Railtalk Magazine Xtra

Issue 213x
June 2024
ISSN 1756 - 5030

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Submissions & Contributions

Railtalk Magazine Xtra, a magazine written by the Enthusiast for the Enthusiast. So why not join the team. We are always looking for talented photographers and writers to join us at Railtalk. Be it though pictorial submissions or via a written article featuring an event or railtour, we greatly appreciate any contributions to the magazine however big or small.

Photographic Contributions

All Photographic contributions should to be sent to us via email, post or via the members section page on our website. Contact addresses are provided above.

All images should be provided at a resolution of at least 2400px x 1700px at 240dpi.

Welcome to Issue 213Xtra

With the European elections taking place in June, quite a few countries have had transport on their agenda and it was pleasing to see that the majority want more freight on the railways, with many Europeans opposed to the use of larger or mega trucks on European roads....

A recent survey, conducted at the request of sector organization RFF by an independent market research agency, reveals that the majority of European citizens consulted are unaware of the serious impact of introducing 'mega trucks' or 'gigaliners' on the road network. A vast majority consider the promotion of road-rail combined transport as preferable to reduce road congestion and ensure higher safety standards. In addition, the introduction of mega trucks undermines the objectives of the Green Deal for Europe by optimizing only road transport, overlooking the significant impact on the broader transport sector.

The survey, which was conducted between April 18th and 26th, involved 8037 online interviews in 9 EU Member states (France, Germany, Belgium, Austria, Italy, Poland, Hungary, Spain and Romania). Although respondents were largely unfamiliar with mega trucks (specifically for Belgium: 14% were aware of the topic, 26% were only vaguely aware and 60% admitted to being unaware), the provision of information led to resounding concerns.

Once they understood the features of mega trucks, a majority of respondents (at least 6 in 10) expressed negative views about their use. Concerns were raised about the detrimental impact on road infrastructure, increased traffic congestion, compromised road safety and increased noise levels. In Belgium, an overwhelming 87% of all respondents acknowledged the safety risks that mega trucks pose to drivers, pedestrians and cyclists, as well as the burden on public budgets.
In addition, 71% of Belgian respondents also believe that the introduction of these mega trucks could reduce freight transport by rail. In member states where rail freight transport is more established (including combined transport with containers), 6 out of 10 citizens believe that these countries should not allow the circulation of 'mega trucks'.

92% of Belgian respondents consider it important (42% even consider it very important) to promote combined transport as an alternative to the introduction of mega trucks, as this would greatly reduce congestion and safety risks.

In an earlier press statement, the rail freight sector itself warned – via its sector organization RFF - that while the EU intends to make transport greener by allowing more weight and space for batteries, the current proposal is actually endangering the objectives of the Green Deal for Europe as it only optimizes road transport without considering the huge impact on the overall transport sector.

Lineas confirms RFF's point of view and emphasizes the importance of combined road-rail transport. While we fully support the electrification of road transport, particularly when it focuses on short-distance truck transport, we strongly oppose allowing increased weights & sizes for non-electrical trucks and for allowing cross-border flows not just for these trucks but also for Gigaliners.

Therefore, the Weights and Dimensions EU Directive and the Combined Transport Directive need to be revised together, and the revised Weights and Dimensions Directive needs to:
- *Ensure that electrical trucks' weights and dimensions are compatible with combined transport and allow additional weight exclusively for electric trucks.*
- *Consider all modes when assessing impact, not just optimization within road transport.*

If not, the Sustainable and Smart Mobility Strategy goals, to increase rail freight by 50% by 2030 and double by 2050, are out of reach.

Until next month...

David

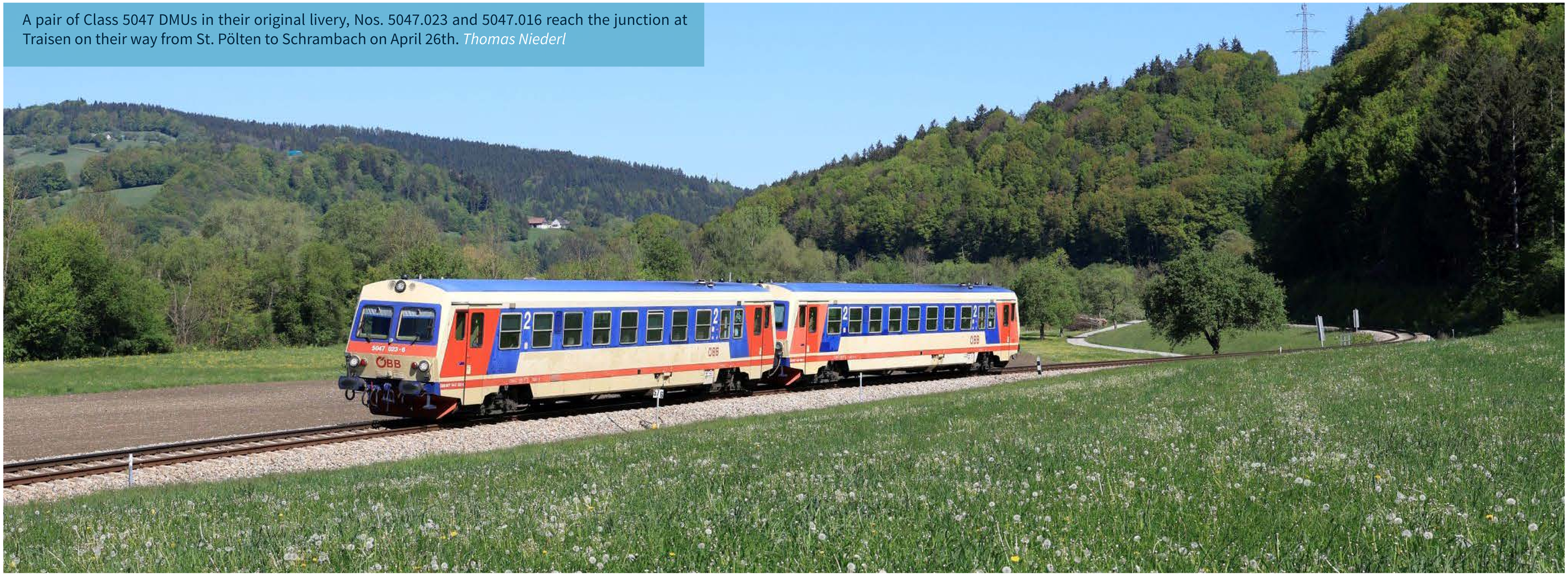
This Page

OBB Class 2143.044 and 1144.252 are seen at Wien Grillgasse on May 31st. *Class47*

Front Cover

BDZ No. 07.126 propels the empty stock from the previous evening's train No. 9647 20:10 from Sofia at Silistra on May 6th. The 07 will have taken over from the electric traction at Samuil for the last part of the journey along the branch to the Danube ferry port. *Andy Pratt*

A pair of Class 5047 DMUs in their original livery, Nos. 5047.023 and 5047.016 reach the junction at Traisen on their way from St. Pölten to Schrambach on April 26th. *Thomas Niederl*



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Railtalk Magazine is published by HAD-PRINT a trading name of HAD-IT LIMITED.

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With Thanks

Once again many thanks to the many people who have contributed, it really makes our task of putting these magazines together a joy when we see so many great photos.

These issues wouldn't be possible without contributions from:
Ken Abram, Michael J Alderdice, John Alsop, Steve Andrews, Ray Anslow, Mark Armstrong, John Balaam, Brian Battersby, Mark Bearton, Steven Beesley, Barry Beeston, Tom Blanpain, Mark Bennett, Michael Bennett, Ben Bucki, Ian Callander, Keith Chapman, Steve Chapman, Julian Churchill, Russell Clarke, Nick Clemson, Keith Davies, Brian Dobbs, Derek Elston, Eddie Emmott, Mark Enderby, Colin Gildersleve, Vernon Goodey, John Goodrich, Greig Gibson, Carl Grocott, Richard Hargreaves, Dave Harris, James Haywood, Brian Hewertson, Paul Hewertson, Stuart Hillis, David Hollowood, Keith Hookham, Derek Hopkins, Colin Irwin, John Johnson, Richard Jones, Anton Kendall, Colin Kennington, Ken Livermore, Mathijs Kok, David Lindsell, Barry Longson, Michael Lynam, Kevin McCormick, Phil Martin, David Mead, Chris Morrison, Ken Mumford, Alan Naylor, Gerald Nicholl, Jeff Nicholls, Dave Peel, Chris Perkins, Mark Pichowicz, Colin Pidgeon, Neil Pugh, Andy Pratt, Andre Pronk, Alan Rigby, Charlie Robbins, Bryan Roberts, Dennis Rowland, Tim Saunders, Neil Scarlett, Paul Senior, Alan Sinclair, John Sloane, Laurence Sly, Lee Stanford, Steve Stepney, Allison Twycross, Steven Thompson, Mark Torkington, Brian Turner, Gerard van Vliet, David Wood, Leuan Wood, Shep Woolley, Erik de Zeeuw and the guys at RailUK.

Class 1142 electric locomotives have now become very rare in Austria. There are currently only five locomotives still in use. One of them is the Class 1142.632 which is hauling the commuter train No. REX3992 to Linz, is seen near to Neuhofen an der Krems on May 6th. *Thomas Niederl*

Austria

Tailor-made innovation on rails: ÖBB and Stadler unveil the new rescue train

Stadler is delighted to announce the first public appearance of the new trimodal rescue train. The roll-in of the special train featuring innovative drive and safety technology took place at the ÖBB training campus in St. Pölten. Stadler is to deliver 18 of the multifunctional, low-emission firefighting and rescue trains to ÖBB-Infrastruktur AG (ÖBB). Under the name “Servicejet”, these will then be stationed at Austrian tunnel portals and deployed on site to assist firefighters. The vehicles were developed and produced at the Swiss sites in Bussnang and St. Margrethen.

68 metres of state-of-the-art rolling safety, a top speed of 160 km/h in both directions and a trimodal drive concept – this is the basic data for Stadler’s new rescue train. Its electric hybrid drive system can run on several energy sources: the overhead line, powerful traction batteries and diesel generators. This enables the rescue train to realise a completely new firefighting and rescue concept. It can fight its way through a smoky tunnel to the source of the fire, rescue people from damaged trains, tow damaged trains, fight fires and get itself and everything it is carrying out of the danger zone to safety. Johann Pluy, Member of the Board of Management of ÖBB-Infrastruktur AG, “Our new Servicejets enable us to provide assistance even faster than before. They provide more power in a larger operational area. The new concept also enables a reduction from 21 to 18 vehicles.”

