

railways

The customer magazine of DB Cargo



01/19

FOCUS

TRENDS & IMPETUS

Entire industry sectors in upheaval, climate change as a key topic and the perennial issue of digitalisation.

Ceaseless change remains an ongoing challenge for the logistics industry as well.

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Editorial



Dear Readers,

The economy is in the midst of changes spanning all industries around the globe. Tried-and-tested structures are unravelling, while entire industry sectors are experiencing tectonic shifts. This state of affairs continually presents us with new challenges as a transport and logistics company, and we will continue to tackle them with vigour in 2019. Experienced professionals and experts at DB Cargo explain what lies in store for us and what changes we will need to respond to. Climate protection will remain one of our biggest tasks. This is why we have joined the Rail Freight Forward Coalition, an association of European freight operating companies that started the unique art project known as Noah's Train at the climate conference in Katowice, Poland.

The title page of our current issue of railways features a picture of the project for your enjoyment. On this two-page spread, you can see the second of four motifs which DB Cargo contributed to this work of art.

In an interview with Dr. Roland Bosch, you will learn about why this project is so critical and how DB Cargo is positioned to take on other challenges in 2019.

I hope you enjoy our magazine.

Sincerely,

A handwritten signature in blue ink that reads "Th. Meffert". The signature is written in a cursive, flowing style.

Thorsten Meffert

Vice President Marketing, DB Cargo AG



— The German wagons of Noah's Train were painted with strikingly colourful graffiti in Berlin.



Trends & Impetus

FOCUS

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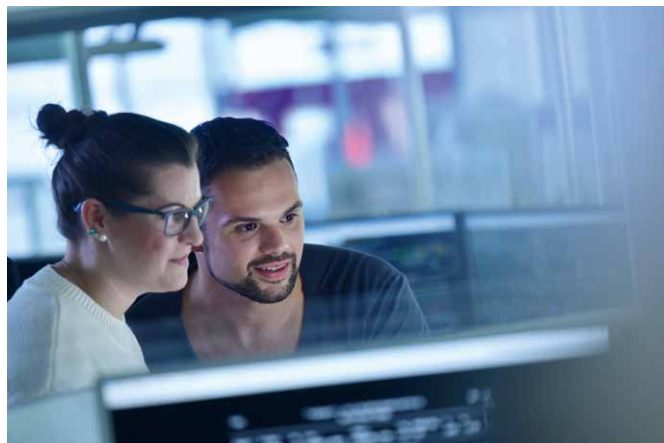


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NEWSLETTER

Visit our website and subscribe to our newsletter:

www.dbcargo.com/newsletteranmeldung

Our customer magazine won a gold at the FOX AWARDS in the "Transport and Logistics: external communication" category.



READER SURVEY

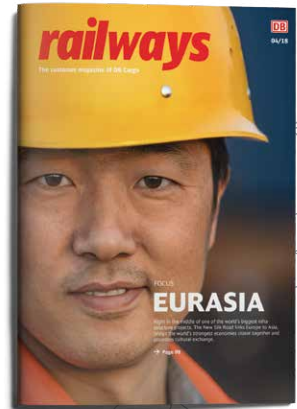
Abundant praise for revamped railways

We're delighted! We reached out to you in the last edition of railways, dear readers, to ask for your opinions, because we had given our customer magazine a thorough overhaul a little more than a year ago. We've now analysed the survey findings, and the results have us feeling like we made the right decision.

83% of participants gave the new railways a rating of "good" or "very good". 75% rated the relevance of the topics as "good" or "very good". With regard to ease of navigation, our magazine scored a rating of "good" or "very good" from 91% of respondents. Two-thirds of respondents were satisfied with the scope of the magazine and its articles. When asked to rate the likelihood that they would recommend the magazine to colleagues or people they knew, all participants rated the likelihood as 70% or higher.

Were there also some critical comments or suggestions? Of course there were! Some of those surveyed found that figures and statistics were sometimes arranged in a manner that was confusing and somewhat disruptive to the flow of the text. Readers also expressed the desire for articles on improvements and processes at DB Cargo. We will be glad to take up these suggestions.

The 25 winners of our raffle have already received their DB Cargo power banks. Congratulations! •



GERMANY - NEW LOGISTICS EXPERTS

DB Cargo's Management Board team is becoming more international

Two international logistics experts are joining DB Cargo's management team. Pierre Timmermans, 57, (pictured at left) will assume Raimund Stüer's position as the Board Member for Sales and Marketing. Mr Stüer has already left the Group. Mr. Timmermans, who hails from the Netherlands, has more than 20 years of expertise and railway experience under his belt, having served as CEO of Czech rail freight logistics company AWT, as head of the container port group of PSA International – based in Singapore – and as CEO of Danish transport company formerly known as Frans Maas (now DSV).

On 1 February, Marek Staszek, 49, assumed his new position as Board Member for Production.

Staszek, originally from Poland, succeeds Michael Anslinger, who will assume other responsibilities in the

DB Group. Staszek brings to the table 25 years of experience in rail freight transport. He has been a member of the Management Board of DB Cargo Polska since 2010, initially having served as Board Member for Finance & Controlling and, since 2014, as CEO. Previously, Staszek held positions which included CFO at PCC Rail S.A. and CEO at PTKiGK in Rybnik. Both of these are Polish companies now belonging to Deutsche Bahn.

In the next edition of railways, you'll have an opportunity to learn more about both new members of the Board of Managing Directors. •



— Noah's train was decorated with large-scale graffiti on its tour through major European cities.



— DB Cargo CEO Dr. Roland Bosch (pictured at left) and Alexander Doll of Deutsche Bahn's Management Board sign Noah's Train.

EUROPE - NOAH'S TRAIN

Railway art raises awareness for more climate protection

A spectacular campaign is drawing to a close. On 20 February 2019, Noah's Train will reach its destination in Brussels, wrapping up its tour through Europe. But this is only the beginning. This is because the freight train with the strikingly designed wagons symbolises the start of something big.

Over the next 11 years, a coalition of 18 railways and logistics associations aims to boost the market share of rail freight transport from 18%, where it currently stands, to 30%. That increase would make a substantial contribution toward meeting the goals of the Paris climate agreement.


Transporting goods by train in particular has great potential. The specific energy consumption of rail transport is six times lower than that of road transport. That difference is significant when considering the environmental impact, especially because most trains are powered by electricity. According to one of the coalition's central demands, this difference should be considered in future cost calculations. Currently, calculations such as these still favour lorry transport.

The coalition is also asking regulatory authorities to step up in a different way. Authorities are being requested to remove obstacles that currently make cross-border freight transport by rail considerably more complicated than road transport on the same routes. Additionally, the coalition is calling upon the rail freight sector itself to provide even more services superior to those provided by lorries. ●

Visit <https://railfreightforward.eu> for more information.



High-speed transformation



Digital transformation, climate change, dwindling resources and political uncertainty – the logistics industry is subject to constant change. Nevertheless, it has strong prospects of once more outpacing the growth of the broader economy in 2019.



However, the industry first has several hurdles to clear. It did post strong figures in 2017, and there was decent growth in 2018, as well. “The German economy is experiencing a solid upturn despite protectionist trends in the global economy”, said the German Federal Ministry for Economic Affairs at the close of the third quarter of 2018. Still, the mood has taken a sombre turn. Many firms, forced to plan today for the impending changes of tomorrow, have been rattled. As service providers, it is a particularly thorny task for logistics companies to anticipate future developments without running off the economic rails by setting the wrong targets and making the wrong investments.

“The German economy is experiencing a solid upturn despite protectionist trends in the global economy.”

THE GERMAN FEDERAL MINISTRY
FOR ECONOMIC AFFAIRS AND ENERGY
at the end of the third quarter of 2018

Political uncertainty and the spectre of trade conflicts have tempered the prospects for growth. These factors combine with trends that impact economic performance – the imperative to increase sustainability, demographic change, digital transformation and the modernisation of infrastructure. When viewed as issues to be addressed in the medium-term, these areas of concern make it clear that the industry faces some whopping challenges down the road.

Demographic change: *Defined as the change in the structure of a country's population. Birth and death rates, migration and age distribution are key figures for determining the structure of a population.*

Three figures related to demographic change and the shortage of skilled workers

30–45% *Projected increase in the proportion of people over 67 as part of the total working population by 2034.*

1/3 *Projected decline in labour force by 2060 (as many as 16 million people), if Germany were to prohibit immigration.*

352 of 801 *Number of job categories currently facing staff shortages.*

Economic outlook for 2019

We begin by presenting several unvarnished figures from analysts. The council of experts advising the German government and dedicated to assessing macroeconomic developments predicts the real gross domestic product (GDP) growth rate will increase by 1.6% in 2018 and 1.5% in 2019. “The uncertain future of the global economic order and demographic change have thrown up major obstacles for the German economy”, said the council of expert’s chairman Christoph M. Schmidt in November 2018.



“The uncertain future of the global economic order and demographic change have thrown up major obstacles for the German economy.”

CHRISTOPH M. SCHMIDT
Chairman of the council of experts

“We are therefore facing important economic policy decisions.”

The joint diagnosis delivered by five German economic institutes to Germany’s Federal Ministry of Economic Affairs and Energy was only marginally more optimistic: “On average, following growth of 1.7% in 2018, economic output may expand at rates of 1.9% in 2019 and 1.8% in 2020”, according to the prognosis of September 2018. Roland Döhrn, chief economic forecaster of the RWI-Leibniz Institute for Economic Research, concurs: “The German economy’s upward swing is losing momentum. International demand has slackened, and at the same time it is apparent that companies are increasingly encountering problems finding enough employees for their production.” In 2019, freight transport is also likely to see large gains. The German Federal Office for Goods Transport prepares a “rolling medium-term forecast for freight and passenger transport” for the German government. Its current forecast states that crude steel production will hold steady, crude oil consumption will remain nearly static and sales of coal

will fall off, translating into less traffic. At the same time, however, it predicts that freight transport will nevertheless experience powerful growth in revenue (2.3%) and transport service (3.1%). This can be attributed to rising construction investments, production of main construction trades and industrial production.

Growth

The industry, however, is about far more than just freight transport – it is Germany’s third-largest economic sector, with more than 3 million employees and revenue of EUR 267 billion in 2017. The “Logistikweisen” (German for logistics sages), a group of well-regarded experts hailing from various industries and sectors, examined the industry’s prospects. According to the results the committee published in autumn of 2018, “growth of 1.7% by euros is forecast for 2019”. In the following year, this figure is expected to climb to as much as 2.2%. However, the Logistikweisen have an important statement to make: Some of the growth consists of

► more tonnage, but most of it is attributable to higher prices. Logistics services are therefore becoming more expensive.

Trends

But what is driving the logistics industry in 2019? What are the major issues that consignors and service providers will have to grapple with this year and in years to come? “There are two major bottlenecks: the shortage of skilled workers and the development of capacity on the road”, says Wolfgang Stölzle, professor for logistics management at the Institute for Supply Chain Management of the University of St. Gallen in Switzerland. Stölzle, who is also a member of the Logistikweisen group, is bullish about 2019. However, “there’s a prevailing impression that a long-lasting cyclical peak could slowly come to an end. On both sides of the equation, the logistics industry benefits disproportionately from economic shifts”.

61%

of companies consider staff shortages to already be a risk today.

Skilled employees

The logistics industry is running out of skilled employees, which is constraining transport capacity even today. Without the train drivers, transport service providers, dispatchers and lorry drivers they need, increasingly complex supply chains will no longer be able to function. There are too few employees in all of these professions. Estimates indicate a current shortage of up to 45,000 lorry drivers. Railway companies also lack skilled employees. DB Cargo, for example, hired more than 1,800 new employees in 2018. They will become train drivers, shunt-

ing locomotive drivers and wagon inspectors, as well as planners and dispatchers in production. In addition, the age distribution among current employees will exacerbate this shortage in the coming years. “The effects of demographic change are now hitting with full force. During my talks with logistics managers, the shortage of skilled staff was always something looming on the horizon. Now it’s affecting everyone”, says Professor Stölzle.

Infrastructure

Moreover, there is a limiting factor that the Logistikweisen have named very clearly: “The requisite replacement or repair of road and rail infrastructure will give rise to numerous construction sites, some of which will be in existence for too long. Also, the foundation for smart traffic management is lacking. Furthermore, the infrastructure system is still dilapidated. That leads to losses in efficiency, longer timelines and rising costs in logistics”.

