscow. Roughly the same distance is covered by trains running from the main plant of the VW subsidiary Škoda Auto in the Czech town of Mladá Boleslav. This is because a variety of models are built in Kaluga for the Russian market in a process known as completely knocked down (CKD) assembly. The individual parts come by rail from the main plants. The assembly work, the welding and painting of the bodywork and the production

of stamped parts are handled on the spot. In 2009, DB Cargo Logistics received the Volkswagen Group Award for the best service provider of the year for its outstanding commitment in the planning and execution of logistics concepts. Michael Gaschütz, Key Account Manager Volkswagen Group Inbound at DB Cargo Logistics, was in charge of building up container transport operations from 2007 for DB Cargo. “That was an excellent achievement, as it was all uncharted territory then,” Grahlmann believes to this day.

The business has developed steadily since then. Today, numerous models are made in Kaluga for the Russian market, including the VW Polo, VW Tiguan, VW Touareg and Škoda Rapid. Another 500 km further east lies the Nizhny Novgorod plant. The Škoda Yeti, VW Jetta and Škoda Octavia models have been assembled here since 2011 in collaboration with the Russian car manufacturer GAZ. This plant, too, is connected by rail to the main plants. DB Cargo has covered many routes for Volkswagen in the past ten years: DB Cargo periodically, for example, ran trains from Győr in Hungary to Russia carrying Audi components that were assembled there.



**THE WAY IS CLEAR:** With DB Cargo, Volkswagen RUS has a reliable connection to its main plants.



# OUR PARTNERSHIP-BASED COLLABORATION IS NOW PAYING DIVIDENDS.

JENS NÖLDNER,  
MANAGING DIRECTOR, DB CARGO LOGISTICS



**VOLKSWAGEN AND DB CARGO:**  
A decade moving forward together.

The Russian economic crisis did not leave the partners unscathed. The Russian car market shrank by one third after 2011. Volkswagen was hit, and transport volumes and the frequency of operations likewise fell. “DB Cargo demonstrated flexibility during that period,” Jiri Cee, Head of Škoda Brand Logistics, says approvingly. “We were able to cope with the challenges together, and I look to the future with confidence.” Then, in 2016, came the turnaround, as the car market in Russia slowly recovered. “We are expecting this recovery to be reflected soon in the number of our transport operations,” says Jens Nöldner, Managing Director of DB Cargo Logistics. “Our flexibility and the unwavering, reliable and partnership-based collaboration by all involved, especially in turbulent economic and political times, are now paying dividends.”

## CONTINUOUS IMPROVEMENTS

The logistics experts at DB Cargo have been working constantly on improvements over the years. For example, since 2015 the rail operator has been using innovative Siemens Class 189 multisystem locomotives, by which trains can be taken directly from Wolfsburg across the border into Poland. The locomotives are compatible with both the German alternating-current network and the Polish direct-current system. This dispenses with the time-consuming switch of locomotives in Frankfurt/Oder. Also, because the partner rail company on the Polish side has since then been the DB Cargo na-

tional subsidiary in that country, the rail operator is able to exploit synergies and use a single source of traction all the way to the border with Belarus in Brest, where the Russian broad gauge network begins. Here, the containers are reloaded onto a train with broad-gauge wagons. The Belarusian rail company BC takes charge of the train and drives it on to Russia, where TransContainer, a company belonging to Russia’s RZD rail operator, assumes responsibility for it.

Today, numerous containers are on the move every week in both directions between the European plants and Russia. They take



PHOTOS: DEUTSCHE BAHN (6); ALEXANDRA LECHNER



**CELEBRATING:**  
Jens Nöldner, Managing Director, DB Cargo Logistics; Petr Baskakov, General Director, Transcontainer; Igor Shylov, First Deputy Head of Belarusian Railways.

four to five days for the journey through several countries. Challenges are posed not just by the different languages in day-to-day communication but also by the varying customs systems and the changing gauges of the rail systems. Here, DB Cargo coordinates the activities of up to seven rail companies and numerous operators and subproviders.