“With the launch of the rescue train, we have put a highly innovative concept on the rails that meets ÖBB Infrastruktur’s specifications and satisfies all the customer’s quality and safety requirements. That’s why we will now take the next steps towards the mobility of the future together. Stadler has been commissioned by ÖBB to build long-distance trains from the KISS brand, as well as intercity and regional multiple units from the FLIRT,” said Peter Spuhler, Chairman of the Board of Directors of Stadler.

A multifunctional range of applications

The new Stadler rescue train combines versatility with operational tactics. It has to be equipped for the worst-case scenario, which would be a firefighting and rescue operation in a railway tunnel. As well as being able to recover passengers from other trains during an evacuation, it is also suitable for carrying out maintenance work. In an emergency, there is enough room for over 300 people in the three cars, which have uninterrupted access along the entire train. 18 seats are fitted with SCBA brackets for firefighters. An HVAC system with special filters protects people on the train from smoke gases. What is more, the entire train is pressurised, which means that there is a slight overpressure inside to keep it free of smoke in tunnels. The front part of the train where the driver’s cab is located is protected by a water spray system on the outside.

The rescue train can also be loaded with themed roll containers. These containers transport firefighting equipment such as portable pumps, forest firefighting equipment, breathing apparatus, special protective suits, etc. The roll containers are fully loaded at ÖBB Infrastruktur support points, stowed in the trains as required and unloaded at the deployment sites using built- in lifts. This enables intervention teams to respond rapidly to a wide variety of scenarios.

High-end extinguishing technology

The vehicles have two different extinguishing systems for firefighting: firstly, a high-pressure system (100 bar) for generating fine spray mist, for example to cool a tunnel tube or to moisten the verges of the track as the train moves along to prevent them from catching fire; and secondly, a system at normal pressure (10 bar) for traditional firefighting. The multiple unit has 40,000 litres of water and 1,200 litres of foam concentrate on board (in the intermediate car) which can be released via two high-pressure and one normal-pressure extinguishers. These extinguishers are mounted at the head of the train and can be controlled individually from the driver’s cab. There are also two jet fans on the roof of the railcars at the front and rear, which transport the water mist emitted by the high-pressure monitors. These fans can also be used during the evacuation of people to create counter-pressure in a smoke-filled tunnel and to prevent the flow from reversing. Powerful searchlights and thermal imaging cameras have also been installed for search and rescue operations, allowing emergency services to see through the smoke.

Tailor-made solution

The “Servicejet” is a tailor-made solution for ÖBB that is also approved for the German rail network. The vehicles were procured by Rail Equipment GmbH, a wholly-owned subsidiary of ÖBB- Infrastruktur AG. The rescue train will be used for the first time for the opening of the Koralm Railway, which incorporates a 33-km tunnel.

Austria

One of the Stern & Hafferl operated railways is the Linzer Lokalbahn from Linz via Eferding, Waizenkirchen to Peuerbach and Neumarkt-Kallham, where there are connections to the ÖBB Lines Wels - Passau and to Ried im Innkreis. On weekdays in the morning, some trains are hauled by an old EMU dating back to 1951. No. ET 22.106 is seen here next to Willersdorf a. d. Aschach on May 13th. *Thomas Niederl*

OBB Class 1144.215 with train No. R5913 is seen near Wernstein on May 14th.
Thomas Niederl

1951 built LILO EMU No. 22.106 is seen working service No. R8119 near to Itzling Halt.
Thomas Niederl

A pair of trains with old electric locomotives from 1911 and some even older wagons run on the Mariazellerbahn on weekends from May to October. The vehicles that were modernized in the 1960s provided almost all traffic on this 760mm narrow-gauge railway until 2013. The train is primarily intended for cyclists, as a freight car is carried for transporting bicycles. No. E11 (former ÖBB 1099.11) seen on its way to St. Pölten on the afternoon of May 9th crossing the 'Saugrabenviadukt' near Annaberg. *Thomas Niederl*

Some units of the Class 5047 were repainted in the Cityshuttle livery in the 2000s. While around a third in Lower Austria have new colours, there are only two railcars in Upper Austria. Therefore it is extremely rare that these two vehicles form a tandem as was the case on May 12th with Class 5047.097 and 5047.061 working train No. R3466 Schärding to Attnang service and are seen near to the village Bruckmühl. The following station will be the request stop of Bergern. *Thomas Niederl*

Austria

Rail Cargo Group establishes another subsidiary in Serbia

After the establishment of a carrier company in Serbia, a forwarding company is now to follow. This is taking the form of a joint venture with Transfera d.o.o. – Serbia's second largest forwarding company, based in Belgrade.

Rail Cargo Group (RCG) and Transfera d.o.o., the second largest freight forwarding company in Serbia, are joining forces and have signed an agreement at the Austrian Embassy in Belgrade to establish a joint venture. RCG holds 51 % of the shares and Transfera 49 %. As a result, RCG will offer logistics and forwarding services on the Serbian market in addition to its own transit transport services. This cooperation is an important further step towards innovative logistics solutions in the Western Balkans.

Focus on multimodal transport
The newly established joint company, based in Belgrade, will initially focus on developing intermodal logistics solutions. In the future, the focus will be extended to conventional transport. In November last year, the first freight train departed from the new intermodal terminal in Kruševac in cooperation between RCG and Transfera, laying the foundation for rail transport from Kruševac to Western Europe.

Serbian market on the rise
The Serbian market is becoming increasingly important and offers many new opportunities for rail freight. In recent years, important steps have been taken to rebuild the railways and to modernise and improve the railway infrastructure. The construction of intermodal terminals is an important factor in the integration of Serbian railways into the European transport network. The economy is changing and the demand for environmentally friendly transport solutions continues to grow. This is where RCG comes in, continuing its expansion course and linking Serbia more closely with Turkey and Greece, as well as the ports of Hamburg and Rotterdam, by expanding its European network.

Own traction in Serbia since 2023
In January 2023, RCG established its 13th carrier company in Belgrade. This enables RCG to also offer international transport services in Serbia in own traction, i.e. with its own locomotives and staff. In addition to Serbia and the Western Balkans itself, this location also offers important connections to Turkey.

RCG acquires RU Captrain Netherlands

The acquisition of Captrain Netherlands B.V. was finalised on May 31st, 2024 (Closing). The ÖBB Rail Cargo Group (RCG) continues to pursue its steady course of internationalisation with the expansion of its network to the Benelux countries.

The RCG has purchased the Dutch Railway Undertaking (RU) Captrain Netherlands B.V. The acquisition between the parent company Captrain Holding Paris (SNCF) and the Rail Cargo Carrier Kft. was completed on May 31st, 2024 (Closing). The purchase price has not been disclosed. "The expansion of the ÖBB Rail Cargo Group continues: after establishing subsidiaries in China and Serbia, the RCG is now expanding its international network within the Netherlands. I am delighted to welcome the new colleagues to the ÖBB team. Together we will connect the European economic centres with the ports of Europe and thus with the whole world", says Andreas Matthä, CEO of ÖBB.

The Netherlands: Great potential for rail freight transport
The Netherlands are of great geographical and strategic significance due to the direct connections of the ARA-Ports (Antwerp, Rotterdam, Amsterdam) to Germany and the positioning of important train corridors and terminals (Geleen, Moerdijk). Furthermore, there is great interest to expand the modal split in line with climate goals.
Clemens Först, CEO of RCG adds: "The Benelux countries are an important market for us. With the expansion of our own traction network we will also be able to handle our TransFER connections end-to-end as own traction in the future." Own traction, i.e. operating with own staff and locomotives, brings cost benefits as well as greater flexibility. "And that means one thing above all: the best quality for our customers."

Established TransFER connections on the market
The RCG already operates its TransFER network connections with fixed timetables, such as the TransFER Linz–Duisburg–Rotterdam with four round trips per week, the TransFER Wolfurt–Rotterdam with two round trips per week or the TransFER Linz–Antwerp, which runs almost daily to and from the Benelux countries, and already successfully connects western Europe with Central, South and Southeastern Europe. With the takeover of the Dutch RU, the RCG extends its coverage to another region of Europe with its own staff and locomotives.

Facts & Figures – Captrain Netherlands B.V.
- Active in the Netherlands since 2007
- Concentrates on the organisation and operation of rail transport with a focus on the Geleen and Moerdijk terminals and the Port of Rotterdam
- 61 employees
- 765 million tonne-kilometres and a turnover of 12.2 million Euro (2022)
- Rolling stock: 7 locomotives, all for shunting and Last-Mile-Services

Cement and concrete for Danucem

Danucem has been a customer of ÖBB Rail Cargo Group (RCG) for ten years. RCG transports five to six trains per week for the Hungarian building materials manufacturer.

Danucem Magyarország Kft. is a Hungarian manufacturer of building materials and is part of the CRH Group (Cement Roadstone Holding). The company's products include high-quality grey and white cement as well as ready-mixed concrete, which is used in the construction of roads, residential and commercial buildings all over the world – for example the Messner Mountain Museum in Italy, the football stadium in Atlanta and Panorama City in Bratislava.

A reliable partner for years
The building materials are transported by sustainable rail from the sidings of two cement plants in Slovakia – Rohožník and Turňa nad Bodvou – to the transhipment terminals in Ercsi, Békéscsaba and Dunaújváros in Hungary. RCG handles the transport in Hungary from the Slovakian border. Every week, RCG's Hungarian subsidiary operates five to six trains for Danucem. The customers are mainly from the Hungarian construction sector. In 2022, the company achieved CO2 savings of around 90 % thanks to sustainable rail transport: Instead of about 7,300 tonnes of CO2 on the road, only about 800 tonnes of CO2 were emitted.

Tailor-made logistics solutions for building materials
RCG has a team of logistics professionals who specialise in the transport of all types of building materials. They plan comprehensive logistics and transport tasks with a full range of services. In addition to the actual transport,

RCG also offers efficient and sustainable logistics concepts for the supply and removal of building materials, including storage, silo and road logistics.

