

CARGO FREIGHT JOURNAL

NEWS FOR THE RAIL & TRANSPORT INDUSTRY

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iaf & transport logistic:

NEW TRENDS FOR INFRASTRUCTURE AND FREIGHT BUSINESS

+++ COUNTRY REPORT EUROPE  GREAT BRITAIN +++ Events: UEEIV Railway Forum Napoli, Alpine Rail Optimisation Vienna, Fuels for the Future Berlin +++ Contributions/Interviews: Johannes Max-Theurer Plasser & Theurer +++ Patrick Schnieder BMV +++ Dr. Jürgen Murach VDEI +++ Olaf Scholtz-Knobloch UEEIV +++ Marco Broglia CIFI +++ Tin Viduka Altpro +++ Martin Joch PJM +++ Jeroen Kooistra, Michel Groen Arcadis +++ Christian Senger VW +++ Graham Major-Ex Sennder +++ Peter Kiss Metrans +++ Clemens Fürst Rail Cargo Group +++ Michail Stahlhut HUPAC +++ Peter Westenberger NEE +++ PESA +++ Stadler +++ WEISS +++ Maciej Grześkowiak +++ Peter von Zimmermann + Peter Papert Siemens Mobility +++ SBB +++ ÖBB +++ DB +++



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EDITORIAL

Dear readers!

Screenshot: mimikama.org



Does he shoot, doesn't he shoot...? An autonomous police bus in Tianjin, China, featured in a Frankfurter Allgemeine Zeitung report.

Autonomous driving is in. But is autonomous shooting also in the works? On August 30, 2025, the **Frankfurter Allgemeine Zeitung (FAZ)** reported that China now has a “self-shooting police car”. The photo was apparently taken from Chinese sources. But how is the shooting supposed to work? The autonomous minibus shown had no loopholes. Six days later, the FAZ stated: “We regret the mistake.”

The media portals **kobuk.at** and **mimikama.org** had previously investigated: The German quality newspaper had fallen victim to a gross translation error by an artificial intelligence-driven translation tool. In fact, the Chinese report stated: “It is reported that these patrol cars are equipped not only with **camera systems**, but also with an emergency call function [...]” With understandable sarcasm, kobuk.at concluded: “So the only thing being shot here is pictures.”

Autonomous driving is also our focus in this issue of our magazine – but firsthand, without poor AI translations... We discuss it with the **German Minister of Transport** and the **leading expert from the VW automotive group**. A track-laying machine from global market leader **Plasser & Theurer** can now also operate autonomously. Our editorial team had the opportunity to speak with the company’s CEO, **Johannes Max-Theurer**. We were even able to observe the machine at work – it was quite spectacular!

A focus of this issue is our reports from the leading trade fairs **iaf** in Münster/Westphalia and **transport logistic** in Munich. There, innovations in logistics, freight transport, and rail infrastructure work were once again on display. The iaf is organised by the **Association of German Railway Engineers (VDEI)** – a testament to the importance of this association of concentrated railway expertise. The **European umbrella organisation UEEIV**, whose media outlet we are, also benefits from this. Significant construction work is also underway at the German state-owned railway company, **Deutsche Bahn**. Unpunctual trains, dilapidated infrastructure, high debts – Germany’s transport minister has now dismissed the head of the railway and is pushing for a fresh start in terms of personnel and program. One of the problems is the costly transport of individual freight cars. We also report on this.

We wish you stimulating reading!

Hermann Schmidtendorf, editor-in-chief and publisher



Credits: HMV

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About the cover image: Our photo shows track construction machines and an Antonov aircraft presented at the IAF and Transport Logistic trade fairs.

Credits: Hermann Schmidendorf. Grafics and design: Britta Ruge

WIR SETZEN DEN NORDEN UNTER STROM



STADLER



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NEWS

KNORR-BREMSE AG: CONSOLIDATED

On January 19, 1905, Georg Knorr founded Knorr-Bremse GmbH in Berlin. This marked the beginning of a global success story – the rise to become the world market leader for braking systems for rail and commercial vehicles. The global strategy program **BOOST 2026** was completed 60 percent ahead of schedule at the beginning of 2025. To strengthen continuity within the Executive Board, the Supervisory Board unanimously extended **CEO Marc Llistosella's** contract by five years, effective January 1, 2026.



Credits: Hermann Schmidendorf

The **BOOST** program included the write-off of the remaining purchase price receivable from the sale of **Kiepe Electric**: This company was acquired by Berlin-based **Heramba GmbH** in February 2024. A further step in the portfolio streamlining to increase Knorr-Bremse's profitability was announced with the sale of **R.H. Sheppard Co., Inc.** to the US investor **Balmoral RHS Acquisition Corp.** The US subsidiary **Bendix** will now focus more strongly on its core competencies of braking systems, vehicle dynamics, air and energy management, and innovative driver assistance systems, in addition to the Truck Division's clear focus on mechatronic steering systems. This was followed by the sale of the North American subsidiary **GT Emissions Systems** to the British private equity fund **Rcapital Partners**, which closed on January 22, 2025. The entire program encompasses an asset value of €700 million.

In return, the acquisition of **Alstom's North American signaling business** was completed in 2024. The resulting company, **KB Signaling**, has already contributed to the positive balance sheet results: In the first half of 2025, the **operating EBIT margin increased by 30 basis points** to 12.6%. **Order intake increased by 5.8 %** to €4,484 million compared to the first half of 2024.

hfs/kb

LUFTHANSA CARGO/ITA

On 1 September 2025, the cooperation between **Lufthansa Cargo** and **ITA Airways** reached a new milestone: The routes from **Delhi (DEL)**, **Tokyo-Haneda (HND)** and **Bangkok (BKK)** to **Rome-Fiumicino (FCO)** are now also marketed and managed under the **Lufthansa Cargo AWB prefix**.

"We are proud to offer our customers additional capacity from Asia to Europe with these three routes. The cooperation with ITA Airways got off to a successful start in June, and we are excited to take the next step together. Our newest hub in Rome is a



Credits: Lufthansa

particularly important addition to our network, enabling us to offer even faster and more reliable connections to Europe and worldwide" explained **Anand Kulkarni**, Head of Global Markets at Lufthansa Cargo.

Lufthansa Cargo has been marketing ITA Airways' belly capacities on routes from South America to Rome since May this year. Subject to regulatory approval, the cooperation will be gradually expanded to all ITA Airways' continental and intercontinental routes. This will increase the global offer of belly capacities available to Lufthansa Cargo customers by almost 20 percent. In future, freight customers will thus have access to an even broader global network, including the belly capacities marketed within the Lufthansa Group, connecting all major economic centres in Europe and around the world.

lh/hfs

HAPAG-LLOYD

Hapag-Lloyd, one of the world's leading liner shipping companies, concluded the first half of 2025 with a Group EBITDA of USD 1.9 billion (EUR 1.8 billion). The Group EBIT decreased to USD 0.7 billion (EUR 0.6 billion) and the Group profit to USD 0.8 billion (EUR 0.7 billion). The frequent changes in trade policies of the US, in particular, led to volatile demand and freight rates. In addition, congested seaports and the tense security situation in the Red Sea impacted operations. The terminal portfolio was further expanded in March 2025 with the acquisition of a majority stake in **CNMP LH in Le Havre**, France.

"In a volatile market, we significantly increased our transport volume and ended the first half of the year on a solid note overall. We have gotten our **Gemini network** off to a very successful start and are setting new standards in our industry in terms of schedule reliability. In addition, we have made good progress in the further expansion of Hanseatic Global Terminals. At the same time, we will do everything in our power to help our customers navigate this volatile market environment, and we hope that more new trade agreements will make their supply chains more predictable," said **Rolf Habben Jansen**, CEO of Hapag-Lloyd AG.

hl/hfs



Credits: Hapag-Lloyd

Thermocon:

VERSATILE PACKAGING SOLUTIONS FOR PERISHABLES

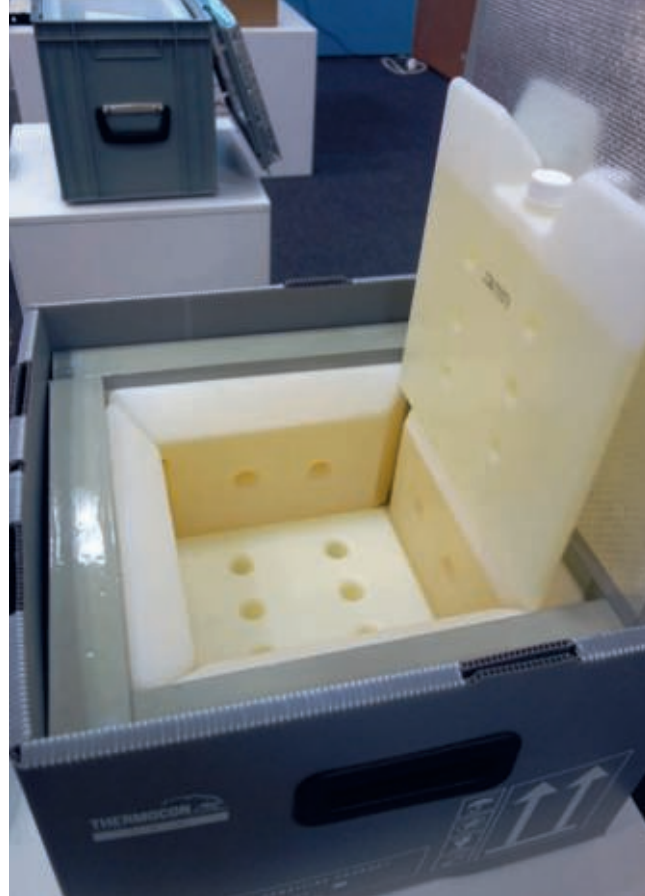
Perishable goods place special demands on logistics. The packaging must be a precise fit, robust, and shock-resistant. Different temperature and humidity conditions must be maintained depending on the goods. Examples of such goods include fresh products such as fruit and vegetables; dairy products such as cheese, milk, and yogurt; baked goods; frozen foods such as ice cream; meat and seafood; and certain medical and pharmaceutical products.

The Schaumaplast Group showcased a wide range of different packaging solutions at transport logistic, some of which are custom-made to the dimensions of specific transport products. The manufacturer is headquartered in Reilingen, Germany, and has production sites in Germany, Poland, and the USA. It has been manufacturing molded parts and packaging made of Styrofoam (EPS), EPP, E-TPU (Infinergy), and other particle foams for various industries since 1964.

One exciting example is the modular “Pallet Line” under the brand name Termocon. Based on a standardised Euro pallet, goods with a volume of 24–70 liters (“Half Pallet Shipper”), 150–590 liters (“Pallet Shipper”), and 910–1210 liters (“Pallet Transporter”) can be transported. Depending on the sensitivity and transport time, there are different insulation levels: “Frozen < -15 °C” for transit times of up to 7.5 days, “Cold +2 to +8 °C” for transit times of up to 5 days, and “Ambient +15 - +25 °C” for transit times of up to 5 days. The rectangular container is suitable for holding dry ice. Basic insulation effects are also achieved through recesses (“air is a poor conductor of heat”) into which standardized cooling or heating batteries can be inserted if necessary.

Sturdy and temperature-insulating: Thermocon packaging.

In general, producers strive for packaging solutions that, according to their own statements, “reduce the carbon footprint compared to conventional EPS packaging”. They also offer dimpled combined aluminum-plastic films and components made of cardboard boxes. They also offer customised EPS packaging and molded parts for sensitive and high-value goods, such as protective packaging for solar panels, inverters, or other electronic products. Care is taken to ensure that the packaging is reusable. Information: www.thermocon.cool. *Hermann Schmidendorf*



Credits: Hermann Schmidendorf

Port of Hamburg:

THE ROBOT SPOT INSPECTS BRIDGES

Hamburg Port Authority (HPA) not only keeps Germany’s largest seaport and Europe’s largest rail port running, but also looks after real estate and infrastructure in the Port of Hamburg. This includes about 120 bridges, buildings and railway tracks. At their **transport**

logistic exhibition stand, a strange metallic creature attracted attention: the **mobile robot Spot®** from **Boston Dynamics**. Since 2022, this agile creature has been helping out to inspect the striking **Hamburg Köhlbrand Bridge**, which is about 3.8 km long. The second longest road bridge in Germany, it has been the most important east-west link in the Port of Hamburg for over 50 years.

The Köhlbrand Bridge is already a “smart bridge” with more than 500 sensors permanently measuring values in its interior, reporting on movements and corrosion. But the HPA team also has to inspect the bridge regularly with inspection crews that require up to five people, their work each time taking months. It involves working in the bridge cavities in a dusty, dark, and noisy environment.

The robot Spot proved to be the right substitution for the job. The robot is able to move independently inside the bridge, in complete darkness, and navigate through the narrow passages between the bridge



Agile: The SPOT robot for inspection work.

Credits: Hermann Schmidendorf

segments. Work that was previously done with a flashlight, pen and paper can be performed by Spot, relieving the inspection team of the unpleasant part of their job. Spot is able to carry a lidar payload, for example, which can be used to visualise 3D objects. The robot may also carry a high-resolution Leica RTC360 3D laser scanner, as well as the Spot EAP package, which

enhances Spot’s autonomous navigation, computing power, and communications.

The lidar data in the form of a 3D point cloud and photographs taken by Spot were used by HPA’s partner **Roboverse Reply** to create a digital twin of the bridge. This digital image allows engineers to navigate remotely through an accurate, virtual image of the bridge and zoom in on areas of interest. This can also be done immersively with VR glasses. Critical points or areas, known as points of interest (POIs), can be defined in the digital image. Spot can pay special attention to these POIs during the inspection, for example by taking high-resolution images. The aim of this procedure is to obtain reliable answers to important questions: Are there new cracks in the concrete? And are these cracks changing over time? In creating the digital twin, images taken at the same location just six weeks apart were initially compared. Any deviations or suspicious changes can be quickly identified. The HPA experts are certain: There is a lot to do for Spot!

hfs

THE VECTRON NOW ALSO RUNS ON ITS OWN



Quite grown-up: Starting in October 2025, this SIEMENS Vectron locomotive will operate autonomously in the Netherlands.

In July 2025, the German freight transport company **DB Cargo** unveiled the first mainline locomotive with state-of-the-art technologies for **Automatic Train Operation (ATO)** and **Remote Train Operation (RTO)** at its **Cologne-Gremberg depot**. According to the company, this **Siemens Vectron** is Europe's first locomotive for automated operation. Europe's largest freight railway, together with the **German Aerospace Center (DLR)** and its partners **Hitachi Rail** and **Remoot**, has thus reached an important milestone in a groundbreaking pilot project. ATO and RTO are intended to make rail freight transport more efficient, flexible, and competitive throughout Europe.

The project is part of the federal program "Future Rail Freight Transport to Promote Innovations," with which the **German Federal Ministry of Transport**

(**BMV**) aims to accelerate the development and timely market launch of innovative technologies in freight transport and thus increase rail's market share in freight transport in Germany. Federal funding of €18.86 million was invested in this project. The locomotive is equipped with two key technologies – Automatic Train Operation (ATO) for automated driving and Remote Train Operation (RTO) for remote control. This will enable it to cover long distances automatically in the future.

During the journey, the technology takes over acceleration, braking, and stopping. Safety is guaranteed at all times – thanks to an on-board driver and a central remote monitoring and control team.

The one-year trial phase begins in October 2025 on the **Dutch Betuwe Route** – a state-of-the-art rail line specifically designed for freight transport. Here, the technology will be further developed and optimised in real-life operation. During the trial operation, journeys with various wagon types and loading scenarios will be considered – from heavy bulk wagons to partially filled tank wagons. In addition, the combination of ATO and RTO technologies will be tested for the first time on an open network. The goal is the Europe-wide deployment of this highly automated technology to better utilise existing line capacities and improve quality and energy efficiency.

dc/hfs

AUTONOMOUS TRUCKS FOR "LOGISTICS 4.0."

As the saying goes: Too many cooks spoil the broth. But in this case, things were apparently different. For three years, from January 1, 2022, to June 30, 2025, twelve German project partners came together to create a "Logistics 4.0 ecosystem" with the **"ATLAS L-4"** project. The abbreviation stands for "Automated Transport between Logistics Centers on Expressways at Level 4." At the end of the project, the project partners happily declared: Mission accomplished! "The **autonomous truck on the road** became a reality thanks to the work of around 150 engineers! MAN Truck & Bus, Knorr-Bremse, LEONI, Bosch, FERNRIDE, BTC Embedded Systems, Fraunhofer AISEC, the Technical University of Munich, the Technical University of Braunschweig, TÜV SÜD, Autobahn GmbH, and the Würzburg Institute of Transport Science (WIVW GmbH) have joined forces for this purpose."

The project had a total budget of 59.1 million euros and was **supported by the European Union and the German Federal Ministry for Economic Affairs and Climate Protection**. The basis for this was a law passed in 2021 that fundamentally enables autonomous driving on defined routes under technical supervision, thus placing Germany in a global pioneering role.

A safety driver was always on board during the test drives. The vehicle's automation software was continuously optimized over a long period through regular releases and directly tested in practice. The safety-relevant components for the Level 4 architecture, such as the

redundant braking system, electrical system, and steering, were developed. A validation concept was developed, and in parallel, the control center for the technical Supervision was implemented. Risk analyses and safety considerations for Level 4 were conducted – including cybersecurity, for example in the form of authentic and encrypted communication, as well as the definition of functional safety measures such as redundancies and degradation concepts for the autonomous driving system.

The result: a prototype technology as a blueprint for further projects and series development. Project coordinator **Sebastian Völl from MAN Truck & Bus**: "These concepts are now being incorporated into further development work for the series development of autonomous trucks." The project partners emphasise: The new vehicles are by no means intended to eliminate jobs. Rather, they are a solution to the driver shortage that the industry has been suffering from for years. There is already a shortage of around 100,000 truck drivers in Germany alone.

as/hfs



Soon a common sight? The first autonomous trucks from MAN.

Credits: ATLAS L4

PLASSER & THEURER: Making work with tamping machines easier through modern digital technology

Founded in 1953, Plasser & Theurer, a company specialising in track construction and maintenance machinery based in Linz, Austria, is now the global market leader. His grandson, Johannes Max-Theurer, took over management of the family business in 2011 from his now-late grandfather, Josef Theurer. Our editorial team had the opportunity to speak with the company's CEO at the iaf trade fair in Münster, Westphalia.

CARGO FREIGHT JOURNAL: Mr. Max-Theurer, at this trade fair you handed over a state-of-the-art track maintenance machine to a British customer. It was obvious that you like this latest product?

Johannes Max-Theurer: The big advantage of this machine is that it's a universal tamping machine.

This means it can tame switches, even very complex switch sections. This machine is equipped with an electric tamping unit, which means we generate the vibration electrically. And that's a huge

Reflecting and weighing, yet dynamically engaged: Plasser & Theurer (P&T) CEO Johannes Max-Theurer at the presentation of the new Unimat 08-4x4/4S for Great Britain – the massive, solid hoses belonging to the new machine are visible in the foreground.



Credits (4): Hermann Schmidtendorf



The right part of the new machine for Great Britain, of which track builder Balfour Beatty (BB) will receive a total of four. At the center is the globally proven 4x4 tamping unit with pivoting suspension, lateral movement thanks to telescopic guide rods, split-head technology, and pivoting tamping tines. This electric-drive tamping unit is now available as an option for the Plasser Unimat 4x4e with a combustion engine.

advantage when we do it electrically. Traditionally, it's hydraulic work. That works very well, too; it's a very well-established technology. But the move to electronics brings a huge advantage in terms of efficiency. We've made comparisons and retrofitted machines for this purpose, and we've saved up to 40 percent of the diesel used during operation. That's the big advantage. We've now sold this machine to England, where these advantages will be utilized. Our customer is Balfour Beatty, which relies on this technology, and we're very proud of that.

CARGO FREIGHT JOURNAL: Could we say that this is also your special contribution to the Stockton-Darlington railway anniversary, the world's first fully-fledged public railway? You're bringing this state-of-the-art machine to this 200th anniversary year?

(laughs) Our contribution isn't that important. But we are very proud that we have been supplying our machines for the infrastructure for many years – this company has been around for over 70 years.

CARGO FREIGHT JOURNAL: And this machine also operates with reduced noise?

Exactly. It also brings about a significant reduction in noise.

CARGO FREIGHT JOURNAL: You've also been very closely involved with digital technology personally in recent years?

That's a very important topic because we have a shortage of skilled workers. This shortage of skilled workers naturally also means that we have to consider how we can mitigate this in the future. One part is that we place great importance on providing people with good training, education, and enthusiasm for our industry. And the second step is that we're trying to simplify things on the machines. Our principle isn't to get people away from the machines and the track construction site. Rather, we want to ensure that the people who work on the machines have a lighter environment, can work easily, and that fewer people can operate the machines with modern technology. So it's the step towards autonomous machines, where we promote the operator to a supervisor, I'd say. That's the path we're taking.

CARGO FREIGHT JOURNAL: I'm also a member of the Association of German Railway Engineers (VDEI), whose



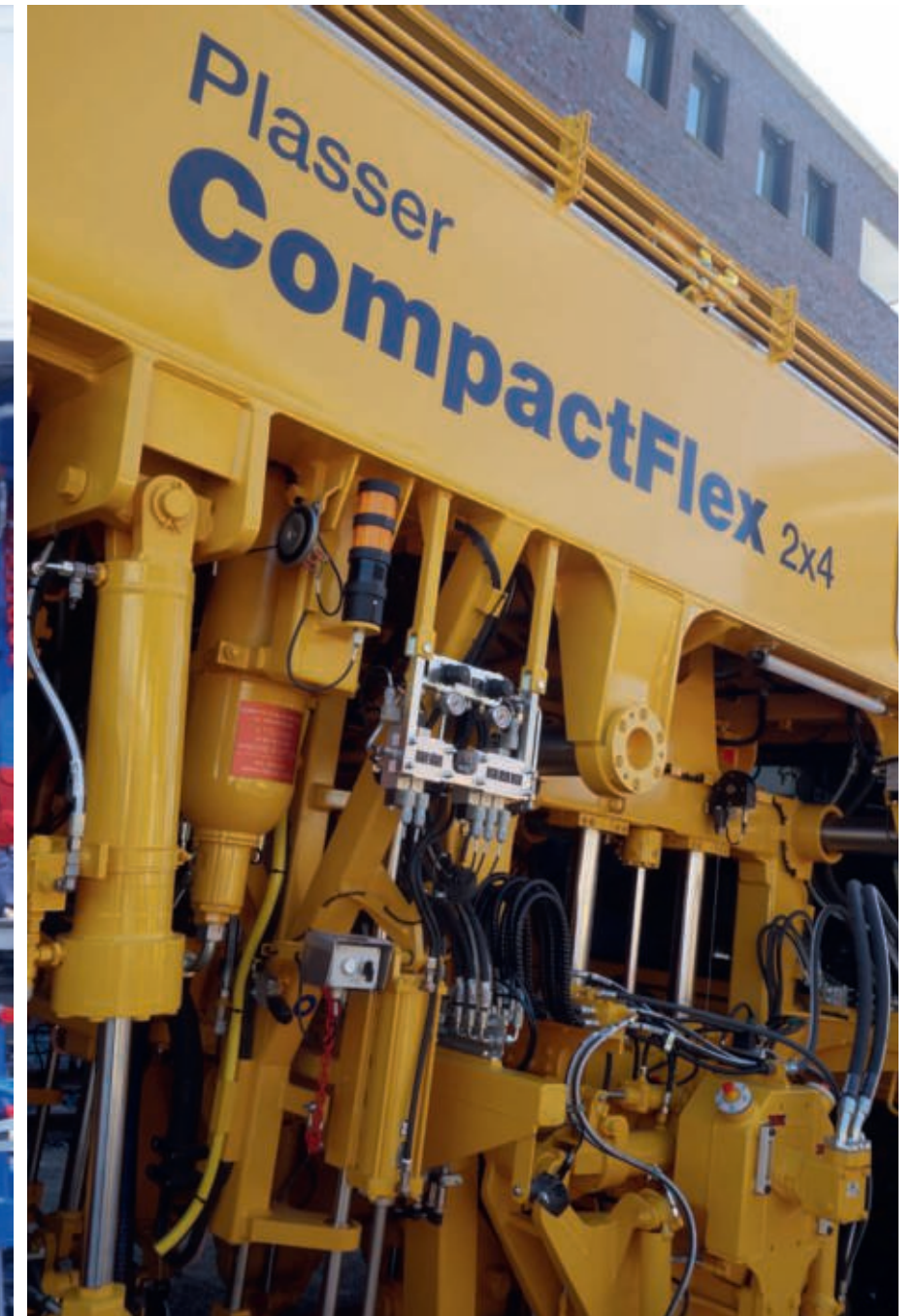
Happy faces of BB representative Shaun Mycock (left) and P&T CEO Johannes Max-Theurer at the handover of the new machine.

service company is organizing this trade fair iaf. So, on behalf of the other members, thank you very much for supporting this trade fair so strongly and for obviously considering it so important that you're coming yourself! After all, you don't attend all such events, do you?