To improve the processes in these transport operations, DB Cargo Logistics is developing a special type of software, the Logistics Information Concept for Russia, or LINC Rus for short. This IT tool works as a central planning, booking, commissioning and management unit for transport operations between Wolfsburg and Kaluga and enables the position of every container to be ascertained at any time. LINC Rus maps the whole process of these complicated transport operations, including pre-rail haulage by heavy goods vehicle, the ordering of containers and status information at the frontiers.

Improvements are also being made to wagons. For example, in addition to 40-foot container carrying wagons, DB Cargo is using new 80-foot container carrying wagons in its transport operations for Škoda between Mladá Boleslav and Brest. There had been

thefts in southern Poland during some rail transport operations. DB Cargo reacted immediately. On 80-foot carrying wagons, two 40-foot containers can be transported door-against-door, so that it is no longer possible to open the doors on the wagon. In addition, the Polish railway police is keeping a close watch on trouble spots.

Back in 2010, DB Cargo and Volkswagen together developed what is called the APB-K container, which is tailored to the specific requirements of the car industry. With a loading height of three metres, it can take a significantly larger load than a standard container, it can be stacked in two tiers when fully loaded and it can be transhipped with both top spreaders and grabs. Loading and unloading can be performed through both the rear door and the side. This ensures that the full loading height can be used. Stop rails to secure the load prevent the sensitive car parts from shifting. It is yet another milestone from DB Cargo.

This shows that many more refinements are certainly still possible in this container business in the years to come. As a symbol of their stable, trust-based cooperation, the three service providers involved in these transport operations – DB Cargo Logistics, the Belarusian state rail company BC and TransContainer, the intermodal subsidiary of Russia’s RZD state rail operator – this spring signed a letter of intent agreeing to continue their good cooperation. This letter is intended to symbolise the strong, trust-based partnership that has developed over the past ten years. “Without the outstanding and trusting cooperation with our colleagues from Russia and Belarus, this success story for Volkswagen would not have been possible,” Grahmann says. “We can only express our gratitude for this.” It is a partnership for Volkswagen that, more than ever, is forging a new path ahead. *mb* ■

**Contact** | Gunnar Grahmann  
Telephone: +49 (0)511 286-1627  
gunnar.grahmann@deutschebahn.com

## CUSTOMERS & PROJECTS

### MILESTONES IN SUCCESSFUL COOPERATION

**2007** — Block train transport operations from Mladá Boleslav and Košice to Kaluga begin.

**2009** — Block train transport operations between Wolfsburg and Kaluga begin.

DB Cargo Logistics receives Volkswagen Group Award as best service provider of the year.

**2010** — Innovative APB-K containers, tailored to Volkswagen’s requirements, are introduced.

**2011** — Škoda transport operations to the Nizhny Novgorod car plant begin.

**2013** — Block train transport operations between Hanover and Kaluga begin.

**2015** — Traction in Poland switches from PKP Cargo to the DB Polish national subsidiary DB Cargo Polska. Since then, processes on the German-Polish border are simplified significantly.

Use of cranes to move containers to broad-gauge wagons in the Polish town of Małaszewicze ends. For reasons of efficiency, all activities are pulled together in Brest.

**2016** — Development of LINC Rus, the central IT customer interface for all Volkswagen’s rail transport operations to Russia.

DB Cargo deploys innovative 80-foot container carrying wagons between Mladá Boleslav and Brest.

**2017** — DB Cargo has been performing transport operations with Volkswagen for ten years.

# »» OUR TRUMP CARDS ARE OUR NETWORK AND OUR GOOD REPUTATION



**Uwe Leuschner is Senior Vice-President Business Development Eurasia at DB Cargo AG and General Manager of DB Cargo's national subsidiary in Russia. In this interview, he gives an insight into present challenges and long-term prospects between Russia and the European Union.**

**INTERVIEW** Axel Novak

Mr Leuschner, cooperation between the Eurasian Economic Union and the EU is very complicated at the moment. What impact is this having on DB Cargo Russia's business?