Another member of the active Class 1142 is No. 1142.683, seen here on May 12th working the all stations stopping service No. R5933 from Passau to Neumarkt-Kallham, arriving at Kumpfmühl halt. *Thomas Niederl*

Class 1144.092, one of two representatives of this class painted in orange-beige “Schachbrett” livery (Schachbrett = chessboard), travels from Passau to Linz with train No. R5913 and has just departed Neumarkt-Kallham. The first car is a car from the Bratislava Art Train, which was a traveling art gallery between Vienna and Bratislava in 2019. *Thomas Niederl*

OBB DMU Class 5047.024 is on its way as train No. R3483 from Attnang-Puchheim to Schärding near Wolfshütte halt. In the background, the wonderful mountain panorama of the Salzkammergut, with the Traunstein towering above everything in the center. *Thomas Niederl*

BDZ No. 07.106 catches the last light of the day as it runs onto the manually operated level crossing at Kardam while running round it's stock on May 4th. The line from Dobrich to Kardam sees 2 return passenger workings per day, both of which contain a through sleeper coach to or from Sofia. *Andy Pratt*

BDZ No. 07.106 stands at Dobrich with the 15:35 Varna to Kardam service, consisting of one passenger coach and an empty sleeper for the return working which will be added to the 21:40 Varna to Sofia overnight service at Povelyanovo. *Andy Pratt*

Czech Republic

ŠKODA GROUP WILL DELIVER 23 ELECTRIC UNITS TO REGIOJET

The partnership between Škoda Group and RegioJet, the largest private railway carrier in Central Europe, brings forth the delivery of 23 new electric units, valued at approximately EUR 133 million.

15 trains will have two cars and 8 trains will consist of three cars. Electric trains from Škoda are already widely popular in the Czech Republic for regional transport. The units for RegioJet will be customised to the carrier's unique needs, and they will bring the renowned comfort to the Ústí nad Labem Region by the end of 2026. This ambitious project aims to cover 3.3 million kilometres annually over a span of 15 years, substantially enhancing both service quality and capacity.

We believe that this purchase is a fantastic symbol of rail transport's continued growth as one of the most environmentally friendly ways to get around. Jan Švehla, Head of Group Communications at Škoda Group

The new low-floor units, designed for operation on suburban and regional lines, will be capable of speeds of up to 160 km/h. The two-car unit will be 53m long with 142 seats, while the 80m long three-car unit will offer 228 seats. A first-class compartment will be included.

"We are proud to announce this historic investment, which will not only significantly expand our capacity, but also take the standards of comfort, safety, and environmental sustainability of our services to a whole new level. We plan to invest more than CZK 4.5 billion in our fleet this year and next," comments Radim Jančura, owner of RegioJet.

"Our trains are very popular, and we couldn't be happier that the largest private carrier in Central Europe has chosen them for its lines in the Ústí nad Labem Region. These electric units for RegioJet will be adapted to the needs of our customer and the Ústí nad Labem Region. They will offer passengers high-quality comfort and safety on the lines.

We believe that this purchase is a fantastic symbol of rail transport's continued growth as one of the most environmentally friendly ways to get around," says Jan Švehla, Head of Group Communications at Škoda Group.

The electric units are designed with passenger comfort in mind. This includes a fully air-conditioned train interior, Wi-Fi, 230 V power sockets, USB sockets, barrier-free entrances and interior, ergonomic seats, and a spacious storage area for bicycles and prams.

Each train is equipped with a spacious toilet for passengers with reduced mobility, while the three-car unit also includes one standard toilet. Advanced safety features and cutting-edge technology, including ETCS equipment, ensure compliance with the latest industry standards.

Czech Republic

Conclusion of the first project to implement ETCS in ČD Cargo driving vehicles co-funded from the CEF 2015 Program

ČD Cargo respects all deadlines based on the National ERTMS Implementation Plan and the Plan of Modern Security for the Czech railway, perceives the implementation of the ETCS train control system primarily as a tool to significantly increase the safety of an already very safe mode of transport and approaches it with the maximum degree of social responsibility.

On Tuesday May 28th, at a press conference in Praha-Libeň, CD Cargo presented the completion of the project to equip 128 ČD Cargo locomotives of the 163, 363 and 742.71 series with the European Train Control System (ETCS Level 2, Baseline 3), which was supported by the 2015 CEF Transport Cohesion Call.

“The project was technically closed (all conditions of the grant fulfilled in accordance with Amendment No. 3 to the Grant Agreement) on 31 st December 2023. The total maximum CEF contribution to equip 128 locomotives with the mobile part of the ETCS system amounts to € 27.3 million, which corresponds to more than 60% of the total investment costs of the project,” Chairman of the Board of Directors of ČD Cargo, Mr. Tomáš Tóth, introduced at the press conference and further added: “Currently, we intensively continue training of ČD Cargo drivers to driving trains under the supervision of ETCS, participating in stress tests under the supervision of this device and we are setting up the processes necessary for the smooth and reliable operation of these locomotives. I would like to assure our customers that we will be ready for the start of the exclusive operation of ETCS-controlled trains from January 2025.”

Germany

Flexible, fast and climate-friendly: shipping automotive parts with Trailer Romania Xpress

DB Cargo Logistics provides sustainable, single-source logistics management for Mercedes-Benz between Romania, Hamburg and Bremen.

Before a car hits the road for the first time, its different components have already travelled many kilometres – quite a few of them by rail. That's because cars aren't manufactured only in one place. Parts often pass through several plants before they finally end up in a finished vehicle. To help make this supply chain as sustainable as possible, Mercedes-Benz relies on services provided by DB Cargo Logistics, which include transporting transmission parts and finished transmissions.

Perfectly organised strategy with different shuttles

This transport chain is based on the Trailer Romania Xpress (TRX), a fast and effective shuttle train that runs five times a week on a fixed timetable between Stuttgart and Oradea, Romania. It's ideal for transporting intermodal loading units: containers, swap bodies and craneable megatrailers. The TRX serves the supply chain in both directions. Since 2022, transmission parts have been transported by shuttle from Hamburg to Stuttgart, where they are transferred to the TRX and taken to Oradea. Then the consignments are transported to Sebeș by lorry for the next steps in the manufacturing process. Since 2023, DB Cargo Logistics has also been handling the return trip for the finished transmissions, which are brought to Oradea by lorry and then by TRX to Stuttgart. Another shuttle takes over in Stuttgart and brings the freight wagons to Bremen, where the customer takes final delivery.

Both the shuttle service from Stuttgart to Hamburg and Bremen and the TRX are open, high-frequency products that are also available for other customers and products and not only for shipping transmissions. For example, Stuttgart-based Mercedes-Benz also uses the shuttle train between Stuttgart and Bremen for electric vehicle batteries.

"By integrating different wagon types into our network, we can provide highly flexible and climate-friendly transport for vehicle parts used in a wide range of car models," says Martin Fildebrandt, key account manager at DB Cargo Logistics.

Logistics chain with many benefits

But what makes this combination of different shuttles especially valuable? All three shuttles run five times a week in both directions, ensuring a reliable and high-frequency network designed to mesh with the automotive industry's highly synchronised production processes. This symbiotic partnership is also marked by unrivalled speed. The parts get from northern Germany to Sebeș or vice versa in just three days – an extremely competitive service compared to pure lorry transport.

All services from a single provider

DB Cargo Logistics is the lead logistics provider for Mercedes-Benz, supplying it with a complete service package. "That means we organise and manage all the services in the logistics chain from a single source," says Torben Petras, junior account manager at DB Cargo Logistics. "Our customer gets all the services required for smooth transport across multiple national borders with various means of transport: planning, first and last mile, transhipment and main legs, tracking and tracing, and transport quality monitoring."

The DB Cargo network: Strong Rail on the route to Spain

DB Cargo's comprehensive network spans all of Europe and parts of Asia.

Many ways to transport by train to Spain

The rail link from central Europe to Spain and Portugal via France is important for many industrial sectors, including the automotive, consumer goods, steel and chemical industries. The route enables customers to transport their products to the Iberian Peninsula by rail despite the different track gauge used there. Once the trains reach the French-Spanish border, the wagons can have their axles changed or the cargo can be transhipped. Alternatively, trains can use the extended European standard gauge line as far as Barcelona.

There are also various options when it comes to the transport route, with companies able to transport freight via the Atlantic or Mediterranean corridors. In short: there are many ways to transport by train to Spain.

Flexible transport across borders

European standard gauge tracks are currently being extended in order to make freight transport between central Europe and Spain even more efficient in future. Valencia, Tarragona and Martorell are due to be connected to the central European rail network soon.

In addition, DB Cargo's Spanish subsidiary Transfesa Logistics continues to offer cross-border transport with a change of gauge, either via the Atlantic Corridor (wagon axles are changed in Irún/Hendaye) or via the Mediterranean Corridor (wagon axles changed in Port Bou/Cerbère). Transfesa Logistics also organises multimodal transport. Here, the freight is transported from door to door by rail and road, both in Spain and across borders. This connects production centres, ports and retailers for all sectors. Routes are planned based on the customer's individual transport requirements, enabling efficient cross-border logistics.