For example, nearly half of all highway bridges were built between 1965 and 1975. Today, they need to be at least thoroughly overhauled or rebuilt, as determined by the German Economic Institute back in 2017. The number of infrastructure deficiencies on waterways is even more striking. Approximately 600 locks and weirs have reached an average age of 70 and 65 years, respectively. These old facilities are often rendered unavailable, and they are too small for today’s ships.

The situation on the tracks is similar: Nearly 10,000 railway bridges date back to before World War I. Today, the railway bridges in Germany have an average age of approximately 56 years. There is a great need for renovation here, too. The German government wants to extend political support to the railways by expanding the rail network. Twenty-nine additional rail projects have been designated as “first priority”. Twenty-two projects involving new construction and upgrades, six upgrade projects for railway junctions and measures for the use of 740-metre-long trains have been



assigned the highest level of urgency. “We are putting additional rail projects on the track, which are a real win for the entire rail network and the regions. They are a means for us to eliminate bottlenecks, create more capacity and provide infrastructure for the Germany-wide integrated regular-interval timetable”, said Andreas Scheuer, the German Federal Minister of Transport. A large amount of money is now being invested in modernising the infrastructure. However, many construction projects take years to complete, and many projects are currently making infrastructure even less usable than it was before at an inopportune time.

“There is no possible way for infrastructure to keep pace with traffic growth. That applies to all areas of transport”, said Professor Stölzle of the University of St. Gallen. “So far, the age-old demand that economic growth be decoupled from growth in transport has not been met. On the contrary, the economy is becoming more and more transport intensive”.

However, an international comparison is worth noting in this context. 2018 marks the third consecutive year the World Bank has placed Germany at the top of its list of 160 countries on the Logistics Performance Index. The rating takes into account assessments

by important main trade partners and international logistics providers. They ranked Germany number one in the category of “quality of trade and transport infrastructure”.

Germany-wide integrated regular-interval timetable: *Coordinated, regular-interval train timetable for all of Germany, encompassing regional service, main traffic arteries and everything in between. The Germany-wide integrated regular-interval timetable is grounded in the German government’s 2018 coalition agreement and will benefit freight transport, e.g. through special tracks and targeted infrastructure expansion.*

Objectives of the future alliance for rail

- **Expand capacity:**
Investment of billions of euros in electrification, network and technology (ETCS)
- **Strengthen competitiveness:**
Improved rules for awarding paths and pricing, as well as interoperability for networked service rates
- **Reduce noise pollution:**
Introduce noise abatements on tracks and use quieter trains to make Deutsche Bahn a good neighbour to everyone
- **Promote digitalisation, automation and innovation:**
Self-driving rail vehicles and electric mobility (e.g. fuel cell technology)

E-commerce is changing the entire logistics industry

At the same time, flows of goods in Germany are changing. Supply chains are growing longer in response to a boom in e-commerce. The number of services offered for storage, order picking, transport, delivery and, in some cases, payment for products is increasing. “Companies in full-container-load transport, less-than-container-load transport and combined transport are also growing”, says



“Trade is changing rapidly; brick and mortar commerce has continued to open up and expand multi-channel sales.”

MARTIN SCHWEMMER
Fraunhofer working group
for Supply Chain Services, Nuremberg

Martin Schwemmer from the Fraunhofer working group for Supply Chain Services SCS in Nuremberg. Last November, the working group presented the latest top-100 study of logistics in 2018 and 2019. “Trade is changing rapidly; brick and mortar commerce has continued to open up and expand multi-channel sales”, says Schwemmer. “Many logistics providers are now clearly seeing the need to invest.” Consignments are shrinking, which makes flexibility in particular the key to success.

“It is entirely possible that rail will be able to capture a share of value added”, says Schwemmer. This mode of transport, especially combined transport, has a great deal of potential. However, Deutsche Bahn needs to offer the flexibility and the slots that mesh with distributors’ systems.

Additionally, many freight forwarders have not yet had any experience with rail. This means that companies like DB Cargo need to make their product portfolios easier to

“We are putting additional rail projects on the track, which are a real win for the entire rail network and the regions.”

ANDREAS SCHEUER
German Federal Minister of Transport

PLATFORM VS. LOGISTICS PROVIDERS

Dr Steffen Wagner is a partner and Head of Transport & Leisure at KPMG Wirtschaftsprüfungsgesellschaft. He has worked in the areas of transport, services and infrastructure since 1997.



— Dr Steffen Wagner, KPMG Wirtschaftsprüfungsgesellschaft

At the logistics Congress held in Berlin last October, German Minister for Economy Affairs Peter Altmaier appealed to German industry to create worldwide platforms for logistics. Are platforms like these actually an important symbol for an entire industry's digital revolution?

DR STEFFEN WAGNER __ Platforms do indeed carry the potential to upend traditional business models. For instance, some platforms are not just marketplaces for transport services; instead, they take things one step further, for instance by offering a plethora of additional services related to land transport. In the past, a consignor would call a freight forwarder and arrange an appropriate service package. Today, some of the same services are available on platforms. However, for that to be an option, transport solution providers must be able to put a price tag on their services in real time. This is a very tough nut to crack for small and medium-size businesses since quite often their processes are simply not transparent enough in digital terms.

What does that mean for logistics companies?

SW __ We have to consider that freight volumes will continue to undergo structural changes in the coming years. Shipments will become smaller and smaller and will require more flexible solutions. At the same time, freight space will be limited; there is also the shortage of drivers, rising diesel prices, road toll hikes and upcoming investments in new drive systems. All of these factors drive costs higher. One consequence will be more pronounced consolidation on the provider market. Another will be increased insourcing by consignors, which depend on reliability, at least for planning services.

What does that mean today?

SW __ My view is that small logistics service providers have three basic options. They can sell their business or consolidate it into a larger unit, step up their cooperation with a major consignor (for example, by way of a manner of insourcing) or integrate themselves into platforms which are relevant for them, provided they have the informational basis to do so. Simply put, the critical question for logistics service providers is whether and how they will succeed in maintaining the increasingly elusive customer interface. The big logistics providers built their own platforms a long time ago to ensure this interface was in place. It will be exciting to see in a few years which of them have prevailed on the market.

▶ access and offer customers the ability to transport small amounts of cargo more simply.

A trend toward more sustainability

Cargo bikes, electric vehicles, artificial intelligence for planning routes and the perfectly planned use of various modes of transport are examples of how seriously logistics providers are taking the matter of making supply chains more environmentally friendly. Sustainability will continue to be a hot topic in 2019. “We see it as a relevant trend”, says Martin Schwemmer. “However, there’s no intrinsic motivation for sustainability; instead, it is external forces such as political regulations or customers calling for it”. He says that logistics providers in particular, including express service providers, are closer to end-customers and feel more pressure to put their sustainability efforts on display. Schwemmer’s view is that the need for sustain-



“Even today, digitalisation is leading to greater transparency; after all, we have much more knowledge about our supply chains today than we did previously.”

WOLFGANG STÖLZLE
Professor for logistics management

Picking: *The act of removing a product from a storage unit in a warehouse to fill an order.*

METHODS OF PICKING:

1. Picking with a pick list

- *The warehouse location, item number and quantity are written on the pick list*

2. Pick-by-scan

- *A mobile data recording device, which can be hand-held or mounted on a forklift, contains the detailed picking order*

3. Pick-by-voice

- *A mobile data recording device is controlled by voice (microphone), and the order is transmitted via audio, usually over headphones*

4. Pick-by-light

- *In the warehouse, light signals directly indicate which items and quantities need to be removed for a given order*

5. Pick-by-vision

- *Displayed in the picker's visual field using smart glasses*
- *Integrated directional guidance optimises the paths travelled*
- *System can be controlled using voice recognition*

able transport solutions is an enormous opportunity for companies in rail freight transport in particular to increase their share of the modal split, because the efficient and electrified nature of rail transport mean it produces fewer emissions than lorries, for instance. However, competitive costs are the pivotal factor. So far, sustainable supply chains have had to make financial sense", explains Schwemmer. Railway companies' hand is strengthened because they are sheltered from some costs, such as track access charges. Lorries, on the other hand,

which are rail's most formidable competitor, have to bear the burdens of steeper road tolls and a potential upsurge in fuel prices. The social aspect of sustainability is increasingly taking centre stage as well. In light of the shortage of skilled employees, it is essential to make the company attractive to both existing and future employees.

Digital transformation reigns supreme

Finally, we come to the digital transformation. It is predicted that digitalisation will provide technology to solve many problems at once. Automation and artificial intelligence (AI) are helping to overcome the shortage of skilled staff. AI and data analytics, together with long lorries, platooning, longer trains and self-driving vehicles, help ensure that the limited infrastructure is used efficiently, thereby boosting sustainability. This is certainly one factor which prompted Germany's Federal Minister of the Economy, Peter Altmaier, while addressing the BVL-Logistics Congress in Berlin last October, to appeal to companies to take charge of the digitalisation process and advance the construction ▶

Platooning: *A system currently in development for road transport in which multiple vehicles employ control system technology to drive in close proximity to each other with no adverse impact on traffic safety.*

In a pilot phase, columns of DB Schenker lorries were tested in scheduled service over several months in real street traffic on German highway A9 between Munich and Nuremberg. Since the end of September 2018, the lorries have made up to three trips on the 145 km route on typical logistics days. For the first time, there were no test drivers behind the wheel; instead, they had professional lorry drivers from DB Schenker at the helm.



► of digital platforms (see interview with Steffen Wagner on page 14).

“Even today, digitalisation is leading to greater transparency; after all, we have much more knowledge about our supply chains today than we did previously”, says Professor Stölzle. The result is that many companies, armed with digital services, are now forcing their way onto the market. However, many standards are still not in place, says Martin Schwemmer. According to Schwemmer, the range of digital tools used today is very broad, from 3D printing, localisation and tour planning to smart glasses used for

picking. “This also fuels a lot of uncertainty”, says Schwemmer. Many companies are waiting it out because they are under a great deal of cost pressure.” Digital projects are not being initiated until their business cases make financial sense.

Decision time is now

The path to becoming a digital company is treacherous, however. The transformation has to take place while operations are ongoing. When all systems are running around the clock, 365 days a year, and all employees are

under high pressure to perform, the capacity for innovation is understandably tight.

Digitalisation is already a difficult field for the logistics industry itself, and there are other uncertainties influencing the economy on a fundamental level. Will automation bring about growth around the world? How will climate change impact global approaches to manufacturing? And who is in a position to find good answers to these questions today? ●

INDUSTRIES IN TRANSITION



On the following pages, we will show you what issues are at play in the various branches of the industry in Germany, Europe and the rest of the world. We will also share with you the changes to which logistics companies will ultimately have to adapt.



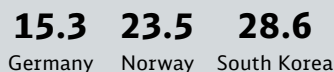
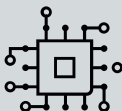
Steel production in 2018
(crude steel, in million t)
→ pp. 22-25



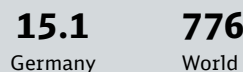
Automobile production in 2017
(in million pc.)
→ pp. 26-27



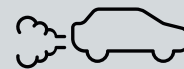
Coal extraction in 2017
(in million t)
→ pp. 28-31



Internet connection speed
(in Mbit/s)
→ pp. 32-35



Container transshipment in 2017
(in million TEU)
→ pp. 36-38



CO₂ emissions in 2017
(in billion t)
→ pp. 39-41



— *The physicist and doctor of economics has been at the helm of DB Cargo for a year.*



AN INTERVIEW WITH DR. ROLAND BOSCH

What to expect in 2019

Megatrends in logistics: opportunities and challenges for Europe's largest freight operating company. CEO Dr. Roland Bosch (47) explains how DB Cargo has prepared itself for 2019 and beyond.

Dr. Bosch, it has been a year since you took over the helm of DB Cargo. How would you sum up your time as CEO so far?