**LEUSCHNER** At the moment, there are various factors that are having an impact on the activities of the German business community in Russia in general, as well as those of DB Cargo Russia. The economic crisis is being surmounted only slowly, the political environment remains difficult, and the EU sanctions have been extended. This means rail freight transport is still adversely affected – and this is having several consequences for our business.

Russia's imports and exports have stabilised at a lower level, because the country is transacting less foreign trade. This means fewer goods are being transported, and local products are replacing imports.

However, we are good at responding quickly to changing economic and political conditions. We have demonstrated this, for example, by switching transit transport operations between the EU and China to DB Cargo Russia. We have tapped new partners and potential here and are looking ahead to this year with great optimism.

How does the Russian rail freight transport market look – and how are you responding to these challenges?

**LEUSCHNER** The Russian rail freight transport market is still heavily monopolised. As a result, it is hard to offer competitive conditions or operate freely. In addition, as a rail freight forwarder, we have to cope with infrastructure that is often out of date. This leads to technical problems in tracking and tracing and in calculating journey times, but also at frontier stations. We are therefore trying to find alternative ways and options, including cross-border solutions and multi-modal offers.

In addition, we are currently seeing a shift in transport operations between Russia and Europe, with more goods being carried by heavy goods vehicle rather than by rail. This, too, is a challenge.

What particular requirements do Russian customers make of you as DB Cargo Russia?

**LEUSCHNER** Our customers in Russia expect us to provide good quality and a high standard of service. That means reliability in the form of assured journey times, as well as competitive prices and modern IT services.

And what about customers from the EU? What are the specific requirements that you have to meet there?

**LEUSCHNER** We have a range of specialist expertise that is very attractive to our customers. This includes significant regional know-how as well as recognition from authorities and rail operators in the Eurasian Economic Union – especially from RZD and its subsidiaries. Naturally, close cooperation with our partners is a requirement for high quality in our services. We collaborate very closely with the joint venture UTLC (RZD, KTZ and BC), the rail and wagon operator Eurosis, Kazakhstan's KTZ, the Belarusian BC and rail companies in the Caucasus. Our advantage is that we can buy capacity from these operators directly. In addition, we offer our European customers pre- and post-rail haulage, warehousing and customs clearance in conjunction with our partners.

Over the years, DB Cargo Russia has earned a good reputation in the Eurasian market. Our capital today consists, above all, of our excellent network, which is based on a respectful relationship with our partners.

You have been active in Russia with a rail transport subsidiary of your own since the 1990s. What has changed over the years?

**LEUSCHNER** In the past, DB Cargo Russia dealt with conventional rail freight transport operations in Russia, but for more than two years we have been the active agent for carrier services within the transit corridor between China and Europe. DB Cargo Russia is "responsible" for broad-gauge line 1520 and normally deals with transport operations in and from the Eurasian countries, the EU and China and within this region.

PHOTO: DEUTSCHE BAHN

That includes the famous China train ...

**LEUSCHNER** Correct. Eight years ago, we ran the first container trains from China to Europe. Since then, this rail-based land bridge has become a well-established product: in 2016, about 40,000 containers were carried by train between Europe and China. With our DB Cargo, we are now well on the way to increasing that figure further: in 2017 alone we, as DB, are planning for around 65,000 to 75,000 containers. As DB Cargo Russia, we are currently in the position of transporting at least one container train between China and Europe every day. However, we are also preparing for new markets – for example, in the Middle East – and devising new routes and corridor solutions.

Which customers are especially important there?

**LEUSCHNER** All our customers are equally important to us. In transport between China and Europe, however, the electronic, textile, automotive and chemical industries are particularly active. At the same time, we are trying to find special solutions for large customers and projects, such as our industrial or automotive partners, and, of course, for projects that we are pursuing jointly with Russian State Railways, RZD.

Some time ago, you moved into a new DB Cargo Russia head office. Why was that?