This is our most important trade fair, where we can showcase our machines.

! Mr. Max-Theurer, thank you very much for this interview!

The interview was conducted by Hermann Schmidten-dorf, Editor-in-Chief.



Custom solutions are part of the business. The machines for Great Britain have to be narrower than those used in continental Europe due to the smaller British clearance gauge. P&T also built this CompactFlex 2x4 for track maintenance on the metro in the South Korean metropolis of Busan according to customer specifications, with a specially adapted lower roof.

“Autonomous Driving is the Future of Mobility!”

Lawyer Patrick Schnieder has been a CDU member of the Bundestag since 2009 and Federal Minister of Transport of the Federal Republic of Germany since May 6, 2025. He is also chairman of the BENELUX parliamentary group and a member of the Franco-German Parliamentary Assembly. On August 13, 2025, Schnieder met with his British counterpart in Hamburg for consultations. CARGO FREIGHT JOURNAL Editor-in-Chief Hermann Schmidtendorf spoke with the minister.

CARGO FREIGHT JOURNAL: Mr. Minister, you were just using an autonomous minibus. What were your impressions?

Patrick Schnieder: That was completely normal! I had imagined it differently. I drove autonomously years ago, but the vehicles weren't as sophisticated back then. This was a completely normal journey.

You hardly noticed along the way that you were actually driving without a driver. And I was really impressed by how we rolled through city traffic – I hadn't really expected it to be this perfect.

? What role does autonomous driving play in the federal government's concept for the coming years?

Autonomous driving is the future of mobility. Germany is to become a leading market for autonomous driving. We are at the forefront. We want to roll out whatever technology we have available, whatever we can do. In this respect, Hamburg is truly a model for what's possible here. We want to move from project operation to regular operation and scale it up to the commercial sector. We need higher numbers. We need more data to further improve it. That's the next step: rolling out what we've started here.

? Where does Hamburg rank in terms of modern mobility in general?

What you can use and see here represents the entire spectrum of mobility. And that's very innovative, there's no other way to say it. It can serve as a model for many others in Germany. ▶

Patrick Schnieder

Credits(2): Hermann Schmidtendorf



Cameras and sensors on the roof of the vehicle constantly monitor and control its progress.

? You were also able to present two other exciting projects this year – the first autonomous freight locomotive with DB Cargo and an autonomous truck. Is this topic of special interest to you and your ministry?

Autonomous transportation – I'll shift my focus away from the road for now – is the future of mobility. This year, we also launched a pilot project on waterways, where ships, pushed together, now operate automatically, in the first stage of this technology. This offers incredible opportunities in terms of the safety and efficiency of transport systems. But also from the perspective of the shortage of skilled workers, it is of course extremely interesting for the industry and for us as well. In this respect, there are many opportunities in all modes of transport. And

we want to take advantage of them.

? These are all projects by German companies that are obviously also leading the way for Europe. How can we ensure that they subsequently lead to mass success? Wouldn't other companies then replicate them in series, and the German developers only get the credit for their inventiveness?

Competition is a major driver in this business. We're happy and a little proud that German technology is at the forefront there. It's important to us that we can implement it here, actually use it here. The first steps have been taken, and they're promising.

! Thank you for the interview!

INFO

In 2016, Moia was founded as an independent company under the Volkswagen Group. In April 2019, Moia launched its zero-emission ridepooling service in Hamburg with specially developed taxis and has transported more than ten million passengers to date. Using an app, people share a vehicle with a similar starting and destination location. An algorithm assigns ride requests to a new or existing trip. The autonomous vehicle is navigated via the company's cloud to customers, who board and alight at fixed virtual stops along a dynamic route. The fully electric vehicles are equipped with six individual seats, reading lights, USB ports, Wi-Fi, a boarding aid, and a baggage storage area. Peak bookings in Hamburg are around 7 p.m. and 10 p.m. *hfs*

VW: With cameras, radar, and lidar for safe driving

The VW Group's website clearly describes it as a group strategy: "As a pioneer in innovative mobility services, we view autonomous driving as a quantum leap into the future." This also applies to commercial vehicles of the MAN and Scania brands, which are part of VW AG. CARGO FREIGHT JOURNAL spoke with the VW head of autonomous driving.

CARGO FREIGHT JOURNAL: Mr. Senger, you were just on board for the demonstration of the autonomous taxi, but you had nothing to do

during the ride. What is your role when you're not accompanying such a vehicle as a safety driver?

Christian Senger: I am the CEO of Volkswagen Autonomous Mobility, and we are responsible for fully autonomous mobility across the group.

? Does the driving command always have to be given before starting the journey?

Through the app, or you can activate it manually in the vehicle and give the car the so-called route, which is then followed with waypoints. This route is generated in the cloud, and the vehicle then executes this route and handles all safety-relevant decisions locally in the vehicle.

? What technical options do you have for detecting potential obstacles? We've heard that certain American competitors' vehicles only have cameras, and their detection accuracy is insufficient. But there seem to be better solutions in Europe or Germany with lasers or sensors. What do your ►



He demonstrates complete confidence in his technology: VW CEO Christian Senger in front of his autonomous taxi in Hamburg.

Credits: Hermann Schmidendorf

vehicles have?

We have 27 sensors installed on the vehicle. We have cameras, radar, and lidar. For us, it's a given that we'll only be moving toward autonomous driving with multi-sensor technology. Each sensor has its own strengths. Cameras can read signs perfectly, read lines. Radar can see very, very well through bad weather conditions. And lidar is a highly precise measuring instrument that can estimate distances. Radar and lidar provide their own light, and don't distinguish between day and night. And that's crucial, so that service quality is possible completely independent of the weather.

? How can we convince legislators or the authorities during registration to only approve the safest models and not those vehicles that top the accident statistics in the US? I wouldn't want to use a semi-safe vehicle.

We are also in the process of developing standards together with the German Federal Motor Transport Authority – standards that stand for safety, availability, and comfort. These technological standards are only understandable to experts. That's why collaboration is necessary. And that's very, very fruitful. And of course: With software-driven products, data must speak for how good a system is.

? You have a cloud. What's special about it? Is it more than just a collection of data in some data center?

Yes. The cloud first takes care of understanding the city. You have to imagine it as if you were giving a person who just got their driver's license a driving recommendation. That means you consider which streets are easy to drive, which are difficult? Which direction, what speed? Is there perhaps a better approach in the rain? Our cloud does all of that. It also takes care of the passengers. Who is actually allowed to board? What happens if you feel unwell? Or you want to change your route? What happens if we have a roadblock? We have to reverse out of the one-way street. The Moia service does all of this, providing assistance to the vehicle and the passengers to ensure safe behavior at all times.

? And if the passengers, let's say, are sitting in the back, and someone spontaneously wants to leave the vehicle. Do the passengers have to press a button, or how does that work?

We have two types of buttons in the vehicle. One is, "I have a normal service question. Do you also drive on Sundays?" That's the simple case. And the red button is: "I want to stop." Then the vehicle performs a minimal maneuver and stops in a safe place. A human connects, looks into the cabin, and talks to the passengers. How are you feeling? Are you sick? Have you seen anything? Would you like to meet a friend on the side of the road immediately? Or maybe you even feel like you're being followed? Accordingly, a completely different reaction occurs. And our service ensures this.

? How many such vehicles are there already?

We have 100 prototypes. We test in Germany, Norway, and the USA, gathering the relevant experience.

? Your vehicles are definitely more elegantly designed than some of your US competitors. They look like tanks to me, and that scares me. It seems you also have a decent design team at work?

We've found that when vehicles look very special, 50 percent of road users behave differently, making them even more difficult to predict. We have a completely normal vehicle, whether driven by a human or autonomously. The second is: We drive on the highway. At 130 kilometres per hour, it's also about aerodynamics, airflow, and flow noise, to always offer a comfortable ride.

? And the drive energy is provided by a battery?

This is, of course, an electric vehicle. Fully autonomous mobility begins with zero emissions. And it's actually cheaper to service per kilometre than with a combustion engine.

! Thank you very much for this information!

The interview was conducted by Hermann Schmidendorf.

NEWS • ALTERNATIVE ENERGY

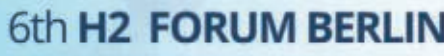
EVENTS

Alternative power sources for all types of vehicles are important future topics for mobility. Developments in research and technology are advancing rapidly. Therefore, it's a good thing that Berlin is hosting three international conferences and congresses that provide an overview of new trends and opportunities.



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- **The 6th Future Battery Forum will take place at ECC Berlin on November 25th and 26th, 2025.** The organisers say: "The Future Battery Forum in Berlin will once again become a vibrant hub of creativity and synergy, uniting global industry leaders, influential policy makers, and forward-thinking visionaries in a dynamic exchange of groundbreaking ideas and innovations. The premium management conference brings together the entire value system of battery technologies. Over 1,000 users, battery system & cell manufacturers and their suppliers from around the globe will spend two days at ECC Berlin to network and discuss future trends." Info: <https://www.futurebattery.eu/>
- **From January 19 to 20, 2026, the 23rd International Conference for Renewable Mobility, "Fuels of the Future," will open its doors to partners and exhibitors in Berlin.** Its motto: "Turbo on, renewably take off!" The organiser explains why this conference is a must-attend: "Leading expertise in renewable mobility: a platform for knowledge transfer at the highest level; innovation drivers of renewable fuels and biofuels: a central role in the drive mix of the future; political direction in dialogue: the impact of regulation and funding on the market and tech-

nology; global perspectives: impulses and trends from Europe, America, and Asia; practice meets the future: from raw materials to production to market ramp-up." The organiser is the German Bioenergy Association (Bundesverband Bioenergie e.V.). Info: www.kraftstoffe-der-zukunft.com

- **The 6th H2 Forum Berlin will take place at the ECC from March 3rd to 4th, 2026.** As always with such conferences, it's worth registering quickly. Interested parties can secure an early bird ticket until November 3rd, 2025, and save up to €250. Another interesting feature is that tickets can be transferred to another person after purchase if desired. The organisers provide information: "The H2 Forum Berlin creates an intensive exchange on equal terms and relies on interactive formats in small groups. The breakout sessions are limited to 40 participants. Gain insights into real projects and practical use cases from the leading hydrogen players driving the hydrogen industry forward. We will present successful implementations and experiences across the entire value chain that will drive the future of the hydrogen economy. Experience inspiring and interactive presentations and discussions on the latest developments and opportunities on various stages." Info: <https://www.h2-forum.eu/>



ALPINE RAIL

BY ROTAIA MEDIA OPTIMISATION



VIENNA | 21ST OCTOBER 2025

UNPRECEDENTED RAIL INVESTMENT DRIVING DIGITAL TRANSFORMATION IN THE ALPINE REGION

The rail operators and infrastructure managers of the Alpine region are leading a new era of digital transformation, driven by the undeniable link between modern railways and economic growth. Recognising the need for integrated, inclusive, and environmentally sustainable mobility, the Alpine railways are committing to historic levels of rail investment in digitalisation: Deutsche Bahn: €86 billion, ÖBB €21 billion, RFI €94 billion, SNCF €46 billion and SBB €22 billion!

For organisations looking to retain, or expand their market share in the Alpine rail market, now is the time to be forefront of mind with the key buyers from the region. This conference offers an exclusive platform to not only engage directly with infrastructure managers and rail operators driving these investments into digitalisation, but to ensure that their solutions are recognised as pivotal to this unprecedented investment era.

For speaking, exhibiting and sponsoring opportunities, please contact:
Ben Holliday: ben.holliday@rotaiamedia.com



RAILWAY FORUM 2025 ON 6./7.11.2025 IN NAPOLI/ITALY

As modern railway engineers, we are deeply committed to enabling the expansion of the European rail network and interoperability with our technical innovations and solutions.

In November, the Union of European Railway Engineer Associations (UEEIV), of which VDEI is a member, is organising a major two-day RAILWAY FORUM with our Italian member association, the Collegio Ingegneri Ferroviari Italiani (CIFI), and with the support of the Fondazione Italiana of the Italian state railway FS.

This event marks the first collaboration between UEEIV and CIFI, the Italian Association of Railway Engineers, to address common challenges and explore innovations in slab track for high-speed trains.

At the Pietrarsa National Railway Museum, with breathtaking views of the Mediterranean Sea, discussions with leading experts will explore cutting-edge approaches to the design, construction, and maintenance of slab track.

Topics covered will include: Adaptation to different conditions, considering different track terrains, geological conditions, existing and planned infrastructure. Noise and vibration. Performance in tunnels, bridges, switches, and crossings: Comparison of the performance characteristics of standard and re-



silient slab track systems. Life-cycle cost analyses. Efficient maintenance: Strategies for replacing or renewing slab track units during night closures to minimise disruption. Earthworks and settlement

mitigation: Management of significant earthworks, including measures to reduce settlement during construction and maintenance. Transition zones between ballasted and slab track systems.

An exhibition will showcase the latest technologies and innovations in the field of slab track. There will be ample networking opportunities during coffee breaks, lunch, and a networking dinner. On Saturday, an excursion to the Napoli metro stations will be offered, including visits to some of the city's most important landmarks.

You are cordially invited!

Dipl.-Ing. Olaf Scholtz-Knobloch,
President UEEIV

<https://ueeiv.eu>
osk@osk-consult.de



Credits: Hermann Schmidendorf

Programme Overview

Thursday, 6 November

General topic: High speed and conventional lines

9:00 – 18:00 Full day conference including exhibition, coffee breaks and lunch
19:30 Networking Dinner

Friday, 7 November

General topic: Public transportation

9:00 – 18:00 Full day conference including exhibition, coffee breaks and lunch

Saturday, 8 November

09.30 – 13.00 Excursion to the Naples followed by lunch

Website: <https://ueeiv.eu/events/railway-forum-2025/>



6-7 NOVEMBER 2025
Slab Track Forum



Conference Information

Venue: National Railway Museum Pietrarsa, Naples, Italy

Dates:

Main conference: November 6–7, 2025

Excursion: November 8, 2025

Contact Information:

UEEIV – Union of European Railway Engineer Associations

Charlotte Gebhart - Conference Management

Email: sekretariat@ueeiv.eu

Website: <https://ueeiv.eu/events/railway-forum-2025>

EXHIBITORS & SPONSORS OF THE NAPOLI CONFERENCE



VDEI/EVENTS

Again a celebration of large and small machines – iaf, May 2025:

29TH INTERNATIONAL TRACK TECHNOLOGY EXHIBITION



World premieres, expert debates, and a representative industry overview: VDEI Service GmbH of the Association of German Railway Engineers (VDEI) once again offered all of this at the world's largest exhibition in the field of track technology and railway construction. 15,000 m² of hall space at the "Halle Münsterland Exhibition and Congress Center", 6,000 m² of outdoor space, and over 3,000 m² of track at Münster Ost station, owned by the WLE railway company, were available for this purpose.



The iaf aims to bring companies and people together and showcase the spectrum of this industry. It covers maintenance and construction, the promotion of young talent and planning security, but also transport policy and cross-border transport. The iaf makes the world of track accessible and tangible.

Stephan Schulte from the VDEI Track Engineering Committee expressed it this way: "The iaf impressively demonstrates how masses of steel and high-performance machinery are moved. A concrete sleeper, for example, weighs 280 to 300 kilos, and a metre of rail weighs around 60 kilos – that's 'heavy metal' in the truest sense of the word. The iaf is a showcase that fascinates far beyond the professional world."

That's why the VDEI also awards the "VDEI Promotion Prize" for outstanding work by young engineers. With this, the association aims to specifically promote young engineers in the rail-guided transport sector. This time, Mirco Heitmann from the Technical University Mittelhessen received the first prize for his bachelor's thesis on the topic of "Development of a multi-sensor measurement system for the condi- ➤

Hands-on technology – the outdoor area was once again particularly popular at iaf 2025.



Credits (4): Hermann Schmidtendorf

VDEI/EVENTS

tion monitoring of railway wheels." The award winner not only designed and built a measurement system himself, but also developed the corresponding software for both the system control and the subsequent data analysis.

Münster's mayor, Angela Stähler, and Detlef Berndt from the Westfälische Landes-Eisenbahn GmbH (WLE) emphasised the great importance of the iaf for Münster and the entire region. The construction of a regional railway line from Münster to Coesfeld will be a logistical challenge, as the planned work will also require the capacities and land of the WLE. However, everything is being planned so that the next iaf can take place at its usual location in Münster.

dr Jürgen Murach, vice president VDEI



At the award ceremony: from left, Mirco Heitmann, VDEI President Prof. Birgit Milius, and VDEI Vice President Dr. Joachim Warlitz.



Close partners at the iaf: Münster's Mayor Angela Stähler and Professor Birgit Milius.

INFO

MIRCO HEITMANN ON HIS AWARD-WINNING BACHELOR'S THESIS:

The result of the development work is a system that functions as planned with a good data rate and is stable over long periods of time. What is somewhat surprising, however, is the price:

The microcontroller, which handles many communication interfaces in parallel and samples five analog channels at 16 kHz, executes five highly computationally intensive digital filters over them, and handles data formatting and storage, is currently available in individual quantities for less than 12 euros. The corresponding piezo sensors also currently cost 0.36 euros, allowing the entire system to be manufactured very cost-effectively.

It is worth noting how significant the benefits of such a system can be. If premature (unnecessary) repairs and late repairs (dangerous wear and tear) on trains and tracks can be avoided, the savings can be enormously greater than the cost of the system itself.

The Italian member association of UEEIV: CIFI

WELCOME ADDRESS OF THE CIFI VICE PRESIDENT AT THE IAF IN MÜNSTER

Thank you for the invitation to this summit – we are delighted to be here! And I also bring greetings from **our President, Dott. Ing. Gianpiero Strisciuglio**.

CIFI is the Association of Italian Railway Engineers and has approximately 2,100 members, including engineers working in the railway, urban rail, industry, universities, and transport authorities. CIFI's purpose is to exchange knowledge, provide professional training for technicians, and promote railway culture. Numerous Italian companies operating in all sectors of the railway system are CIFI members, and some of them are represented at this iaf exhibition. I would also like to emphasise that **VDEI and**



Luca Franceschini, CIFI Technical Secretary, Roma.

CIFI collaborate within the UEEIV. My colleague, **engineer Luca Franceschini**, will provide you with further details on CIFI. ▶



CIFI Vice President North Marco Broglia (right) and VDEI Vice President dr Jürgen Murach.

The Italian member association of UEEIV: CIFI

European funding, known as the **Next Generation** program, has enabled new railway, metro, and tram construction in Italy since 2021. This includes the **construction of new high-speed lines**, such as Naples-Bari and Brescia-Verona-Padua. This also includes the **expansion of metro and tram networks** in Milan, Turin, Rome, and Bologna, as well as some **rail connections to airports**, such as Venice and Bergamo. Therefore, Italy is currently a very **attractive market for companies active in the railway infrastructure**

sector—particularly in track construction, but also in the ever-important maintenance activities.

The iaf is a unique opportunity to showcase new technical solutions, exchange knowledge, do business, and meet old and new colleagues and friends. This is also very important. Therefore, I wish all participants of the exhibition every success.

Marco Broglia, Vice President CIFI Nord

INFO

FOUNDED IN 1899

The College of Italian Railway Engineers (CIFI), founded in 1899, is one of the oldest and most important technical and professional associations in Italy.

Main objectives:

- promote the study of scientific, technical, economic, and legislative issues relating to railways and transportation, engaging with the public and relevant institutions
- enhance the role of engineers and transportation experts by contributing to their cultural and professional growth
- contribute to the improvement of technical and professional culture through the organization of training courses. **The College brings together over 2,400 individual members involved in railways and transportation and over 150 collective members, including industrial and transportation companies and universities.** In the publishing field, CIFI publishes two periodicals:
 - **“Ingegneria Ferroviaria”**, a monthly magazine on transport technology and economics
 - **“La Tecnica Professionale”**, a monthly collection of studies and news for railway education
- **Organisation of conferences and conventions** on scientific, technical, and economic topics of interest or current affairs. Planning and organising training and professional development courses, as well as educational trips. Awarding of scholarships, including through contributions from individual and collective members, and prizes for articles published in journals, to encourage study and research on land transport.
- **Management of the association's library**, with over 7,100 works and journals, primarily on railways, published from the late 19th century to the present, available free of charge to scholars and enthusiasts. Publication of railway or transport-related books of scientific, technical, and professional interest.



UEEIV-Railway Forum 8/9 November 2024 in Sofia:

EXCITING INSIGHTS INTO BULGARIA'S RAILWAY SYSTEM

With its Railway Forum, the umbrella organisation of the European Associations of Railway Engineers (UEEIV) offers exciting insights into the railway system of one of its member countries once a year. It also offers intensive expert exchange on a specific topic. In November 2024, around 170 participants met in the Bulgarian capital Sofia under the theme "The Future of Railway Interoperability: 25 Years of Experience and Innovative Strategies."

It was a complete success for the organisers, UEEIV, and its Bulgarian member associations, the Scientific and Technical Union for Transport (WTVV) and the National Guild Society of Railway Track Engineers (NGSRTE). The program debates took place at the House of Engineers in Sofia's city centre, which also featured space for an accompanying trade exhibition and networking in the cafeteria. Just in time for the start of the event, packages from Germany arrived at the congress. Our trade magazine CARGO FREIGHT JOURNAL (CFJ) is the official media partner of UEEIV. Together with rail & mobility, we published a special edition for the Railway Summit – in English and with summaries of the texts in Bulgarian throughout! The

edition was very well received by the participants and can be ordered from us.

The high profile of the event was underscored by the fact that the Bulgarian Minister of Transport and Communications, Krasimira ►



Happy faces at the organising committee: from the right Dipl. Eng. Yassen Ishev WTVV, Dipl. Eng. Antoaneta Georgieva and Prof. Dr. Eng Mario Galabov NGSRT, in the middle Dipl.-Ing. Olaf Scholtz-Knobloch UEEIV, 2nd from left Charlotte Gebhart UEEIV.



(4): Hermann Schmidtendorf

During the conference – at the lectern SBB engineer Marco Corradini.



Stoyanova, personally presented plans for an inter-Balkan connection between Serbia and Turkey, and between Romania and Greece. The Bulgarian State Railways (BDZ) and the European Union Agency for Railways (ERA) also sent speakers. ERA representative Desislava Dimitrova explained the importance of railway interoperability, with a particular focus on the TEN-T corridors. Thanks to the generous hospitality of their Bulgarian colleagues, participants were also able to enjoy local culture at a typical Bulgarian evening, including folk dances. On the second day, there was an excursion to the new construction site of the Elin Pelin-Kostenec railway section. Modern tunnels are

being built there for a high-speed line connecting Sofia and Plovdiv and continuing on to Turkey. The construction site is part of the most important east-west railway line and is part of the European Corridor 8, which is extremely important for Bulgaria and its neighboring countries, and the TEN-T network in Bulgaria. The tunnels are being built using the New Austrian Tunneling Method (NATM).

The lectures can be viewed here:
<https://ueeiv.eu/events/railway-forum-2024/>

Hermann Schmidtendorf, editor-in-chief, member VDEI

At the railway construction site Sofia-Plovdiv.



UEEIV/RAIL SAFETY SYSTEMS
Interview

ALTPRO:

EXPORT FROM CROATIA TO 55 COUNTRIES

Croatia is one of the countries where UEEIV membership organisations come from. Therefore, it was particularly interesting to us that the Croatian company ALTPRO presented their products and services at the iaf at Münster. UEEIV president eng. Olaf Scholtz-Knobloch and CARGO FREIGHT JOURNAL editor-in-chief Hermann Schmidtendorf conducted this interview.

? **Eng. Olaf Scholtz-Knobloch:** Tin Viduku, we saw you already on several earlier fairs and conferences, including the previous fair iaf in 2022. Seems you are a representative of your company for a longer time?

Tin Viduku: Actually, in 2025 this is my 10th year to be with Altpro as a leading representative – quite a long period.

? **Hermann Schmidtendorf:** On your company website we see that you have much more to offer than the rail solutions you show here on the iaf. Might you please give us an overview on what Altpro stands for as a whole?