DR. ROLAND BOSCH— I made a deliberate decision to take on the role a year ago, and I still enjoy my job. There are a wide range of challenges, but we have already had some success. We took a big step when we transitioned our entire production system to the new end-to-end approach last year, and production is much more stable on the whole than it was a year ago. What I love to see most is when customers and employees report on progress we have made. That lets me know that we're on the right track. Certain customers are already more satisfied with our services. We have a difficult road ahead of us at DB Cargo, but rail freight has tremendous potential, and because it lowers CO₂ emissions, it also plays an important role in climate protection – one of the most important sociopolitical issues, which ultimately affects all of us.

“The global economy is growing, and along with it, the logistics market. That is the most important trend for us.”

DB Cargo announced at the end of last year that it would reorganise its Management Board.

RB— Yes, the reasons for the reorganisation were twofold. On the one hand, it was in response to Raimund Stüer's departure and Michael Anslinger's move to another part of the DB Group. On the other hand, it gave us the chance to take on a more European focus. Pierre Timmermans, our new

Board Member for Sales, and Marek Staszek, our new Board Member for Production, are not only experts in the industry but also bring international experience with them. There is no shortage of opportunities for rail freight in Germany and on European corridors, and we want to do a better job of tapping into this potential. I am looking forward to working with our new team.

Looking ahead, what will DB Cargo focus on in 2019?

RB— We are focusing on quality and growth, and that's not going to change. We want to start growing again and expand our leading position in European rail freight transport in 2019. To do that, we need to offer high-quality products and services that appeal to customers. And that requires investment in our locomotives and wagons, supported by measures that will strengthen automation and digitalisation. Our entire fleet of freight wagons is already equipped with smart ▶



— Two things are at the very top of Roland Bosch's agenda in 2019: quality and growth.

► sensor technology for automotive transport. There is also a lot of potential in digital fleet management and predictive maintenance. We are constantly modernising our fleet and are procuring more multi-system electric locomotives for international services as well as replacing old diesel locomotives with hybrid and bi-mode models. On the staffing side, we are continuing the largest recruitment and training programme in the history of DB Cargo, which is crucial.

Looking at market developments, what is the most important trend?

RB— That's easy. Freight transport by truck, rail and ship is expected to grow 30% in Germany alone by 2030. And we want to make big gains in our share of the modal split. DB Cargo has launched the Rail Freight Forward

“DB Cargo hired 1,800 new employees in 2018.”

initiative along with other companies to increase rail's share of all freight transport in Europe from 18% to 30% by 2030. To drum up attention for the initiative, we sent Noah's Train, the world's longest mobile work of art, on a journey through Europe at the end of the Katowice climate summit in December 2018. The purpose of the train, named after Noah's Ark, is to

underscore our commitment to protecting the climate and to gain support for shifting more traffic to rail. The freight train stopped in Berlin, Paris and Brussels on its tour.

How is DB Cargo responding to factors that companies have little influence over, such as the decline in heavy industry, global production and decentralisation?

RB— We are addressing the changes caused by the decline in heavy industry by taking steps such as offering multimodal transport solutions and expanding links between Europe and China. Our European network gives us a strategic competitive advantage, which we need to build on. It allows us to easily serve plants in Eastern Europe for our automotive customers. Further afield, we are taking advantage of China's considerable growth potential and stepping up our involvement along the New Silk Road.

Germany is continuing to move away from coal, in part for sustainability reasons, yet the steel and automotive industries are booming. How will you manage these two opposing trends?

RB— We're managing by targeting our sales efforts and systematically cultivating the entire market. We'll

DBeco neutral

DB Cargo compensates for CO₂ emissions on all routes by buying climate protection certificates. The money from the certificates is used to support sustainable projects around the world and promote the expansion of renewable energy, which helps reduce CO₂ emissions.

DBeco plus

DBeco plus makes it possible to transport cargo entirely CO₂-free in Germany and Austria. Electricity from renewable sources is used for traction. Customers receive a certificate of their CO₂ savings.

need to compensate for lost transport in one area with new orders in the other. The market potential is there. We have business with existing customers that has grown 25% in the past year. We are also shifting to transporting more light goods. More and more companies want sustainable transport, and we have clearly benefited from that trend. No mode of transport is more sustainable than rail.

Policymakers are improving the framework for rail freight. How would DB Cargo like to participate in this forecast growth?

RB— The German government’s Rail Freight Master Plan sends a clear signal that policymakers want to shift more traffic to environmentally friendly rail. We’re getting a big boost from the reduction in track access charges for rail freight operators. We will be able to funnel these funds into transport services that are growing and also put them towards improving quality and investing in locomotives and wagons. Ultimately, our customers are the ones who will benefit. The Master Plan will also help our international services. We are currently hard at work on our processes so that we can improve the speed and reliability of service on pan-European corridors. Our goal is to move from a freight operating company with 16 national companies to one production system with cross-border value chains.

In order to grow, you need enough staff and assets. Where is DB Cargo right now?

RB— We want to create a level of resources, both on the locomotive and wagon side and on the staff side, that will allow us to take advantage of market opportunities. We began an ambitious hiring and training programme back in Summer 2017. We need to continue the programme and step up our efforts in 2019 in light of projected growth and demographic change. DB Cargo hired 1,800 new employees in 2018, and we want to continue to

recruit at a high level in future. Our course is set for growth, even though customers haven’t necessarily been able to directly feel the effects yet. Many of our new colleagues are still in training, and the new wagons aren’t yet operating with the necessary level of efficiency.

DB Cargo wants to be a reliable partner for its customers. How do you intend to convince your customers that rail is the way to go?

RB— That’s easy: Our primary objective is to deliver. We want to win over customers with our performance and quality, and our colleagues are hard at work on that every day. That’s why we have been asking customers for feedback once a month since 2017 instead of just once a year. This feedback tells us in near real time where the hiccups are and where any adjustments need to be made. We need to beef up our resources so we can reliably meet the high demand to our customers’ full satisfaction. Access to rail is increasingly digital, which also makes it easier. And that’s why we’ll be even more involved in Xrail in 2019 and will join the broker platform for single wagon-load transport. We are working on adding more services to our own platform, which we have renamed link2rail.

What about yourself? What do you, as Chairman of the Management Board and CEO, hope to accomplish with DB Cargo by the end of the year?

RB— We will have accomplished a lot if I can call our customers on 31 December and they tell me that they are more satisfied with DB Cargo on the whole and with our performance, or even with our new products and services. We will have done well if they say that they were told about problems in a timely manner and that we found good solutions to those problems. That will prove that the work on our processes and our investment in quality and growth has paid off – and not just in terms of customer satisfaction, but in terms of motivating

DR. ROLAND BOSCH

CV

- 2002:** Head of strategic planning, regional strategy and competitor analysis at DaimlerChrysler
- 2005:** Head of finance for DaimlerChrysler North-East Asia in Beijing
- 2010:** Member of the Management Board of DB Netz AG responsible for Finance
- 2013:** Member of the Management Board of DB Netz AG responsible for Production
- December 2017 to present:** Chairman of the Management Board and CEO of DB Cargo AG

the DB Cargo team. It is also important to me that all of our employees know what they can do themselves, and that they have the confidence to do get things done and make changes. Any decision that benefits our customers is a good decision. We will be talking about how we can reinforce this behaviour at our internal “Management Board on site” dialogue events in 2019. ●

link2rail

link2rail is the central customer platform for all DB Cargo digital services. In addition to the familiar *myRailportal* solutions, services are being developed that transcend customer portal services and will provide our customers with even better support in digitalising their logistics processes in the future. By using modern technology and user-oriented, simple access via an app, we enable customer systems to utilise functions.

ECONOMIC TREND

N°
1

Staying the course

Germany's steel industry has big challenges ahead. It has a dependable partner in DB Cargo.

STEEL TRANSPORTS BY DB CARGO IN NUMBERS

Industrial Sales:
steel transport figures (2017-18)

Tonnage carried (t)	71.2 million
Tonne kilometres	25.708 billion
Average transport distance (km)	361
Single wagons (t)	44%
Block trains (t)	56%
In Germany (€)	48%
Outside Germany (€)	52%
No. of freight wagons	37,906
No. of freight wagons carried (not fleet)	1,127,576

Last year was a year full of challenges for the steel industry in Germany. The trade dispute between the United States and China continued to threaten global economic growth, and European manufacturers and logistics services providers were hit with the rising cost of CO₂ certificates. The industry is also facing the technological challenge of successfully developing and establishing digital solutions to optimise efficiency along the entire steel production and logistics supply chain.

The transformation in the steel industry extends to scrap steel recycling, too. Scrap steel shipping has stagnated in Germany, but the global market continues to expand. So how should the steel industry as a whole deal with these trends? And what developments can we expect in steel recycling?

Dr. Hilker: "Measures to greatly increase capacity at DB Cargo."

Despite all the challenges the industry faced last year, Dr. Jörg Hilker, Senior Vice President Industrial Sales at DB Cargo, has a positive outlook:



"In 2019, we expect continued tailwinds for steel transport by rail, and the outlook for the market is generally stable."

DR. JÖRG HILKER
Senior Vice President Industrial Sales
at DB Cargo



— *Steel is a major economic factor: The steel industry employs around 96,000 people in Germany.*

“DB Cargo transported more cargo than in the previous year.” Hilker expects the cargo volume to increase further: “We have leased all the suitable freight wagons available on the market since 2017 and have decided to substantially expand the fleet by procuring new wagons. Many of the wagons were delivered in 2018, and we will receive even more in the next two years.”

The company will also implement a lasting increase in staff capacity for production operations. According to Hilker, “The measures we have already initiated will give a major boost to capacity at DB Cargo starting in 2019.” Last year was clear proof that the rail system is an absolutely essential part of efforts to make transport structures in Germany and Europe more environmentally friendly, Hilker says.

DB Cargo expects continued tailwinds for steel transport by rail in 2019, and the outlook for the market is generally stable. “That’s the case even

in light of temporary decreases in automotive production due to the well-known approval problems and tariff debates around the world,” Hilker adds.

Dr. Cosson, BDSV: “2018 was a good year for the steel recycling industry.”

This stable growth also extended to the steel recycling industry. For better or worse, the sector is directly dependent on its largest group of customers: Germany’s steel industry. If Germany’s steel industry has a cold, then Germany’s steel recycling companies are sure to develop pneumonia. Last year was a good year for the steel recycling industry, both in terms of volume and the price of scrap as a recycling product.

“Like the steel industry, steel recycling is at the beginning of the value chain,” says Dr. Rainer Cosson, managing director of the Bundesvereinigung Deutscher Stahlrecycling- und Entsorgungsunternehmen e. V. (BDSV), an association of German steel recycling and disposal companies. “That means it is first to be hit by economic fluctuations, which often lead to overreactions,” Cosson adds. “The steel recycling industry has adjusted to living with erratic spikes and plunges, especially in prices.” According to Cosson, the fluctuations in 2018 were relatively mild, although the first signs of a slowdown in the German economy were starting to be felt at the end of the year.

Dr. Cosson, BDSV: “Freight operating companies have to improve their flexibility and value.”

The growing staff shortage and lack of sufficient infrastructure for cargo transport are especially challenging for the steel recycling industry. “Moreover, the hot summer caused Germany’s waterways to drop to extremely low levels, which negatively affected inland waterway transport.” The industry is cautiously optimistic that the economy as a whole will be able to make it through an economic downturn in 2019, but it is not expecting a recession: “In the steel recycling industry, we are preparing for business to continue to grow at a sufficiently ▶

INDUSTRIAL SALES

Industrial Sales transports around

71.2

million tonnes of steel a year for the steel industry, with a large fleet of vehicles and the expertise of its industry team. Scrap accounts for around

8

million tonnes of that volume. Industrial Sales also supplies the steel industry with some

3

million tonnes of coal and

15

million tonnes of ore.

► satisfactory rate. Steel will continue to expand its position as the world's most important material.”

Fundamental problems: staff shortage and poor transport infrastructure

According to the BDSV, the staff shortage and poor transport infrastructure are fundamental problems that need to be solved. “In terms of staffing, the improvements kick-started by policymakers in recruiting from outside the EU could provide some relief. That’s why we are working hard at the BDSV to improve the image of jobs at our member companies. Our companies are part of the environmental economy. They help protect raw materials and greatly reduce harmful emissions.

In terms of transport, we want to make concrete progress together with freight operating companies, especially DB Cargo. Rail freight has the environmental edge, but it needs to make considerable improvements in flexibility and value.”