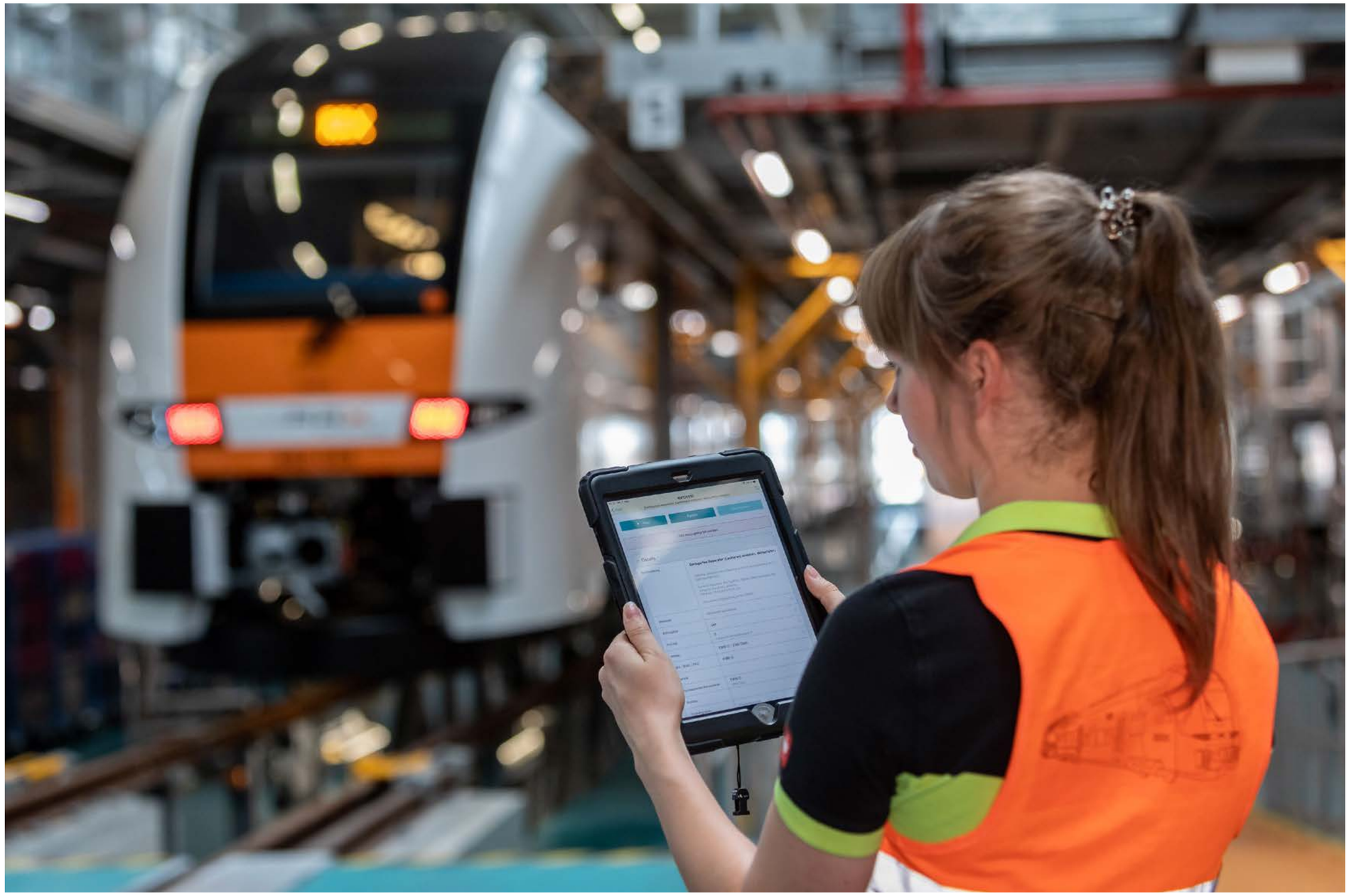
Efficiency at the Einsiedlerhof hub

The Southwest Route also plays an important role for DB Cargo Logistics' Automotive RailNet. This special industry network connects automotive industry locations across Europe. New cars in particular are frequently transported to and from Spain on the Southwest Route. Einsiedlerhof in south-west Germany is the central transport hub for the finished vehicles. This is where the block trains are assembled for their journey to Spain. The cars are transported to Einsiedlerhof in either single wagonloads or existing train systems from the various plants and ports across Germany and the rest of Europe. The decisive advantage of the hub concept is that it allows cargo volumes from the various plants to be combined into a single direct train. This also makes handling smaller volumes more efficient, which leads to a considerable reduction in overall journey times and more frequent departures.

EGP Class 151.139 passes the railway crossing in Güterglück with a Leipzig-Mockau to Bremerhaven-Speckenbüttel ct liner on May 13th. *Erik de Zeeuw*

Germany

Siemens Mobility invests in digital service depot for trains in Dortmund



Depot to be expanded to 87,550 m²
New capacity for meeting growing demand
100% system availability thanks to digitalized depot operation
Creation of attractive jobs in the region
Up to 250 employees at the location in 2026

Siemens Mobility is investing approximately €150 million to expand its service depot in Dortmund-Eving to 87,550m² to meet the growing demand for rail services.

Plans call for constructing an additional 12,300m² service hall with storage facility, offices, and workshops to handle the maintenance of trains up to 400 meters long. Construction of the new building is scheduled to begin in 2024 and be completed by 2026. The Siemens Mobility depot in Dortmund previously had a total area of 70,000m² and will cover 157,550m² when the project is completed.

“Our customers need the best service to put more trains on the rail and ensure their maximum availability. Our digital service depot in Dortmund is one of the most modern rail service centers in Europe. To maximize efficiency, innovative Siemens technologies such as AI-based maintenance with Railigent X, 3D printing, and highly automated services are used at the facility. By investing in additional depot capacity, we are responding to the growing demand for services. The depot expansion will not only enable us to serve more vehicle and train types and customers in the future but also create highly qualified jobs in the region and further strengthen our service network in Europe,” said Michael Peter, CEO Siemens Mobility.

The digital depot in Dortmund has been in operation since 2018. When the new facility is completed in 2026, the service center will have up to 250 employees. At present, the Siemens Mobility depot primarily maintains trains from the RRX fleet operating throughout the Rhine-Ruhr metropolitan region. With its added capacity, the depot will be able to service and maintain more trains from other fleets as well.

All maintenance processes can be controlled completely digitally at the Dortmund depot. This optimizes all operations and maintenance and helps achieve up to 100% system availability. Depot employees get their work orders and all relevant maintenance and repair information directly on their tablets. The trains continually transmit sensor-sourced status data to the Railigent X digital platform, where it is automatically processed. For example, a high-speed train generates up to 30 GB of data per month. The Railigent X application suite from Siemens Mobility analyzes this data using AI-based algorithms to predict faults as accurately as possible and make preventive maintenance recommendations.

In addition to its state-of-the-art inspection and maintenance equipment, including an outdoor cleaning facility and underfloor lathe and wheelset diagnostic system, the Rail Service Center also has a high-performance 3D printer for producing plastic replacement parts quickly and directly on site. The depot’s advanced Automated Vehicle Inspection system [AVI] is unique in Germany. When the train or vehicle enters the AVI, it automatically checks the wheels, axles and tread profiles using the latest laser technology and feeds the data into Railigent X.

In the future, it should be possible to shift from human vehicle inspections to fully automated visual inspections. These inspections will be seamlessly integrated into a train’s operations to ensure its maximum availability and increase maintenance productivity. The latest software solutions use advanced technologies such as computer vision, artificial intelligence, and digital twins to inspect trains and vehicles as efficiently as possible.

Germany

First Stadler FLIRT with ETCS GUARDIA runs as a three-country train

The first FLIRT trains with the ETCS GUARDIA signalling system are now operating in Belgium, the Netherlands and Germany as part of the three-country trains operated by the Dutch operator Arriva. The conversion and approval of the multiple units with the ETCS technology developed by Stadler has been successfully completed. This success once again underlines Stadler's commitment to optimising the safety and efficiency of rail transport throughout Europe. Stadler had already retrofitted multiple units from third-party providers as part of a pilot project in 2023 to enable a faster ETCS roll-out in Germany.

The retrofitting project was undertaken by Stadler in collaboration with the operator Arriva. This included equipping eight FLIRTs with the latest ETCS-GUARDIA system from Stadler. The vehicles are now operating across borders in Germany, the Netherlands and Belgium and, currently, the ETCS system is only required for operation on the Belgian routes. On the Dutch and German ones, the operation is still carried out with the Class B systems PZB and ATB, so that these also had to be integrated into the ETCS signalling system. This now enables cross-border operation of the vehicles and, for the first time, transfer-free operation between the metropolises of the so-called "tri-border region" of Belgium, the Netherlands and Germany.

Michiel Cusell, Regional Director of Arriva Limburg: "The introduction of ETCS on our three- country train fulfils a long-held wish. Our passengers can now travel from Liège to Aachen via Maastricht. Stadler has coordinated and realised the development and retrofitting of our fleet for Arriva with determination and perseverance. This was done in co-operation not only with the suppliers, but also with the regulatory authorities in Europe and the three countries involved."

Marc Trippel, Executive Vice President of Stadler's Signalling Division, explains: "We are very proud that we have been able to realise this project for part of our large FLIRT fleet in the Netherlands. Extending the area of operation of the vehicles to include cross-border traffic increases the value of the vehicle fleet and fulfils a long-held wish of passengers in the border region. With our ETCS- GUARDIA system, we have a customised system that can also be cost-effective when retrofitting small fleets. The fact that we are now bringing our first train with our own ETCS onto Belgian tracks is an important step towards expanding our presence in Europe."

"The core strategic goals for intelligent mobility in the European Union are to improve international connectivity, support automation and provide access to zero-emission vehicles. By upgrading the Stadler FLIRT to our ETCS system, we have supported precisely these three core objectives: We are now travelling signal-controlled, in cross-border operation, in the heart of Europe," says Daniel Baer, Executive Vice President of Stadler's Service Division.

The GUARDIA ETCS train protection system

Increasing travel speed, ensuring interoperability, reusing existing infrastructure and achieving cost efficiency while maintaining the current level of safety are just some of the strategic measures that rail operators need to focus on due to the ever-increasing demand for rail transport.

Stadler then developed and supplied ETCS on-board solutions in collaboration with the technology company AngelStar. The high-performance ETCS-GUARDIA system with its proven electronic technology is already approved in several European countries and is currently in use in Switzerland, Poland, Italy, Hungary, the Netherlands, Belgium, Germany, Austria, Croatia and Slovenia. Such developments demonstrate Stadler's clear commitment to customer-focused innovation, cost efficiency and an unrivalled level of experience in retrofitting third-party trains. Stadler thus continues to lead the way in innovative and reliable solutions for modern rail transport.

On May 13th, DB Bahnbaugruppe LEW Class 143.226 and LEW LOK 8 No. 293.010 passes Gommern on their way from Königsborn to Dessau.
Erik de Zeeuw

Germany

Rail: Europe's lifeline for a sustainable future

To mark Europe Day on May 9th, DB Cargo is looking beyond national borders.

May 9th is a very special day for Europe: on this day in 1950, France's Foreign Minister Robert Schuman proposed a common market for coal and steel. This led to the founding of the European Coal and Steel Community, from which today's European Union (EU) emerged. Europe Day has been observed since 1986 to commemorate this important day for the peaceful development of Europe.

It's even celebrated as a public holiday in some European countries – reason enough for us to look beyond Germany's borders today.

Facts and figures on DB Cargo and Europe
Germany: the heart of Europe
Rail has been connecting countries and people throughout Europe for generations, and Deutsche Bahn and DB Cargo are committed to working for a strong Europe. It's clear to us that Germany is not an island, but the heart of Europe – and not just geographically. The EU's six most important transport and freight corridors run right through Germany.