Tin Viduku: Altpro is mostly active in signaling, in control command signaling subsystems of railways both on infrastructure and on rolling stock side. On infrastructure side, in the last five years we started integrating projects not only with our products, but we take products and systems from other companies, and we offer the result as a turnkey solution to the final customer. This is a step forward for us because previously we were just offering our products, for example for level crossings axle counter and similar solutions. We didn't have this integrating role which we have

now. On the rolling stock side, we did a similar thing. We started with our own products, the Indusi-based ATP. Now we have a broad range of services. We also offer the market introduction of locomotive preventive corrective maintenance – everything which is connected with the safety or signaling system in a certain locomotive or train. We also have cooperation with some bigger names in the industry on common products, what is also very important for us because we open markets where we weren't present previously.

? **Eng. Olaf Scholtz-Knobloch:** How do you assess the level of skills and knowledge of Croatian railway engineers?

Tin Viduku: In Croatia, currently there are a lot of railway projects in infrastructure and in rolling stock. There is a big pressure on engineering because investments were a bit lacking five or six years ago. Now there are a lot of investments and there are a lot of funds, a lot of money what carries, of course, new projects. However, in engineering there is a base that has quality, but it's quite small currently.

? **Eng. Olaf Scholtz-Knobloch:** So, how can you increase the pool of talented engineers, and how do you convince them about the railway industry? ►

UEEIV/RAIL SAFETY SYSTEMS

Tin Viduku: I would say we are struggling for it – both our railways and we as a company, of course. We manage to find our ways. We are, of course, much more flexible than our national railways. We can offer better financial conditions, working conditions and everything else what would be attractive to a certain employee. But our railways have this problem since they have their own brackets in which they can put their engineers. They don't have this flexibility to say, okay, this engineer has more experience. He is more attractive to us, so we have to offer him a better compensation. They cannot do that because they are a state defined system. So our railways are struggling much more than private companies.

? **Eng. Olaf Scholtz-Knobloch:** Regarding the name ALTPRO, what does this refer to?

Tin Viduku: Our Company was founded in 1994 in the first Technology Park in Croatia. In the beginning we were a group of enthusiasts, who were active in the field of industrial electronics. When we started the company, the company was substituting import products. Those products were hard to find on foreign markets and to import, so ALTPRO started developing and producing them here in Croatia.

Friendly and well-informed: Tin Viduku from Altpro.

During the conversation (from left to right): Tin Viduku, Olaf Scholtz-Knobloch and Hermann Schmidtendorf.

Credits (3): Hermann Schmidtendorf



The name ALTPRO means ALternative PROduction which shows what we were doing in the beginning. But now it's a completely different thing.

? **Hermann Schmidtendorf:** In the meantime, you are obviously well acknowledged, as you closely cooperate with big players such as ALSTOM! **(Addition:** On 11 July 2025, ALTPRO informed: "As part of its continued investment in railway infrastructure, HŽ Infrastruktura is carrying out a resignalling project on the Sisak Caprag – Novska section of the M502 railway line. The consortium of ALTPRO and Alstom has secured first place in the tender for the installation and integration of traffic management (PU) and signalling and safety (SS) infrastructure subsystems.

This section includes 54 level crossings, all of which will be modernized using ALTPRO's state-of-the-art signalling systems. The project plans to install a large amount of domestically produced equipment, including systems and components from ALTPRO, as well as from other Croatian manufacturers, which will further strengthen the domestic industry and stimulate high added value within the Croatian economy.")

? **Eng. Olaf Scholtz-Knobloch:** And the production is originally based in Croatia. Or do you produce also in other countries? ►

UEEIV/RAIL SAFETY SYSTEMS

Tin Viduku: The production is originally based in Croatia. We have our own cluster of partners in Croatia, and some of them are in foreign countries like Slovenia. We produce the critical parts of our systems in-house. Last year in December, we opened our new production facility on 3.500m² in Zagreb where we moved the whole production and the product testing because we simply couldn't manage it anymore in the space we had before. So, to answer the question, we are producing the critical parts by ourselves. And something which is not critical or our partners can produce it faster, cheaper, with more quality, we produce with foreign partners.

Eng. Olaf Scholtz-Knobloch: How many employees do you have?

Tin Viduku: Currently it's around 240 employees.

Eng. Olaf Scholtz-Knobloch: And how many of them are engineers?

Tin Viduku: Roughly half of the company's employees work in the production. And I would say the engineers are a third of the company. Mechanical engineers, hardware, software, traffic railway engineers, all kinds of engineers.

Eng. Olaf Scholtz-Knobloch: I have a question related to this brochure where you present a testing device for INDUSI based ATP systems. This is a test equipment for testing the locomotive mounted parts and also for the track mounted parts?

Tin Viduku: That's right.

Eng. Olaf Scholtz-Knobloch: Can you please explain the advantages of this device?

Tin Viduku: We offer and develop these testing devices as a complement to our industry system, the track balise and the onboard systems. We don't offer it as a standalone product that someone who

doesn't have our system wants to buy. The idea is that customers have the whole package so that they can maintain, test, and calibrate the devices.

Eng. Olaf Scholtz-Knobloch: Do your customers come mainly from Croatia?

Tin Viduku: Actually we export our systems to 55 countries of the world. Our main markets are in Southeast Europe – let's say ex-Yugoslavia, Croatia, Serbia, Bosnia. China, Indonesia and India are further main export markets. Other markets where we exported the products are either some isolated projects, or where we have a local partner who is managing our business. To give some examples: In the US, we are currently working in Los Angeles in an airport where we are implementing a train detection system. The same thing we are doing in Egypt with the company Alstom. In the UK we have two projects. One project is finished; one is ongoing – for the modernisation of level crossings and for Newcastle Metro, in cooperation with the company Stadler.

Eng. Olaf Scholtz-Knobloch: You have also marked Venezuela on the world map. I was living there several years, so I am interested to know who your customer is.

Tin Viduku: This is one of the isolated projects I mentioned. They ordered a simple train detection system for one of the level crossings. We supplied it, it's a very simple not SIL certified detection system, which serves as a trigger for any system which needs the information about the coming train, for example, for passenger information systems, the hot box systems, way motion systems or level crossing protection.

We sold it through a trade partner. So we actually are not sure where eventually it landed. This is the same with some other projects. For example, in Middle East we sell our products through a trade partner and we eventually don't know exactly where it landed. This is quite rare, but it happens. ►

Hermann Schmidtendorf: You are cooperating with the German leading manufacturer Deuta Werke. Might you please explain this because this is surely amazing?

Tin Viduku: With pleasure. Actually it's a project which we are developing for some time now. We integrated our Indusi-PZB system with their Deuta event recorder and crash protected memory in one 19 inch rack. We are intending to certify this solution and offer it as a turnkey solution with our train balise to interesting operators in Germany. Why is it interesting for them? Because they get all in one place, they get a complete signaling solution for their train which is price competitive and has certain technical advantages over other current solutions.

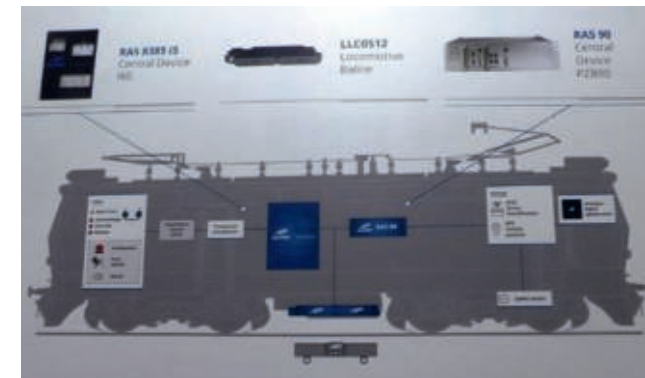
We expect from this project quite a success because Indusi is used in Germany everywhere. You know it better than me. Many locomotives are equipped with it and need retrofits, or they come new built in the market and need a signaling system. We have this idea to integrate our two systems in one certified product and offer it as a turnkey solution. It's still under development. We are expecting to roll it out next year.

Hermann Schmidtendorf: With a German EBA rail authority certification?

Tin Viduku: Of course. Nothing goes without them in German railways...

Hermann Schmidtendorf: The last time we met you told me about a specific offer that you have in China for Maglev systems. What is it exactly?

Tin Viduku: It's a train detection system. In China we currently have seven ongoing projects. A similar



ALTPRO products can be installed in many places in a locomotive.

project we also have in Japan. So it's a sensor. It's a part of a train control system, which then senses the passage of the train in a reliable and safe way, of course, and provides this information to the axle counter, which then distributes it further: either to the interlocking or to any other system which needs the information of the

train position. Besides that, in China we are working for the metro system in the city of Chongqing. And we are also working on a few tram projects. So China is quite a diverse market for us, with the demand for different applications.

Hermann Schmidtendorf: How did you settle this? I mean, it's such a large country, and there surely are quite a number of providers?

Tin Viduku: It's not easy. If we would have gone there by ourselves, it would have been probably impossible. But we have a local partner there – a local Chinese technical company. So they have engineers, technicians. We sell our equipment, and they manage the customer contact, they install it, they provide maintenance. So it's a classic partnership relationship. Otherwise, it would be extremely difficult to go from Croatia to China and have any kind of success.

Eng. Olaf Scholtz-Knobloch: How did you come in contact with your partner?

Tin Viduku: This local partner contacted us seven or eight years ago through email. He saw our products, our website. It seemed interesting for him. We started communicating. We saw that he has good contacts. He has good understanding of the technology. And we decided to sign the agreement. The rest is history.

BE CAREFUL WHEN TRAVELING FOR BUSINESS!

Credits (2): Hermann Schmidtendorf with KI



Business travelers often carelessly make loud phone calls, for example, while traveling by train.

In doing so, they unknowingly reveal confidential business information. Hackers, cybercriminals, or competitors sitting nearby only need to eavesdrop to obtain useful information. Caution should also be exercised when writing or reading sensitive texts on a laptop or notebook in public places. Anyone sitting in such an exposed position that strangers can quickly glance over their shoulder and glimpse business secrets from the screen or from notes lying nearby shouldn't be surprised by the negative consequences.

A laptop or notebook should never be left unattended in a train bistro or restaurant, even for a short time. While the owner goes to the restroom or orders a drink at the bar, unauthorized persons could copy data, copy stray notes, or install malware on ►

ALTPRO - RESEARCH, DEVELOPMENT, PRODUCTION OF SAFETY CRITICAL SIGNALLING SYSTEMS USED ON RAILWAY INFRASTRUCTURE AND IN RAILWAY VEHICLES

ALTPRO - over 30 years of experience, over 1500 developed devices, circuits and components, over 200 employees and a number of subcontractors, products exported in 53 countries on all 6 continents

ALTPRO

Velika cesta 41, 10020 ZAGREB, Croatia

+385 1 6011 700 altpro@altpro.hr altpro.com

the computer using a USB stick. This means the computer could be contaminated by the time the owner return to their seat.

In general, caution is advised with incoming emails that look like official communications from well-known companies or banks and ask the user to open an attachment, click a link, or enter information such as passwords. Such emails could be fake and designed to inject malware into the receiving computer. Another danger: **Malware could be hidden in so-called CAPTCHAs on websites.** This refers to security features on websites that ask users to solve picture puzzles, such as "Select all squares with buses." At the end, there's the statement: "I am not a robot." Particular skepticism is warranted when potentially dangerous websites also ask users to enter certain key combinations. Following these instructions may inadvertently install malware on their computer.

When communicating while traveling, employees should only access the company network from outside via a VPN (Virtual Private Network). A VPN connection creates a virtual, tap-proof tunnel through which all data traffic can flow encrypted. Multi-factor authentication is also helpful for security reasons when logging into IT devices. Anyone who needs to take sensitive data on a business trip should only do so in encrypted form. To ensure that employees are not helpless when it comes to data protection, **companies should sensitize and train them on the responsible handling of data and storage devices, including specific behaviour while traveling on business.** If employees leave their laptops open in a public place, they are acting negligently. If data is stolen, the employees would be at least partially liable in the event of damage.

SMARTPHONES NEED UPDATES TOO

Software on smartphones also requires updates to prevent cybercriminals from penetrating it. The messaging service WhatsApp recently reported: "We believe that this vulnerability, in combination with an operating system-level vulnerability on Apple platforms, may have been exploited in a so-



phisticated attack against certain users." According to this information, WhatsApp for iOS prior to version 2.25.21.73, WhatsApp Business for iOS prior to version 2.25.21.78, and WhatsApp for Macs prior to version 2.25.21.78 are insecure. The vulnerability in the chat service exploits an authorization flaw when messages are automatically synchronized between different devices. This could allow spyware to be installed on the device via a URL. People who use the app on their smartphone or Mac should update accordingly to resolve the security issue.

There's also a need for action on computers running Windows 10. This operating system will only be supported free of charge by Microsoft until October 14, 2025. After that, the only support available will be paid support with the "Windows 10 Extended Security Updates," or ESU for short. Therefore, it seems better to upgrade to Windows 11 in good time, which Microsoft is currently offering free of charge to users of the previous version. *hfs*

ARCADIS, DYNDASH and AUTODESK: Modernisation and digitalisation of the Dutch railway infrastructure

In recent years, the use of digital technologies has become increasingly important in infrastructure projects. Key words are BIM (Building Information Modeling) and digital twins. One of the major players in this field is Autodesk. Its annual "Railway Summit" in Copenhagen recently attracted 270 specialists from construction and railway companies from four continents.

Crucial to success is the broadest possible accessibility to open standards. This enables the development of various specialised solutions within Autodesk products, which are used and marketed separately as owned property by their developers, thereby increasing Autodesk's popularity. At the same time, a product-related community is developing that works on more advanced solutions through mutual information exchange.

A leading international company offering design, engineering, and consulting services for sustainable built and natural environments is Arcadis. The company has over 36,000 employees in over 30 countries. In the Netherlands, Arcadis is heavily involved in the digitalisation of the Dutch railway infrastructure, an ambitious ProRail Program that has been in the works for many years. Arcadis is the first engineering firm in the Netherlands to implement ERTMS through an open engineering standard (IMX) for the Northern ERTMS project: The Early Deployment Line. Autodesk solutions, in combination with the Arcadis DynDash solution, are being used in this project to create a design for the infrastructure manager ProRail. ▶



Michel Groen



Jeroen Kooistra

Credits(2): Autodesk

? **CARGO FREIGHT JOURNAL:** Mr Groen, how long have you been dealing with railway issues in the Netherlands?

Michel Groen, Senior Product Owner Arcadis: For the last decade, we have been on a journey together with **ProRail** in data collection and digitalisation of the entire real ecosystem within the **Netherlands**. Our development efforts resulted in a software solution we like to call **DynDash**. It's an abbreviation of the words Dynamic Data Sharing. This solution is fully integrated with **Civil3D** (a CAD software from Autodesk based on AutoCAD for the planning, design and management of infrastructure, development and civil engineering projects). Basically it's a solution that enables our engineers, for instance, to collaborate in creating a rail signaling design, a track design, and do that based on data instead of drawings. So there's an interactive exchange of data flowing through our application, connected with **APIs**, etc. We've had the honour to do a couple of great **ERTMS** (European Rail Traffic Management System) projects. We're currently working on two big projects for ProRail, one in the north of the Netherlands and one in the south.

? DynDash is your own property, your own development, using Autodesk solutions?

Jeroen Kooistra, Team Lead and Product Manager Arcadis Nederland B.V.: Yes. We have seamlessly embedded **Civil3D** amongst other applications to work with our solution. There is the northern ERTMS line, and in the south you have the connection with the Belgium border. I'm also a team leader of two teams within the rail division. One is a DevOps team that is building actual software, the other team is building the preliminary signaling design, using the software that we are building. So we get a lot of feedback loops which is really great.

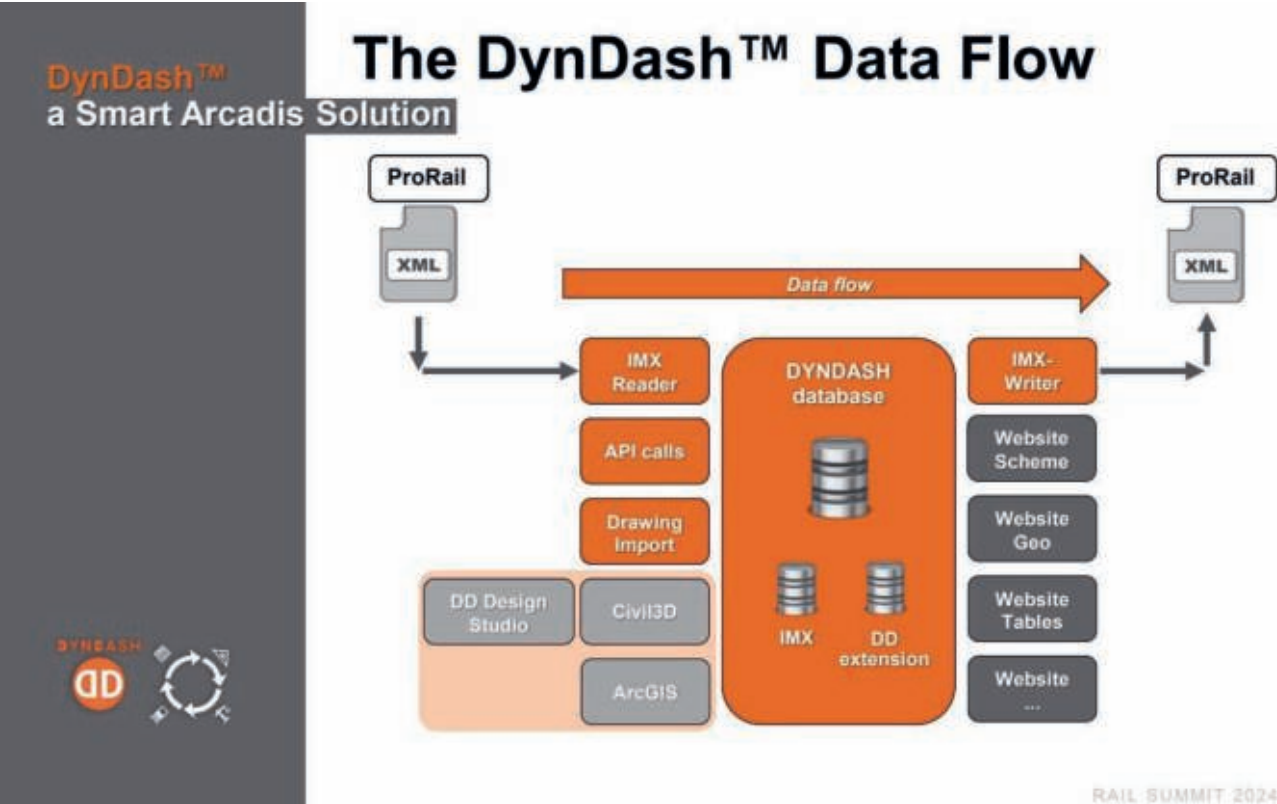
The vision document that **ProRail** wrote together with **McKinsey** is a report presenting their vision on the year 2040 and where they believe the trends are going in terms of digitalisation and datafication of the entire real ecosystem. What you see here is a different perspective from stakeholders within the rail domain – for instance, the rail manager, the

freight loader or a supplier, a transporter or even a train traveler. Within their vision document they try to describe all these perspectives mapped onto the future, and what will be the needs in that future of all those stakeholders. What they did is actually really nice. They presented a couple of use cases. I want to highlight four of them.

Use case one and four are use cases that we have built upon our solution. The first one is also often described as the digital twin, the digital replica of the ProRail network within the Netherlands. It still requires a long way to get there eventually for the entire country. And then there's the use case from a maintenance and construction perspective, where they expect utilisation of operational data and monitor maintenance status in real time. There is an actual demand from contractors requesting this. So they expect a trend moving more and more into that domain.

Then of course, we have the train operators and the train travelers. They want to have real time information. What time is my train leaving? We have that already, but they expect more and more intelligence embedded as well, going to the future. And finally, in terms of the rail traffic management, you have the intelligent traffic management system we are describing as ERTMS. This offers great possibilities in terms of the need to datafy everything that is needed to connect the parties or **suppliers such as Hitachi, Alstom** with the engineering companies and the real environment. **Holland** is one of them. **Denmark** is quite far in terms of the rollout, as is in **Belgium**, of course, in **Norway**. **Switzerland** is doing a very good job, **Spain** as well.

Recently I attended a summit on ERTMS where a couple of managers mentioned that all these significant investments differ quite a lot, as to what country you are looking to and how safe is their current system. There was one speaker from **Infra-bel**, the infrastructure management in Belgium. He was telling a very confronting story with pictures of major train accidents with a lot of people who did not survive. That was a real motivator for the **Belgium** government to fast track the ERTMS deployment. Fortunately in the Netherlands, we have a ▶



A platform with a lot of workflow for the Dutch railway infrastructure.

Credits: Arcadis

highly secure train safety system running currently. So, for our infra manager, ProRail, it needs to be explained what's in it for us to deploy ERTMS in the Netherlands, since we have the **ATB** interlocking system (*Automatische Trein Beinvloeding – 'Automatic train control'*) working very well, very safe. What's in it for us to deploy ETRMS? Because your kit requires significant investments, it will ask time. And there is only a limited group of people available who can actually design and build engineering. Eventually ProRail decided to go forward. And we thought, why not use this rollout to go about a data driven way of distributing information with the infra manager parallel, but also with the engineering company and the contractor eventually building everything that is required according to the projects. There was no such a thing ten years ago. We have gradually co-developed a way of working, of exchanging this information. For us, this was a great driver to go this way because this requires a lot of investments, not only in terms of money, but also in terms of time. Michel and I are working full time to make this work within our company, together with the team.

Michel Groen: How did we do the transition from theory to this new approach? **XML** is a data exchange format with a model against it called **XSD**. Those two combined create a model versus the actual information. And that's the information that we exchange from ProRail, the asset manager. All their objects are stored in their own database. We have an **OTL** type library. From that *Object Type Library* you can image the XML exchange standards. And from that we go into what we call DynDash. We use that and extract that information to design based on that information. **XML** is a pretty big standard within the technology industry. Here it is called **IMX**, *Information Model Exchange*.

Jeroen Kooistra: We are moving away from the traditional drawing. We have what we call the OB drawing. We have the signal aspect relations; we have the track design, the alignment information for the tracks and the switches. And we have the overhead line with the sections, the power supply. All of that information is now moving into data. So we are moving completely away from drawings, even- ►

tually for all of our domains. Now we are dealing with signaling. But cables, overhead lines, telecom, everything will move into data. That is the trend that we are setting in the Netherlands at present.

? Talking about signaling, does this mean that you still put physical signals onto the lines in a traditional way?

Jeroen Kooistra: Yes, we do. With ERTMS, of course, we are using the signs, the **SMBs** as we call them, but there is still information about the balises in the track. All of that information is still a physical object with a lot of information connected to it, but in the traditional way. So we are not only moving for ERTMS. Also our traditional system, ATB basically, all of that is also being digitised. Not only ERTMS, the whole of the Netherlands as is outside is all digitised.

? So you have a digital vision of what is existing, and you put on top your new plans?

Michel Groen: Yes, exactly. And all that will be stored for ProRail as an owner. We're now building the digital twin.

? But there should not be no sudden surprise. Oh, there was cabling that we didn't know of because it didn't appear in the drawings?

Michel Groen: You are right. **Cables are a completely separate issue because there's a lot of old cables.** For example, in The Hague when they start works with the excavator, they don't know what they are going to expect because there is so much information not available on their current traditional drawings. But everything what you can see outside, not in the ground, is actually what is on the inside as well, in the data. And for every object that ProRail owns, where they are asset owner of, they create an object type. And that object type is saying okay, who is the owner within the company ProRail of that object. Then we have the **IMX**, the exchange model, and then first about all of the systems within ProRail we have **Naiade** for the signaling. (*Explanation CFI: The ProRail definition is: "Naiade is the source system in which geographical and functional data of railway*

objects are managed.") They have all separate systems – **DDIO** (*Data Driven Infrastructure Withdrawals*) for overhead lines, Sigma for track alignment. And in future there will be more for cables and ducts, telecom, etc. This is basically what ProRail is doing.

Jeroen Kooistra: Naiade is basically our source of information when we start a new project. We ask ProRail, can you give us the scope? And we will be given that scope through Naiade. That's our starting point. So we get a data set instead of a set of drawings. Then we have our solution – we put that data into it, modify it, alter it, and reverse it back into Naiade. Now this works in terms of the signaling design, and there will come further domains. With IMX, we have a lot of data. But if I give this information to our users, they are not able to work with it.