Dr. Hilker: “Expensive CO₂ certificates call for fundamental changes to steel production and logistics.”

According to Dr. Hilker at DB Cargo, climate change and its impact on logistics chains will only increase in future. Fast and clear-cut decisions will be needed. “The financial burden of increasingly expensive CO₂ certificates calls for fundamental changes to steel production and logistics. And rail will play a vital role. However, arrangements need to be made soon since longer-term preparations are needed if we are to expand rail’s capacity.”

Focus on process digitalisation

In addition to tackling environmental challenges, expanding capacity, and improving quality in 2019, says Hilker, DB Cargo will also be pressing ahead with digitalising processes at the company and improving points of contact with customers. All freight wagons are being equipped with GPS and other sensor technology, which he



“We are confident the EU will come to realize that deindustrialisation of the European economy would have serious consequences for the EU as a whole.”

DR. RAINER COSSON
Managing Director, BDSV

expects to make a big impact: “All coil wagons will be equipped by the end of 2019. For the first time, we will be able to identify their location and load condition in Germany and other countries at the touch of a button.” The new control system for the single wagon-load system, which will gradually be introduced starting in 2020, will also make it possible to provide much better information on delivery times and to do so using an automated process.

Transforming the BDSV into a digital association where members are actively involved

The digital transformation of all steps in the steel recycling process is also a high-priority issue at the BDSV, explains Cosson. “That’s why we launched a digitalisation working group in 2018 to provide member companies with guidance on all things digital. We’re fully behind the digital transformation, even within the association itself. Our agenda for 2019 includes transforming the BDSV into a digital association where members are even more actively involved. We will be creating an intranet for all members, which we hope will help us represent and advance our members’ interests more effectively.” ●

See page 32 for more on digitalisation.



Dr. Jörg Hilker,
Senior Vice President Industrial Sales, DB Cargo AG
joerg.hilker@deutschebahn.com



— Around 1.8 billion tonnes of raw steel are currently produced around the world each year.

ECONOMIC TREND

N° 2

The automotive industry is booming

“The world’s population is growing, and more and more people want to be mobile. For them, owning their own car is a dream that combines individual mobility with convenience and social status.”

The global market for automobiles grew 2% in 2018, while the European market expanded by 1%. It’s no wonder that Germany industry posted a new record in 2018. German car manufacturers increased their global production to 16.7 million units in 2018, an all-time high, says Bernhard Mattes, President of the German Association of the Automotive Industry (VDA).

It is uncertain whether this growth will continue in 2019, however, and if so, how. “Germany’s automotive industry is facing a major transformation process,” Mattes says. “As a driver of technology, Germany’s automotive industry is up against particular challenges, such as digitalisation, networked and automated driving, efficient drive systems and mobility services.”

The automotive industry sets standards

This transformation will have a major impact on the logistics sector since the automotive industry continues to account for a substantial part of logis-

tics companies’ business. With its service and quality requirements, the industry has set standards later adopted by other sectors. And logistics providers have long been part of automakers’ value added. In Europe, specialised service providers have dedicated networks connecting plants. They supply materials to factories and transport vehicles from the production plants to ports and distribution centres around the world.

At the same time, networks must meet ever increasing quality requirements as the variety of models increases. Automakers have to be highly flexible to respond to dynamic markets. For transport companies, this is making it harder and harder to plan capacity utilisation in their networks. If the logistics industry is to participate in future growth, it therefore needs to evolve.

Helping to shape the industry’s transformation

DB Cargo is one of the industry’s most important logistics providers, offering solutions that extend all the way into manufacturers’ production



— DB Cargo transports finished vehicles and components on more than 250 trains a day.

plants. Responding to change is nothing new for the freight operating company.

DB Cargo offers intermodal network solutions in order to design its systems to be as efficient and flexible as possible while also ensuring high quality even if disruption occurs. It acts as a lead logistics provider and one-stop shop for all the necessary logistics services. The company has also expanded its European network and achieved growth on multiple corridors thanks to the customer confidence it enjoys.

“As one of the major logistics providers, we are called on to help shape the automotive industry’s transformation process by providing environmentally friendly logistics services,” says Jens Nöldner, CEO of DB Cargo Logistics GmbH.

Take electromobility, a driving force of innovation, for example. According to the VDA, the German manufacturers alone want to increase the number of models with electric drive systems from 30 to more than 100 in the next two years. New drive systems and vehicle concepts can require new supply routes. Greater digitalisation and inte-

gration mean that ever more processes are being automated.

And the number of components isn’t likely to decrease as drive systems are automated and electrified. Instead, we’ll likely see more parts, especially electronic components, such as sensors, meaning more goods need to be transported.

Innovation in the spirit of partnership

“We need new ideas, more innovation and a high investment capability to be able to respond to trends like these,” Nöldner says. That’s why the DB Cargo Group is planning to invest on a large scale. On the automotive logistics side, it is focusing on IT platforms to manage complex systems and on self-learning algorithms to improve operations planning and dispatching. Investments will also be made in updated equipment, vehicle compounds and logistics centres.

But these solutions aren’t something a logistics provider can develop on its own. “Maintaining a constant dialogue with our customers is vital,” Nöldner says. He believes that strate-



“When we talk about a partnership with our customers, we know that we have a clear responsibility.”

JENS NÖLDNER
CEO, DB Cargo Logistics GmbH

gic and collaborative commercial arrangements are needed in order for innovation and investment to make financial sense.

Yet Nöldner also knows that DB Cargo has to deliver, too: “When we talk about a partnership with our customers, we know that we have a responsibility. We need to wow customers – above all, with our services, new ideas and efficient solutions.” ●



Jens Nöldner,
CEO, DB Cargo Logistics GmbH
jens.noeldner@deutschebahn.com

ECONOMIC TREND

N° 3

An industry in transition

Coal transport is one of DB Cargo's primary segments. Domestic transport is on the decline as a result of Germany's energy transition, while DB's international focus is gaining new importance.

— Coal transports like this one for ArcelorMittal in Poland and Romania are being shifted to international routes.



Rail freight transport has played an important role in Germany's energy supply since day one. DB Cargo does its bit to supply Germany's coal-fired power stations: Freight trains transport coal from mines in the Lower Rhine region and in Lusatia.

Cultural change

DB Cargo transported over 40 million tonnes of black coal, lignite and coke in 2016 alone. The vast majority of this lignite remains in Germany to fire the country's power stations. "Germany's transition to sustainable energy and its planned exit from coal will mean a cultural change at DB Cargo, too," says Thomas Reiser, who is responsible for coal transport at Industrial Sales.

Germany's last black coal mine, Prosper-Haniel in Bottrop, closed at the end of 2018, marking the end of domestic black coal transport. This is where DB Cargo's international focus comes into play. A growing volume of the black coal used in power stations and steel production is now being transported internationally, primarily in the Netherlands, Belgium, Poland,

the UK and Romania. And Europe's steel industry is growing. Oxford Economics predicts that steel production in Europe will see annual growth of 0.9% between now and 2030.

"Customers benefit from our expertise in managing, monitoring and optimising the entire supply chain," says Reiser. Customers like Lausitz Energie Bergbau AG, which relies on DB Cargo to transport lignite briquettes as well as industrial fuels: lignite coal dust and fluidised bed coal. The coal is extracted and produced in Lusatia and distributed throughout Europe. DB Cargo delivers it to an extensive network of handling warehouses using single wagonload transport and block trains.

Climate change

One development that is worrying DB Cargo employees personally is climate change. When water levels on major rivers fall below normal, as they did last summer, inland waterway transport is restricted, which means that rail freight transport from the western ports to the hinterland increases. "DB Cargo could play a greater role in future as a logistics partner and carrier, especially during

DB CARGO INDUSTRIAL SALES OFFERS

- An extensive fleet of locomotives and freight wagons, including Fal wagons for large cargo volumes
- Close collaboration with sister companies throughout Europe
- Variable logistics solutions for power stations and steel producers
- Regular-interval scheduling for power station supply and waste-product disposal
- Intra-plant transport to ensure smooth processes on site
- Unloading at private sidings
- Comprehensive customer support 24/7, 365 days a year
- International transport monitoring and consignment tracking

periods of low water, which are becoming longer and less predictable, particularly on the Rhine,” says Reiser.

Most of the black coal used in Germany is transshipped at the ARA ports – Amsterdam, Rotterdam and Antwerp. These ports are where DB Cargo together with colleagues at DB Cargo Nederland offer transport services all the way to end customers. DB Cargo transports full shiploads of coal inland on block trains using its dedicated ARA concept. The concept’s strength is its flexibility.

Changing transport needs

Coal trains from Wilhelmshaven, which DB Cargo began operating for the European energy company Engie in 2013, and coal trains from Rotterdam pass through DB Cargo’s hub in Oberhausen. The advantages of the ARA concept are obvious. Access to a large pool of wagons improves the provision of empty wagons and compensates for any disruption at either end of the journey. Trains can be joined, which allows the solution to adapt to new circumstances.

DB Cargo will respond to developments in the coal industry. There is no

question that transports will reduce in number and gradually shift to international routes. “Growth in steel and scrap could make up for part of the decline in coal,” Reiser says. “We are seeing through the transition. The growing transport requirements across Europe fill us with confidence.” Rail freight’s strength is its diversity. “We are well-equipped for the future thanks to our Europe-wide rail network, our international partners, our industry experts and our numerous DB Cargo production companies, including DB Cargo Nederland, DB Cargo Polska, Mitteldeutsche Eisenbahn and RBH Logistics.” ●

“Germany’s transition to sustainable energy and its planned exit from coal will mean a cultural change at DB Cargo, too.”

THOMAS REISER
Head of Coal – Key Account Manager,
DB Cargo AG



Thomas Reiser,
Head of Coal – Key Account Manager, DB Cargo AG
thomas.reiser@deutschebahn.com



— Bituminous coal, lignite and coke are transported in open Fal and Ea bulk freight wagons.



175 mio.

tonnes of coal were transported
in Germany in 2017.

ECONOMIC TREND

N° 4

Digitalisation for more transparency

The digital transformation is empowering DB Cargo to respond better to its customers' needs, providing more quality and better service.

Technological change in the digital age has long been placing new demands on companies in the rail freight transport sector. At the same time, new technologies are also creating new opportunities for the industry. Above all, digitalisation is expected to improve reliability and create transparency.

Targets for the future of rolling stock

DB Cargo is harnessing digitalisation to pursue very specific objectives: bringing transparency to the transport process and improving the predictability of downstream process steps for customers. Both goals mean higher quality and better service during transport.

“For us, digitalisation is quite clearly a lever we can use to better meet the requirements of our customers. It also means we can push the industry forward with new solutions to ensure more freight is transported by rail,” says Steffen Bobsien, Senior Vice President Assets & Technology, DB Cargo AG. “Engineers, developers, data scientists and digital transformation and logistics experts join hands with their colleagues from DB

Fahrzeuginstandhaltung, DB Long Distance, DB Regio, DB System, DB Systemtechnik and external partners at the in-house amspire Lab to ensure that innovative ideas from the realm of automation and digitalisation are converted into digital solutions for the future,” says Fabian Stöffler, Vice President Asset Digitisation. Digitalisation and automation are core elements of DB Cargo’s technology and innovation strategy.

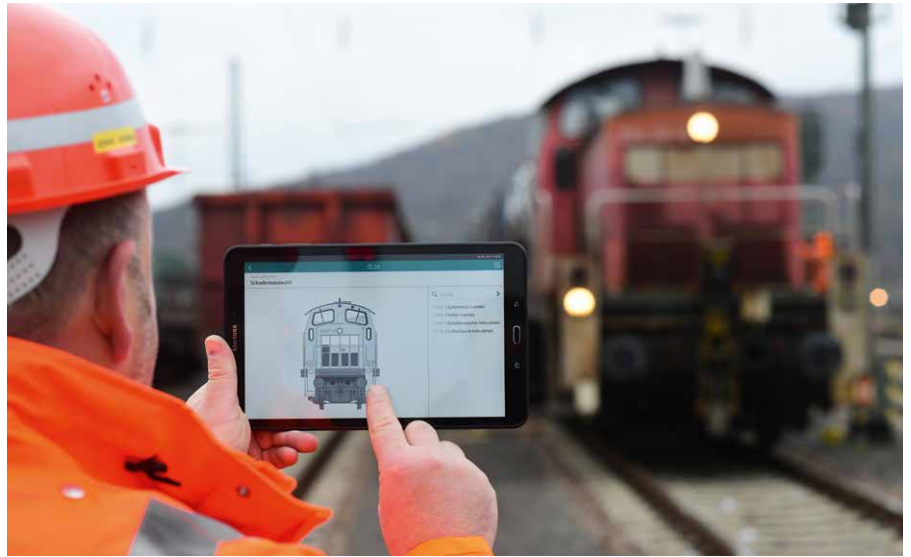
The objective is to achieve a digital transformation for rolling stock and maintenance and to support and automate train operations by introducing new technologies. This effort is aimed at improving capacity utilisation and enhancing the availability of rolling stock and production resources. In parallel, DB Cargo is constantly focused on measures to improve energy efficiency.