Huge logistics network as far as Asia
The German economy is export-oriented like no other, and Europe is Germany's biggest trading partner. That means German delivery and supply chains can't stop at national borders, especially when one considers that most imports to Germany arrive via the major ports in Antwerp, Rotterdam, Genoa and Venice. That's why we focus not only on road and rail but also on import and export ports. Incidentally, this huge logistics network doesn't end in Europe, it extends all the way to Asia. We combine different modes of transport with our large fleet and offer attractive services that go beyond mere transport. DB Cargoplays an important role in promoting economic integration and trade in the EU.

The longest routes of DB Cargo trains across Europe: Rail is indispensable for European climate protection
Just like the daily flow of goods, climate change knows no national boundaries. So shifting logistics to rail is important not only to keep Europe's economy running but also to protect the climate. This can be done best with a strong European rail network: 60% of DB Cargo's freight trains cross at least one national border, combining economic growth with climate protection. Transport by rail cuts CO2 emissions by around 80% compared to road haulage.

At least one reason to celebrate not only Europe but also Europe-wide rail freight transport!

More visibility, less noise: DB develops innovative, transparent soundproof walls

Deutsche Bahn (DB) has developed a real innovation in the area of noise protection: transparent soundproof walls with the highest soundproofing properties. The MetaWindow combines the noise-absorbing properties of conventional walls with the visual advantages of transparent soundproof walls. The key to this is the use of metatechnology, which increases the acoustic efficiency compared to conventional noise protection systems thanks to the special geometry of the sound insulation system. DB and the Italian startup Phononic Vibes developed the new system together from research to approval. The MetaWindow was presented for the first time as part of the Greentech Festival in Berlin. The first deployments are planned for this year during the construction of the S4 in Hamburg.

Berthold Huber, DB Infrastructure Board member : "In order to achieve our climate protection goals, we have to put more traffic on the rails and expand and expand the network. But only if rail traffic becomes quieter can we gain the necessary acceptance from local residents. This is exactly where the innovative MetaWindow comes in: with the transparent noise barrier, municipalities no longer have to decide between appearance and functionality."

The innovative metatechnology absorbs specific frequency ranges thanks to its special geometry and, combined with classic absorption material, ensures a high level of sound reduction. The MetaWindow is the first wall on the market that is classified as highly absorbent in terms of sound absorption, achieving sound insulation of 34 to 37 decibels and at the same time maintaining the proportion of transparent surfaces up to 72 percent. Transparent noise barriers currently available are significantly less effective in reducing noise and are therefore unsuitable for widespread use along rails in accordance with legal requirements.

The MetaWindow is designedforhighlysensitive locations where highly absorbent noise barriers are required by law. Due to the great influence of noise barriers on the townscape, this primarily affects railway lines in exposed urban locations, in tourist areas, near residential developments and in spectacular or protected natural landscapes. This benefits residents as well as travellers who have an unobstructed view during the train journey. The MetaWindow avoids the intersection of visual axes and blends in better with the surrounding image. The number of objections and lawsuits when building noise barriers can be significantly minimized. This in turn has a direct impact on shorter implementation periods.

The collaboration between Phononic Vibes and the DB Bahnbau Group, a subsidiary of Deutsche Bahn, started in 2020 in DB Mindbox, DB's startup program. Due to its more complex construction, the MetaWindow costs more than a conventional noise barrier. However, this only concerns the pure material costs of the noise protection element and not the other costs that come into play when building a noise protection wall, such as personnel and materials for the foundation and assembly. In relation to the total construction costs of a noise barrier and in view of the savings potential through faster plan approval procedures due to higher acceptance rates, the added value from using the MetaWindow can significantly outweigh the additional costs.

Noise protection at the DB
Noise protection is of great importance to DB and is therefore firmly anchored in the Group's Strong Rail strategy. As one of the four strategy areas, the "Green Transformation" focuses, among other things, on the aspect of noise protection and has the goal of relieving the burden on all affected residents by 2050 and more than half by 2030. To achieve this goal, two approaches come into play: on the one hand, through site-specific noise protection measures and, on the other hand, through noise protection measures directly on the vehicles that cause noise. In order to reduce noise on site, around 3,250 kilometres of the existing network are to be noise-reduced by 2030 and around 6,500 kilometres by 2050. In addition, there are noise protection measures as part of the numerous new construction and expansion projects planned by Deutsche Bahn. This includes the aspect of expanding and upgrading or replacing noise barriers.

Germany

Deutsche Bahn is testing new technologies for green traction power supply

Deutsche Bahn (DB) is continuing to advance the energy transition as part of the Group's Strong Rail strategy: In Tübingen, the Group subsidiary DB Energie has put an innovation hub into operation in which it is testing new technologies for sustainable energy supply by rail.

The focus is on a new technical interface to the overhead line, which in the future will enable, among other things, the direct feeding of renewable energy into the traction power network. The aim is to test green energy supply solutions for the traction power supply of the future, which will change fundamentally with the feed-in of renewable energies.

The system at the Tübingen site consists of six different components: At the center is a so-called sector coupler, which the DB helped develop for this project. It forms the interface to the overhead line and connects it to a hydrogen production system and a battery storage system. The sector coupler is already being used in Tübingen in a project in which the DB is producing green hydrogen for the first time to supply hydrogen trains.

Deutsche Bahn is a pioneer in climate protection and will be climate neutral by 2040. The share of renewable energies in the DB traction current mix is already 68 percent. By 2038, the entire DB traction power will be 100 percent green, with an interim goal for 2030: 80 percent green power. Since 2018, our long-distance travelers have been traveling on ICE, IC and EC trains within Germany using 100 percent green electricity.

Dr. Andreas Hoffknecht, Managing Director for Technology at DB Energie GmbH: "DB Energie is actively tackling the energy transition of the railways. Today we are planning what climate-neutral mobility of the future will look like and how we will prepare the traction power network for the further expansion of renewables. In the Tübingen Innovation Hub, we are testing the use of innovative technologies and thereby gaining insights into how we can react flexibly to so-called dark lulls in the future. Because the security of supply of the traction power network will continue to be the top priority in the future. Trains must be able to run even when the sun isn't shining and the wind isn't blowing."

As a network operator, DB Energie manages the 8,000 kilometre long traction power network and supplies around 20,000 trains with electrical energy every day. There are currently a few feed points into the traction power network: Some large power plants supply stable amounts of fossil traction power regardless of the weather. With the further expansion of renewables, the traction power network will change fundamentally: many smaller feed-in points will feed fluctuating smaller amounts of green electricity into the network.

In comparison to large converter and converter stations that feed from the upstream 50 Hz network into the 16.7 Hz traction power network, sector couplers can feed locally generated green electricity, for example from wind or solar power plants, directly into the overhead line. This saves capacity in the network because the electricity is fed in where it is used and does not have to be transported over long distances. In addition, sector couplers can be used in the future as an interface between overhead lines and storage technologies such as battery or hydrogen storage. Stored green electricity can then be fed into the traction power network as needed. This means that DB Energie can react flexibly to network fluctuations as renewables continue to be expanded. In Tübingen, DB Energie uses an innovative second life battery storage system from the DB-internal start-up encore | DB, which consists of 108 recycled batteries from electric vehicles.

About DB Energie GmbH:
With its development and provision of energy infrastructure, DB Energie makes a central contribution to Deutsche Bahn's energy transition. The subsidiary of Deutsche Bahn, based in Frankfurt am Main, is the fifth largest energy supplier in Germany and offers railway companies and customers from industry, trade and commerce a reliable, economical and sustainable energy supply. As a network operator, DB Energie manages the more than 8,000 kilometre long 16.7 Hertz traction power network, closed 50 Hertz distribution networks and the direct current supply systems of the Berlin and Hamburg S-Bahn systems. More than 50 power, converter and converter stations spread across Germany supply the energy, and around 200 substations ensure the right voltage. DB Energie also provides light, electricity and heat at around 5,400 train stations across Germany.

Skagerrak Express: DB Cargo runs its premiere train to Hirtshals in Denmark for borderless transport to Norway

More environmental protection, fewer traffic jams, more direct to Scandinavia: A new rail connection can shift up to 200,000 truck transports annually in the direction of Norway from the road to the climate-friendly rail. For this purpose, DB Cargo Scandinavia, the port of Hirtshals and the North Jutland Regional Railway (Nordjyske Jernbaner) jointly drove the first freight train to the port of Hirtshals on the northern tip of Denmark.

220 terminals in Europe are connected to the connection between continental Europe and Denmark via the DB Cargo network. Direct shipping of goods to and from Norway is also possible. Twelve terminals in Norway are connected via the network of the Norwegian partner CargoNet. A freight wagon saves around 1,600 kilograms of CO 2 on the Hirtshals – Duisburg route compared to road transport. The inaugural journey of a freight train to the port was implemented through successful cooperation between DB Cargo and local partners; the train's arrival is celebrated today by more than 100 visitors.

The potential of the new connection is great: in 2025, large-scale CO^2 storage in former Norwegian oil and gas fields will begin in Hirtshals. DB Cargo is already working on solutions for this "Carbon Capture & Storage" for customers – who can then also use this rail connection.

"With the test train, together with our partners, we have shown that a climate-friendly rail connection to Hirtshals is possible. Our goal is to offer our customers a permanent connection between Hirtshals and the European continent from December 2024," says Birgit Wirth, CEO DB Cargo Scandinavia.

"We know that 10-20 percent of the truck trailers that pass through the port of Hirtshals every day can be reloaded onto freight trains," says Michael Rosenlund Langballe, head of the transport and logistics department at the port of Hirtshals.

"We at Nordjyske Jernbaner are excited about the prospect that our railway can contribute to the green transition by shifting part of the freight traffic to and from Hirtshals to rail," says Martin Sort Mikkelsen, CEO Nordjyske Jernbaner.

Germany

Working and streaming at gigabit data rates on the train thanks to 5G cellular corridors along the tracks

Deutsche Bahn (DB), the network supplier Ericsson, the telecommunications provider O2 Telefónica and the radio mast operator Vantage Towers have drawn an initial positive interim conclusion from their joint work on gigabit mobile communications and data connections on trains. The "Gigabit Innovation Track" (GINT) project, funded by the Federal Ministry of Digital and Transport with around 6.4 million euros, started in May 2023.