Michel Groen: There are designers who are used to work with AutoCAD or Civil3D or all of those products that we usually work with. We had to make sure that data would translate into something that could work for those people. That's why we came up with DynDash. With that, we can embed all of the information that we get from ProRail. We have a lot of open source APIs available in the Netherlands that we can embed within the system. We can connect to different solutions like Civil3D, **ArcGIS** (*ArcGIS is the umbrella term for various geographic information system software products from ESRI. ESRI and Autodesk have entered into a strategic partnership to unify GIS and BIM workflows*), or we have a **Unity** plugin as well (*Unity is a comprehensive real-time 3D development platform, enabling the creation of interactive experiences across diverse industries*) that you see in the graphics instead of thousands of lines.

Jeroen Kooistra: Information goes into our centralised database. When we are finished, we can send that information back to ProRail with a lot of extra information, API calls, or even traditional drawings. We can import that information into our system as well. And with the **DynDash Design Studio**, that's our own solution that we created on top of the model, the IMX, our DynDash model. And we have Civil3D, the combination of the DynDash design studio in Civil3D for visualising like we are used ►



Credits: Hermann Schmidtdorf

Hengelo station: Like many stations and railway lines in the Netherlands, it is always busy.

to and actually engaging drawings. And in a back end with data, we have our **ArcGIS** plugin where we can transform it from our database into **GDP files**. GDP files is a natural form for ArcGIS. Then you have all of the attribute tables that you have in an ArcGIS; and you can edit those and send back to the agent. That's more for the bulk changes that we sometimes do. One of the very important issues when it comes to signaling is safety. We have our web interface where we can check our data as well. So we create all different kinds of data sets.

? You probably have a method to mark your changes in the existent status? To show to other co-workers that this should be approved? So that changes in the basic model are being shown for example in different colours?

Jeroen Kooistra (opens a project on the screen): Yes, we found a way. Here we open it within the civil environment. Then we open the tool we call the design studio. We can open projects from our server, and all of that information is being loaded. On the right hand side you see all the data, all of the attributes of objects and the location. And on the

left hand side, you see the physical relation with it in Civil 3D. And here you see we first draw really simple symbols. We can add blocks to it. So you can actually see the objects as we would see them normally on drawings as well. Looking for a signal, it is showing me the signal. I can change the location and enter a new location. On the track I can decide on which side to put it, for example left side, upstream or downstream. Then it is placing that signal on that location, changing the data. And that's the powerful thing we have compared to our competitors in my opinion – we can work together.

Normally on a drawing, there was only one person who could work on the drawing. But here multiple people may work together in our platform on one project seamlessly. The same way, I may set, for example, a platform wall next to a track. I am just selecting two points on the track. Then I'm saying on which side of the track, giving it an offset let's say 1.40.76, and automatically it's placing that object according to the Civil line as well. This is especially interesting for, for example, platform length and things like that. ▶

? Do you have implemented the national norms and standards of the European norms? I mean, if you would say the platform height should be 760 mm, the system would indicate whether for the given country this is an allowed proper figure?

Jeroen Kooistra: Yes. We have one normal database of the project. That database has all the normal standard offsets, for example, for the signals, how much distance from the middle of the track is in place. You can alternate it, because there are always possibilities that we want to be closer to the track. But the standardised locations are set. We can work in the design studio for many weeks or months, creating a new design. Then we have the customer requirement specification, and we need to verify and eventually validate for our customer what we designed.

? So you might avoid a situation like in Spain where new trains were ordered and delivered that did not fit to the platform height of a line so that they have to cut off a part of the platform afterwards? If train providers and the railway design crews would have had the same data set, such a disaster would not have happened?

Michel Groen: Yes, that's exactly why each project passes the verification.

Daniela Becker, Autodesk Vice President for Named Account Sales EMEA: This is where Autodesk has a great role to play because all of these people are customers of ours. So we have a lot of responsibility and an opportunity to connect those data sets to drive this industry forward. Standards are one thing, but if you're not digitised in the way you ought to be, then that probably is the biggest inhibitor. So there is a big movement still. I think we need to see these beachhead moments to see how we can translate this into a better future and really get going.

Michel Groen: As Arcadis we truly believe in this elevation of partnerships to solve big problems at speed. That is exactly why we want to push more and more to the front.

! Many thanks for this conversation!

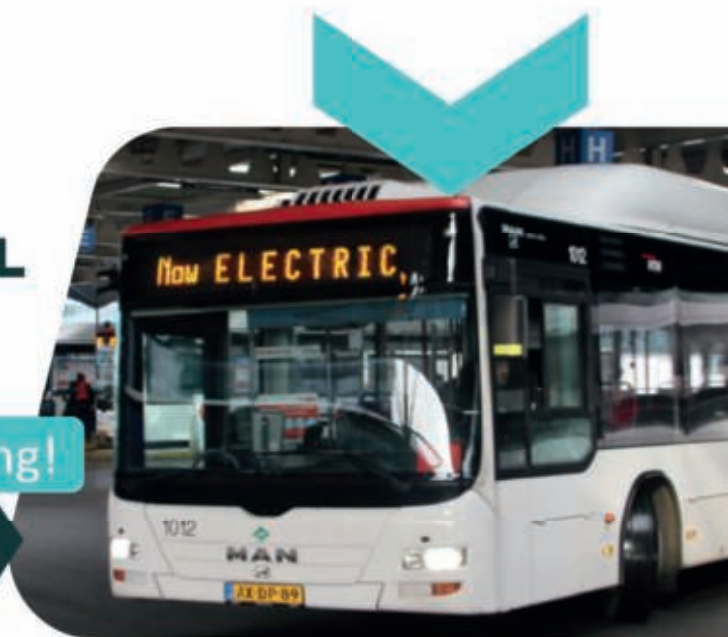
The interview was conducted by Hermann Schmidtdorf.

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FULL-RANGE PROVIDER PJ MESSTECHNIK: “Complex vehicle tests of pantographs and wheel sets”

? **CARGO FREIGHT JOURNAL:** Mr. Joch, your company, PJ Messtechnik (PJM), recently prepared a press release on a topic that is obviously important for many electric vehicles in the railway system. It concerned the testing and investigation for approval of a pantograph on a new vehicle. In this case, it was a Kiss double-decker coach from

Stadler. I was interested to see how complicated it is. For several months, you essentially worked on just this one component. What did you have to do?

Martin Joch: Because almost exclusively electric vehicles are being procured today, there is a great demand in the market for testing pantographs. ►



PJM managing director Martin Joch

This involves testing the interaction between the pantograph and the contact wire. The challenge is that, particularly in multiple traction, aerodynamic effects influence the pantograph or the interaction of the pantograph with the contact wire.

The requirement is the following: The contact force with which the pantograph bar is pressed against the contact wire should always remain in the order of 70 Newtons. If the contact force becomes too small, there is a risk that an arc will start, and this arc would lead to premature wear of the overhead line. This is undesirable. If the contact force becomes too large, increased wear occurs on the contact bar, resulting in the need to replace the contact bars very frequently. Due to the complex aerodynamic situation of vehicles, especially when operating in multiple traction, which is very often the case with modern vehicles, these effects cannot yet be predicted. Acceptance and test runs are therefore necessary.

During these test runs, both the aerodynamic influence and the interaction of multiple active pantographs are checked. This ensures that the contact force remains within the required range. In addition, there are various designs of overhead lines and conductor rails, which differ greatly in their behavior. This requires, on the one hand, extensive simulations to be carried out in advance. Subsequently, very extensive test runs are still necessary for the approval of a vehicle.

? So, rework may also be necessary if you notice certain neuralgic behaviours that are obviously not just an outlier in a series of tests?

Exactly. If the force doesn't remain within the required range, the contact pressure of the pantograph can be adjusted, or wind deflectors can be mounted on the pantograph to compensate for aerodynamic effects.

? Is it possible to set the pressure so that we can say: Okay, now I'm approaching a specific stretch, and we know we need less or more pressure. Can this figure be gradually adjusted during the ride?

No. Of course, once approved, the system should function reliably without outside interference.

? I'm asking because I remember a problem with high-speed trains in Ukraine. In 2012, new off-the-shelf trains were ordered from a Western manufacturer, and they didn't work well. There were fires. It was discovered that the European standard for tight overhead contact was the basis for the pantograph. But in Ukraine, the overhead line standards dated back to the Soviet era, and the lines hung quite loosely. So, are there perhaps some country-specific problems to be solved?

Yes, that's right. And that's why, even with multi-country approval, it's still necessary to conduct test runs in different countries because different overhead line designs exist. ►



A pantograph of the KISS double-decker carriage during testing

Credits (2): Manuel Hanschitz

? Are there also differences between Austria, Germany and Switzerland?

Yes. Switzerland has a different gauge. Therefore, a pantograph with a narrower contact strip must be used there. For Austria or Germany, a second pantograph is used. That's why there are locomotives with four pantographs on the roof, so that they can cover as many countries and overhead line designs as possible.

? That's a lot of work for you. And you conducted further tests on this double-decker carriage starting in February 2025, focusing on torsional vibrations. What are they about?

A rail vehicle's wheel set is a structure subject to vibration. It has external masses, namely the two wheels. These are connected by a shaft, the wheel set axle. In certain operating situations, torsional vibrations can occur. These torsional vibrations can reach such a magnitude that they cause damage to the wheel set, due to the wheels twisting in the shaft-hub connection, or even cause cracks. Accord-

ingly, it must be demonstrated that the torsional vibrations remain within certain limits during operation or that they are prevented.

? But that has nothing to do with the pantograph? Is that another step you can offer?

Exactly! Our motto is: Once the vehicle is in our hands, we offer as much as possible to minimise the number of other transfers. We're a full-service provider, meaning we can perform all the tests that are conducted on the track. And, of course, putting together such a complete package saves time and organisational effort.

? Photos show that you've installed various sensors on the exterior of the vehicle. What are they supposed to measure?

These sensors measure, for example, the magnitude of the vibrations occurring in this wheel set. We deployed eight telemetry systems to determine and record the loads on the wheel set axles. ▶



The side wall of the tested double-decker carriage with attached sensors.

? You then have recordings, which you still have to be able to read. Is this also done with the help of special algorithms that you have developed?

That's exactly how it is. The measurement data is the raw data. This must first be evaluated and analysed. And then an evaluation is carried out against a guideline or standard.

? So at the end there is now a certification?

The end result is a test report that we create, which simply compares the vehicle's characteristics, which

we determine during the test, with the requirements of standards and regulations. We are merely the testing center, meaning we conduct the tests. And downstream, for example, is the Notified Body, which then evaluates these tests against the technical specifications for interoperability. The customer brings them in for this.

! Mr. Joch, thank you very much for these explanations!

The interview was conducted by Hermann Schmidten-dorf.

INFO

The PJM Group was founded in 2006. Around 90 employees at the Graz location ensure "100% Made in Austria": R&D, hardware and software development, production, and administration are all carried out exclusively in Austria. The group includes PJ Monitoring GmbH (a technology leader in rail freight transport with the WaggonTracker system), PJ Motion GmbH (authorisation and requirements management), and PJ Messtechnik GmbH (a globally accredited testing facility according to ISO/IEC 17025 for testing rail vehicles).

hfs

WILL TANKS SOON RUN ON ECO- AND EFUEL?

Credits: Hermann Schmidtdorf with KI



Will tanks soon run on wind energy fuel?

Alternative fuels have a long history. Already in 1908, automobile manufacturer Henry Ford proposed using agricultural alcohol as the fuel for his Model T. Back then, the focus wasn't on environmental protection, but rather on security of supply and affordable prices. In Germany, starting in 1932, a law required all sold fuels to be blended with 10 percent by weight of agricultural alcohol – ethanol. Furthermore, the German company I.G. Farben began producing benzene from coal liquefaction as a fuel in 1927. The synthetic gasoline was sometimes advertised as “Leuna gasoline” or “German gasoline.”

Now, in light of the Russian threat of war, the Western military has also recognised the need for alternative fuels. Until now, modern military technology still predominantly relies on fossil fuels. The depots used in Iraq and Afghanistan missions sometimes consumed 100,000 litres a day for generators and vehicles. Stefan Bayer, a lecturer at the Helmut Schmidt University of the German Armed Forces and a researcher at the German Institute for Defense and Strategic Studies (GIDS) think tank, reported in the weekly newspaper DIE ZEIT, that this made logistics

an attractive target: “The Taliban didn’t attack the well-protected soldiers, but rather the tanker convoys. The consequence was that hardly anyone wanted to transport the fuel anymore.”

Large fuel refineries would also be exposed targets for enemy attacks in the event of war. And the use of Russian gas and oil supplies for political purposes, with the possibility of supply interruptions at any time, has shown that fuel dependence on foreign countries must be reduced. A project for the development of energy-efficient and independent military camps, abbreviated to Indy, is intended to offer a way out of this dilemma. Thirteen EU countries and 31 partners from industry, research, and ministries are working on it. The result should be largely independent military camps: wind, solar, and geothermal energy will provide energy that is then fed into small, independent power grids. This could reduce fossil fuel consumption by 40 percent and logistics by 35 percent.

Shena Britzen, head of the hydrogen program at the German defense company Rheinmetall, is committed to the development of alternative fuels. Under the project name Giga-PtX, it proposes building facilities specifically for the military in which fuels are produced using green electricity from hydrogen and carbon dioxide – EFuels: “It’s harder to attack 500 small plants than five large refineries.” Each plant would be approximately 15,000 square metres in size. If the production facilities proposed by Rheinmetall are fully ramped up, the German investment costs alone would be estimated at €35 billion. What the military doesn’t need could be made available to the civilian sector – ships and aircraft would be grateful buyers. This would be good for European security of supply and the ecological balance. But will military budget cover the costs of building the plants? *hfs*

New study on electric cars:

SALES RISE, COSTS FALL

Battery-powered cars are apparently on the rise in Europe. According to the industry association ACEA, a total of 869,271 new electric cars were registered in the EU in the first half of 2025. This is 22% more than in the same period last year. In the first half of 2025, the market share of electric cars in the EU rose to 15.6%, a significant increase from 12.5% in the same period last year. Driving this trend are increasingly longer battery ranges, the expansion of the charging network, government subsidies for purchase, but also price reductions coupled with simultaneous price increases for conventional combustion-engine cars. Analysts also point to stricter CO₂ fleet limits, which are forcing automakers to produce more low-emission vehicles. The best-selling electric car in Europe is the Renault 5, likely due in part to its entry-level price of under €30,000. The Center Automotive Research (CAR) in Bochum found that one of the twenty best-selling electric cars cost an average of €2,243 more than a car with a conventional engine in August 2025. This means that the price gap has narrowed by more than two-thirds within a year.

But are the operating costs of electric cars also financially viable? A new study by the Boston Consulting Group (BCG) in collaboration with ChargeFrance examined this question. ChargeFrance is an association of charging station operators in France. The study clearly shows: battery-powered cars are significantly cheaper to operate than comparable combustion-engine vehicles. However, this re-

quires careful selection of charging stations, including private charging points (a “charging mix”). Public fast chargers are often still significantly more expensive and drive up overall maintenance costs.

The Boston study calculates that, depending on usage and mileage, a classic B-segment small car in France currently offers a cost advantage of around €8,000 over five years. For larger electric vehicles, the differences are smaller, but the study still shows a consistently positive effect. According to the study, the cost advantage is most pronounced for frequent drivers. Drivers who travel around 250 kilometres a day can save up to €300 per month – through lower maintenance and energy costs. Electric cars currently lag behind in terms of resale value. The difference in residual value after five years is currently around eight percentage points. However, this gap is also likely to narrow if the used car market for electric vehicles picks up accordingly. *hfs*

Electric cars are becoming increasingly popular, but the electricity costs of charging stations still vary considerably.



Credits: Hermann Schmidtdorf

New sennder Study: “Battery trucks are clearly competitive to diesel trucks”



Graham Major-Ex

Credits: sennder

The company sennder presented a comprehensive study at transport logistic, examining the potential applications for battery-powered trucks. CARGO FREIGHT JOURNAL spoke with the Executive Director Green Business & eMobility at sennder.

CARGO FREIGHT JOURNAL: Mr. Major-Ex, perhaps a brief introduction to your company to start with?

Graham Major-Ex: With pleasure! We are a freight forwarding company, and we are contract partners with some of the largest companies in the world, for example Nestlé. And we deliver a large number of FTL every month (full truckload, transports directly from the pickup point to the delivery point without stops or transfers). We are very digitally focused. We don't own any trucks, but work directly with the truck owners. We don't have a mul-

ti-tiered system of subcontractors. About 80 percent is contract transport, plus a small portion of spot transport. This gives us the expertise for transport.

CARGO FREIGHT JOURNAL: How did you, as a freight forwarder, come to conduct a study on battery-powered trucks?

We see the various cost elements every day. What are the transport costs, for example, driver costs, fuel costs, tolls, and so on? We also founded a joint venture with Scania called JUNA. Juna offers electric trucks on a pay-per-use basis. This gives us a direct connection to the topic of how much it

2030: Surcharge for electric trucks compared to diesel with different toll advantages



costs per kilometer or per day. This is exactly what we used when we compared diesel and electric costs in the study.

I used to work at **American Express in New York**. It was also initially a freight forwarding company before they changed their business model. In 1908, it would have been a great investment to buy a horse-drawn carriage. And in 1908, the Model T was also launched. How many models were sold? After two years, there were 19,000 vehicles, in 1912 almost 80,000, and by 1916, more than half a million. That's the thing with new technologies. In this photo from the Easter Parade in 1900, there is only one car. In 1913, five years after the Model T was launched, the photo from this parade shows only one horse. The world is changing very rapidly with new technologies.



Charging an electric Volvo truck.

Credits: Volvo

We see the same thing with electric trucks. Here we see **four important factors**. One is the **range**. Factor two is **battery technology**. Factor three is the **power source**, and factor four is the **economic viability of electric trucks**. Let's look at the development in our own company. In 2021, the first electric truck was on the road at sender. That was great – it had a range of 160 kilometers. And now? The new truck from Daimler has a range of 500 kilometers. Next year, the new version from Volvo and Scania will be released; both companies have reported a **range of 600 kilometers**. We know that most trucks in Europe drive between 450 and 600 kilometers a day. Maybe we need a bit more coordination now to coordinate 500 or 600 kilometers a day. But in principle, we can forget about the range issue – it's apparently no longer a problem at all.

Secondly, battery technology. The **usable battery percentage** is important here. Best in class means we're looking at the best truck on the market. In 2024, that was the Scania truck with a battery capacity of 83%. That means 17% of a charge couldn't be used. In 2025, Daimler is coming out with a new technology – **LFP, lithium phosphate**. In 2024, it was still **lithium-**

ion technology. Not all new models use lithium phosphate. But a big advantage is that **you can use almost the entire battery capacity**. This means you need less battery capacity to achieve the same range. In 2024, we still needed 900 kilowatt hours to achieve 600 kilometers of range. By 2030, we will only need 650 kilowatt hours for 600 kilometers of range. What does this mean for battery costs? Goldman Sachs provides us with the global averages for car batteries. And you can see how significantly prices will drop between 2023 and 2030. There are no major technological differences between car and truck batteries. **In 2023, batteries cost more than €130,000 for a 600-kilometer range. By 2030, we will spend less than €40,000 on batteries. This represents a significant cost reduction for electric trucks.**

This brings us to the third topic: either fuel or power source. It will be very unlikely that diesel will be produced more cheaply than Shell or Saudi Aramco do it, for example. But as a transport or logistics company, you can produce your own electrical energy using wind or solar power. You can also buy it cheaply from the grid using a battery storage system, for example.

1.3 million simulations for the study

This brings us to topic 4: economic viability. **In our study, we conducted 1.3 million simulations comparing electric trucks and diesel trucks.** We also included road toll costs in seven countries using various variants. What would the toll costs be if new political premises were in place? What if electric trucks didn't receive an ecological cost discount but had to pay the entire toll like diesel vehicles? For example, we also included the diesel price in seven

countries over 18 months. We calculated electricity prices at €0.05 to €0.50 per kilowatt hour. Another parameter is the CO2 pricing, the carbon price. This will come into effect across Europe in 2027. We calculated these costs at zero and up to €200 per ton of CO2. Then there are the travel costs. How many kilometers are likely driven per day? We calculated between 200 and 600 kilometers.

For the electric truck costs, we included the battery costs, as we just presented, and the costs for electric trucks in 2023. We said a diesel vehicle costs €100,000. For the electric truck, we add the battery costs of €38,000 and add another €12,000 to that, and we get €150,000. I think that's a good calculation, a bit conservative. We're ignoring inflation for diesel fuel and diesel trucks. Regarding diesel, everything should stay the same. We just wanted to see how the costs of electric trucks decrease with the battery costs.

? And what is the result?

The most conservative scenario is if we set CO2 pricing at €0. We say the European Union no longer wants it. That's unlikely, but it could happen. Assumption 2: In addition, electric trucks would have to pay the full road toll everywhere. Then, at €0.20 per kilowatt-hour without VAT, the most conservative scenario would be roughly zero everywhere in Europe. At €0.10 per kilowatt-hour, electric trucks are 5 to 10% cheaper than diesel. Currently, electric energy costs about €0.40 per kilowatt-hour. Costs at some charging points still rise to around €0.65, but this price level is becoming less common.

Let's stay with the conservative scenario and consider the changes resulting from CO2 pricing. At €50 per ton, electric trucks are about 2% cheaper. For every €50 per ton, the balance sheet is about 2.5% better for electric trucks. Bloomberg has calculated that CO2 pricing will cost €149 per ton in 2030. If that's correct, we'll break even at €0.30 per kilowatt-hour of energy costs. At €0.20 per kilowatt-hour, we'll be 4 to 8% cheaper. At €0.10 per kilowatt hour, we're more than 10% cheaper everywhere with electric trucks. Well, if Germany continues to say we're granting a 75% toll exemption, as

is scheduled to apply from January 1, 2026, at €0.10 electricity costs, battery-powered trucks can be 24% cheaper than diesel trucks. And even at €0.20 or €0.30, we're well over 10% cheaper.

How do you achieve that? We need low electricity prices and a good charging infrastructure. And you have to do it well operationally. Good operational logistics are extremely important. After all, a truck can't break down on the side of the road because the driver didn't know where to recharge in time. One last sentence as background: We initially conducted this study as an internal project. But then we found the results so interesting that we decided to publish the study. **Anyone interested in the transport industry should know: Electric trucks have every opportunity to be competitive with diesel vehicles.**

? For such a ramp-up of electric energy, you need significantly more charging stations. Batteries require valuable raw materials. Couldn't this limit the spread of electric technology?

Everybody knows about the bottlenecks – the grid connections, the long lead times for transformers, or example. **Being a business person, I believe that those problems are going to get solved.** And usually if there's a sticking point, lots of different companies will come to find a solution. I read one very interesting book called The Box, which is a history of the shipping container. It tells about the transition of the way boats used to work. Basically it was bags and boxes and people with hooks taking things out of the boats. It wasn't that long ago. And then the container completely took over the industry.

Most private companies are going to decide they want to have control over their charging infrastructure. Like the case study we did with Nestlé, our partner, they also installed charging infrastructure because we saw, we're going to have cheap electricity. It's going to make all of this work. I think that's going to become more and more common. And maybe, buying a truck it will be linked to an energy contract. That could very much be the case in the future. And if you do have that energy contract, then you get special preferences. ►

? You just mentioned the need for particularly thorough operational planning when using electric traction. Does your experience with digital technologies help you with this?

Exactly! **You're going to have a more digital management. You need to know where the next charging place is for my truck** if I have 46 % charge and still need to go 250 km. What should I do, taking into account that my delivery time is at 4 p.m. You need an appropriate fleet management. We are already doing this. We're probably one of the biggest green providers of road freight already. **At present, we offer advanced fuels mostly focused on HVO.** We have been doing this for over five years already. Now we've really had a very strong focus on electric trucks because we see that HVO is a bridge technology. It is a way to reduce emissions and you can use it in all diesel trucks. But if we see that the economics are going to be better for electric when we do them right, we're really putting our focus there because it's zero tailpipe emissions. **We have**

eight experts already that do green business at sennder.

? Proponents of hydrogen technology advocate for hydrogen-powered trucks with ranges of over 500 km?

I see a role for hydrogen for other decarbonisation initiatives like steel production, cement production or heating. But in transport the energy loss of about 75 % you have between input energy and the actual hydrogen production is too high. To me, it's very difficult to make the economics work.

! Mr. Major-Ex, thank you very much for this interesting information!

Thank you for the lovely discussion. It's great to talk to another expert!

The interview was conducted by Hermann Schmidten-dorf.

INFO

World's first megawatt charging for electric trucks

Megawatt charging technology represents a decisive step forward for the use of electric trucks in long-distance freight transport. The first prototypes were presented in mid-July 2024. Partners from industry and academia are working on the development under the leadership of the Chair of Automotive Engineering at the Technical University of Munich (TUM). For the first time, the charging station and the truck make it possible to charge truck batteries for 4.5 hours of operating time within the legally prescribed driving break – without additional waiting times.