Technical equipment

All DB Cargo’s freight wagons will be fitted with state-of-the-art radio and sensor technology by 2020.

The customers benefit directly from the ability to use GPS tracking, from RFID/NFC marking and from status detection using temperature

— Digitalisation supports employees; it will make DB Cargo more appealing to staff.



“We can push the industry forward with new solutions to ensure more freight is transported by rail.”

STEFFEN BOBSIEN

Senior Vice President Assets & Technology,
DB Cargo AG

sensors, impact sensors for vehicles hauling sensitive cargo and information on load levels (full/empty detection). More than 13,000 wagons have already been equipped. “In a world of advancing digitalisation, customers today expect a high level of service. They want information about the location, delivery time and condition of their freight,” explains Gerrit Koch to Krax, Head of Wagon Intelligence.

“ArcelorMittal Eisenhüttenstadt views innovations as the key to the future and the sustainability of the steel business. That has spurred a keen interest in developing pioneering technologies for the freight wagons that we use. We therefore view the development of smart freight wagons, which feed non-stop information to users on their location and condition, as a great stride into the digital future of rail freight transport. Fitting freight wagons with RFID technology generates opportunities for our company to improve our loading and shipment process. By collaborating closely on wagon intelligence with DB Cargo, we are hoping to unleash synergistic effects for both companies,” says Sebastian Hagen from Transport Logistics at ArcelorMittal Eisenhüttenstadt.

DB Cargo delivers the data almost in real time. Control rooms, maintenance personnel and train operators can put this information to work for efficient logistics and route planning. That helps customers be more exacting and precise in planning their supply chains. “The new opportunities offered by wagon intelligence have already helped us considerably enhance transparency about the locations of our freight wagons this year. This especially assists dispatchers with international transports or detailed local processes for which there was formerly a lack of detailed information. We have also succeeded in using digitalisation to automate some manual processes, freeing up time for us to engage in discussions with customers and solve problems,” says Christian Hackelberg, Head of Product Management Finished Vehicles, DB Cargo Logistics GmbH.

Algorithms and data analyses

The Asset Intelligence Centre, a central data and analysis platform from DB Cargo’s amspire Lab, brings together all the data recorded by the sensors on locomotives and wagons or by camera systems on the track. ▶



“We are developing ideas related to digitalisation and automation to turn them into innovative digital solutions for the railway.”

FABIAN STÖFFLER

Vice President Asset Digitisation, Asset & Technology, DB Cargo AG

► This “Internet of Things” platform generates a wealth of information out of operational data and damage reports from locomotives and freight wagons, which ultimately benefits all production processes and operational dispatching. The objectives include increasing the capacity utilisation of rolling stock and improving the availability of the fleet through optimal predictive maintenance.

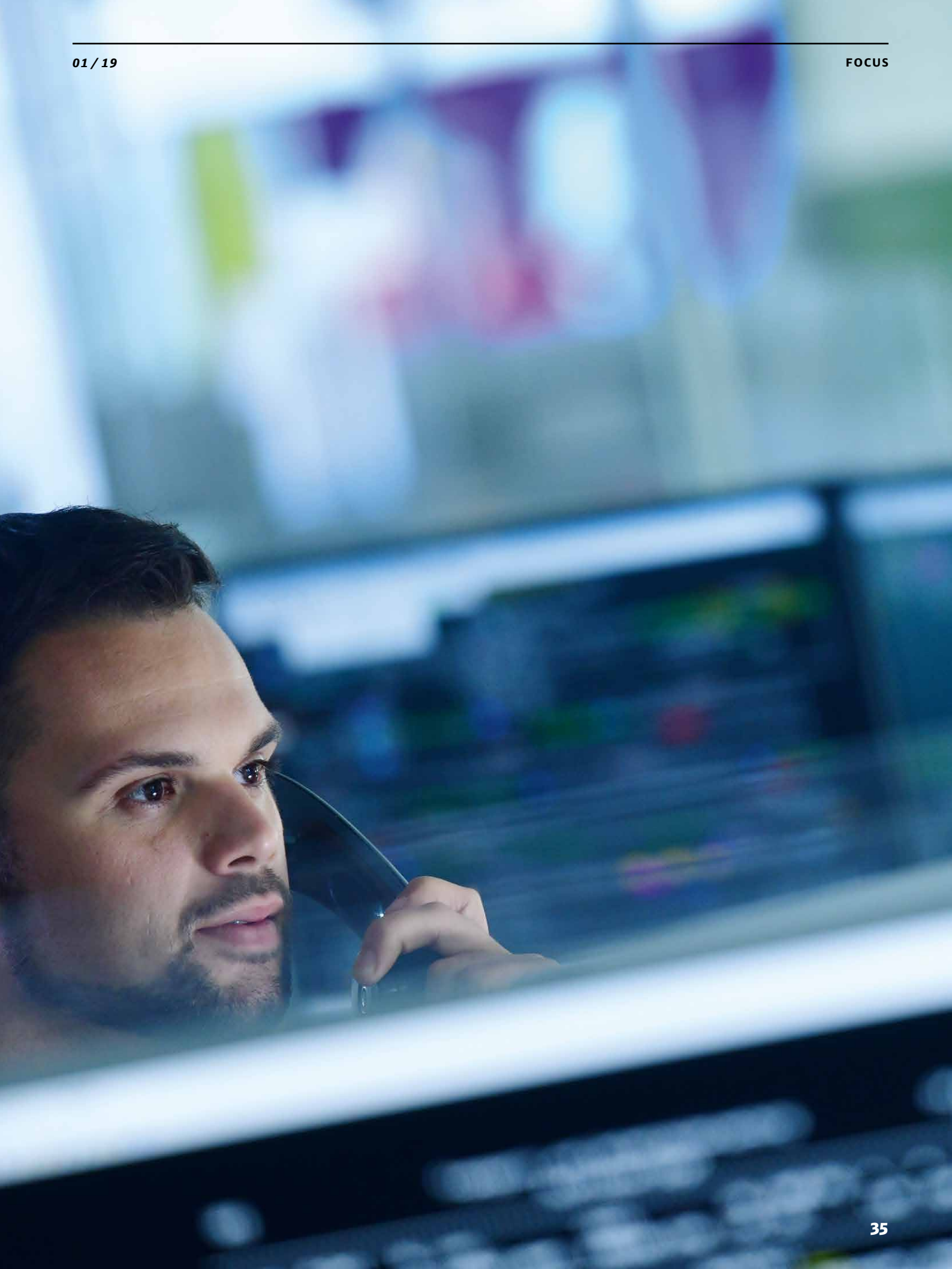
The digital fleet management (DFS) software platform sets the stage for the gradual automation of optimised workshop selection and maintenance planning for locomotives. The maintenance planning and commissioning process is to be thoroughly transformed by digital technology to keep time-consuming activities to a minimum. Digitalisation also holds

— *The Asset Intelligence Center delivers the data almost in real time for more predictability.*

the potential to overcome another challenge in 2019: the shortage of skilled workers. A dearth of skilled operational personnel, from train drivers, to shunters, to wagon inspectors, is forcing companies to funnel investments into new technologies to remain effective. “Employees are not just receiving technological support; many job profiles are also being further refined. That makes DB Cargo more appealing to employees,” says Bobsien. The continuous change wrought by digitalisation offers many companies a double advantage: stronger performance for customers and rosier prospects for employees. ●



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ECONOMIC TREND

N° 5

Good times for combined transport

Cross-modal solutions create efficiency, certainty in planning, flexibility and sustainability.

EXPERTISE THROUGH SHARING EXPERIENCE

There are many advantages to combined transport. But anyone who wants to book CT services has to be familiar with the ways specific carriers can be used and the players in the transport chain. The ERFA CT project is intended to help freight forwarders and shippers come to better understand combined transport. The driving force behind the project are the Fraunhofer Institute for Material Flow and Logistics and the Studiengesellschaft für den Kombinierten Verkehr e.V. (SGKV), an organisation that promotes intermodal transport.

The partners aim to connect combined transport players and interested parties in select regions so they can share their experience.

Information: erfa-kv.de

Combined transport (CT) offers many advantages to shippers and transport companies, creating the ideal conditions for companies in Europe that are still experiencing successful growth.

Many logistics specialists, such as DB Cargo, would agree. Europe's largest provider of combined transport services, which carries some two million load units on rail every year, is optimistic: "We have a fundamentally positive outlook about the prospects for intermodal transport", says Sylke Hussmann, Head of Carrier Sales at Intermodal Sales. "If the forecasts bear out, then we could see strong growth in 2019 – thanks in part to the political support we are finally receiving."

However, DB Cargo is not only focused on international routes. "We also want to be able to offer more on shorter routes", says Dirk Steffes, Senior Vice President Intermodal Sales. "We want our strong products to win over customers at the national level."

On track for growth

Cross-modal solutions have become increasingly popular in recent years. In 2017 alone, CT grew by 5.5% compared to the previous year, according to the International Union for Road-Rail Combined Transport. A total of around 3.2 million consignments were transported. Growth was even stronger when viewed in terms of tonne kilometres. By that metric, CT shaped up its performance by 8.7%.

Major corridors in particular have more and more CT trains running on them. The routes between Italy and Northern Europe are growing in importance, even though progress is currently slowed by a large number of construction sites on the Swiss corridor and many inadequate feeder lines. So far, the routes into Turkey, South-eastern Europe and Scandinavia have posted robust growth rates. The New Silk Road, which connects Asia and Europe, has developed into a true magnet for growth. In 2018, 38% more trains ran between Europe and Asia than in the previous year, despite the

— Cargo is transferred between various modes of transport at large multimodal terminals.



The German Federal Office for Goods Transport predicts that combined transport will expand by up to

5.7%

by 2020.

sharp drop in sea freight rates. (For more on this, read our feature in the 04/18 issue of railways.)

In light of this development, experts anticipate that the trend will continue in 2019. According to the medium-term forecast issued by the Federal Office for Goods Transport in Summer 2018, “Combined transport is expected to expand in 2019 and 2020 at well above average rates (4.1% to 5.7%).”

The reason for this is that road toll hikes, ballooning fuel prices and a scarcity of drivers will throttle capacity on the roads, the office says. The German government’s adoption of the Rail Freight Master Plan has also shored up rail transport’s ability to compete. In addition to lower track access charges, the plan calls for expanding infrastructure, for example, for 740 metre trains. It also aims to provide stronger support for digitalisation and automation and to foster innovation.

“Thanks to the master plan, we can now invest in assets”, explains Steffes. “We can train more train drivers, and we can raise our quality by digitalising intermodal supply chains.”

That means that DB Cargo would help to take more cargo off the road and shift it onto the more environmentally friendly rails.

A faster pace and higher capacity

In the coming years, combined transport carriers will have two other major challenges to contend with. “Several major customers are already asking us whether we can



“Several major customers are already asking us whether we can guarantee capacity in the future, especially in the maritime segment.”

SYLKE HUSSMANN

Head of Carrier Sales at Intermodal Sales,
DB Cargo AG

► guarantee capacity in the future, especially in the maritime segment”, says Hussmann. For that to be possible, we absolutely have to have better availability and planning of resources.