**LEUSCHNER** The reasons for that were mainly organisational. We are now closer to our DB partner AO Schenker, so DB Schenker Russia, and in addition, the new head office has better conditions, especially with regard to its IT connections. *an* ■

**Contact** | Uwe Leuschner  
Telephone: +49 (0)151 17437-053  
uwe.u.leuschner@deutschebahn.com

DB Cargo presented a lot of new services at transport logistic in Munich. With its focus on digitisation, customer proximity and innovative technology, the rail freight company had its finger right on the pulse.

# Moving Logistics



## DB Cargo

**TALKING TO CUSTOMERS:** Jürgen Bosse, Head of myRailportal and Customer Integration at DB Cargo, explains the functions of the new DB Cargo customer interface.

**RAIMUND STÜER:** The new DB Cargo Management Board Member for Sales answered questions from the Deutsche Verkehrs-Zeitung.



**D**igitisation was the central theme at this year's transport logistic. At the DB Cargo stand, visitors were able to acquaint themselves with the whole spectrum: the Internet of things, sensors, track and trace, digital customer interfaces – the rail operator had a wide range of innovations to offer.

One example was the myRailportal online interface, DB Cargo's new digitisation platform for its customers: it has clear design, offering simple and intuitive access to both familiar and new features. For instance, the integrated track and trace function now provides transparency both in Germany and abroad. The portal and its functions can be configured individually at the customer's request.

There was also positive feedback from coal and steel customers for the new Shimmns ttu coil transporter, which was presented to a large audience for the first time in Munich. Prior to this, Dr Jörg Hilker, Head of Industrial Sales, discussed potential for optimisation with his customers at the annual meeting of the German Steel Federation. The "best Shimmns of all time", as one industry representative put it, has innovative load-securing solutions, improved operational safety – and modern sensors. At the DB Cargo stand, customers were able to watch on a monitor as freight wagons used sensors to report their exact location and to convey information about impacts, temperature and weight.

Another theme was the continental bridge to Asia. The rail operator has for a long time been connecting East Asia to Western Eur-

**SHIMMNS TTU:** Katja Sander, Head of Metals I, and Dr Jörg Hilker, Head of Industrial Sales, DB Cargo, introduce Bert Kloppert, Head of Transport and Logistics at thyssenkrupp Steel Europe, to the innovative load-securing equipment. The coil transporter was developed in collaboration with customers.



ope, with more and more freight on the move along the "iron silk road" – with a service that is faster and more flexible than sea, and cheaper than air. Following the international nuclear agreement, there is now also a focus on Iran. A land-based connection to Europe is possible, Dirk Steffes, Head of Intermodal Sales, DB Cargo, declared at a panel discussion. "We are working with our customers to explore the potential of such a link," he said. "At the same time, we are conducting talks with the aim of strengthening a multimodal, rail-based connection between Iran and Western Europe."

Dr Carsten Hinne, CEO of DB Cargo BTT, paid tribute to the "outstanding role" of rail

freight transport in chemical logistics at a panel discussion with players from the chemical industry. The guests expressed the desire to move more freight to the railways. "For this to happen, more progress needs to be made on upgrading lines, and the noise-reduction measures that DB Cargo is currently taking by converting its wagons to the 'whisper brake' need to be extended to the whole of Europe, with legal force," Dr Hinne said. He promised that DB Cargo, as Europe's biggest rail freight operator, would continue to make progress in this direction. *mh* ■

**PEPPER:** Many visitors were intrigued by the DB service robot.



PHOTOS: MARTIN KROLL

**LOGISTICS MARKET IN IRAN:** Dirk Steffes, Head of Intermodal Sales at DB Cargo, sees great potential for rail-borne logistics.



## MASTER OF HEAVY LOADS

**Grit Propp is a hump shunting technician for DB Cargo at the Maschen shunting yard near Hamburg. Without her, no train is going anywhere.**

Ms Propp, your title sounds a little odd. What is a shunting hump?