The NEFTON project investigated the use of electric trucks in real-life logistics processes. The consortium collaborated with four freight forwarders to analyse various application areas – from distribution to long-distance transport. The results show that in distribution and regional transport, charging can largely take place at the freight forwarder's location. Long-distance transport, on the other hand, relies on a network of particularly powerful truck charging stations at rest areas and motorway parking lots. According to the results, charging stations should be installed every 50 kilometres along the core routes of the motorway network, each capable of providing a peak power of one megawatt.

hfs



Megawatt charging in the NEFTON project – at the presentation Prof. Markus Lienkamp (left), the project partners and Bavaria's Minister of Economic Affairs Hubert Aiwanger (3rd from left).

Credits: Alexandra Beier/MAN

METRANS: “We must invest in infrastructure!”

METRANS offers rail freight services for overseas freight (deep and short sea), as well as for continental traffic, as well as intermodal rail-road transport. It carries standard, refrigerated, tank, and special containers. High-frequency rail connections with seaports on the North Sea and the Adriatic are operated using its own shuttle trains. The company is wholly owned by the Hamburg-based Hamburger Hafen und Logistik AG (HHLA). Its subsidiary, METRANS Rail s.r.o., connects the seaports of Rotterdam, Hamburg, Bremerhaven, and Koper with the hinterland via intermodal transport. Its home base is the Uhřetín Container Terminal in the Czech Republic. The company also operates its own terminals in Lípa nad Dřevnicí near Zlín, Nýřany near Plzeň, Šenov near Ostrava and Česká Třebová (Czech Republic), Dunajská Streda and Košice (Slovakia), Krems an der Donau (Austria), and Gdki and Małaszewicze in Poland.

A CFJ interview with the CEO of the logistics company METRANS during the transport logistic trade fair in Munich.



? **CARGO FREIGHT JOURNAL:** Mr. Peter Kiss, thank you for the opportunity to speak with you. It's always said that Metrans was actually a Czech company. But you've grown internationally and are now affiliated with the Port of Hamburg, the

Hafen und Logistik AG. What are your current transport and development activities?

Peter Kiss: You're right, we started back in what was then Czechoslovakia when we founded Metrans ►

in 1991. We've been part of the HHLA network since 2018. We're trying to do our job well by modernising and revolutionising rail transport, and we're simply trying to move goods by rail in a way that it is sustainable, more cost-effective, and faster. We want to do something to ensure that rail truly regains the importance it had in the past.

? As an international transport company, you're constantly dealing with border crossings. You've even given your own lectures on the subject. Are you concerned that these border crossings aren't always as easy by rail as they are by truck?

Exactly. Unfortunately, we have to admit that when it comes to cross-border traffic, we're still living in the old days. I don't want to say we change horses at every border. But every now and then, unfortunately, it does happen that we have to change locomotives or personnel. The railway world still lives in its own little gardens. And we occasionally go from fence to fence. But the difference that sets us apart from many others is that we have our own railway companies in every country. And our locomotives can travel from Hamburg to Hungary, all the way to Serbia.

? But it is expensive when you have to equip locomotives for multiple countries with corresponding systems. I assume you already have requests for the administrators in the respective nations?

Of course. The list of requests is quite long. What began back then with the idea of liberalising the railways should be continued. I understand that we won't have a common language like in air traffic, and that language skills are necessary. That's why we train our staff. We have colleagues from the Czech Republic who can drive in Germany. We have colleagues from Slovakia who can drive in Hungary. We have Slovenian colleagues who can drive in Croatia, and Croats who can drive in Slovenia. And that is the future. We must focus on that. We must continue to invest in it. Not only the machines are important, but also the people. Without people, the railway won't function.

? Do you cover a network of routes, with some particularly important European transport routes? ►



Credits (3): Hermann Schmidtendorf

Metrans currently operates 20 terminals, seven of which, as you mentioned, are the main terminals. These terminals serve as a meeting point for distribution, or consolidation of multiple goods or train flows. Goods then also travel in the opposite direction and are distributed among the terminals. Every country is important to us. There's no region we favour.

When I joined Metrans, the third terminal had just opened. Today we have 20, and we have more in the planning stages. And even the ones we already have are being further developed every year. They are being modernised. Every corridor we already operate on is equally important to us. But we also see the opportunities that additional corridors offer us. And that's what is interesting for us.

? How do you assess the situation at the Małaszewicze terminal on the Poland-Belarus border? Before the current political implications, it was a great location. Things are probably a bit more difficult there now?

That's difficult to estimate. I don't want to talk about politics. But if we look at Poland, the country itself has said that this crossing is important for the future. Poland itself intends to invest several million euros there, in the hundreds of figures, because the infrastructure is necessary for Europe.

We have to invest in infrastructure because we won't get the results overnight. These are long-term plans. And that's why every location, every crossing, every piece of infrastructure that is expanded, renewed, and renovated is important, because we might not be able to use it tomorrow, but in a year or three. And you know, we can't renovate railways or infrastructure within a year. We need to have a strategy for what we want to do for the future.

? There are finally some really major construction projects happening in Germany. But these are, of course, disrupting normal everyday traffic. How do you assess this?

That's what we're experiencing every day: There are longer transport times, there are detours; there are

even 100 kilometres that have to be traveled additionally on the line. This ties up personnel, it ties up wagons and locomotives. But as I've already said, it's an investment in the future. Perhaps we have to bite the bullet now and prepare ourselves for the fact that we'll have more difficult or challenging times before everything is repaired. But then things will get better.

You were right when you asked the question and said: finally. Yes, finally something is happening. And finally it's happening in Europe. It's not just like this in Germany; it's the same in the Czech Republic, in Hungary, in Serbia. The railway is finally receiving ►



A METRANS electric locomotive Siemens Vectron at the hub terminal in Dunajská Streda (Slovakia).

Credits: HHLA/Thies Rätzke

the investment and the importance that we actually needed already ten years ago.

? Finally, a question regarding the staff. What arguments can you use to convince young people or career changers from other professions that it's worthwhile to enter the railway sector or related services?

When we say Metrans is a young, successful railway company, we also mean that for us, railway transport is part of a larger system that we try to offer our customers every day. How do we motivate them? I think that's what we do every day. We train people.

We invest in them, give them opportunities, even if they're a career changer or just out of school. We give people the opportunity to train to become train drivers. They can acquire the necessary language skills, for example, through the Goethe Institute. And that's the most important thing. As I said: In addition to the machine, there must also be people. The locomotive won't run on its own!

! Mr. Kiss, thank you very much for this informative conversation!

The interview was conducted by Hermann Schmidten-dorf.

Deutsche Bahn's First Volume Contract

SIEMENS MOBILITY AND LEONHARD WEISS SUPPLY CONTROL AND COMMAND TECHNOLOGY

"The new procurement and contract model for this volume contract marks a paradigm shift!" declared a delighted Michael Peter, CEO of Siemens Mobility, at a special contract signing. For the first time, Deutsche Bahn had decided to award contracts with one large, long-term volume contract instead of numerous individual contracts and call-offs. Siemens CEO Peter: "This model enables the industry to build up the necessary resources for the modernisation of the German rail network. Furthermore, it will make implementation processes significantly more efficient through optimised interfaces."

In February 2025, a consortium consisting of **Siemens Mobility** and the **Leonhard Weiss** construction company was awarded a significant portion of such a volume contract by DB AG. In this contract, they committed to implementing a defined order volume for DB. In return, DB promises binding call-off quantities over the contract period. The consortium partners are confident: "This new approach offers decisive advantages: The industry can develop platform solutions with standard interfaces and reliably establish the necessary resources. Instead of the usual eight years, the processes from commissioning, planning, construction, and commissioning are to be shortened to just a few years in the future. This volume contract is thus groundbreaking for the future of railway modernisation in Germany."

DB's contract with Siemens Mobility and the Leonhard Weiss construction company covers modern

control and signaling technology. The contract value for the consortium is approximately €2.8 billion. The conclusion of this volume contract, with a total volume of €6.3 billion, secures the development of capacity for new digital signaling technology through a delivery and acceptance commitment. The first call-offs under the framework agreement began as early as spring 2025. This is intended to ensure the rollout of state-of-the-art digital control and signaling technology (DSTW) and ETCS in Germany.

125 years of LEONHARD WEISS

In 1900, the young southern German civil engineer Leonhard Weiß completed his first contract – the expansion of a ten-kilometre railway line. The family-run company grew rapidly. Today, it is a European-oriented full-service provider for construction projects. With 7,700 employees and 32 locations in Germany alone, **LEONHARD WEISS is one of the largest construction companies in Germany. The company's selection for the consortium with Siemens Mobility was therefore understandable. The company is also a partner in the general renovation of the German railway infrastructure currently being carried out for the infrastructure company DB InfraGo.**

Leonhard Weiss initially participated in the corridor renovation on one of Germany's busiest railway lines, the Riedbahn in southern Germany. The work was completed on December 15, 2024. DB InfraGo ►

Credits: Siemens Mobility



Working together for new rail technology: Siemens Mobility and Leonhard Weiß. The photo shows the new line "German Unity Transport Project No. 8."

spoke of an "enormous construction program": In just five months of general renovation, more than four times the construction volume was achieved compared to comparable large-scale projects." A total of 111 kilometres of track, 152 switches, 619 signals, almost 16 kilometres of noise barriers, 130 kilometres of contact wire, 383 overhead line masts, and eight platforms were renewed.

Since August 1, 2025, Leonhard Weiß has been involved in the general renovation of the Hamburg-Berlin line, which is scheduled for completion by the end of April 2026. The route between the two metropolises is 278 kilometres long and is considered one of the busiest intercity connections. Approxi-

mately 30,000 travelers travel here daily. LEONHARD WEISS was awarded Lot 2 together with **SPITZKE SE** as a consortium. This time, the construction work on the railway line is approximately four times as long as on the Riedbahn. Among other things, more than 180 kilometres of track and around 200 switches are to be renewed. Lot 2 covers the section from Dergenthin station (Prignitz district) to Büchen station (Herzogtum Lauenburg district). The main services in the project include the construction and renewal of track superstructure systems, traffic stations, electrical systems, overhead lines, control and safety systems, as well as the complete preparation of the necessary implementation plans.

hfs/sw/lw/di



A quantum leap for DB? At the press conference (from right): Germany's Transport Minister Patrick Schnieder, the new DB CEO Evelyn Palla, and Dr. Dirk Rompf. Rompf declined his nomination as successor in favour of the current infrastructure chief Dr. Philipp Nagl (second photo).

Deutsche Bahn AG:

NEW BOARD, NEW CONCEPT

On September 22, 2025, **Germany's Transport Minister Patrick Schnieder** presented his new concept, which is intended to resolve the ongoing crisis at the state-owned railway company **Deutsche Bahn AG**. **Evelyn PALLA**, previously responsible for regional transport, will become the new chairwoman of DB AG. Prof. Dr. Dirk ROMPF was supposed to be the new chairman of the state-owned railway infrastructure company DB InfraGO. However, the EVG union protested. Rompf resigned a few days after the press conference. Thus, the current InfraGO CEO Dr. Philipp NAGL, generally considered competent, remains in this position.

Key figures highlighting the DB crisis include these figures: The DB Group's debt amounted to €22 billion as of the first half of 2025. This is already a significant improvement, as the group had sold its logistics company **SCHENKER**. In the first half of 2025, the group again re-

ported a negative operating result after taxes of €750 million. The freight transport subsidiary **DB Cargo**, in particular, must improve. In 2024 alone, there was an operating result of minus 470 million euros. Since the merger of the East and West German railways with the so-called First Railway Reform in 1994, Germany's ►



governments had insufficiently funded the maintenance and expansion of the railway infrastructure. Plans to take the company public led to the closure of lines. At the same time, there was strong expansion both domestically and internationally, and the number of management positions rose sharply. **Klaus Weselsky**, honorary chairman of the German Railway Workers' Union (GDL), estimates that there are currently around 3,000 such positions that could be eliminated without affecting the company's ability to function.

Transport Minister Schnieder's program is titled **"Agenda for Satisfied Customers on the Rails."** Its introduction is "a day of departure," according to the minister. The new CEO, Evelyn Palla, formally elected by the DB Supervisory Board on September 23, also promised a "fundamental renewal of the company." Palla is originally from South Tyrol, Italy. After working for **Siemens**, **Infineon**, and the energy company **E.on**, she joined the Austrian Federal Railways (**ÖBB**) in 2011. Since 2019, she has earned respect at Deutsche Bahn as a hands-on reformer who streamlined responsibilities in the regional rail sector, allowed regional departments to make independent decisions, and thereby simultaneously returned DB-owned regional railways to profitability. **Matthias Gastel**, a transport politician for the Green Party, wishes for a faster implementation of the announced reforms: "Most of the proposals that Mr. Schnieder is selling as a new strategy originated from the last government with Green participation: Infraplan, the creation of a fund, the unbundling of DB InfraGO. The minister apparently has no new ideas; he can write them off. It remains unexplained why Infraplan and LV InfraGO will not become active until 2027 – the concepts have been ready in a drawer since November 2024."

Financially, the German railway infrastructure and

the DB should fare better in the future: **The state budget provides around 100 billion euros until 2029.** The infrastructure division InfraGO is to remain within the "integrated DB Group." However, DB's "control agreement" is to be terminated, meaning that any profits from InfraGO must be fully reinvested in infrastructure. The board members of DB AG and InfraGO will be reduced from eight to six members. Infrastructure will no longer have a board representative within the DB Group, which is intended to underscore its independence. The concept of improving the railway infrastructure through **complex "general overhauls"** is to be retained. A maximum of four general overhauls are to be carried out per year. All 42 high-performance corridors are to be renovated by 2036. The minister did not comment on the order, the "prioritisation." By the end of 2025, InfraGO is to compile a list of railway lines that are to be equipped with the European Rail Safety System (**ETCS**). A digitalisation plan for the entire German rail network, with a target year of 2035, is to be completed by the end of 2026.

Minister Schnieder also presented key points for improving Deutsche Bahn's customer experience. This includes the renovation of 1,000 stations. Cleanliness on long-distance trains and the on-board bistro offerings are to be improved, and defects in the on-board restaurant and restrooms are to be eliminated. At least 70 percent of DB long-distance trains are to be punctual only from 2029, the minister stated. Given the dilapidated railway infrastructure, this goal is "nowhere near achievable" any sooner. It remained unclear whether the minister was referring to what DB calls "operational punctuality" (a maximum train delay of 5:59 minutes) or to "passenger punctuality" (a maximum delay of 14:59 minutes).

Hermann Schmidtendorf

INFO

DB Navigator

The DB Navigator passenger app is to be improved to improve customer communication. The transfer of this most important German mobility app from the DB Group to the independent InfraGO is particularly significant. The DB Group has been criticised several times for monopolistic practices, including a decision by the German competition authority, the Federal Cartel Office, on June 26, 2023. Among other things, the Navigator refused to display night trains operated by private railway companies and sell their tickets. In May 2025, DB angered municipal transport associations with sometimes drastically increased commission demands and terminations of distribution contracts.

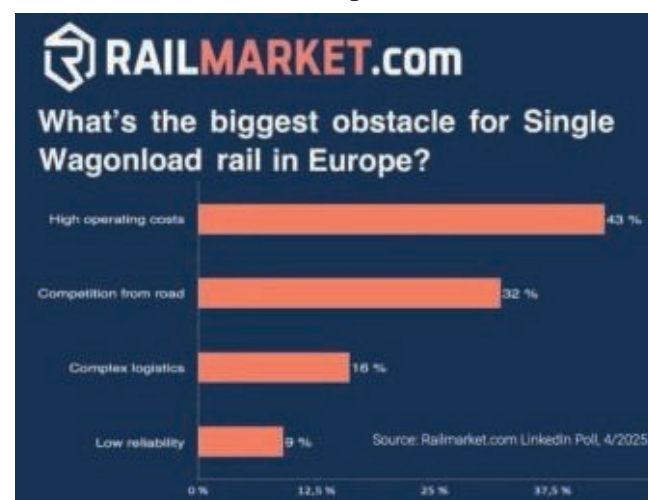
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Single Wagon Transport

IMPORTANT FOR THE INDUSTRY, A CHALLENGE TO IMPLEMENT

In June 2025, the Rail4Regions initiative of INTERREG CENTRAL EUROPE published a Green Paper on single-wagon transport in rail freight transport. The project “aims to increase the volume of goods transported by rail instead of road by helping transport planners integrate regional rail lines into European freight networks.” It refers to a 2015 study by the European Commission entitled “Single Wagonload Traffic in Europe – Challenges, Prospects and Policy Options.” Even then, it was established that the transport of single freight wagons plays an important role in the transport sector. However, it generates little profit or is loss-making, so its share of freight transport is likely to decline.

A social media poll from the **Railmarket News** specialist service (<https://railmarket.com/news/freight-rail/32231-single-wagonload-traffic-under-strain-freight-operators-list-challenges-across-europe>) came to the same conclusion. A table clearly shows: The biggest problem for carrying out these transports is the cost. According to the **Rail4Regions study**, the reason is that the individual wagons are bundled together to form a complete train across several stations and then have to be separated from the entire train again later for the various recipients, which is correspondingly laborious and time-consuming.



To reduce costs, the **European Commission's study** proposes, among other things, simplifying safety and traffic requirements on pure feeder lines

for freight trains. Technical innovations should be promoted. This certainly includes **Digital Automatic Coupling (DAC)**, whose widespread introduction will, however, take several years due to its high costs. State rail infrastructure managers themselves have an important opportunity to reduce costs. Rail4Regions refers to the European Commission's 2024 “**Track Access Charges Guideline**”: „Track access charges are the main driver of infrastructure costs for rail operators in the rail transport sector, accounting for up to 88 per cent of costs. Infrastructure managers have to set the charges using the infrastructure at the costs directly incurred by the train service. Commission Implementing Regulation (EU) 2015/909 on the modalities to calculate direct costs provides details on how infrastructure managers should calculate their direct costs.”

Germany recently took a different approach. It partially assumed the debts of the state-owned rail freight carrier **DB Cargo**. Furthermore, single-wagon transport is currently to receive an annual subsidy of €300 million, of which DB Cargo is claiming the largest share. However, the German state budget will no longer be allowed to offset DB Cargo's debts in 2026. Otherwise, the European Commission threatens that Germany will have to repay several billion euros to Europe. DB Cargo is threatening to either almost completely withdraw from single-wagon transport or drastically reduce the number of freight transport points.

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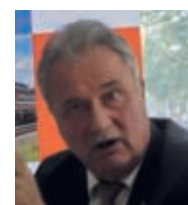


Credits (3): Hermann Schmidtendorf

A complete train, but each wagon is different – considerable work is needed before such a train can begin its journey.

INFO

GERMAN SINGLE WAGON TRANSPORT



KLAUS WEELSKY, Honorary Chairman of the **German Locomotive Drivers' Union GDL**: DB Cargo is exaggerating the costs of single-wagon transport. The marshalling yards should be transferred to the German state-owned infrastructure company InfraGO. This company would then only charge DB Cargo and its competitors the costs they directly incur through services in demand.



MARTIN BURKERT, Chairman of the **German railway union EVG**: “If the fears come true, it would spell the end of single-wagon rail transport. Germany's steel and chemical industries are not viable without the single-wagon system. At the same time, the end of single-wagon transport would mean 40,000 more trucks on Germany's roads every day, and the highways would be on the verge of collapse. A complete ban on single-wagon transport is not a solution. Several thousand jobs are at risk. The plans resemble a mindless orgy of cuts.”

DIE GÜTERBAHNEN, Association of Non-State Freight Railways: Freight trains in this country consist of up to 50 wagons. In contrast, a single wagon transported between companies is a “small” shipment, even if it carries the load of two trucks. Not only DB Cargo, but also other railway companies operate single-wagon transport in Germany. Their market share is approximately ten percent. Recently, **single-wagon transport accounted for 14 percent of total rail freight transport performance**.

A “**service run**” refers to a train or shunting run in which freight wagons or groups of wagons are brought to or picked up from customers. The service run ends as soon as several wagons (groups) are formed into a “real train.” Service runs are often time-consuming and costly. Single-wagon transport can be operated economically. The profitability depends heavily on the early bundling of quantities and train utilisation, the degree of automation, the infrastructure, and the conditions for trucks as the main competitor. **The first and last mile are particularly economically critical.**

Under the umbrella of the Association of German Transport Companies (**VDV**) and together with companies from the NEE/DIE GÜTERBAHNEN association, a proposal to promote single-wagon transport was developed. This proposal provides for subsidies for journeys serving sidings, i.e., the “first and last mile,” which are degressively based on volume. What are the specific differences between the ministry model and the industry model? In addition to subsidising service journeys, similar to the “industry model” (albeit with lower subsidy rates), the remaining funding is to be distributed under the term “connecting journeys” to all operators of single-wagon trains with no more than 15 wagons in the form of a kilometre-based subsidy. **This is not provided for in the industry model because it can be assumed that at least a very large number of these journeys can already be operated economically today.**

Single Wagon Transport in Switzerland:

STATE SUPPORT AND
STRUCTURAL REFORMS

In Switzerland, around a quarter of the total freight transport volume is handled by rail. There are several providers for block train transport. Single-wagon transport is operated and managed by the state-owned rail freight company SBB Cargo as the system provider. SBB Cargo is struggling with financial problems – in 2024, the company recorded a loss of CHF 76 million (EUR 81.39 million). Therefore, a restructuring plan is currently being developed, which also includes infrastructure and personnel cuts. The transport industry was pleased with the revised Freight Transport Act, which the Swiss Parliament approved in the spring session of 2025. Single-wagon freight transport is to receive financial support for an initial eight years.

The federal government will also pay investment contributions for transshipment and loading facilities and to promote port infrastructure on the Rhine. Financial support is also being provided for the conversion of rail cars and locomotives to **Digital Automatic Coupling (DAC)**. **SBB Cargo Switzerland** is currently working with major customers to develop a new, customer-focused and cost-optimised production model to handle as many transports as possible across Switzerland within an efficient network. The closure of three single-wagon facilities at the **Chiasso** and **Brig** sites near the Italian border, and **Buchs** near the Liechtenstein border, starting in 2027, is not being ruled out.

Formally, the **Federal Office of Transport (BAV)** is responsible for the project. In May 2025, the BAV launched the Request for Offer for the provision of future, subsidised single wagonload transport. Interested companies can then submit bids for the provision of all or part of the single wagonload transport **for the period 2026-29**. The restructuring includes the discontinuation of unprofitable services by SBB Cargo Switzerland at the end of 2025, specifically transit trains for **DB Cargo**, the so-called partner trains.

Combined transport (CT) is also being reorganised to make it more cost-effective. Operation of eight terminals is to be discontinued. However, if there is customer demand, SBB will continue to serve these fa-

cilities, the company emphasises. These terminals are accessible to any freight railway. Therefore, the continued operation of some terminals by third parties is also being discussed. For example, the **Cadenazzo terminal** will handle more **Swiss Post** services than before.

The first connection of a new, cost-optimised production model based on the **“Suisse Cargo Logistics” concept** is scheduled to launch in 2026. This will be a freight shuttle train on the high-demand north-south axis between **Dietikon** and **Stabio**, across the Alps. If the new service is successful, it will serve as a model for other new trains. A financial shift announced by the BAV at the beginning of September 2025 will be helpful. According to this, 59 million Swiss francs (63.2 million euros) in funding will be diverted from accompanied combined transport (CC), the “rolling road,” to unaccompanied standard combined transport. *hfs*



Credits: SBB

Single Wagon Transport in Austria:

ESSENTIAL FOR
INDUSTRY.
SUBSIDIES,
REFORMS

Single-wagon transport accounts for almost half of the modal share in Austria and is therefore critical to the success of the rail market share. The system operator is the **Rail Cargo Group (RCG)**, which is part of the state-owned **ÖBB (Austrian Federal Railways)**. Compared to other European countries, it offers a very high service density, with more than **400 dispatch points in Austria and 350 in Hungary**. Around two million single-wagon journeys are handled annually. The company is convinced: “This makes us unique in Europe. By enabling companies in remote areas to transport their goods, we connect industrial sites and keep the flow of goods flowing.”

State-owned freight transport in Austria is currently also operating with losses. In 2024, RCG, with its 6,000 employees, recorded a loss of €24.5 million. In January and February 2025 alone, the loss (EBT, earnings before taxes) amounted to €30 million. The federal budget supports single-wagon transport through a funding program for, as it is called, “the provision of rail freight transport services in certain production forms in Austria from 2023 to 2027.” The funding is located within the **Federal Ministry of Transport (BMIMI)**. Most recently, the funding amounted to more than 100 million euros. RCG is calling for an increase in this amount: the subsidies have not been valorised since 2019, but costs have increased by 30 to 50 percent.