With the help of 5G mobile technology, rail travellers will continue to be able to communicate, work or relax while watching a movie on the move, just as they are used to at home. According to experts, data rates of up to 5 gigabits per second per train will be necessary by the beginning of the 2030s. This is many times the data rates possible with today's LTE technology.This means a paradigm shift for mobile communications expansion: railway lines need a powerful 5G connection in addition to the general 5G expansion in the area. Because large data rates require large channel bandwidths, which are only available at higher frequencies. The 3.6 gigahertz frequencies used in the GINT project by O2 Telefónica and the industrial spectrum enable particularly fast mobile data transmission, although with a shorter range than the lower frequencies used today for 4G mobile communications: a radio mast supplies a radius of around one kilometre. The GINT project is therefore testing 5G mobile communications coverage via special radio masts along the tracks. The future, 5G-based rail radio, the "Future Rail Mobile Communication System" (FRMCS), will also need such masts. Around 20,000 new masts will be needed along the rails across Germany for FRMCS in the coming years. They could also form the basis for high-performance mobile communications and data connections for rail passengers. The interim results are promising:

Mobile communications corridors can be implemented quickly and easily if those involved work together in a goal-oriented manner.

- The new radio masts made from standardized metal construction elements developed by Vantage Towers in the project can be mass-produced cost-effectively and pre-assembled on the ground; There is no need to set up a complex construction site for each mast.
- Standardized base frames compensate for slope slopes etc.; they are anchored in the ground to save time.
- A construction crew can erect several subframes per day, and a construction crew can also assemble several radio masts per day. All you need to install a mast including antennas on the prepared base frame is a two-way/rail excavator. Setting up on land or by helicopter is also possible.
- The approximately 12km long test route in Mecklenburg-Western Pomerania took less than eight months thanks to the close and trusting interaction between the project partners, the Regio Infra Nord-Ost (RIN) as the operator of the infrastructure as well as the local authorities and the BMDV as the funding provider from the project start to commissioning.

Cell phone corridors along the tracks are efficient and resource-saving.

- The new masts are anchored in the ground and no complex foundations need to be poured. This saves concrete and CO_2.
- The masts for mobile phone corridors along the tracks fit into the landscape at around 15 meters high. In many places, the often long approval procedures are no longer necessary.
- The masts can be used together for mobile communications and the future railway radio FRMCS. There are significant synergies between the digitalization of rail operations and high-speed data connections for passengers.

Initial practical checks confirm the calculations and preparatory work .

- The ultra-modern antennas close to the track transmit the radio signal to and into the train.
- The network configuration was successfully transferred from theory to the real test environment. Initial measurements of data transmission on the route give rise to optimism for further detailed tests.

In the coming months, among other things, measurement runs at up to 140 km/h are planned with the DB's laboratory train, the advanced Train Lab (aTL), in order to collect findings for high-speed Internet in high-speed transport. The effects of cell phone-transparent windows are also being examined: In some aTL cars, the windows were processed using an innovative laser process so that they allow cell phone signals to pass through better. In addition, multiple antenna technology (MIMO) and so-called "beamforming" are being tested, in which mobile phone signals are aimed at the moving train and carried along. This means that radio signals can be optimally controlled and the transmission systems can be operated in an energy-saving manner. Tests with the interconnection of several radio cells into one (so-called "combined radio") are intended to show how the changes between radio cells can be reduced and thus even more stable connections possible – especially at high speeds.

Daniela Kluckert, Parliamentary State Secretary to the Federal Minister for Digital Affairs and Transport: "Laying the foundation today for tomorrow's needs is one of the essential tasks of politics. Right now it is important not to let up on mobile phone expansion. The data rates required by travellers will increase significantly in the foreseeable future. Above all, train operations in the future will be significantly more digital and therefore more data-intensive. The knowledge gained in this project will help us set the course for needs-based expansion and seamlessly master the transition to the next generation of mobile communications. Because one thing is clear: years of frustration due to numerous dead spots that can only be closed with enormous effort cannot be allowed to happen again."

Dr. Daniela Gerd tom Markotten, DB board member for digitalization and technology:"First-class mobile communications and data connections are already a given for our travellers today. That's why in the GINT project, together with our partners, we are creating important foundations for the further digitalization of rail operations and excellent connections for passengers. In order to be able to work or stream easily on the go, you need more and more data that is transferred faster and faster. In doing so, we are strengthening rail as an environmentally friendly mode of transport of the future."

Valentina Daiber, Board Member for Legal and Corporate Affairs at O 2 Telefónica: "For us as O2 Telefónica, the Gigabit Innovation Track project is a successful example of how we can continue to advance digitalization in this country together. To ensure fast 5G during train journeys, railway and mobile phone companies as well as politicians must cooperate closely. The collaboration so far has shown that we can achieve a lot if everyone involved works focused on a common goal: building a modern, high-performance network infrastructure for the people and economy in our country."
Daniel Leimbach, Managing Director of Ericsson GmbH: "Our innovative 5G antennas deliver tailor-made mobile communications along the rails. Instead of illuminating the area around a cell phone tower as usual, we send and receive specifically along the rail in elongated corridors. The so-called multiple antenna technology (MIMO) and beamforming technology make it possible."

Ralf Capito, Director External Affairs at Vantage Towers AG: "GINT is a cross-industry future project and a prime example of real innovation 'Made in Germany'. By sharing the masts near the tracks, we create valuable synergies in the network expansion of mobile phone operators and the railways - and thus make rail travel more attractive in the long term. GINT can become a model for Europe."

On May 12th, Havelländische Eisenbahn EURO DUAL Class 159.011 is seen in Hämelerwald working a Bad Harzburg to Rotenburg ballast train.
Erik de Zeeuw

On March 26th, EGP Class 140.876 (built by Henschel & Sohn, Kassel & BBC, Mannheim in 1973) passes Ovelgünne working a Wittenberge to Hamburg intermodal. *Erik de Zeeuw*

NS ICB Vectron Class 193.936 is seen in Salzbergen. Since December 2023 the Intercity Amsterdam to Berlin services now has the Vectron as traction eliminating the change of locomotive in Bad Bentheim. Also some station stops are now omitted, so the total travel time has shorten by about 30minutes. *Andre Pronk*

Portugal

On May 12th, a fresh coat of paint which is rare sight these days on the Glória Funicular. *Mark Armstrong*

Portugal

On May 12th, CP No. 5604 has recently arrived at Braga Station.
Mark Armstrong

Portugal

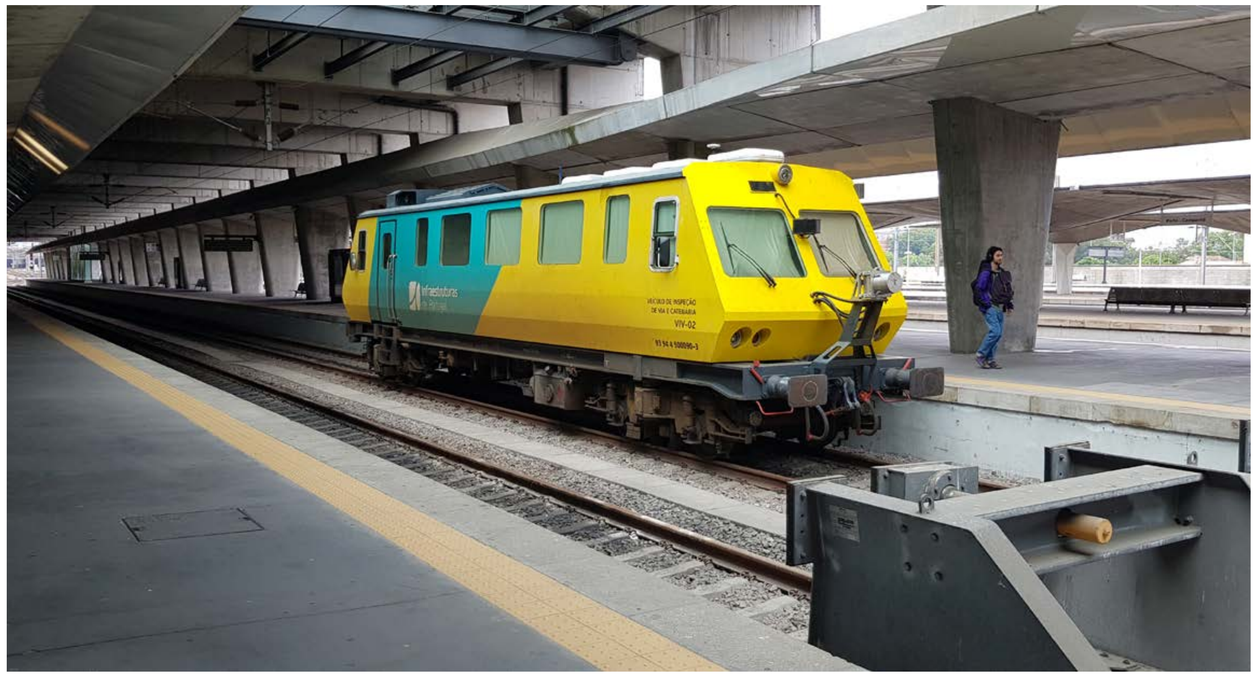
On May 12th, CP units Nos. 3428 and 3421 are seen stabled at Braga Station. *Mark Armstrong*

Portugal

On May 13th, diesel unit No. 9632 waits departure time at Agueda. *Mark Armstrong*

On May 13th, a single car test train is seen at Porto Campanha. *Mark Armstrong*

On May 13th, CP diesel unit No. 9631 is seen at the Sernada Do Vouga shed. *Mark Armstrong*



Portugal

On May 12th, a Porto tram working a line 1 service.
Mark Armstrong

On May 14th, CP units No. 9634 is seen waiting its next duty at Aveiro. *Mark Armstrong*

Portugal

On May 14th, Carris tram No. 601 is seen at the start of the 15E tram route to Alges.
Mark Armstrong

On May 14th, CP EMU No. 2279 (with 2261 in the distance) are seen at Coimbra. *Mark Armstrong*

The impressive station front at Coimbra with CP EMU No. 2279 just visible. *Mark Armstrong*

Portugal

CP ‘Pendolino’ No. 4007 stands in the main train shed at Lisbon Santa Apolonia. *Mark Armstrong*

CP units Nos. 3152, 3267 and 3153 line up at Lisbon Cais do Sodro station on May 15th. *Mark Armstrong*

On May 15th, CP unit No. 2320 stands in Rossio station, Lisbon. *Mark Armstrong*

Portugal

On May 16th, CP EMU No. 3519 stands in Lisbon Oriente station awaiting its next duty. *Mark Armstrong*