**PROPP** The region around Hamburg is not known for being hilly. But there is one elevation on what is otherwise a completely flat shunting yard in Maschen. This elevation is known as the shunting hump, which is five metres high. A hump locomotive pushes the wagons uphill. Then, after reaching the top, they roll down, pass through a complex turnout system and are sorted into new trains based on their respective destinations.

What is your job?

**PROPP** I oversee 48 sorting sidings from a glass tower. These tracks are arranged into what we call "harps", where eight tracks form one harp. I work closely with the train dispatchers to make sure the trains are put together correctly. I'm also in contact with the shunting locomotive drivers and the "comparers", who check the wagons and brakes. If one of the brakes hasn't been bled properly, the wagon could get stuck on the shunting hump. Strong winds can also cause wagons to stop too early, in which case I dispatch a support wagon to get the wagon going again.

How did you come to work in the industry?

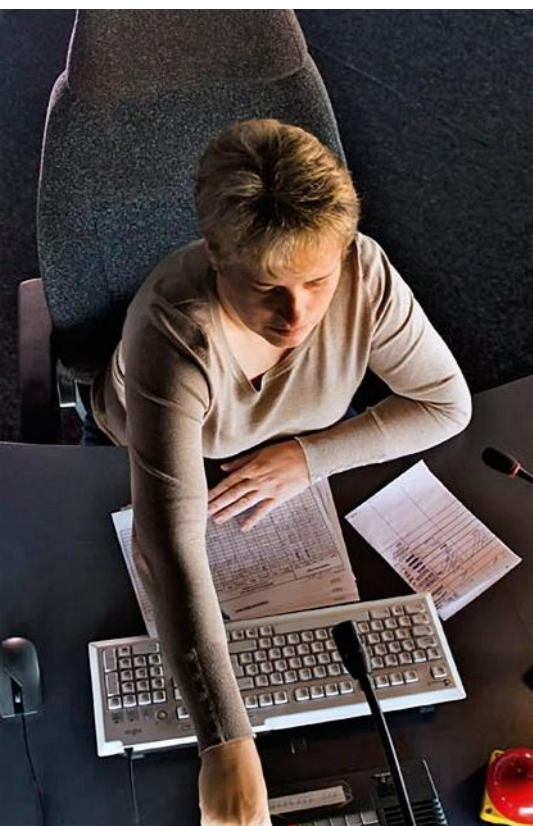
**PROPP** I learnt my craft from the ground up as a rail operations technician with the state rail company in the GDR. After that, I worked in Schwerin, Lübeck and Hamburg. In 2014, I had the opportunity to come to work in Maschen. The most impressive thing I've seen here is the enormous control desk from which the points on the shunting yard were operated. But shortly after I got here, the shunting yard was modernised and the computer has been my most important tool ever since.

You need to know every square inch of a huge site. And you're moving very heavy loads around. How do you handle the responsibility?

**PROPP** You're right - the sheer size of the site is really quite intimidating at the beginning. Maschen is Europe's biggest train marshalling facility. Up to 3,500 wagons pass through here every day. When the wagons roll down the shunting hump it all looks like a toy set from where I'm sitting. But you can't let that fool you: there is some very heavy machinery moving around on the tracks. In this job, you need a well-coordinated team and plenty of experience. It's vital that nothing goes wrong.

What's the atmosphere like in your team?

**PROPP** I'm the only woman in a team of around a dozen hump shunting technicians but that has never been a problem. There is a collegial atmosphere in the group - we railway workers always get along well! My husband also works for the company so it's like a big family here. *mb* ■



# 280

**With an area of 280 hectares, Maschen is the largest shunting yard in Europe. The yard is seven kilometres long and has a width of up to 700 metres. There are 29 bridges, 272 kilometres of shunting tracks and 54 buildings with 243,000 cubic metres of usable space on the site. Each week up to 110 inbound and outbound trains deliver up to 3,500 wagons per day to the yard where a well-coordinated team of around 700 DB Cargo employees works around the clock. *mh* ■**