Funding for single-wagon transport in Austria

is calculated per net ton-kilometre transported.

There is a differentiation according to the type of transport (domestic or import/export), the main leg between hubs, the pre- and post-carriage between hubs and dispatch or receiving control points (first or last mile), and a gradation according to distance classes. To ensure compliance with the funding intensities, an annual ex-post audit is carried out by a processing agency. The funding recipients are obliged to cooperate in this audit and, if necessary, provide additional information and data. RCG is working to increase efficiency and flexibility and aims to attract new customer groups without their own rail connections, as well as medium-sized companies. The fleet of wagons and locomotives is to be reduced. Natural attrition among employees will not be replaced for a certain period of time.

Furthermore, RCG has joined forces with six other European rail freight companies to form the Xrail initiative. The **Xrail Capacity Broker (XCB)** was fully implemented in 2023. Around 600,000 transports are booked annually across the entire network and, following capacity checks, are processed and carried out. Interestingly, the **Projects New & Expansion division of ÖBB-Infrastruktur AG** is responsible for the construction of freight terminals. This division began work on the final expansion stage, “Phase 2,” of the multifunctional Vienna South Freight Center in September 2025. *hfs*



Credits: RCG/David Poyr

Single Wagon Transport in Germany: “Non-federal railways could take over transports”

What suggestions do non-German government-owned rail freight companies have to ensure a future for single-wagon freight transport? CARGO FREIGHT JOURNAL spoke with the managing director of the Freight Railways Association NEE/DIE GÜTERBAHNEN.



? **CARGO FREIGHT JOURNAL:** Germany's Transport Minister wants to streamline the structure of Deutsche Bahn. A few years ago, it was reported that DB has around 640 subsidiaries. So it seems difficult to develop a plan?

Peter Westenberger: The sale of the logistics subsidiary **DB Schenker** has already significantly reduced the list of investments. We also have the impression that management attention diminishes the more companies there are to manage. However, other companies are also demonstrating that a larger number of useful subsidiaries can be managed sensibly. To us, this seems more like a substitute discussion for the fact that politicians didn't really know how to respond to the poor conditions in the core business, rail transport in Germa-

ny. Therefore, we consider the topic of how many investments DB currently has to be considered less relevant at the moment.

? If DB Cargo actually says it is largely abandoning single-wagon transport because it cannot otherwise guarantee its debt-free status, could its competitors then fill the gap within such a short period of time and take over all these services?

I've been asked this question several times. **If DB Cargo were to truly announce that it was abandoning single-wagon transport in its current form, then, in case of doubt, the other railway companies could continue to keep a large portion of the traffic on the rails. One important premise is: DB Cargo cannot scrap the freight cars used there. They must be made available to the other companies.** However, I don't believe DB Cargo truly wants to abandon single-wagon transport. After all, it also serves lucrative major customers with the single-wagon transport system. Perhaps we should view this threat more as a political tool for pressure than as a true corporate strategy.

? So, a clear announcement would have to be made in good time: We will withdraw from single-wagon transport on this or that specific date? Because, of course, competitors cannot prepare for a potential takeover of the traffic beforehand?

That's up to the owner. They have to discuss with their management whether DB Cargo should continue to be involved in this area or not. In our field, there are a growing number of companies engaging in the area of small shipments – that's what we call it. Currently, single-wagon transport is primarily a production system of DB Cargo, the state railway, for small shipments. It doesn't have to stay that way. Wagon utilisation in the DB system is very poor. And that's one of the main reasons why business is difficult in this case. But it's not the case that single-wagon transport is always loss-making, even at DB Cargo. ►



Peter Westenberger

? You mentioned the necessary provision of freight wagons. In France, the state railway SNCF sold all of its freight wagons and now leases them back when it needs them. This has reduced the SNCF's debt?

That's a slightly different topic. Single-wagon transport in France was already virtually reduced to zero under the state railway. What we're talking about in this context is a production system for small shipments. I'm talking about special wagons. What's happening in freight transport is essentially special wagons for special requirements. If these aren't made available to the market, I can't serve customers, regardless of which company has its locomotive attached to the front. So, if DB Cargo were to an-

nounce it's exiting single-wagon transport, it can't be left with its assets. Otherwise, no one else can operate these services.

? So these wagons are to be made available for a fee?

The other companies could act as subcontractors, for example. But of course, if DB Cargo wants to sell the wagons, the transfer would be for a fee. Nothing will be given away without a payment, that's clear.

! Thank you very much for this interview!

The interview was conducted by Hermann Schmidendorf.

Hupac: “Resilient corridors – the answer to challenging infrastructure”

Despite major challenges on the European rail network, **Hupac** achieved a positive group result in 2024 and achieved a virtually stable transport volume in transalpine traffic through Switzerland. The **Swiss logistics company** explains this in its current annual report. In the 2024 financial year, the Hupac Group transported approximately 949,000 road consignments, or 1,818,000 TEU, in combined road/rail transport and maritime hinterland transport. This represents a decrease of 2.6% compared to the previous year. In transalpine traffic through Switzerland, Hupac maintained volumes virtually stable (-0.2%) despite capacity restrictions in the Gotthard Base Tunnel.

In contrast, transalpine traffic via France and Austria recorded declines due to the line closure via Modane and adjustments to the northern Italian network. Non-transalpine traffic in Western, Northeastern, and South-eastern Europe remained largely stable at -1.2%. In 2024, the Hupac network saved approximately 1.3 million tons of CO₂e, reduced energy consumption by 15.5 billion megajoules, and relieved the roads of the transport of 18 million tons of freight. The sharp increase in construction activity on the German rail network—combined with full closures and inadequate planning and coordination along the corridor—is leading to a massive deterioration in all key operational indicators. Fewer than half of Hupac’s transalpine trains currently reach their destinations on time.

A **CARGO FREIGHT JOURNAL** interview with the CEO of the Hupac Group and Managing Director of Hupac Intermodal.

? **CARGO FREIGHT JOURNAL:** Mr. Stahlhut, at this year’s **transport logistic trade fair**, several logistics companies happily announced that they are increasing their traffic to Koper. Apparently, there are infrastructure problems there with bringing in so many trains, but they are somehow overcoming them. Why is Koper apparently an important destination for some?

Michail Stahlhut: I think it’s a maritime-oriented port, and a lot of maritime volumes also migrate to the South Port. Since we’re essentially continental in character, and a strong maritime business segment is located in the German hinterland, we’re currently keeping an eye on that, but it is certainly not our focus. We’re currently heavily tasked with stabilising our core routes. As you can imagine, there are dramatic infrastructure adjustments currently taking place in Germany as well. We’re addressing this. Therefore, Koper is a business segment of the future and not something we’re currently involved with.



HUPAC-CEO Michail Stahlhut

The maritime players active there should be happy to transport goods. That’s a good thing. If an opportunity arises, we’ll certainly be there and happy ►

Credits: Hermann Schmidendorf



Traveling across Europe: a HUPAC train.

Credits (2): Hupac

to help. But our core business is important to us. Our current customers are important to us. We want to offer them better service. That’s what we’re working towards.

? During our last conversation, we discussed the various difficulties now arising from extensive necessary construction work on railway tracks – difficulties in keeping transport operations within the same timeframe as before, even though the respective destination can only be reached via detours. This necessitates timely coordination and the involvement of the companies that use this rail infrastructure. What’s the current status?

We’re very active. Together with our partner SBB Cargo International, we’re also focusing on the French route. At the beginning of the year, we started routing traffic from Antwerp, from Belgium, via France. It’s like always with railways. You can’t just turn on your indicators and then turn right or left. You have to prepare for it. That takes time. We’re starting with that. But then you can slowly build on the foundation and do more. I think that’s necessary for the future to make much better use of the existing infrastructure in Europe. Then Germany can build here and there, and you can detour via France.

? **AAt the iaf 2022 trade fair, Mr. Sennhenn from the former DB Netz spoke very clearly in a presentation about the difficulties of ramping up DB’s infrastructure after decades of political underinvestment.** This year, in 2025, a lady from DB, now from InfraGO, also appeared at the iaf. However, she only offered general, bind-

ing statements about the condition of Germany’s railway infrastructure. Apparently, they’re keeping a low profile. As an affected track user, are you at least receiving the necessary information to prepare for diversions during construction?

Far too late, in my opinion. We also need to engage the market. All of us in the railway system know that construction is necessary after the Second World War and the reconstruction of the railway. We can assume that after 50 to 60 years, restructuring and renewal are necessary. That’s perfectly normal. Anyone who owns a house knows that certain work needs to be done after 50 or 60 years. The same is true of the railway network. You have to renew the network here and there, and you have to correct mistakes from the past, when routes were reduced in many places. This needs to be rebuilt to make the network more resilient.

What we’re noticing is that construction sites are being spread across Germany in an uncoordinated manner. The big mantra of corridor rehabilitation and full closures is forcing us to shift some transport to the road, which is really not possible. We should think more carefully about what’s possible with the existing network. If you have intensive discussions, you can also generate and **develop transport alternatives using existing infrastructure, for example, via France.** We’ve just managed to manage two major closures in the Rhine Valley again. In intensive discussions with the railway companies and with InfraGO, we managed to make a residual capacity of well over 70 percent available to the market. That wasn’t possible in April, at Easter. There was ►

only a capacity of just 25 to 30 percent. You can't do anything with that. It's really crap. We need to think much more about the market here. We need to think much more in terms of diversion and not just build everything, but act together with all stakeholders.

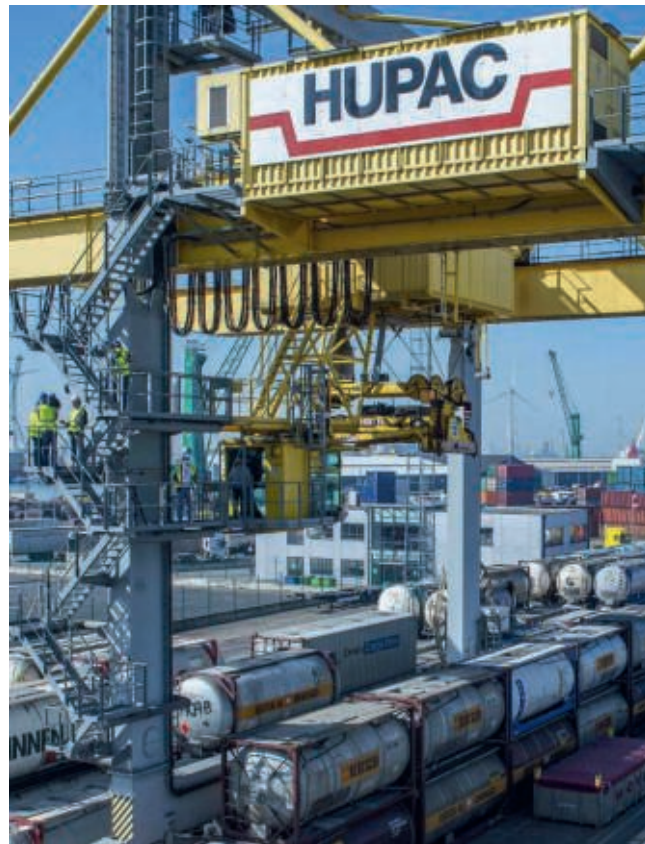
? There's now a new transport minister in Germany. Have you heard any initial statements from him that allow you to express certain opinions?

Well, yes, I've read the coalition paper. I found it very exciting at first that they said the corridor renovation needs to be questioned and its value needs to be more clearly understood. It seems to me that experts have also considered the fact that the core supply, **the core artery of Europe – that's the blue banana, the Rhine-Main corridor – cannot be closed off without having to start up a heart-lung machine. We need backup capacity here.** This is necessary, and it's described in the German coalition paper. I assume the new transport minister will also internalise this. From what I hear, he's currently consulting experts on this matter. That seems very appropriate to me. You can't know everything, and it's good to keep an ear to the ground in one direction or the other.

? During our last conversation, you also mentioned that the political situation has reduced connections directly to or from Russia somewhat. But are other directions emerging in the Baltic region that are now more focused on the ports there?

And again: stick to your own craft. We are currently very satisfied with our core network and are taking care of it. We are looking at industrial development in Europe, which isn't exactly funny right now. But we believe that international transport in Europe, with its core necessities, is a backbone for supplying urban and industrial areas. That's why we say: We are very satisfied with what we have. And if more opens up, it will be just like the Koper example at the beginning of our conversation. Then we are currently also working on the Baltic region. But we are not doing this proactively.

? What do you still consider the most important or additional offerings you currently offer?



We are considering providing the market with a clear response regarding resilience. Our answer is that we want to consolidate our volumes into strong hubs. It's a simple calculation: If you have four departures a week from one terminal and one departure is canceled, then 25 percent of the volume is lost. If we consolidate everything from a region of three to four terminals into one terminal, and we suddenly have four departures a day, four days a week, and then one is canceled, then you lose a fraction of the volume. That's a completely different value. That's why we say: A resilient system, resilient corridors, are the answer to the current challenges posed by infrastructure, industry, and supply in Europe.

? Spain remains a key issue for you?

Spain faces a major challenge. Southern Spain is becoming increasingly connected to the European standard gauge. At the end of the year, we will take over a terminal near Barcelona, where both gauges are available. Currently, intermodal traffic towards Northern Europe from Spain is very low. ►

We expect success with every terminal that enters the market. We follow the dry-sponge philosophy. If an opportunity arises, we'll immediately soak up water. We'll immediately launch services to Northern Europe.

? Is what we're seeing here at this trade fair also of interest to you as a logistics expert – new developments in freight wagons where, for example, pallets can be loaded 10 percent faster than with previous models?

We manage our own intermodal wagons, and our customers fill containers or trailers. We assume that the freight forwarders have mastered this. What you're describing are systems for single-wagon load transport. One has to ask how many single-wagon load transports there will be in the future? As a follower, we're observing what the state railways are doing. I believe that intermodal transport is on the verge of a mega-boost. We're bringing solutions that can complement individual transport and serve as a good substitute.

? What do you think of IT broker platforms that offer their services here at the trade fair, along the lines of, "If there's still a little capacity available on a train, you can attach a few wagons?"

I think anything that brings intelligence to the system is great. We've challenged two or three platforms in recent years. We've found that the performance, in terms of volume, isn't all that great on these platforms. We've already made considerable progress with what we've built together with the major players. I'm talking **about DX Intermodal, the DXI Communication Hub.** This was a project funded by the Federal Republic of Germany, in which combined transport, freight forwarders, and railways. We believe that communication and data exchange among players must be accelerated much more. The world of combined transport is too fragmented. We need to bring everyone together. I believe a lot has been done in this area. **The KV 4.0 DXI Data Hub is a solution for faster communication.** Whether you can plant one more or one less box somewhere, there may be intelligent brokers who can take care of such things. We take care of

our own things and the faster exchange between players. We have accelerated and improved this.

! Mr. Stahlhut, thank you very much for the interview!

The interview was conducted by Hermann Schmidten-dorf.

RCG: New vehicles: “German track cancellation fees should be reduced”

Within the Austrian Federal Railways (ÖBB), the Rail Cargo Group is responsible for freight transport. At the transport logistic trade fair, RCG presented newly acquired vehicles. There was also a locomotive christening. **CARGO FREIGHT JOURNAL** spoke with the CEO of RCG.

? **CARGO FREIGHT JOURNAL:** Mr. Fürst, what kind of locomotive is that? Why do you need six axles and such traction power?

Clemens Fürst: This is a **Stadler Euro Dual locomotive**. It has two great features. It's very powerful and, accordingly, **has six axles** to transfer this power to the rails. This means we can also easily transport heavy trains, for example, in the mineral oil sector – that's the first point. The second important thing: It's a **hybrid locomotive**. In addition to the electric power, it also has a diesel engine, which allows us to

serve non-electrified routes accordingly. This gives us a very high degree of flexibility in terms of weight and routes.

? Your partner is Transflex; this label is on the locomotive. How did you find the partner?

Transflex is us; it's our brand. **Transflex is a block train product with high flexibility, allowing customers to be very flexible both in terms of time and route, ordering at short notice and changing routes.** ▶



At the locomotive christening: RCG CEO Clemens Fürst (left) and the CEO of the leasing company European Loc Pool ELP, Willem Goosen.



The new Stadler Euro Dual of the ÖBB in its entirety.

? The need for such a powerful locomotive is obviously there, as this is already the third locomotive of this type?

Yes. This is the third locomotive, and probably not the last.

? Do you also have a plan to avoid the upcoming heavy construction work in the border area from Germany? What's happening there in the next few months?

What will begin with the timetable change at the end of this year and then continue throughout 2026 are line closures – from Austria's perspective, past Passau, i.e., to Passau. And that means we won't be able to run on this main artery between Austria and Germany for months and will therefore have to divert via Salzburg and partly via the Czech Republic.

? Are you involved in preparatory discussions regarding the construction work so that you can also express your wishes? Freight railways have sometimes criticised this in previous similar situations, saying that the German infrastructure administration was rather helpless and didn't answer phone calls because they didn't know what to say?

No, I don't think there's any reason to complain about information. InfraGO provides us with timely and comprehensive information. But of course, we have no influence on the construction site planning.

? You also can't make suggestions in advance, as is apparently the case in Switzerland? At least, that's what the responsible board member told us there: If the freight industry makes suggestions to get past a certain construction site two minutes faster, will that be implemented?

Unfortunately not. But if I may express a wish, it's this: **DB InfraGO has relatively restrictive cancellation rules. If you don't use a route that you ordered in April of the previous year, you have to pay prohibitively high cancellation fees, in our view. This is obviously disproportionate to market demands. It just happens that the industry changes its supply chain, and we have to adjust our transport plans accordingly.**

? Mr. Fürst, thank you very much for the interview!

The interview was conducted by Hermann Schmidendorf.



Credits: Stadler

The handover of the 1000th FLIRT train at the Polish trade fair TRAKO attracted great interest.

Stadler Rail:

GOOD ORDERS, PRODUCTION ANNIVERSARIES, EXPANSIONS

At the handover of the Stadler EURODUAL locomotive by the leasing company European Loc Pool (ELP) to the Rail Cargo Group at the transport logistic trade fair, our editorial team also met a cheerful Peter Spuhler. As majority shareholder and CEO, Spuhler played a key role in leading the company to its current size. Today, the company, headquartered in Bussnang, eastern Switzerland, has over 15,000 employees at eight production and six engineering sites, as well as over 80 service locations. Of these, over 5,600 employees work in Switzerland. At the 34th Annual General Meeting of Stadler Rail AG on May 7, 2025, Peter Spuhler was re-elected as Chairman of the Board of Directors.

Our editorial team also met up with **ELP CEO Willem Goosen** at transport logistic. The company specialises in leasing Stadler vehicles. We were among the first to introduce the head of the then newly founded leasing company to the wider rail community through an interview at the **INNOTRANS 2018** trade fair. At that time, ELP's first customer was **Havelländische Eisenbahn AG (HVLE)** from the Berlin area. **They ordered ten EURODUALs. With 6.2 MW of electrical power and a 2.8 MW diesel engine, the EURODUAL offers up to 500 kN of tractive effort and speeds of up to 120 km/h.**

A new contract with HVLE was signed at the beginning of September 2025. Stadler Valencia CEO **Iñigo Parra** was delighted: "With the commissioning of **the 100th EURODUAL**, leased from European Loc Pool (ELP) and operated by HVLE, the locomotive concept has impressively demonstrated its performance." Stadler celebrated another anniversary at the **TRAKO rail trade fair this September in Gdańsk, Poland.** The subsidiary **Stadler Polska** produced its **1,000th vehicle** at its **Siedlce plant.** This was a five-car, latest-generation **electric FLIRT** for the Polish railway company **Koleje Ma-** ►

zowieckie. Stadler Polska will deliver up to 75 new trains to serve lines throughout Mazovia. In this case, too, the recipient of the anniversary train was also the first customer.

The history of the Siedlce plant began in 2006 with a contract for 14 FLIRT units, ten of which were delivered to Koleje Mazowieckie. The Stadler Polska team now has 1,500 employees and has delivered to 18 European countries to date. And the Polish site is expanding: On May 28, 2025, the official opening of Stadler Polska's new engineering office in Poznań took place. **Stadler's business also expanded significantly in the USA in June 2025. A new signaling location was opened in the heart of Atlanta, Georgia.** The new location in the USA represents the first major international expansion of the Stadler Signaling Division.

The Annual General Meeting of Stadler Rail AG in May 2025 painted a positive picture of the compa-

ny. According to the meeting, **Stadler was able to secure further strategically important contracts in 2024 and expand its market leadership in alternative drive technology. Three environmental disasters had a serious impact on Stadler.** "The floods in Valais (CH), Dürnröhr (AUT), and especially Valencia (ESP) had a serious impact on our business. They led to massive delays and disruptions in production and significantly impacted supply chains," reported **Group CEO Markus Bernsteiner.** Stadler took immediate measures to minimise the impact. Nevertheless, approximately CHF 350 million in revenue had to be postponed from 2024 to the 2025 and 2026 financial years. **The retained profit in 2024 amounted to CHF 369,642,374 (approximately €396 million). Stadler was able to increase its sales to 1.4 billion Swiss francs (approximately 1.5 billion euros) in the first half of 2025.**

Hermann Schmidtendorf

Happy faces at the handover of the 100th EURODUAL from ELP to HVLE. Second from left is HVLE CEO Ludolf Kerkeling.



Credits: Stadler

PESA Bydgoszcz at the TRAKO trade fair in Gdańsk, Poland: “New electric locomotive. Expansion of hydrogen propulsion”

At the Polish railway trade fair TRAKO, which took place from 23 to 26 September 2025, the country's leading railway manufacturer, PESA Bydgoszcz, unveiled its latest electric locomotive, the GAMA 3.0. It is capable of speeds up to 200 km/h. In addition to being powered by the overhead line, the locomotive will be equipped with an electric battery or an eco-diesel engine. **CARGO FREIGHT JOURNAL** spoke with PESA's Director of Strategy and Communications.

? **CARGO FREIGHT JOURNAL:** Four years ago, a hydrogen locomotive from PESA premiered at the Trako rail trade fair. Since then, it's been a resounding success. What's been happening with this locomotive recently? It's been announced that the first customer is from Sweden.

Maciej Grześkowiak: We've been working on hydrogen propulsion since 2019. We started with a shunting locomotive, as these are the most common diesel locomotives an owner might want to replace. Therefore, we've been working consistently on improving the shunting locomotive. It's operational, attracting customer interest, and I'm confident we'll deliver at least 20 such locomotives to Poland and Sweden in the next two to three years.

In May of this year, we spent two weeks in Sweden. It was a roadshow to the largest ports, port terminals, and also to the sidings of **Swedish Steel (SS AB)**, Sweden's largest steel producer. The railway operators there, who work at these terminals and for Swedish Steel, are interested in zero-emission locomotives, and they chose our locomotive. After these two weeks of testing, I can say the following: First, the locomotive performed excellently under the operating parameters and the difficult challenges

of handling the required train loads. Secondly, the Swedes have made us aware of something we often don't realise. **A zero-emission vehicle like our hydrogen locomotive not only reduces exhaust emissions but also noise.** Diesel shunting locomotives often operate continuously for twelve hours because their engines aren't switched off. The Swedes emphasise that driver comfort, quiet interiors, and a pleasant environment are, in their opinion, major advantages of this vehicle. ►

Maciej Grześkowiak



Credits (2): Piotr Chamczyk

So we already claim that our zero-emission vehicles are not only environmentally friendly but also human-friendly. What's next for the propulsion systems? We're working on a hydrogen passenger train. The first one is scheduled to hit the rails in 2028, after homologation. We're in talks with several Polish regions interested in these vehicles. That's why we visited Karpacz.

We recently confirmed that this vehicle can also handle the Jelenia Góra–Karpacz line, which has the steepest gradient in Poland. Second, thanks to support from the National Environmental Protection Fund, we are developing production facilities for hydrogen vehicles. **We are building a new facility, which will also go into operation next year and will be dedicated exclusively to the production of hydrogen vehicles.**

? I just saw some construction work going on at your place while driving through Bydgoszcz. Recently, it was announced that one of the leading potential hydrogen producers has withdrawn due to alleged unprofitability. Some transport companies are also withdrawing from hydrogen propulsion, arguing that the fuel is currently too expensive and therefore unprofitable. What do you think about this?