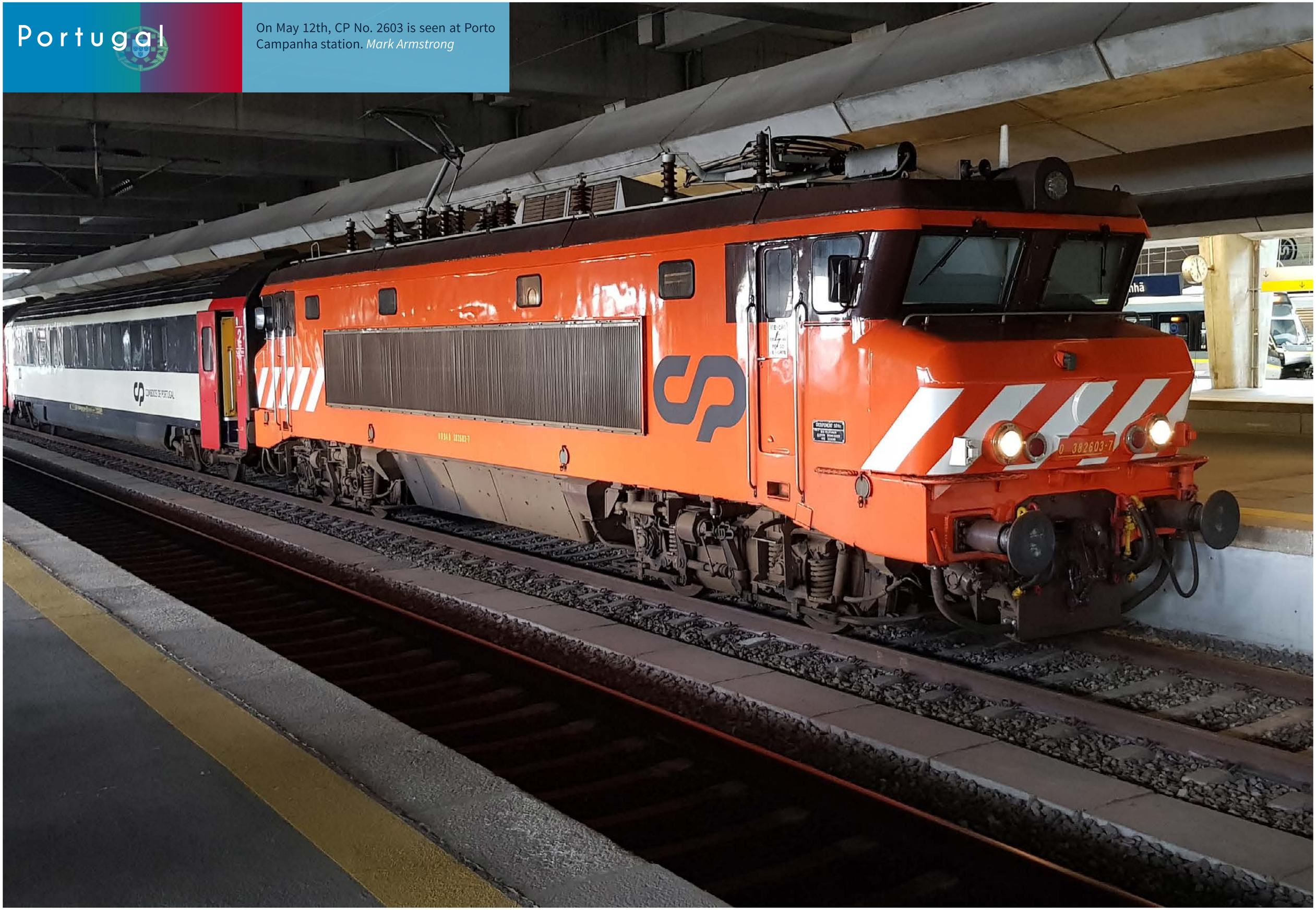
CP 1400 Class No. 1439 carries out shunting duties at Lisbon Santa Apolónia on May 16th. *Mark Armstrong*

CP unit No. 0461 seen stabled at Lisbon Santa Apolónia station on May 16th. *Mark Armstrong*

On May 14th, CP unit No. 0469 stands at Lisbon Santa Apolonia on a bright sunny day. *Mark Armstrong*

Portugal

On May 12th, CP No. 2603 is seen at Porto Campanha station. *Mark Armstrong*



Romania

CFR No. 477.538 pauses st Ciulnita station while working train No. IR1584, the 13:30 Constanta - Braşov on May 6th. *Andy Pratt*

CFR GM No. 64.1000 arrives at Jibou with train No. IC367, the 06:40 Budapest Keleti to Brasov on a gloomy May 9th. *Andy Pratt*

CFR No. 410.814 arrives at Constanta at the end of it's 225km run from Bucuresti Nord with train No. IR1881 on May 8th. The train departed the capital at 11:30, taking 2 hours 36 mins for the journey. *Andy Pratt*

CFR DA Class Sulzer powered No. 60.0938 pauses at Cornet station to pass a northbound service on May 11th, with train No. R2064 08:05 Sibiu to Ramnicu Valcea. *Andy Pratt*

CFR class 77 ‘Malaxa’ railcar No. 77.0907 departs Ionesti station on May 11th with train No. R2066 the 13:20 Podu Olt - Piatra Olt. 100 of these railcars were built and entered service between 1935 and 1942. The ride quality on this example was appalling. *Andy Pratt*

CFR No. 64.1204 has arrived at it's terminus, Mangalia, with train No. R8385 the 09:45 from Constanta on May 8th. *Andy Pratt*

CFR No. 477.784 with 64.0915 dead behind it is ready to depart Constanta with train No. R8010 the 14:09 to Bucuresti Nord on May 8th. Unlike the fast IR trains that do the journey in less than 3 hours, this Regional service will take 5 hours 11 mins for the 225km run, an average speed of just over 27 mph! *Andy Pratt*

CFR No. 60.1376 pauses at Mihai Viteazu with train No. R8654, the 16:15 Tulcea Oras to Constanta on May 7th. The train passes the opposite working at this location. *Andy Pratt*

Romania

Constantin Grup owned No. 60.1564 stands at the rear of a freight waiting to depart Calarasi Sud station on May 6th. *Andy Pratt*

Formerly UK Class 92 001 'Victor Hugo', now DB Cargo Romania No. 472.002 and named 'Mircea Eliade' still sports it's Channel Tunnel rings on it's bodyside as it rests between trains at Bucuresti Baneasa on May 8th. *Andy Pratt*

CFR No. 60.1376 stands at Tulcea Oras having just arrived with train No. R8653, the 09:35 from Medgidia on May 7th. The branch sees two trains per day, both formed of a single double deck coach and a CFR class 60. *Andy Pratt*

CFR No. 64.1204 stands at Constanta with the stock to form train No. R8823, the 18:20 to Mangalia on May 6th.
Andy Pratt

TCDD No. E68.001 awaits departure from Halkali station, on the outskirts of Istanbul, with the 20:00 service, train No. 12503 to Sofia on May 3rd. *Andy Pratt*

Turkey

TCDD No. E68.002 arrives at Ispartakule station nearing journey's end with train No. 12722, the 08:20 Edirne - Halkali on May 3rd. *Andy Pratt*

Uzbekistan

LV 0487, a Russian 1956 Built 2-10-2 is seen on display at the superb Tashkent rail museum on April 20th. *Vernon Goodey*

The 12:28 SHARQ express from Samarkand stands at Bukhara with Co-Co O'Z-Y No. 0111 Built by CRRC Zhuzhou in 2011. *Vernon Goodey*

Uzbekistan

Talgo 130 AFROSIYOB Unit No. 11/12 working the 08.13 from Tashkent has just arrived at Samarkand on April 21st. *Vernon Goodey*

VL22-374, a 1947 built Russian electric is seen on display at the superb Tashkent rail museum on April 20th. *Vernon Goodey*

Canada

Alstom will supply 6 additional Vancouver SkyTrain Mark V trains

Alstom, global leader in smart and sustainable mobility, will supply 6 additional SkyTrain Mark V trains (30 railcars) to TransLink in Vancouver, British Columbia, under a contract valued around €86 million (CA$123 million) *.

“We’re proud and honoured of the continued confidence of TransLink,” says Michael Keroullé, President & CEO Alstom Americas. “This additional order of our made-in-Canada vehicles, specifically designed for Vancouver SkyTrain, will help improve daily commutes in the Vancouver Greater Area.”

The Mark V design features consist of five-car sets, all internally open-ended with walk-through carriages. They have mostly forward-facing seating and include more space for bikes, luggage, and leaning pads. The new digital interior information displays will provide riders with improved onboard transit alerts. Strip indicator lights at the doors will assist people who have hearing loss by flashing when doors close, fault warnings are issued, or when emergency brakes are deployed. The Mark V trains will operate with door chimes and on-train announcements to assist customers who are visually impaired.

Alstom is currently supplying 41 Mark V trains (205 railcars) to TransLink. The first trains have been delivered to Vancouver in December 2023. These are designed, manufactured, and tested in Canada at Alstom’s facilities in Kingston, ON, La Pocatière and Saint-Bruno-de-Montarville, QC.

With 4,600 highly-skilled Canadian employees, Alstom is the only global rail mobility manufacturer to have production facilities in the country.

*This contract was booked in 2023/24 fiscal year.

U.S.A.

Alstom’s Coradia iLint, the first hydrogen-powered train in service in the Americas, finalist in Fast Company’s 2024 World Changing Ideas list

Alstom, global leader in smart and sustainable mobility, announced on May 17th, that Coradia iLint, the first hydrogen-powered train in revenue service in the Americas, ranked finalist in Fast Company’s 2024 World Changing Ideas list. Fast Company’s World Changing Ideas list highlights ambitious projects that are helping shape the world.

“We are proud that the Coradia iLint, the first hydrogen train in revenue service in the Americas, has been recognized on the list of Fast Company World Changing Ideas,” said Michael Keroullé, President Alstom Americas. “This is a testament to green energy innovation happening across the Americas, and to the expertise of suppliers and staff at Alstom who are working every day to bring low-carbon transportation options to communities around the globe.”

“I was struck this year by the global sweep of the honorees,” says Fast Company editor-in-chief Brendan Vaughan. “It’s endlessly inspiring to see how the world is coming together to devise inventive solutions to our most challenging problems. We need ideas from everywhere, and this year’s World Changing Ideas Awards are an extraordinary encapsulation of the innovation and creativity that is so abundant around the globe.”