The second challenge is the pace at which combined transport is taking off. As e-commerce has taken off, consignments have become smaller and smaller; everything can be ordered online. That means there is a larger number of consignments that need to be delivered to many customers within a very short timeframe. DB aims to provide even more flexible and faster trains to allow it to grow along with the industry. “We already operate a fixed system of express routes between large cities with a high on-time rate. We want to provide the same sort of service we do on the weekends before Christmas, but year-round”, Hussmann explains. We think we are capable of achieving double-digit growth by using express products to better link large cities more reliably.” ●



Sylke Hussmann, Head of Carrier Sales
Intermodal Sales, DB Cargo
sylke.hussmann@deutschebahn.com



ECONOMIC TREND

N° 6

Zero emissions

Every day, DB Cargo becomes a little more sustainable. The goal: carbon-free transport.

Bats: they're nocturnal, a protected species and measure no more than a few centimetres. They often seek shelter in old buildings or underpasses. Whenever railway engineering work takes place in their homes, Deutsche Bahn finds them a new place to live. That was the case, for instance, in Ducherow in the German state of Mecklenburg-West Pomerania. Deutsche Bahn is converting an old brick factory there into a "bat hotel".

The bat is just one of many species that Deutsche Bahn is caring for through its "offsetting and replacement measures". For the rail company, minimising encroachment on the habitats of plants and animals is critical wherever feasible. When this proves impossible, the company compensates by replacing the lost habitat somewhere else. ▶

DBeco plus

With this option, goods are transported completely carbon free. The trains complete the entire journey using renewable electricity. **DBeco plus** is available on all electrified routes in Germany and Austria. The CO₂ emissions from route sections outside Germany are compensated for in combination with the **DB eco neutral** product option. 10% of the revenue brought in by **DB eco plus** goes to fund facilities that produce or store renewable electricity.



— All DB Cargo's wagons are fitted with whisper brakes.

► A similar principle applies to transport operations. DB Cargo has set its sights on achieving fully carbon-free traction on all routes and for all goods. The rail company is already making progress faster than planned. The original target called for a 30% Group-wide reduction in specific CO₂ emissions by 2030. This goal has given way to one that is more ambitious yet: DB is now planning to slice its emissions in half by 2030.

Customers are helping, too, by joining forces with DB Cargo to promote the sustainability of rail. More and more of them are relying on the product option known as **DBeco plus**. This lets them transport their goods with zero CO₂ emissions. Their trains are hauled by electricity drawn exclusively from renewable sources. DB Cargo offers compensatory measures on all its routes in Europe where there is no way to power trains with environmentally-friendly electricity. The **DBeco neutral** product offsets the CO₂ emitted during transport with climate protection certificates that DB Cargo procures from the renowned organisation *atmosfair*. The **DBeco plus** option is appealing and frequently chosen by customers. In

2017 alone, DB Cargo increased rail-based carbon-free transport by more than 50%. Customers from various industries are already using this product option to shrink their carbon footprints.

Environmentally friendly electric drive

Those opting for rail are on the “green side of logistics”. Simply transferring traffic onto the railways has a considerable environmental benefit. Even without booking one of the two **DBeco** options, customers can trim their CO₂ emissions by around one third by using rail instead of lorries. Environmentally friendly electric trains are another factor: over 90% of rail transports are hauled by electric locomotives. They cause no direct harm to the environment with CO₂, nor do they emit fine particulates. Local residents therefore benefit from cleaner air. What is more, as DB Cargo's entire fleet of approximately 63,000 active wagons is to be gradually fitted with “whisper brakes”, DB's rail freight transport is expected to halve its noise emissions by 2020.

Overall energy consumption is falling

Every day, rail becomes a little more sustainable. Constantly growing capacity utilisation is one example. Another is the ongoing modernisation of logistics facilities, terminals and maintenance depots. New diesel locomotives have low-pollution engines. All train drivers receive instruction to familiarise them with an energy-efficient driving style, lowering overall energy consumption even further.

Not to mention the impact on the road network: DB Cargo's trains take pressure off Europe's roads every day by eliminating some 98,000 lorry trips. That reduces CO₂ emissions by roughly 17,000 tonnes, cuts down on traffic jams and improves the air quality in Germany. ●



Meike Hillenbrand,
Marketing Manager, DB Cargo AG
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*— Routes are planned
and vegetation
managed to let plants
and animals flourish.*

DBeco neutral

Unavoidable CO₂ emissions are offset with compensation certificates that meet the CDM Gold Standard.

DB Cargo obtains them from the well-known organisation atmosfair. DB Cargo's environmental experts determine CO₂ emissions in advance based on the routes and freight involved, and calculate the need to compensate for each customer's traffic.

Steel recycling go



ets a boost from rail

— *Pioneers of successful cooperation: Dennis Bressel, Head of Regional Sales Central at DB Cargo, and Andreas Fritsch, Managing Director of Derichebourg Umwelt.*

Derichebourg Umwelt and DB Cargo join forces for a more sustainable raw materials life cycle.

Steel can be recycled over and over without any loss. The steel industry in Germany alone uses over 20 million tonnes of steel and iron scrap every year to manufacture new products. This is where the approach developed by scrap dealer Derichebourg Umwelt GmbH and implemented together with DB Cargo comes in. The objective is to strengthen the link between sustainable steel recycling and sustainable rail transport.

To put this approach into effect, Derichebourg Umwelt, a recycling specialist, entered into close cooperation with the freight operating company. Derichebourg serves as a link between suppliers and customers, receiving various types of scrap from all over Europe and supplying steel plants with raw products sorted by type. It takes in the scrap at its sites in Nuremberg, Neumarkt, Karlsruhe, Reuth and Zwickau, and processes it with state-of-the-art equipment and high-performance machines like presses, shears and shredders. ▶



► Part of the economic cycle

The high-performance recycling facilities boast state-of-the-art technology and are able to extract high-value secondary raw materials from the products that are collected, making scrap into a new raw material for industrial customers to use in their production. “Steel recycling is an indispensable process in recycling management for Derichebourg”, explains Andreas Fritsch, Managing Director of Derichebourg Umwelt. “By putting secondary raw materials back into the manufacturing life cycle, we are protecting existing resources,

(SCRAP) ON RAIL

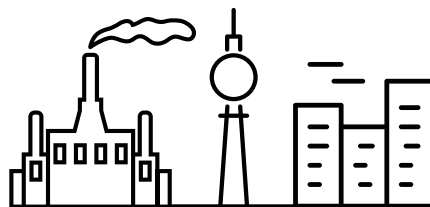
Routes for Derichebourg Umwelt:

- Cargo is consolidated at the Karlsruhe, Nuremberg and Reuth sites.
- It is delivered to steelworks throughout Germany. Additional deliveries are made to Italy and France.
- Three departures per week from Reuth, with a target of up to five times per week
- Volume on rail: 170,000 tonnes per year
- Reduction in CO₂ consumption compared to road transport: approximately 75%

Steel recycling in Germany lowers annual CO₂ emissions by more than

20 mio.

tonnes, which is the same amount that Berlin emits in a year.



which delivers a strong contribution to environmental protection.”

For every tonne of steel and iron scrap that is used, 1.5 fewer tonnes of iron ore need to be extracted. Metallurgical slag can be used instead of limestone, gravel and other natural materials. Recycling steel not only conserves energy and resources; it also reduces emissions such as the greenhouse gas CO₂. When one tonne of steel scrap is utilised, CO₂ emissions fall by one tonne, as well. Thanks to steel recycling in Germany, more than 20 million fewer tonnes of CO₂ are released into the atmosphere every year. That’s the same amount produced by Germany’s capital, Berlin, in one year.

The commitment to green transportation also fits into this framework. Derichebourg Umwelt wants to rely even more heavily on rail in Germany, and by extension, on DB Cargo. The freight operating company already transports 170,000 tonnes of Derichebourg Umwelt’s scrap all over Germany and Europe every year. That figure accounts for more than half of the recycling specialist’s total volume. Farther on down the line, this share is projected to climb even higher. “We want to grow together”, explains Wolfgang Rebhan, Account Manager Regional Sales in Nuremberg at DB Cargo. The focus is currently on



1 — First, the raw material is broken down at special shredder facilities.

2 — Wheel loaders load the scrap onto the open Ea wagons.

3 — The various types of scrap are collected, sorted, stored and processed.

the rapidly growing site of Reuth im Vogtland, where trains currently depart three times a week. In 2017, the volume of scrap at the site saw disproportionate growth. “We intend to keep investing here”, says Fritsch.

Sustainable investment

Wagon provision is a challenge for DB Cargo. After all, the freight operating company transports some 8.5 million tonnes of iron and steel scrap every year, a third of which has to cross borders. “Sometimes the long turnaround times make it hard for us to provide the right Ea wagons where they are needed quickly enough”, admits Rebhan. He says they are putting their heads together to produce a solution. For instance, DB Cargo will ramp up its investments in new locomotives and freight wagons in the coming years. “We want to put more cargo on rail and we want to collaborate with DB Cargo”, says Fritsch. It’s now about reliably providing the right assets, he says. ●



Wolfgang Rebhan,
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INFORMATION

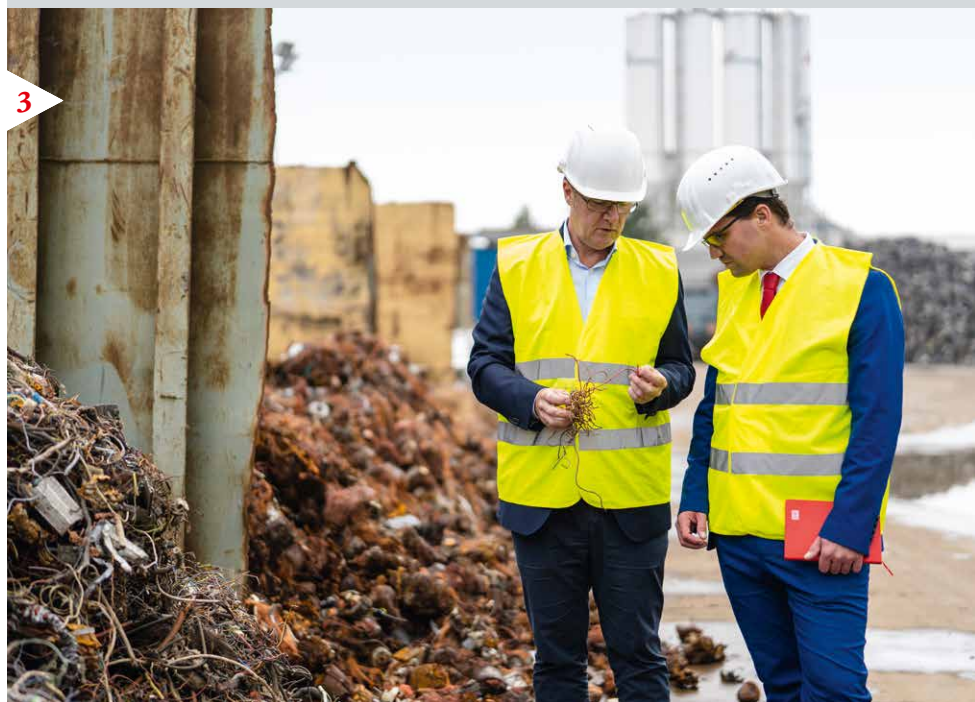
Derichebourg Umwelt GmbH

- Derichebourg Umwelt GmbH is a German subsidiary of Derichebourg, a French company listed on the French stock exchange.
- Derichebourg has more than around 7,000 employees at some 150 sites around the globe.
- The group has locations in nine countries and has more than 55 shredder facilities, 140 scrap shears and presses, an aluminium smelting plant and an electronic waste processing facility.
- At 360 branches worldwide, roughly 7,000 employees process around seven million tonnes of scrap and metal per year.
- The German subsidiary, Derichebourg Umwelt GmbH, is headquartered in Düsseldorf and manufactures scrap at branches in Nuremberg and Neumarkt, Karlsruhe, Reuth im Vogtland and Zwickau.

PRODUCT

DBscrap-solution

- DB Cargo transports approximately 8.5 million tonnes of scrap iron and steel every year and is the largest supplier of steelworks, far ahead of lorries and waterway transport.
- DB Cargo’s delivery management system coordinates the dispatching of scrap between scrap suppliers and steelworks to ensure that the right type of scrap is always delivered at the right time and in the right quantity.
- The new internet-based customer portal, ScrapPortal, digitalises delivery management and implements other services from the order-to-cash process for more streamlined communication, greater transparency and simpler processes. Other logistics services, such as multimodal planning and warehouse management, are offered based on customer needs.