There are still two schools of thought here. Is hydrogen profitable or not? A hydrogen vehicle is an electric vehicle. **An electric vehicle has completely different maintenance needs than a vehicle with an internal combustion engine. While the capital expenditures (CapEx), i.e. the cost of purchasing the vehicle, can be significantly higher, the operating expenditures (OpEx) associated with maintenance over 30 years are much cheaper.** These are two worlds: internal combustion engines and a hydrogen-electric vehicle, because it is, after



The new electric locomotive GAMA 3.0 met with great interest at TRAKO.

all, electric. In our opinion – and we prove this to customers with concrete figures over this long 30-year life cycle – these vehicles can certainly compete. I assure you, they will be bought.

? Another topic: high-speed trains. This has been a hot topic in Poland lately. Do we need vehicles capable of 250 or 350 km/h? Pesa Bydgoszcz says that building a vehicle capable of 200 km/h is different from building a significantly faster vehicle. What's at stake here?

When it comes to rail speed, Pesa is gaining momentum. We're taking it slowly, at our own pace. We're not rushing into anything headfirst. We're currently working on a dual-mode vehicle for the Czech operator Regio Jet that can reach speeds of up to 200 km/h. The next step will be vehicles capable of speeds of 230-250 km/h. For very high-speed vehicles, those faster than 300 km/h, we're entering into a partnership. If we wanted to build them ourselves, it would take at least eight to ten years, maybe even longer. We know that's a long time. Therefore, we will enter into a partnership. Of course, **when Poland should want to purchase such vehicles, Pesa will participate in the tender process, but with a foreign partner.**

! Many thanks for this talk!

The interview was conducted by Piotr Chamczyk.



Credits: Avanti

COUNTRY REPORT EUROPE  GREAT BRITAIN
Interview

An Avanti West Coast Railway Evero train exiting the Blea Moor Tunnel in the north-west English county of Cumbria.

Great British Rail and Network Rail: “New vehicles, robust infrastructure modernisation, new staff for the future”

What will the British Labour government’s nationalisation program mean for the rail system? CARGO FREIGHT JOURNAL spoke with transport scientist Prof. Dr. Jon Shaw about the expansion and modernisation of the infrastructure and the future of rail leasing companies. He teaches and researches at the University of Plymouth.



COUNTRY REPORT EUROPE  GREAT BRITAIN



Credits: Hermann Schmidtendorf

Prof. Jon Shaw in conversation with CFJ editor-in-chief Hermann Schmidtendorf.

? **CARGO FREIGHT JOURNAL:** Former Prime Minister **Boris Johnson** said we shouldn’t worry about **Brexit**, we’re now investing billions in the railways. And then his government canceled more than half of the planned new high-speed rail line. That doesn’t seem to have been a reliable policy?

No, that wasn’t a reliable policy. It was terrible. The announcement of this large-scale investment in HS2 and then the cancellation was very disappointing. I don’t think the Y will come back. But it’s possible that part of the line that was canceled to Manchester and central London could come back in a different, cheaper form. Because the railway is being built for a top speed of 360 km/h, with a design speed of even 400 km/h. That’s just incredibly fast. It doesn’t have to be that fast. If you build conventional high-speed trains at 300 km/h, it’s cheaper to build. The companies know how to build them. In a way, you could cancel it and then reintroduce it more cheaply. That would be fine.

? I also saw uncertainty about the future of one of **the railway industry’s most important sites with a rich history, Derby**. Its current owner, **Alstom**, had even declared that they might have to close the company because, despite statements to the contrary, there might not be any orders until 2026. The site was initially saved by an immediate order for ten trains for the **Elizabeth Line**?

That’s right. The real problem with Derby is that it’s

the only plant in the UK that carries out the entire process from design to construction. And if we were to lose it, quite apart from its history, we would also lose the future. We now have several **train assembly plants in the UK**. There’s **Newton Aycliffe** in northeast England, **operated by Hitachi**, and we also have the **CAF plants in Newport, South Wales**. We have **Siemens in the Hull area** for London Underground rolling stock. And there’s another argument. If the order for the replacement trains for the **Bakerloo line** isn’t placed very soon, the Bakerloo line will be in real trouble in four or five years because the trains are already 50 years old. And they’ll fall apart.

So yes, you’re absolutely right. There are these ten trains that **Transport for London** has ordered, which are keeping Derby running at the moment. But then we have a whole slew of new train orders that will come in over the next year or two. So, obviously, there are the trains for **HS2**, which are from **Alstom and Hitachi**. Then there will be a big order for **Southeastern**, there will be a big order for **Northern**. There will be more trains for **ScotRail**. There will be a big order for **Great Western Railway**. Great Western needs to replace its entire regional fleet. So, orders will come in. It’s just that they’re not quite there yet. And then there’s the Bakerloo line. But it’s typical that the previous government was quite happy with that: “Let the market decide...”

? And what about the **ROSCOs**, the rolling stock leasing companies?



Credits: El Pollock, CC BY-SA 2.0



Ein Zug der Baureihe 175 von Arriva Trains in Wales an der Flint Railway Station.

They will remain exactly as they are. The leasing companies are not directly affected by the legislation. The impact on them will be the decisions the new state company **GREAT BRITISH RAIL – GBR** – makes regarding the renewal of its rolling stock and who it invests in. The original three rolling stock companies – **Eversholt Rail Group, Porterbrook, and Angel Trains** – were acquired by banks. But when the railway companies wanted to renew their fleets, they also engaged other companies to purchase and finance the rolling stock. So there are now more than three players in the British rolling stock industry. They will not be nationalised. And of course, we want to increase the number of people using the trains, so they should have a good future. But the extent to which they invest in new rolling stock will depend on the extent to which GBR wants to purchase new rolling stock.

? What about the quality of the infrastructure? There have been several derailments on lines even outside London. I was shocked to see that there were still wooden sleepers under the rails, obviously in a very worn condition. I like wooden sleepers, but not on such frequently used, important lines! Is there any hope of modernising such lines in a way that doesn't cause the next chaos?

Yes. The best example I can give you is the **main line from London Paddington to Redding**, which leads to South Wales and the southwest of England. The reliability and punctuality of this section of line

between London and Redding has been quite poor since the end of the lockdown, and there are several reasons for this. One of the reasons is that traffic on the line has increased significantly, partly because of the Elizabeth Line. But of course also because normal train service has resumed. So there have been a number of technological challenges. **Between Heathrow Airport and London**, there's some old overhead line equipment, and there are problems with the axle counters. The new axle counters are actually less reliable than the old ones for some reason. There are also problems with the ballast.

So, **Network Rail** had to conduct very extensive diagnostic work to determine where each problem lies, what it contributes to poor service, and how it can be resolved in the short and long term. They now have a proper management plan. They know which components are faulty, how they can repair them, and when they will be repaired. Such a comprehensive maintenance plan was developed in response to what was considered to be a very poor condition of the assets. So the answer to the question is: Yes, they are absolutely tackling it. And they have a very robust method for doing so. But it will take three or four years before we see the problem resolved.

? And do you think England could regain its cutting-edge technological expertise? When we last spoke about this, you said that knowledge and skills were being lost because apparently no one ►

was investing in training railway engineers. Will that happen again now, the build-up of skilled engineers and workers?

One of the real problems the railway will face in the coming years is the retirement of a large proportion of its skilled workforce. The industry is well aware that it will need new drivers, for example. And the only way to implement large infrastructure projects sequentially is to ensure they plan for the future to get their workforce to the right place. GBR will address this problem strategically.

? I'm a big fan of **Agatha Christie's** detective novels and the **Paddington steam train** described there, which leaves the station on time and passes the place on time where the body must be thrown off the train. In your opinion, can we hope that Great British Rail will return punctuality to the good times of Agatha Christie within a reasonable timeframe?

(Laughs) Well... one of the big differences is that there were far fewer trains on the system back then. One of the big problems we have with punctuality now is that we have an incredibly busy network. **But one of the big advantages of GBR is also that it will have an overall overview of the timetable.** So instead of having three or four companies trying to run too many trains on a single section of track, it will be able to make a strategic decision. We don't need eight trains

per hour here, each with four carriages. We need four trains per hour, each with eight carriages.

So the idea would be that with an integrated single organisation, you can try to improve punctuality not only through very expensive measures like heavy investment in infrastructure. Of course, you do that where possible, but also through cheaper and more sensible measures like running fewer but longer trains.

? Another hope might be that the railways would function like in the German film "Ich denke oft an Piroschka". The film is about a Hungarian girl whose father was a stationmaster. This stationmaster in the film spoke beautifully to the people waiting for the train: "Look, it's just as I told you. The train is half an hour late, not a minute more!" Perhaps an old Hungarian definition of punctuality, but such a train is still reliable...

We shouldn't give up hope that one of these two models might be possible at Great British Rail in the near future, given all the ongoing improvements!

! All the best for you and your work, and thank you for this very informative and interesting conversation!

The interview was conducted by Hermann Schmidendorf.

INFO

The Labour government, which came to power in 2024, plans to transfer the previously private passenger rail companies into the new state-owned Great British Rail (GBR). The "Bring Back British Rail" initiative outlines the phased nationalisation process in this "time table".

Privatisation Departures Board		
Expected	Franchise	Operated by
12 Oct 2025	Greater Anglia	Transport UK & Mitsui
01 Feb 2026	West Midlands Railway & London Northwestern	Transport UK
31 May 2026	Thameslink, Southern & Great Northern	Go-Ahead & Neolis
18 Oct 2026	Avanti West Coast	First Group & Trenitalia
18 Oct 2026	East Midlands Railway	Transport UK
15 Oct 2027	CrossCountry	Arriva
12 Dec 2027	Chiltern Railways	Arriva
25 Jun 2028	Great Western Railway	First Group
Departures Arrivals		

Historic Railway Anniversary 200 Years of Stockton-Darlington:

BRITAIN WANTS TO BE PROUD OF THEIR RAILWAYS

Tens of thousands of onlookers waved British flags, brass bands played. The crowd cheered three times – and a fourth for good luck, followed by thunderous applause. Then the 1975 replica of pioneer George Stephenson’s steam locomotive LOCOMOTION No. 1 left the station, along with a replica of the historic “Experiment” passenger car and three coal wagons. S&DR200 – under this abbreviation, Great Britain celebrated the bicentenary of the Stockton and Darlington Railway’s (S&DR) first run 200 years ago for nine months. The run of steam locomotive Locomotion No. 1 was the highlight of the celebrations. On September 27, 1825, its prototype first ran along the 13-kilometre-long railway line, carrying passengers and coal. This was the first public railway journey in the world with steam locomotive operation for passenger and freight transport.

Festivalgoers were well aware of the significance of the anniversary tour. One of the participants, Bryan Johnston, told BBC: “It’s absolutely fantastic for the Northeast to remind the rest of the world that it all began here!” Since the beginning of the year, contemporary railway operators and cities, heritage railways, and the infrastructure manager Network Rail

had competed with each other to contribute to the anniversary year with their own celebrations. Rolling stock manufacturer ALSTOM made a particularly significant contribution. For the first time, there was an open day at the factory site in Derby – and the largest rolling stock display of the year, confidently titled the “Greatest Gathering.” At the same time, Alstom ►



Credits: Network Rail

Attention philatelists! To mark the railway anniversary, there is also this special stamp featuring Locomotion No. 1.



Credits: Royal Mail

signaled: We are consolidated and a trusted partner for new contracts.

The anniversary comes at an ideal time. The British once again have reason to be proud of their railways. Since total privatisation in 1994, there had been fewer and fewer reasons for this (see our articles in CFJ 3-4/2024). All privatised passenger rail companies are now being consolidated into the state-owned Great British Rail (GBR) company, which will be headquartered in the historic railway city of Derby (see the “Nationalisation Roadmap” on the previous pages). British Transport Minister Heidi Alexander hopes these changes will lead to a more stringent use of public funds for improved rail service. Rail reform is one of the key issues on which the British Labour government must deliver success before

the next election. Expectations are therefore high.

The private initiative “Bring Back British Rail” criticised the fact that those rail operators that previously operated passenger services without state subsidies are allowed to continue operating their trains. They should therefore not be nationalised. Other observers called on the minister to initiate a rapid price reduction for train tickets. But Heidi Alexander remains a pragmatic realist: First comes rail reform, then ticket prices. The formal establishment of the GBR still has to be approved by Parliament. This is scheduled for autumn 2025. Until GBR is fully operational, the DfT (Department for Transport) Operator will take over the public role for the train companies.

Hermann Schmidtendorf



Credits: Alstom

Large anniversary locomotive show on the ALSTOM site in Derby: on the left, the LNER Class A4 (60007) steam locomotive “Sir Nigel Gresley” from 1937, next to it the Class 50 (50049) diesel locomotive “Defiance” from 1968.

DIRECT TRAINS LONDON-BERLIN



Heidi Alexander

In mid-August 2025, British Transport Minister Heidi Alexander signed a Memorandum of Understanding with her German counterpart, Patrick Schnieder, in Hamburg. Our editorial team was also invited. Our impression during the handshake and a brief conversation: The minister is committed, competent, and down-to-earth. The ministers' meeting served to initiate preparations for a direct London-Berlin rail connection. Heidi Alexander expressed her hope, on behalf of the British government, that this should be operational "within the next decade." A direct rail connection has the potential to fundamentally change travel between the two countries for millions of people and offer a faster, more convenient, and significantly more environmentally friendly alternative to flying.

The economic potential is enormous, said Alexander: "A direct rail connection would contribute to the creation of new jobs and strengthen the important trade links that form the basis of our economic relations with Germany." Federal Transport Minister Patrick Schnieder agrees: "A direct connection would enormously simplify travel

and significantly increase the attractiveness of train travel." A task force from both countries will clarify fundamental questions, not least of a technical nature.

Currently, there are no trains permitted to run continuously between Berlin and London. Deutsche Bahn demonstrated its own ICE train at London's St. Pancras station in 2010. However, this train was not permitted to travel independently through the Channel Tunnel between France and the United Kingdom. It had to be pulled by diesel locomotives. Since 2010, Siemens has supplied 17 high-speed trains to Eurostar International Ltd., the operator of the Channel Tunnel, which are permitted to travel through the Channel Tunnel. Like the ICE, they were built on the basis of the Velaro trains, are called "e320," are 400 metres long, and have 16 carriages. This train type could, in principle, be additionally equipped for operation in Germany, thus commuting between London and Berlin. Eight different pantographs and ETCS are already on board.

Hermann Schmidtdorf



A train will come... Soon from Germany too?



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La Manche, Ärmelkanal, Channel Tunnel, Eurotunnel:

20 MILLION PASSENGERS AND ONE MILLION TRUCKS ANNUALLY – A EUROPEAN LIFELINE OF MOBILITY



Spring 1973, a major construction site near Calais in France. For five years, a joint British-French company had been building a tunnel under the Channel between the two countries. Now, the breakthrough had arrived. Construction workers, engineers, and politicians wanted to celebrate under the sea. What no one knew: the president of the tunnel construction company, a Briton, was secretly opposed to the project. He was venting methane gas into the exit area. If one of the revelers lit a cigarette there, the entire tunnel would explode and flood with water!

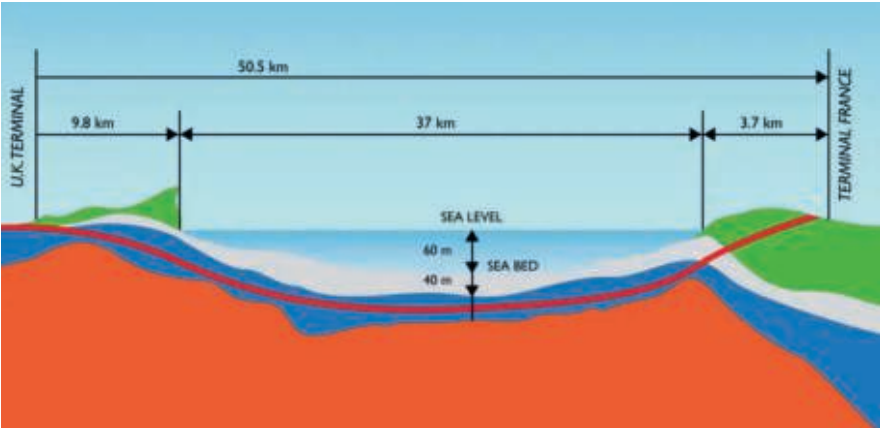
Fortunately, the aristocratic crime writer Count Yoster was among the guests of honour. He uncovered the sabotage at the last moment. This British engineer was a tragic figure, Yoster summarised to the French tunnel co-president. The saboteur was “obsessed with a very perverse kind of patriotism” – England should remain a “glorious, proud island” as it has been so far.

You’ve never heard of this spectacular attack? That’s not surprising. The events are, thankfully, fictional. They were portrayed in a crime drama on French and German television. The filmmakers ►

At the entrance to the Channel Tunnel: A Siemens Eurostar International of the e320 series (374).



Credits: Eurostar



The tunnel between Great Britain and France runs 40 metres under the sea.

Credits: leshuttle.com

demonstrated visionary courage. After all, the governments of France and Great Britain only decided in 1986 to build such a tunnel, as a pure rail tunnel. The treaty was ratified in 1987. In mid-1971, the governments commissioned a final study for the construction of a Channel Tunnel from Calais to Dover, and a bi-national agreement was reached in 1973. This route would allow the tunnel to run in a single layer of chalk and follow this layer. As a result, the tunnel lies about 40 metres below the seabed for large stretches. The tunnel is 50 kilometres long, 38 kilometres of which are submarine. The average depth is 40 metres below the seabed. On the outer sides are two single-track tubes for trains in both directions, with a service tunnel in between. Drilling began on the British side on December 15, 1987. In France, work began on September 28, 1988. The breakthrough at the bottom of the channel took place on December 1, 1990. The tunnel was officially inaugurated on May 6, 1994, by Queen Elizabeth II and President François Mitterrand. The names vary depending on the country: La Manche Tunnel, Channel Tunnel, Ärmelkanal-Tunnel, or Eurotunnel.

The tunnel was a great success. However, the construction costs, which were entirely privately financed, were a heavy burden for the operating company for a long time. It wasn’t until 2007 that a net profit of one million euros was achieved. Achieving a profit made possible a comprehensive restructuring program, which the company had agreed to with its creditors. Prior to this, the Eurotunnel company

had been on the verge of insolvency. However, the creditors waived more than half of the approximately nine billion euros in debt. Ownership structures and names changed several times over the years. Today, the technical infrastructure, i.e., tunnel operation, monitoring, and maintenance, is managed by the company Getlink. Under the brand names LeShuttle and LeShuttle Freight, approximately ten million passengers are transported annually in car trains and over one million trucks. At a speed of 140 km/h, the journey time is 35 minutes, including 20 minutes in the tunnel. The freight trains operate up to six times per hour. They are 800 metres long and can carry up to 32 trucks. A quarter of all goods entering the United Kingdom travel through the tunnel.

The high-speed passenger trains known as Eurostar International also carry around 10 million passengers annually. They are operated by Eurostar, which merged with Thalys in 2023. Eurostar initially operated services with Class e300 (373) trains built by GEC Alsthom. These will be replaced by new trains in the future. Starting in 2030, up to 60 new trainsets are to be purchased, with approval for five countries. These trains will also be used for additional connections through the Channel Tunnel. According to the operator, the Eurostars travel between London and Paris in 2 hours 16 minutes, between London and Brussels in 1 hour 53 minutes, and between London and Rotterdam in 3 hours 52 minutes. Other cities directly accessible from London include Lille and Amsterdam.

Hermann Schmidtendorf



A Siemens Eurostar at London's St. Pancras Station.

Credits: Eurostar

The Siemens Eurostar:

A POWERHOUSE WITH THE HIGHEST SAFETY STANDARD

The most modern trains in Eurostar International traffic are the e320 (374) series trains built by Siemens. With an output of 16,000 kW, the 400 m long multi-system train reaches a top speed of 320 km/h. The 17 trains currently in operation offer a total of 894

passengers in 16 standard-gauge carriages, including 222 first-class seats and 672 second-class seats. The requirements of tunnel traffic require exceptional resistance to fire and water, and the train meets the corresponding strict regulations.

In the event of a fire, the Eurostar e320 remains operational for 30 minutes. Given tunnel environmental conditions of up to 100% humidity and a year-round temperature of 25°C, all components are reliably protected against condensation. The train is equipped for a 25 kV AC and 1.5/3 kV DC power supply. For travel in several countries, it is equipped with the ETCS, KVB, TVM, RPS, TBL, MEMOR, and ATB train control systems. It has 64 axles in 32 bogies, half of which are powered. The maximum axle load is 17 t. The wheelset configuration is specified as 2xBo'Bo'+2'2'+Bo'Bo'+2'2'+2'2'+Bo'Bo'+2'2'+Bo'Bo'. The train has regenerative, rheostatic, and pneumatic brakes. The ambient temperature range is specified as -25 °C to +40 °C.

hfs

Credits: leshuttle.com



Extremely stable: View into a tube of the Eurotunnel.

The Eurotunnel:

ATTRACTIVE FOR CRIME AND ACTION

It all began with the German-French TV series "Count Yoster Pays His Honour" ("Graf Yoster gibt sich die Ehre") – "Le Compte Yoster a bien l'honneur." Episode 37, titled "Die Feuer-Probe" ("Trial by Fire") aired in early 1971. The Swiss actor Lukas Ammann played the distinguished count with his knack for detective investigation. An ideal choice: The actor was Swiss and could therefore also provide the dialogue for the French version. The film series was a co-production of the German Bavaria Atelier GmbH with the French television station O.R.T.F., and was directed by Georg Tressler.

In 1996, the first spy film in the series, "Mission: Impossible", hit cinemas around the world. Directed by Brian de Palma, lead actor Tom Cruise was chased by a helicopter into the Eurotunnel while hanging from a TGV train. It's exciting, but not very realistic. After all, a French TGV never ran through the tunnel, and the Eurostar isn't a diesel train either! But in this apparently computer-generated cineastic "Eurotunnel," unlike the original, there are no live overhead lines, as a helicopter could get caught in them. The real Eurotunnel has two separate tubes, while in the film, the tunnel has two tracks. Regardless, a full-size helicopter would never fit into a single tunnel... Furthermore, unlike in the film, the original trains don't have a baggage car.

The 2021 action film "S.A.S.: Red Notice" (alternative title: "SAS – Alarm in the Eurotunnel") by director Magnus Martens also "forgot" the overhead line for the Eurostar's electric drive (here called the Eurostream). Because heavy military battles ensue right at the tunnel exit, in which, of course... a helicopter is used again! After all, a tunnel tube with a train was completely recreated for filming at the **Mafilm Studios in Budapest**. The film set largely followed the three-tube concept of the real Eurotunnel, with the service tunnel in the middle. This makes



Credits: Bavaria

Danger threatens here! Count Yoster (left) and his butler Johann on the "Calais Beach Promenade" on their way to the tunnel construction site.

the terrorist fights in and around the train quite realistic. The train bistro is a particular highlight. There, the "good guys" and "bad guys" engage in fierce brawls. And that's only possible because, unlike in the real Eurostar on-board bistro, there's no table in the middle..

Highly recommended, however, is the British-French series "The Tunnel" (English), "Tunnel" (French), or "The Tunnel – Mord kennt keine Grenze (Murder knows no boundaries)" (German title) from the TV channels Sky and Canal+. For this crime series, produced between 2013 and 2017, scenes were also filmed in the real Eurotunnel – a first for a television film. The Eurotunnel company granted filming permission after months of negotiations, reported director Dominik Moll. "The only thing they didn't want was to see a passenger train in danger or a fire." But that didn't happen. Rather, the story begins with a high-ranking French politician being found dead in the Channel Tunnel at the "border" between Great Britain and France. Investigators from both countries uncover an international terrorist gang that doesn't shy away from kidnapping and other murders – **yet the tunnel remains undamaged!**

Hermann Schmidtendorf



SIEMENS IN  EGYPT
Interview

During the test runs: the third Desiro for Egypt on the tracks of the Siemens test centre in Wegberg-Wildenrath.

Credits (2): Hermann Schmidtendorf

Siemens Mobility supplies new trains and builds 2,000 km of new line in a consortium: “A mega boost for everyday life and the economy in Egypt”

Egypt builds a new 2000 kilometres long high-speed, electrified mainline and freight rail network from scratch. “The new electrified train network marks the beginning of a new era for the railway system in Egypt, Africa, and the Middle East,” said Egyptian President Abdel Fattah El-Sisi at the signing of the mega-deal with Siemens in 2022. This is assumed to create the world’s 6th largest high-speed rail system. The CFR editorial team spoke with two Siemens experts.



Peter Papert (left) and Peter von Zimmermann from Siemens Mobility.

Peter Papert, Consortium Director High Speed Rail Project at Siemens Mobility Egypt: With pleasure. There are three lines planned. The first ►

CARGO FREIGHT JOURNAL: Can you tell us more about the trains ordered and the new railway lines?