**Issue 03 | 2017 of railways will be published in September 2017.**

**To contact the editorial team, and for collector's files and subscriptions:**  
[l-railways@deutschebahn.com](mailto:l-railways@deutschebahn.com)



**SON OF SHEFFIELD:** a mural painting of Harry Brearley, the British inventor of stainless steel.

## BUILDING MATERIAL OF THE MODERN AGE

In production, research and medicine, stainless steel is an important basic material for industry. Until as recently as a century ago, scientists were still looking for the formula for resistant, rust-proof steel types. Corrosion was the main factor limiting the scope for the industrial use of this material. Shortly before the outbreak of the First World War, scientists discovered how to make rustproof, resistant steel. In the non-networked world of 1912, the Krupp researchers Benno Strauss and Eduard Maurer found out that steel can be made more resistant and rust-proof with a lower proportion of carbon and the addition of chromium and nickel. In Britain, meanwhile, Harry Brearley is regarded as the inventor of this material. The researcher from the British city of

Sheffield was looking for a material for more reliable weapons. He too reduced the proportion of carbon and experimented with chromium in steel. In the process, he produced a material with high resistance to chemical and physical influences: stainless steel.

This rustproof steel was used everywhere: 18 tonnes were produced in 1914 and 56 tonnes in the following year, according to Germany's Informationsstelle Edelstahl Rostfrei. In 1950, one million tonnes of stainless steel were produced worldwide, and in 2011, the figure had risen to 33.8 million tonnes. Today, more than 120 stainless steel types are available for a variety of uses. Since taking over stainless steel production from thyssenkrupp, the Outokumpu steel company, based in the Finnish town of Espoo, has been a market leader in high-quality stainless steel. Outokumpu produces steel in places including Sheffield, where Harry Brearley worked. The stainless steel produced there, at that historic site, is delivered to Immingham and Liverpool by DB Cargo's British national subsidiary for export - and has been for 40 years. *an* ■

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### IMPRINT

**PUBLISHED BY**  
 DB Cargo  
 Marketing  
 Edmund-Rumpler-Straße 3  
 60549 Frankfurt am Main

**RESPONSIBLE FOR CONTENT**  
 Sebastian Schilling (V.i.S.d.P.)  
 Senior Vice President Sales Development and Marketing  
 Kai Maaß Head of Commercial Model

**PROJECT LEADER**  
 Marcella Diestel  
 +49 (0)69 265-34464  
[marcella.diestel@deutschebahn.com](mailto:marcella.diestel@deutschebahn.com)

**PUBLISHERS**  
 TERRITORY  
 Content to Results GmbH  
 Bei den Mühren 1, 20457 Hamburg

**EDITORS**  
 Axel Novak (an, dir.),  
 Mirko Heinemann (mh)

**PUBLISHING MANAGERS**  
 Gregor Kupper  
 Sophie Vogel

**DESIGN**  
 Falk Heckelmann

**PHOTO EDITING**  
 Kay Wolters

**PRINTERS**  
 DB Kommunikationstechnik GmbH  
 Akazienweg 9, 76287 Rheinstetten (Baden)

ISSN 1867-9668

Helping the environment - published on ECF paper.

**DB Cargo's website:**  
[www.dbcargo.com](http://www.dbcargo.com)

**INFORMATION FOR NEW CUSTOMERS:**  
 DB Cargo AG  
 Masurenallee 33  
 47005 Duisburg  
 E-mail: [neukundenservice@deutschebahn.com](mailto:neukundenservice@deutschebahn.com)  
 Service number for new customers:  
 +49 (0)203 9851-9000



DB Cargo Marketing  
Edmund-Rumpler-Straße 3  
60549 Frankfurt/Main  
Internet: [www.dbcargo.com](http://www.dbcargo.com)  
Email: [neukundenservice@deutschebahn.com](mailto:neukundenservice@deutschebahn.com)  
Service number/information for new customers:  
+49 (0)203 9851-9000