More sustainability and greater efficiency



A clever reloading concept allows Stora Enso and DB Cargo to avoid a large number of empty runs between Sweden and Germany.

— *A source of raw materials for Stora Enso: a cedar forest in the Swedish province of Dalarnas län.*

For many years, DB Cargo has successfully collaborated with Stora Enso, one of the world's leading manufacturers of cartons, paper, pulp and square-sawn timber. The freight operating company has worked with its customer to make current transports more efficient. Wagons are reloaded, eliminating a large number of empty wagon runs.

“Stora Enso, one of our key accounts, provides DB Cargo with several hundred thousand tonnes of cartons, paper and pulp to transport on an annual basis, more than half of which is produced in Sweden”, explains Guido Schaefer, Key Account Manager Pulp & Paper at DB Cargo in Stockholm. “We worked with Stora Enso to develop a reloading concept with our two-axle sliding-wall Hb wagons. Together, we succeeded in carrying out trial transports by adapting the ▶

More than
1,000
wagons were
reloaded in 2018

► price structure and improving operations directly at the plants”, explains Schaefer. “With a high level of commitment on both sides, we eliminated existing hurdles, optimised the ordering process and developed joint solutions to enable our wagons to be used consistently”, he adds.

“We are always interested in partnering with our service providers to optimise our logistics chains, and we

are glad we were able to take these steps with DB Cargo to increase the volume of cargo transported by rail”, explains Anders Clason, the Stora Enso rail logistics manager who is responsible for the project. “At the same time, we are making a sustainable contribution to our environment, which fits in perfectly with our corporate philosophy.”

Investigation of transport flows

In 2016, Stora Enso and DB Cargo began optimising the transport flows moving from the plants in Sweden to Germany and beyond. The two partners explored whether DB Cargo’s two-axle sliding-wall wagons could also be used at Stora Enso’s plants to boost loading capacity there.

Until then, DB Cargo’s wagons had brought automotive parts, paper, particleboard and furniture to Sweden, and



1 — In Bahia, Brazil, 575,000 tonnes of pulp are produced annually.

2 — 72,000 m³ of cross-laminated timber can be manufactured every year in Bad St. Leonhard, Austria.

3 — The plant in Langerbrugge, Belgium, turns out 540,000 tonnes of recycled paper per year.



“We are always interested in partnering with our service providers to optimise our logistics chains.”

ANDERS CLASON
Rail Logistics Manager, Stora Enso

were then brought back to Germany with nothing in them. There are a variety of reasons why that was the case. First, the use of a wide range of different wagon categories is often incompatible with the spaces available at the plants’ private sidings. Next, the two-axle DB Cargo wagons can often load less freight than the wagons used by Stora Enso.

The new reloading concept from DB Cargo and Stora Enso has created additional loading space that is used more effectively and improves the environmental footprint of transport by avoiding empty runs. “In terms of reloading, we started with a tender seedling of 75 wagons in 2016, and we increased the number of times wagons were used from over 440 reloaded wagons in 2017 to over 1,000 in 2018”, says Schaefer. Half of the Hb wagons emptied in Sweden are now integrated into the reloading system with Stora Enso. “So there is still potential for further expansion”, says Schaefer. “But of course we would also be glad if another partner wants to jump on this train!” •

STORA ENSO

A top position with historical roots

Service

The Finno-Swedish group Stora Enso is a leading provider of renewable solutions for packaging, biomaterials, wooden constructions and paper on international markets. The company is headquartered in Helsinki, the capital of Finland, and employs some 26,000 people worldwide.

Tradition

Stora Enso is the oldest joint stock company in the world. The company’s roots stretch back to the Stora Kopparberg copper mine. This mining company in Falun, Sweden, was first mentioned in documents on 16 June 1288. In 1998, the company merged with the Finnish company Enso and today it does business under the name of Stora Enso.

(Source: <https://www.storaenso.com/en/about-stora-enso>)



Guido Schaefer, Key Account Manager, DB Cargo
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The eco-friendly way to western Sweden

DB Cargo's service for the western Swedish company AC Floby takes another 2,700 lorries off Europe's roads and onto rail. It benefits both the environment and our Scandinavian partner.

Thanks to the successful collaboration between DB Schenker in Sweden and DB Cargo, our customer AC Floby in western Sweden will enjoy a full-service and all-inclusive package, says Michaela Relander, Account Manager at DB Cargo: „On this transport, the customer doesn't need to take care of anything. The value-added services added to the entire supply chain include pre-haulage, transshipment and consignment tracking.”

Stringent environmental standards are crucial for this partnership

AC Floby manufactures brake discs, connecting rods and wheel hubs that meet the highest industry standards for its customers from the automotive industry. 560 employees work at its plant in western Sweden. The company stands for experience in producing premium products, and it delivers to customers worldwide. AC Floby relies on high environmental standards for its products. The supplier of quality parts also makes no compromises when it comes to the delivery of the components and relies on DB Cargo as a skilled partner for the logistics of the auto parts.

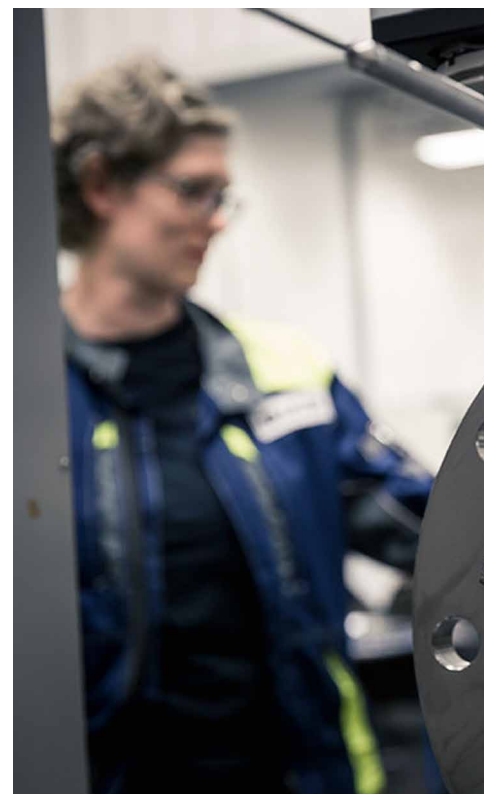
Up to 1,700 kilometers

DB Cargo utilises two routes to get the job done. One of them runs from Stadtallendorf in central Hesse, and the other extends from Gottmadingen in Baden-Württemberg to the city of Falköping, which is roughly 16 km from the town of Floby. “Both of the routes go through Flensburg and Denmark, and then through Öresund to

60,000

tonnes of goods are transported annually to western Sweden

Malmö and onward through southern and western Sweden until they reach their destination”, explains Michaela Relander. The routes total 1,300 km and 1,700 km in length, respectively. From Stadtallendorf and Gottmadingen to Falköping a delivery in the same week is possible. Every year, a total of 60,000 tonnes are transported. Every week, an average of 25 wagons make the trip.



“We want to maintain our high level of efficiency”

The competitive conditions that DB Cargo is able to offer its customer stem from the company's maxims: “Our objective at DB Cargo is to optimise our resources so we can cut costs, maintaining our high level of efficiency”, says Michaela Relander. “In this case, by balancing the turnaround cycles and using the wagons from North-South transports by other customers, we can extend a particularly good offer to AC Floby, together with our partners.”

“This solution comes with a range of advantages, first and foremost reducing our environmental footprint.”

JAN WICKSTRÖM
Logistics Developer, AC Floby

The equivalent of 2,700 lorries travelling from Germany to Sweden

The customer is satisfied with the system that carries this considerable volume, which is every bit as reliable as it is flexible: “DB Schenker has provided us with a complete transport solution for incoming transports from our suppliers to our transport site”, says Jan Wickström, Project Manager at AC Floby. “This solution comes with a range of advantages, first and foremost reducing our environmental footprint, which is a critical component of our corporate strategy.” However, it is also an economically advantageous solution, says Jan Wickström: “It makes our products even more cost-efficient”, he says. “Every year, we have some 100,000 tons of incoming goods, and around 65% of that is transported on rail. If you convert it, that's the equivalent of 2,700 fewer lorries travelling from Germany to Sweden. From the very beginning of this project our experience with this solution has been excellent. We will continue to work on expanding our transport by rail.” •



1 — *The Öresund Bridge, almost eight kilometres long, is an important part of the 1,300 or 1,700 kilometres long connection for AC Floby.*

2 — *65 per cent of the total volume is transported by rail.*

3 — *The Swedish specialist manufactures wheel hubs to an accuracy of one hundredth of a millimetre.*



Michaela Relander, Account Manager, DB Cargomichaela.relander@deutschebahn.com

SHORT FACTS

Brake discs, connecting rods and wheel hubs: Automotive Components Floby at a glance

AC Floby is a company that has manufactured cars- and commercial vehicle components for the industry since 1957. In the eponymous town in western Sweden, AC Floby produces for its customers worldwide and the product portfolio includes brake discs, connecting rods and wheel hubs. The company guarantees machining with top class tolerance level, integrated and flexible production process flow and the latest technology. AC Floby supplies premium products to some of the finest automotive customers in the world with full service support.

New wagons are rolling well

Hydro's aluminium coils weigh tonnes, and now it is transporting them from Neuss to Hamburg by rail. The result is big CO₂ savings. New, special wagons were the deciding factor why the customer awarded the contract to DB Cargo.

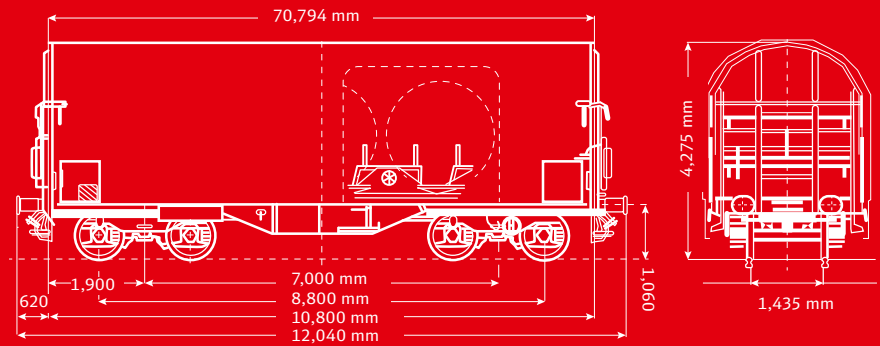
Hydro is among the first customers that have the opportunity to use the new Shimmns-ttu type wagons, which only came out this year. The wagons are specially designed to transport coils while keeping them safe from the weather, and compared to older models, they are easier to use during the loading and unloading process, while also improving workplace safety. The wagon was designed to be loaded and unloaded from one side. No work needs to be done on the wagon.

For safety reasons, Hydro had long transported its cargo on lorries between the plants in Neuss and Hamburg. Now, aluminium transport will shift back to rail. Aluminium will

THE FACTS

Track width:	1.435 m
Length over buffers:	12.04 m
Max. axle load:	22.5 t (25 t)
Max. speed:	100 km/h loaded 120 km/h empty
Minimum curve radius:	35 m

SHIMMNS TTU



first make its way from Hamburg to Neuss as bars and will then return to the Elbe as coils. The coils each weigh around seven tonnes, and they are safely stowed in troughs in the special wagons.

DB Cargo generally transports four single wagons in a group to Hydro's plant in Hamburg and each wagon has room for five coils. A total of 12 Shimmns-ttu will be in circulation at all times. Every delivery made by train can replace up to seven trips by lorry.

For Udo Schaaf, head of production planning and logistics at Hydro in Hamburg, reliability is especially important for deliveries: "Our lorries used to get stuck in traffic a lot. That is now a thing of the past. And what's more, Hydro is continuing to improve its carbon footprint as well." ●



Kerstin Dierpmann, Account Manager, DB Cargo
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SHORT FACTS

- Headquartered in Norway, Hydro Aluminium is a fully integrated aluminium company with operations around the globe.
- Hydro is involved in all stages of the value chain: from bauxite extraction and the refining of aluminium oxide to manufacturing of primary aluminium

“Protecting the environment plays a key role at Hydro. Every day, we work on new technologies and processes that are safer and more energy efficient.”