SIEMENS IN  EGYPT

one, the “Green Line” or “Suez Canal on rails” is a 660 kilometres long line connecting the port cities of Ain Sokhna on the Red Sea to Marsa Matrouh and Alexandria on the Mediterranean. We will deliver 41 Velaro high speed trains for the very fast transport between the cities. The contract also covers the delivery of 41 Vectron freight locomotives – especially the Velaros and Desiros are Egyptified, of course, for the hot weather. It’s all running under a 25 kV system. Not every station will be a high speed station, but the main stations like Alexandria or Cairo will have a stop for sure. Then we’ll have the regional trains, 94 Desiro trains. There is the 1.100 km long Blue Line, which is going alongside the Nile River from Cairo down to Luxor, Aswan and Abu Simbel, we call it the industrial line because most likely this will be used by the workers, linking the industrial centre of the country through the distribution centres on the shores and in Cairo. The third line is the Red Line, 225 km long. And this is ideal for the tourists because it goes from Luxor to Qena to Hurghada and Safage. So it is in future maybe possible that the tourists that are going from the diving resorts just leave after breakfast, visit the temples and the Valley of the Kings and they will be back for dinner in their hotel on the Red Sea coast.

? Do you expect significant ecological progress?

We’ll reduce the carbon emissions by 70% if you compare the train ride with a car ride. And in addition to this, the economy might have a boost because there are many goods which are produced in that region. The population is really interested because in the events where we communicated the existence of a new high speed rail, everybody was just wanting to join and said, can I have a trip as well, please? Because I have my industry down somewhere, and I want to transport my goods. I really think this is good business, because in the centre of Egypt the ways are not good for transport, the roads are bad. If you want to go from Cairo to Aswan today by car or bus, it will take you 13 hours. According to our plan, it will take six hours with the train for passengers. The client’s idea is to transport the freight overnight. In the night you have a window of 6 or 7 hours where it’s only freight, and then you can send one train out to the other.

? The Desiro trains also received an upgrade to cope with the local conditions?

Peter von Zimmermann, Desiro High-Capacity (HC) train project Egypt: Yes, especially regarding sand, dust and high temperatures, various modifications have been undertaken besides the remaining proven technology. And also, if you have observed the interior design: It is based on the German Deutsche Bahn design as requested by the customer. So, this is a look and feel that we will also transport to Egypt. I think this is a very interesting fact. When you make vacation in Egypt being a German, you will feel like at home.

? A question about training. In Saudi Arabia, they’re proud that ladies are now being trained to drive locomotives. Do you know how things are in Egypt? Do you, as Siemens, have a stake in training local locomotive crews?

Peter von Zimmermann: Regarding training: A large number of employees are needed for the operation of this entire project. One of the benefits of such a large infrastructure project is that it creates many jobs, both in operations and maintenance. And there are intensive efforts being made across the board. Siemens is also approaching universities and training institutes to inspire young people with the technology and, so to speak, to sow seeds now so that they can reap later. Whether these people will ultimately end up working for Siemens or for an operator remains to be seen. The point is to strengthen the industry as a whole.

? In any case, if the trains are to run, there must be staff. And they will also be women?

Peter von Zimmermann: We see a strong local labour market with both knowledgeable male and female candidates. For the Siemens project, we apply equality in hiring and are currently having a share of ~25% female team members.

! Many thanks for this interview!

The interview was conducted by Hermann Schmidtendorf.

EGYPT'S RAILWAYS GET VERSION 2.0

Mobile progress came to Egypt early. As early as 1851 the Regent of Egypt and Sudan, Abbas I, the successor of Muhammad Ali, contracted Robert Stephenson to build Egypt's first standard gauge railway. In 1854 the first section was opened from Alexandria on the Mediterranean coast to Kafr el-Zayyat on the Rosetta branch of the Nile. In 1856 the entire single track line was opened with 12 stations including the main stations of Cairo and Alexandria. In 1953, Egypt became a Republic and Egyptian State Railways changed to become Egyptian Republic Railways. Today the name is Egyptian National Railways ENR; Arabic **سكك حديد مصر**. It is managed by the parastatal Egyptian Railway Authority (ERA).

In 2005, the ENR network had a total length of 5,063 km of railway lines. The quality is sometimes poor. Just recently, on August 30, 2025, seven carriages of a train bound for Cairo derailed, two of them overturning. Three people were killed and 103 injured. Recently, investments have been made in the historically developed network. However, the construction of three completely new railway lines for fast regional and high-speed trains promises significant improvements. There will be mixed traffic on the lines, with high speed operations up to 160 km/h.



For the Green Line we have 15 Velaro, 34 Desiro and 14 Vectron. For the entire project there are 41, 94 and 41 such trains resp. locomotives.

No wonder government representatives regularly visit the construction sites in person to assess the progress. On September 30, 2025, Prime Minister Mostafa Madbouly stated during one such inspection: The first line of Egypt's high-speed electric train network from Ain Sokhna on the Red Sea to Marsa Matrouh on the Mediterranean is now 67% complete. Madbouly stressed the presidential directive to expedite their completion as they form a "pillar for urban, industrial, and tourism development," the media service "dailynewsegypt.com" reported.

The Siemens Mobility trains will be delivered with a 15-year maintenance contract. "On all three lines, Siemens Mobility is installing a safe and reliable ►

The Egyptian Railway Museum displays a model of the country's first steam locomotive, delivered in 1852 by George Stephenson.

signaling system based on European Train Control System (ETCS) Level 2 technology, as well as a power supply system that delivers efficient and continuous power," explains the manufacturer. Siemens Mobility will use the digital application Railigent for comprehensive asset management and maintenance to ensure maximum availability. Eight digitised depots will enable seamless processes from problem detection to resolution: "Automated ticketing, Digital Station, and power management solutions will help overcome the challenges related to capacity and efficiency in stations."

Meeting the "world's highest specifications" is important to Egyptian Transport Minister Kamel Al-Wazir. For example, there will be "no at-grade crossing, as is the case with current railway lines." Siemens Mobility is collaborating on the project with consortium partners Orascom Construction and The Arab Contractors. The contracting partner is the Egyptian National Authority for Tunnels (NAT), a government agency under the jurisdiction of the Egyptian Ministry of Transport. Deutsche Bahn has also offered their services. They proposed to operate Egypt's high-speed rail network, initially for a period of 15 years. For this purpose, DB IO has entered into a joint venture with the Egyptian company Elsewedy Electric (EE).

Hermann Schmidtendorf

Soon a common sight: a Desiro train to Alexandria.



Inscriptions in Arabic: This detail shows that this Desiro train travels in Egypt.

Biomethanol from biomass for transportation and electricity:

A LOCAL VALUE CHAIN FOR ECOLOGY AND INDEPENDENCE

Credits (2): Hermann Schmidendorf



John Cosmo Dwelle

John Cosmo Dwelle is Head of Business Development, Sustainability & Certification at Landwärme ("Land Heat") GmbH in Munich. At the annual "Fuel of the Future" conference in Berlin, he championed the use of biomass for the production of methanol. Biogas, when liquefied, could be used primarily as an alternative fuel for aviation, shipping, and road transport, thereby reducing harmful emissions. Biogas is produced through natural fermentation in biogas plants. Microorganisms decompose organic substances in the absence of air. Feedstocks include manure, corn silage, organic waste, or specially cultivated energy crops. The resulting biogas can be used directly or further refined into biomethanol. In this case, biogas is dried, desulfurised, and separated from CO₂.

Biomethane is a nearly CO₂-neutral gas with natural gas quality. It can be liquefied and then used as fuel. Dwelle: "Around 280,000 LNG trucks are forecast for the European Union by 2030. And if you assume that only 40 percent of them would run on bioenergy, i.e., liquefied biomethane, that would be approximately 40 terawatt hours of this European production." That's a considerable amount. But Dwelle points to the European Union's target, set out in the **REPowerEU program**: "350 terawatt hours by 2030, that's an ambitious goal. But it's also a completely achievable goal. The German contribution, for example, could amount to 100 terawatt hours with the current biogas production, biomethane production. If everything goes online and the ramp-up in other countries is also taken into account, then these 350 terawatt hours are no longer as far away as they might initially seem. Currently, we are at around 30 terawatt hours of biomethane production in the EU."

On September 18, 2025, the **European Commission** approved amended German regulations for the generation of renewable electricity. **This amendment increases funding for the biomass and biogas support scheme by €7.9 billion. The biomass package promotes green electricity, increases**

tender volumes, and supports heat supply. The associations in the Capital Office for Bioenergy (HBB) expressed relief: "This has paved the way for the secure continued existence of hundreds of biogas plants in the country," emphasised Sandra Rostek, head of the HBB.

Could Dwelle's hopes be realised? The advocate of agricultural energy production sees several major advantages: **"This energy can be produced locally, so it's a national energy source that we don't have to import. This makes us independent of certain third countries with which we might not necessarily want to do business.** And this local value chain has another huge advantage, which would then also have an impact on the economy. Because it not only promotes energy security, but also the upgrading of rural areas. Many things have changed there in the past, and you really have to look at where the mainstays are. And this energy concept takes into account these areas that lie outside of the big cities and many value chains."

Dwelle doesn't underestimate the fact that a number of challenges need to be addressed, such as "compensating for hard-to-abate emissions, i.e., emissions that cannot be reduced in any other way," and ef- ►

INFO

WHAT IS BIOMASS?

The **European Union's Renewable Energy Directive** provides a definition useful for the energy debate. According to this definition, **biomass is the biodegradable part of products, waste, and residues from agriculture of biological origin (including animal and plant materials), forestry, and related industries, including fisheries and aquaculture.** The biodegradable part of industrial and household waste also counts as biomass according to this definition. Biogenic fossil fuels such as petroleum, coal, natural gas, and peat are not considered biomass, as they do not regenerate within a foreseeable period of time and therefore do not meet the criteria for renewable energy.

(Source: Fachagentur Nachwachsende Rohstoffe e. V., <https://bioenergie.fnr.de/>)

BIOMASS BECOMES BIOENERGY

The German Biomass Research Center has analysed 77 different types of biomass. These include straw, leaves, animal excrement, food production residues, sewage sludge, municipal waste, wood, and seeds and fruits containing sugar, starch, and oil. Biomass can be used to produce electricity and fuel, as well as for heating purposes. "As long as hydrocarbons are present somewhere, biofuel can also be produced from it," explains Karin Naumann of the German Biomass Research Center. "The only question is: at what technological effort?"

The **German Federal Ministry for Economic Affairs and Energy** (BMWE) states: **Biomass is by far the most important heat source from renewable energies:** its share of renewable heat generated is 84 percent. Plants or plant residues in liquid, solid, and gaseous form are used to generate **electricity** and **heat** or to provide **biofuels**, but also as fuel (pellets) for heating systems. When people talk about biomass, they usually mean biomass from agriculture and forestry, such as waste and used wood, organic waste, liquid manure or solid manure, or cereal straw. Wood accounts for the largest share of available biomass. But agriculture also makes a contribution, for example with rapeseed, from which biodiesel is produced.

There are many ways to generate energy from wood: wood can be used to generate both heat and electricity. Other **materials such as liquid manure or organic waste release energy through fermentation.** **In 2022, a total of around 50.2 terawatt hours (TWh) of electricity was generated in Germany from biomass.** This corresponds to 21 percent of renewable electricity and about nine percent of total gross electricity consumption. The Federal Government intends to expand the use of bioenergy, particularly in the electricity sector, and to focus primarily on the use of biogenic residues and waste materials. *hfs*

(<https://www.energiewechsel.de/KAENEf/Redaktion/DE/Standardartikel/biomasse.html>)

Credits: Hermann Schmidendorf/m.kl



An ideal cycle? Biological waste such as straw and manure are processed into electricity and heat and also provide ecological fuel for ships and other vehicles.

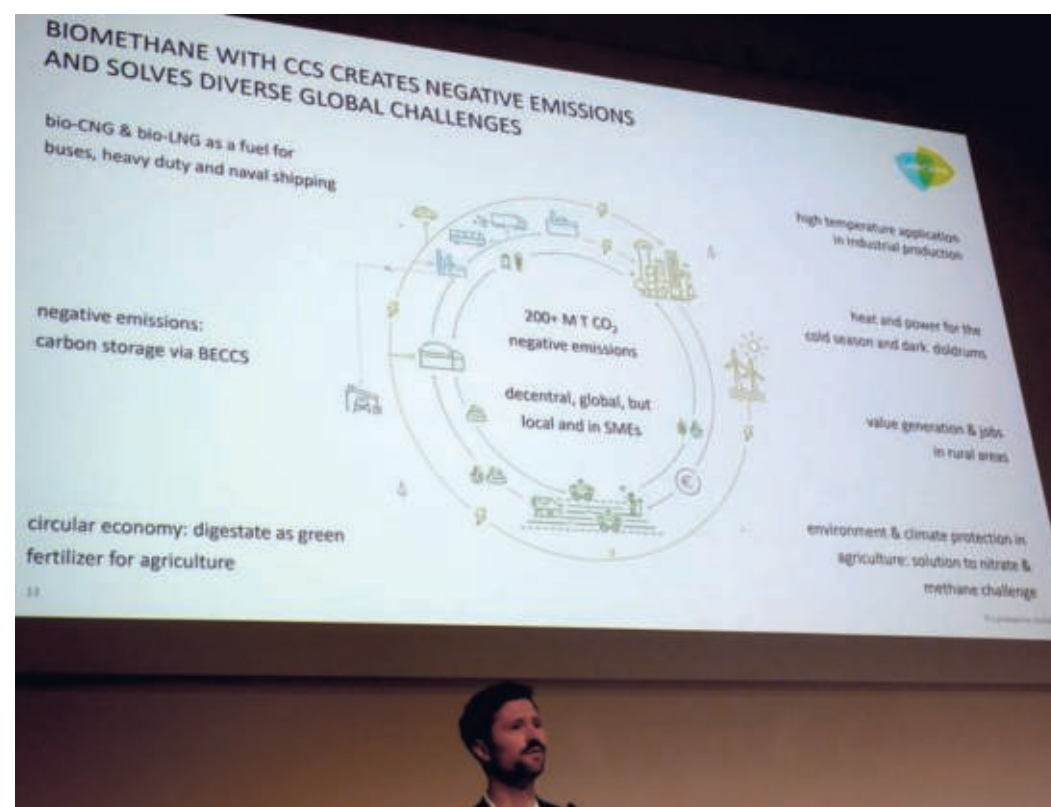
iciency. “You have to consider what happens to the exhaust gases that come out of a biogas plant. How do you treat them? Of course, the issue of measurement and monitoring is also an area that plays a role.” According to Dwelle, a ramp-up of biogas and biomethane production could also be achieved through **“a mandatory fermentation requirement for various types of liquid manure and waste.”** This makes all the more sense because “otherwise, unless they can be used for other purposes, these wastes would produce considerable emissions.” Dwelle also advocates linking the concept with **CCS**, i.e., the storage of CO₂ in underground storage facilities.

Meanwhile, the German bioenergy associations of the HBB have some specific requests for the federal government. Biogas plants that first went online in 2004 and 2005 and are now approaching the end of their 20-year compensation period were overlooked in the EU’s biomass package. They should therefore receive bridging aid from federal funds of up to €300,000 per plant over three years. Since the funds

planned in the budget are not being fully utilised due to the delayed biomass package, such a rescue measure can be financed without additional costs. This would allow existing plants to be adapted to the new law.

Bioenergy associations are positive about the draft “Act to Accelerate the Hydrogen Ramp-Up” (WasserstoffBG), which the German Federal Cabinet passed on October 1, 2025. Of course, there are still some requests. For example, the law should be expanded to cover not only hydrogen and hydrogen derivatives, but also all “green gases,” including biogas and biomethane. Above all, Germany faces an urgent task. At the end of 2025, the current **preferential treatment for feeding renewable gases into the German natural gas grid** will expire. This also applies to hydrogen and its derivatives. “Expiring these regulations without replacement would undermine key European targets as well as agreements in the coalition agreement,” says HBB spokesperson Rostek.

Hermann Schmidtendorf



In the diagram, everything is simple: an ecological cycle with economic benefits.

“TO “GREEN” SHIPPING WITH eMETHANOL”

The Maritime Cluster Northern Germany (MCN) brings together a wide range of representatives from the shipping industry and research. It is strongly committed to technical innovations and ecological progress. Among its members is the northeast German company East Energy. CEO Dirk Petschick reports on progress and obstacles on the path to regional production of green eMethanol.



challenge is integrating all processes into the ongoing operation of the sewage sludge recycling plant. This requires highly sophisticated engineering.

? Is there already a market for green methanol in the maritime sector?

The market is still developing and will certainly grow dynamically. After all, shipping is also under pressure to decarbonise. The Danish shipping company Maersk is a pioneer in the field of eMethanol. As one of the global market leaders in container shipping, the company is already gradually converting its fleet to eMethanol propulsion. We also expect growing demand for eMethanol from the aviation and chemical industries.

? eMethanol is very expensive. Will it nevertheless prevail?

eMethanol is likely to be significantly more expensive than conventional marine diesel. I consider a factor of 3-4 to be realistic. This is primarily due to the price of additional green electricity, which accounts for almost 80% of the costs of producing green hydrogen. But the shipping industry cannot avoid this development for regulatory reasons alone. This applies not only to the large shipping companies, but also, of course, to smaller regional companies. Suppliers like East Energy, which also produce regionally, are certainly of interest to them. It is therefore important for us to become better known in the maritime industry. *hfs/MCN*

? CARGO FREIGHT JOURNAL: Mr. Petschick, what is special about your eMethanol project?

Dirk Petschick: We plan to produce eMethanol at the Stavenhagen site, which can then be used, among other things, as a climate-neutral fuel in shipping. Our unique selling point is that we work with raw materials from the region. This means we produce green hydrogen using electricity from regional wind turbines and solar plants. Producing our own hydrogen locally is not only particularly environmentally friendly, it also helps us cut costs by not having to purchase it on the market. The special highlight is that we will use CO₂ from the local sewage sludge recycling plant in Stavenhagen for our methanol production. We are thus repurposing the unavoidable CO₂ released there as a climate-friendly fuel.

? When will you start production?

If everything goes according to plan, we intend to start production in Stavenhagen in 2027. Whether this will happen still depends on several key factors. A final investment decision must be made by the parties involved, essential permits still need to be obtained, and financing must also be secured. The technology itself is fundamentally not new and is well-tested. One

“Non-flammable batteries, lower operating costs”

CARGO FREIGHT JOURNAL: Your company, TO ZERO, is based in Germany. You offer the conversion of diesel buses to battery-powered buses. Are your buses safe? What are the advantages of your offer?



Credits: Hermann Schmidtendorf

Hans-Georg Herb: Our converted buses are all officially approved, so they're completely safe. The offer is based on perfectly normal business considerations. How much does a new bus cost? How long does it take to deliver, and what will my total bill look like? From this perspective, it's simply advantageous to convert a good used bus. Our offer offers an opportunity to acquire a battery-powered bus at a reasonable price cost by halving the cost of a new vehicle, and the converted bus will last for many years.

Andreas Pfeffer: EU regulations require bus operators to reduce their exhaust emissions. By converting to battery power, you can achieve this without any loss of value for your used diesel bus. We like to work with depreciated vehicles. The buses are 6 to 12 years old, the body is in good condition and is preserved, and the bus is getting converted to battery power. **Our conversion costs are about half that of a new battery bus, which is no more than a new diesel bus. However, you immediately have lower operating costs due to the energy consumption and reduced maintenance. This makes it advantageous for the company to convert even without subsidies.**

? What's special about your batteries?

Hans-Georg Herb: We can fully recharge our batteries within an hour. And the special feature

of our batteries is that they are non-flammable lithium iron phosphate batteries. That's the advantage. That's why we have no concerns about installing them underneath the vehicle in the former engine and transmission compartment, because there's no risk of explosion or strong fire. Other manufacturers therefore have their batteries on the roof so that the explosion energy can dissipate upwards. Furthermore, the batteries already have 25 percent more energy content than last year, with the same weight and volume. We will continue to see this progress and development in the coming years.

Andreas Pfeffer: And this offers enormous opportunities. **We've already received requests to convert from electric to electric. These involve buses of the first generation with insufficient range, or where the fire risk in the depot or hall is simply too great with the current batteries. There's a great deal of innovation,** including in the components, which will ensure that conversions, retrofitting, or upgrades will be seamlessly integrated into operation in the coming years. Therefore, we are preparing for a significant increase in business in the coming years.

The interviewer was Hermann Schmidtendorf.

Northrail:

LEASING AGREEMENT WITH MINDENER KREISBAHNEN FOR TWO VECTRON DUAL MODE LOCOMOTIVES

Northrail, lessor, asset manager and developer of innovative investments for rail vehicles, has concluded a sale-and-leaseback agreement with Mindener Kreisbahnen for two powerful Vectron Dual Mode locomotives. The locomotives were handed over immediately afterwards on 1 August 2025. With this deal, Northrail is also further expanding its position as the largest lessor of Vectron Dual Mode locomotives in Europe. The Northrail fleet now already comprises 43 of these innovative hybrid locomotives.

In addition, a framework agreement for 50 Vectron locomotives was signed with Siemens Mobility at the beginning of this year. Initially, 15 Vectron Dual Mode locomotives were ordered, followed by two more in August 2025. This brings the total order to 17 vehicles of this type, which are expected to be delivered



Volker Simmering, CEO Northrail

from July 2026 onwards. Northrail is thus making an important contribution to the modernisation and decarbonisation of rail freight transport. *hfs/nr*

Credits: Northrail/ Nils Hendrik Müller



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- Word lid van ons team en steun het bedrijf met jouw inzet! Join our team and support the company with your efforts!
- Bij ons wordt je als mens gezien.

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CRRC OFFERS ROLLING STOCK FOR EUROPE

CRRC is the abbreviation for China Railway Rolling Stock Corporation. With numerous subsidiaries it is the world's largest manufacturer of railway vehicles. It's clear that CRRC is also looking for sales markets in Europe. The company manages its European business from an office in Vienna. At the rail trade fair INNOTRANS 2022, our editorial team had the opportunity to speak in detail with a CRRC representative. Bi Yupeng holds a senior position in the Publicity and Corporate Culture Dept., CRRC Corporation Limited, Beijing, China. "Technologies that mean a lot to us are, above all, intelligent solutions for the future and then also green solutions and environmentally friendly solutions", Mr. Bi stressed in our talk.



During a discussion with our editorial team, CRRC representative Bi Yupeng studied our journal with interest. Credits: Hermann Schmidtendorf

CRRC was also present at the leading European show case Railway Forum in Berlin that took place on September 2-4, 2025. The event is also a provider conference for Deutsche Bahn. With 1,700 participants on site, it was once again a great success. At the Railway Forum, CRRC provided information about locomotive types from its production that are now operating in EU countries.

For example, the Austrian WESTbahn, a private railway company with the French state railway SNCF as a 17% minority shareholder, has ordered from CRRC Zhuzhou Locomotive Co., Ltd., Hunan, four electric double-decker multiple units. The DDEMU meets the EU TSI standard and is configured as a 6-section train. The EMU is equipped with a dual AC drive system and multiple signaling systems to meet



Credits: CRRC

the transportation needs of European railway interoperability. The modern interior design with wooden optic elements and the spacious concept ensure passenger transport at the highest level.

Rail Cargo Hungaria (RCH) will get a Multi-System freight-optimised E-Locomotive in Europe. It can be operated as a shunting locomotive in non-electrified networks such as stations, ports and freight yards with the "Super Last Mile". The green lithium battery power package can avoid fuel waste and air pollution.

And the Czech operator REGIOJET took over a composed of 6 sections EMU train with a maximum running speed of 160 km/h. This train originally had been ordered by the operator Leo Express. The train adopts DC3000V and AC25KV dual-flow power received technology, to meet the requirements of voltage systems in different countries and regions in Europe. With intelligent control technology, it can adapt to diversified European operation modes, with functions of automatic stop, automatic wake-up, or station adaptive parking.

The next, 10th Anniversary Railway Forum is going to take place on August 31st – September 2nd, 2027. One can be sure that CRRC will again be among the exhibitors.

Hermann Schmidtendorf



Credits: CRRC



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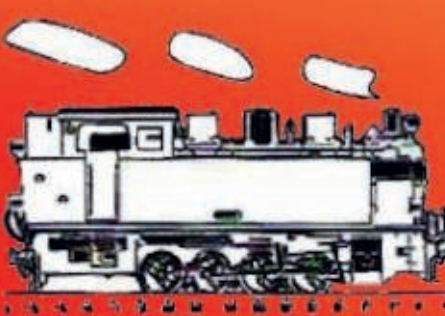
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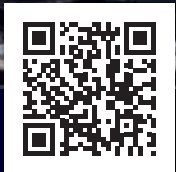
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