UDO SCHAAF

Head of production planning and logistics at Hydro, Hamburg

and rolled and extruded products, recycling, and power generation.

- In Germany, Hydro employs more than 7,000 people at 17 sites to manufacture aluminium, chiefly for the automotive and packaging industry and for the printing and construction sector.

THE SHIMMNS-TTU CODE

The name Shimmns-ttu stands for the following features:

- “S” stands for flat wagon
- “h” stands for coils that can be loaded lying down
- “i” stands for permanent end walls and movable covers
- “mm” stands for a very short length of load
- “n” stands for more than 60 tonnes of carrying capacity
- “s” stands for a maximum speed of 100 km/h
- “tt” stands for the continuous fixing equipment, i.e. for the lateral fixation of coils
- “u” for the fact that the coil troughs are fitted with rubber mats



— Hydro delivers approximately one million tonnes of rolled products every year; aluminium bars 60 cm in thickness are the basis for those products.



DB Cargo Logistics and its customer PMG are relying on the TiRex20 transport system for maximum load volume on rail.

Exclusive fleet

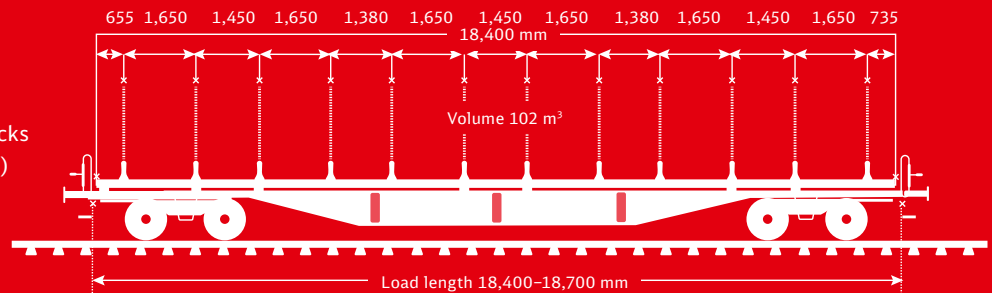


Traditionally, DB Cargo Logistics has used two types of wagons to transport timber: open box wagons and stanchion wagons. All of the approximately 1,600 wagons currently used to transport round and square-sawn timber are of one of these two types. With the customer PMG Holzhandels GmbH on the scene, there is now another option for supplying paper and pulp customers: the TiRex20 rack system. The system can be used to transport timber with an even higher load capacity, even in container wagons. TiRex20 consolidates logs onto pallets that are precisely calibrated to fit the dimensions and capacity of container wagons. The rack for the system is placed onto the wagon and then loaded. That allows six stacks of three-metre logs to be transported per wagon, which is considerably more than a box wagon can carry, for instance. The pallet module was developed by a designer and timber retailer from Switzerland and adapted to the requirements of DB Cargo Logistics and PMG. “We ran TiRex through extensive tests and were able to implement all of the improvements we wanted to make”, says Clemens Pflästerer, Head of the Timber Sales and Operations Centre at DB Cargo Logistics. “Now we can offer the customer a solution that dovetails quite nicely with its specific needs.”

THE FACTS

Stanchion height:	2.05 metres
Min. inner width:	2.61 metres
Max. inner width:	2.72 metres
Load volume:	> 100 cubic metres (for example, six stacks of three-metre wood)
Load volume in terms of wood:	60–65 cubic metres under the bark

TIREX20



PMG HOLZHANDELS GMBH

PMG Holzhandels GmbH, whose primary headquarters is in Villach, Austria, is a trade and logistics company that operates throughout Europe. Its core business is providing the wood processing industry with a sustainable supply of raw materials, with a focus on paper and pulp. PMG favours long-term business relationships and sees itself as a “deeply rooted link between forestry and the timber industry”. DB Cargo Logistics and PMG have been working together closely for many years to tackle the logistics of wood transport.

transport volume with six stacks. This way we can continue to make our logistics more efficient, which is a crucial component of our work.”

The system has been continuously improved in the last few years and it stands up to stringent stability and safety requirements. This rigorous engineering is the system’s major advantage. DB Cargo Logistics is working together with the manufacturer to come up with even more ways to use the wagons. In the future, the goal is to use the wagons to transport sawn timber, as well. “TiRex is a strong basis for providing our customers in the wood processing industry with flexible solutions that meet their requirements” Pflästerer says. “Our goal is to keep expanding our portfolio in this field.”



“A solution that dovetails quite nicely with our customer’s needs.”

CLEMENS PFLÄSTERER

Head of the Sales and Operations Centre
Timber, DB Cargo Logistics

Exclusive use

Forty TiRex wagons are now travelling on the rails all throughout Europe for PMG. The solution is the result of close cooperation. PMG regularly moves large cargo volumes and will use the new equipment exclusively for two years. That will ensure optimal use and capacity utilisation. PMG’s managing director, Peter Naverschnig, sees the advantages from the perspective of his company this way: “The TiRex log pallets give an additional type of wagon in the DB Cargo Logistics fleet that will allow the optimal



Clemens Pflästerer, Head of the Sales and
Operations Centre Timber, DB Cargo Logistics
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— DB Cargo performs maintenance on roughly 9,000 freight wagons every year in Cologne-Gremberg.



The freight wagon doctor will see you now

DB Cargo has roughly 200 different types of freight wagons in operation. To ensure that they always run safely, they undergo maintenance at regular intervals at maintenance depots like the one in Cologne-Gremberg.

Freight wagons are a stable bunch. Vehicles like them can last for 30 to 40 years. Of course, that's only possible with the proper maintenance. And that's the job of Sebastian Schauerte, head of the freight wagon depot at Gremberg, and his 98 employees. They maintain and repair around 36 freight wagons every day, which comes out to 9,000 per year.

Despite the wagons' fundamentally robust design, it doesn't do their partitions and sliding doors a bit of good to be moved around by forklift. Wagons are also frequently damaged when they transport scrap. "It's bad for the wagons if a big magnet or an excavator shovel falls on top of them once or twice from above to try to make



“We very rarely see damage that is a safety issue.”

SEBASTIAN SCHAUERTE

Head of the freight wagon workshop at the Cologne-Gremberg maintenance depot

enough room to fit in maybe one more half tonne of scrap”, says Schauerte.

When that happens, his industrial mechanics and welders need to step in to straighten the wagons’ metal plates, which can be up to 10 mm thick. But they work most often on wheels and brakes, which are the wearing parts of freight wagons. “Brake shoes and wheelsets are swapped out in a timely fashion as a precaution to prevent them from potentially becoming a safety issue”, Schauerte explains. Sometimes trains brake too heavily and the wheels lock up. That causes flat areas to develop on the wheels, which pound onto the tracks. “This does quite a bit of damage to the tracks. But in rail transport, wheelsets are supposed to wear, because you can replace them more quickly than rails”, Schauerte adds. The damaged wheels can usually be repaired; a wheel lathe ensures that they are made perfectly round again.

Keeping close track

Regular reviews are conducted to ensure the freight wagon doctors are working properly. DB Cargo performs audits, for instance. External customers also send their inspectors by every one to three years. Last but not least, the German Federal Railway Authority also audits four DB Cargo maintenance

depots a week, so every depot is thoroughly scrutinised about every three years.

When damaged freight wagons cannot make it to the depot by themselves, the doctors even make “house calls”. One of 58 mobile teams throughout Germany drives to a railway station or a customer’s loading yard and solves the problem right there. See the next page to learn more about how teams like this work. ●



Sebastian Schauerte, Head of Wagon Production,
Cologne-Gremberg maintenance depot, DB Cargo AG,
sebastian.schauerte@deutschebahn.com



1



2

1 — Electrician Özcan Sahin conducts a visual inspection of a wheelset.

2 — Industrial mechanics Sinan Sen (left) and Özcan Orman replace a bogie.

DB CARGO MAINTENANCE BY THE NUMBERS

DB Cargo goes to considerable effort and expense to ensure that its vehicles are safe and operational.

- Eleven DB Cargo maintenance depots throughout Germany, another 15 satellite depots, 58 mobile teams for freight wagons and locomotives
- 2,300 employees working throughout Germany in two or three shifts
- Approximately ten professions and jobs: industrial mechanics (metal workers), construction mechanics, welders, wagon inspectors, electronics engineers, mechatronics engineers, warehouse logistics specialists and engineers



... MOBILE MAINTENANCE TEAMS?

DB Cargo’s locomotives and freight wagons undergo regular maintenance. But sometimes things break along the way. When that happens, it’s time for mobile teams to step in.



The teams consist of two to three technicians. We operate within a radius of roughly a hundred kilometres around our site. We usually deal with more minor issues that do not require a workshop with a rail pit or a crane. For example, a collision with a stone could cause a piece of a brake shoe to snap off. We can replace those on an outpatient basis, so to speak. A door might be stuck or a spring might be broken.

Since we usually know what needs to be done, we load up the appropriate replacement parts. That way a Sprinter is enough for us. But some teams also travel in 7.5 tonne vehicles.

You might think we work out in the open, but that happens very rarely. Vehicles can usually make it to a station, or the damage is noticed at the station. The damaged wagon is then separated from the others to keep them from being delayed.

But sometimes the wagons are in a tricky spot. Then we have to take replacement parts that weigh several kilograms and carry them over several hundreds of metres to the site. For example, a brake shoe made out of gray cast iron weighs eleven kilograms. Fortunately, the coatings on the new whisper brakes are made of plastic composite material, and they only weigh three and a half kilograms. •

“If possible, we quickly get damaged vehicles moving again. Replacement parts are heavy, which can really make you sweat.”

NILS POLENZ
Member of a mobile operations team
in Cologne-Gremberg

100

kilometres is the approximate operating radius of one team

83,300

freight wagons and more than 2,700 locomotives are operated at DB Cargo



Sebastian Schauerte, Head of Wagon Production,
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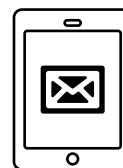
— The industry gazes into the crystal ball.

Looking ahead

WHAT MOVES LOGISTICS PROVIDERS?

DB Cargo at the world's leading trade fair for logistics.

When logistics companies from all of the world meet at transport logistics in Munich every two years, it sets the pace for the entire industry. What issues are going to be important? What trends will change the industry? What solutions are already available and where is there an urgent need to take action? Naturally, DB Cargo, as the largest freight operating company in Europe, will be present at the trade fair, both inside and on the grounds outside. Our experts will also take part in the supplementary conference programme. We are taking this opportunity to obtain an overview of topics relevant to the industry, and to that end, we will listen to what renowned experts have to say. They will be identifying and assessing topics relevant to the trade fair and discussing their significance for rail freight transport. Moreover, we will demonstrate the solutions DB Cargo already has on offer today and the concepts we are hard at work on. We will also introduce you to what DB Cargo will be presenting in Munich. The next edition of railways will thus be the ideal way to prepare for transport logistic.



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PUBLISHING DETAILS

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60549 Frankfurt am Main, Germany

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CONCEPT/DESIGN/ EDITING

MPM Corporate Communication Solutions, Mainz, Düsseldorf

PHOTO CREDITS

Photos: DB Cargo: pp. 6–7 (Akos Vincze), 24, 27, 40 (Pablo Castagnola), 46–49 (Stora Enso), 50–51 (AC Floby), 52–54 | JadeWeserPort: p. 37 | transpo Trade Fair: p. 59 (Christian Hartlmaier) | Oliver Lang: Title, pp. 2–5, 33, 35, 56–58 | Michael Neuhaus: Title, pp. 8–17, 27–28, 38–39 | Olivier Hess: p. 2, 4, 18, 20 | Adobe Stock: p. 23, 25, 41, 54 (pinbokeoyaji) | Stephan F. F. Dinges: pp. 42–48 | Offset: pp. 30–31 (Monty Rakusen) | iStock: p. 52 (PhonlamailPhoto) | The Noun Project: p. 16

PRINTING

DB Kommunikationstechnik GmbH
Akazienweg 9
76287 Rheinstetten (Baden), Germany

ISSN 1867-9668

To protect the environment, this publication was printed on eco-friendly paper.

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