We congratulate the winner in the Transportation category, as well as other finalists and nominees. We are delighted to have been ranked in the top 5 among such innovative transportation projects.

Alstom’s Coradia iLint is the first hydrogen-powered train to carry ticketed passengers in the Americas. It transported over 10,000 passengers in a demonstration project in Quebec that ran from mid-June to the end of September 2023.

Alstom’s Green Innovation Centre partnered with Train de Charlevoix, Accelera by Cummins, HTEC, Harnois Energies and institutional partners, as well as the Quebec Government and the Hydrogen Research Institute of the Université du Québec à Trois-Rivières. These partnerships created an agile turnkey operation and ecosystem, enabled to deliver this successful demonstration project. The hydrogen fuel cell-powered train emits only water and can produce its electricity through green hydrogen made from renewable resources. The Coradia iLint enables sustainable train operation while ensuring the highest levels of performance and comfort.

Over the span of four months, the Coradia iLint saved 8,400 litres of diesel and averted the emission of 22 tons of CO_2 in comparison to the same number of trips made by a diesel train in the UNESCO’s Biosphere Reserve of Charlevoix, where Train de Charlevoix operates. In addition, Alstom and its partners welcomed thirty-four commercial, governmental and regulatory delegations from all over North America to experience this hydrogen-propulsion technology, setting the stage for wider implementation of green transit across North America.

The Coradia iLint was also the first hydrogen-powered train in the world in passenger service, and we have now reached 2.8 million km in service in total on hydrogen. Alstom was listed as one of Fast Company’s World’s Most Innovative Companies in March 2024, and the Coradia iLint demonstration project in the Americas also won the CUTA 2023Environmental Sustainability Award, and the 2023 Hydrogen Mobility Award from the Canadian Hydrogen Convention.

Dominican Republic

Alstom signs maintenance contract for all Santo Domingo Metro trains

Alstom, a world leader in smart and sustainable mobility announced that it has signed a new contract with the Office for the Reorganization of Transport (OPRET) to carry out the comprehensive maintenance service for the entire train fleet of the Santo Domingo Metro. The contract term is for three years. The services that will be provided include the performance of preventive and corrective maintenance of the trains, assistance with incidents and failures in service among others.

"This important contract reinforces Alstom's commitment to the Dominican Republic to provide technological solutions that allow us to offer a quality, clean and reliable modern transportation service to satisfy the mobility needs of the residents of its capital, Santo Domingo. Since the beginning of commercial operation of the Santo Domingo metro Alstom has provided technical support, management, provision of spare parts and materials for the maintenance of the train fleet, maximized the performance of the metro fleet and the system which benefits daily riders who use it," said Iván Moncayo, Manager Director of Alstom Panama and the Dominican Republic.

Alstom realizes the maintenance of the Santo Domingo metro fleet 24 hours a day and on weekends, to minimize disruptions to passengers and increase system reliability.

Santo Domingo Metro

The Santo Domingo Metro is the metropolitan railway network of the city of Santo Domingo, capital of the Dominican Republic. Since the inauguration of the second line in 2016, it is the most extensive metropolitan railway system in the Caribbean. Daily, the two Metro lines, operated by the Office for Transportation Reordering (OPRET) with a fleet of 52 Alstom Metropolis trains, carry around 400,000 passengers. OPRET is currently executing the construction of a 7.5Km extension of Line 2.

Alstom has contributed to the consolidation and growth of the Santo Domingo Metro, both in the provision of rolling stock and in fleet maintenance.

Belgium

Strategic contract with Lineas enables Infrabel to fulfill its core mission even better

For the next six years, Infrabel can lease up to 20 locomotives from Belgian rail operator Lineas. The company is also responsible for their maintenance. The locomotives will be used nationwide as shunting trains. Infrabel has conducted a market consultation at European level.

Logistical lifebuoy

Infrabel has its own fleet of 81 locomotives, but some of them are not available due to maintenance work, breakdowns and overhauls or because the locomotives have to be gradually equipped with the European safety system ETCS*. In addition, capacity utilization fluctuates throughout the year. To cope with all this, the infrastructure manager needs a monthly buffer capacity of 10 to 20 locomotives. The new leasing contract ensures that Infrabel has the right locomotives available when needed. Even if they are needed at very short notice.

Contract with Lineas helps to achieve targets

This buffer capacity is an advantage that should not be underestimated. Among other things, it enables Infrabel to properly fulfill its core task as a rail infrastructure manager and thus achieve the objectives of the Performance Contract concluded with the federal government. Infrabel is setting up various construction sites throughout Belgium. These include equipping the tracks with ETCS, track renewals, daily maintenance and capacity expansions. These are often multi-million euro investments that have been in preparation for years. Locomotives are of crucial importance here, as they are the "workhorses" on a construction site. Infrabel was therefore looking for a partner who could provide additional locomotives if required. Moreover, Infrabel is also strongly committed to "massification", meaning that when a railroad line goes out of service in order to work on it, Infrabel's specialists plan as many construction sites as possible to be completed within a certain period of time. This allows us to work even safer, faster, more efficiently and with less disruption. But you need a lot of locomotives for this strategy. This rental contract partly covers this and helps Infrabel to guarantee safe and punctual train services. The contract, worth 42.5 million euros, has a fixed term of three years and can be extended annually for a further three years.

Belgian company, local know-how

This type of strategic contract is subject to specific rules that must be strictly adhered to. Infrabel is obliged to carry out a European market consultation. Lineas emerged from this legal procedure as the best candidate. Lineas transports goods throughout Europe with a fleet of almost 250 locomotives, and has its headquarters in Belgium. This means that the multi-million euro contract goes to a Belgian company and Belgian employees who know the rail market and Infrabel's needs and methods well. This is an undeniable added value.

Together for a reliable rail network

Lineas is also particularly pleased with the renewal of a solid strategic partnership: in 2020, the company leased locomotives structurally to Infrabel for the first time. The choice of Lineas for this public contract at European level is therefore a recognition of the commitment, professionalism and know-how of all the teams involved. Lineas is first and foremost Europe's largest private rail freight operator. It transports and delivers goods throughout Europe. Every year, around 3 million km are covered on the Belgian rail network. For Lineas, its employees and its customers, it is therefore crucial that the rail network is operated safely and reliably at all times.

Lineas is therefore doubly proud to contribute to Infrabel's objectives of maintaining and developing a safe and efficient rail network - for the benefit of all operators and rail users in the country.

U.K.

Stadler has manufactured half of the new Tyne and Wear Metro fleet

The project to build and supply new trains for the Tyne and Wear Metro has reached a critical milestone, following the completion of 23 of the 46 units being delivered. With testing and commissioning well under way, this is a highly symbolic landmark, demonstrating the progress being made in this transformative programme.

Half of the Tyne and Wear Metro trains that Stadler is manufacturing and delivering for Nexus have now been built, in a move that brings the fleet one step closer to introduction into customer service. Over the coming months, more trains will be made, and testing is continuing on the local network.

New trains will be safe, reliable and comfortable. Modern features will include charging points, air conditioning and there will be an automatic sliding step at every door. This will make it for passengers to get on and off, particularly the operator's 50,000 wheelchair-users, as well as for people with push-chairs, luggage or bicycles.

The lightweight vehicle design, recovery of braking energy and use of highly efficient traction converter technology will cut energy consumption and support net zero. On-board energy storage systems are being fitted on the new trains, so that in future, they will be able to run on an extended network, which will make them even more sustainable.

These trains are METROs, tailormade for metropolitan networks with frequent stops and relatively short journeys. As well as the 46 METRO trains for Nexus, Stadler is delivering 53 METRO trains for the Liverpool City Region and 17 for Glasgow Subway. It has sold 840 all over the world.

Testing on the Tyne and Wear network started last year and is a rigorous, exhaustive, process. Thousands of safety and performance tests are being carried out to make sure the trains are ready for service, covering every aspect of their design from the power supply and braking systems to digital passenger information boards and CCTV cameras.

Earlier this year, Stadler finished the new maintenance facility at Gosforth, which will become the home of the 46 METRO trains being produced. State-of-the-art and purpose-built, it has been designed to a high specification to ensure maximum availability and reliability of the fleet for decades to come. It boasts enviable green credentials and innovative features, hosting a range of activities, including preventative and corrective maintenance and train presentation.

Patrick Küng, project manager, Stadler, commented: "Producing half of the fleet illustrates how far we have come in the project to supply these fantastic new trains for the Tyne and Wear Metro. Safety, reliability and comfort are at the heart of this product, which has been designed with the 21st century passenger in mind. They will transform rail travel in the north east of England."

Michael Richardson, head of fleet and depot replacement programme at Nexus, said: "We're delighted to see that Stadler has reached the halfway stage in the production of new Metro train fleet, which is going to be transformative for our customers and workforce. We're getting a total of 46 new trains and half of the number that we've got on order are now completed. Seven new trains have been delivered so far, and more are set to follow. The testing of the new Metro trains continues on our network. We are making good progress and were aiming to get the first trains into customer service later in the year.

Testing the Stadler Class 555 Metro trains includes 90,000 individual checks. This had previously been taking place overnight when the Metro network is closed. It covers everything from seats and windscreen wipers, to more big-ticket items like brakes, CCTV, doors, wheels, and power supply.

There are approximately 19,000 hours of training time, with the first few trains completing 37,000 kilometres of running, as part of the testing phase."

U.S.A.

Brightline West Selects Siemens to Manufacture High Speed Rail Trainsets

Brightline has announced that Siemens Mobility (Siemens) has been designated the “preferred bidder” to build train sets for the Brightline West high-speed rail project that will connect Las Vegas and Southern California. The contract will include a fleet of ten “American Pioneer 220” (AP 220) train sets to be manufactured, delivered to Nevada and tested to support Brightline West’s timeline of initiating service in 2028.

This announcement came after a multi-year competitive procurement process conducted among multiple global competitors. The selection, which is subject to the conclusion of definitive agreements, is based on specific criteria that included price, manufacturing schedule, train performance (e.g. speed and travel time), ADA compliance, passenger amenities and total passenger capacity. In addition, the criteria considered future interoperability with the California High-Speed Rail project. The trains will be built in accordance with all applicable “Buy America” requirements.

This selection includes a 30-year rolling stock maintenance contract that will be performed at Brightline West’s Vehicle Maintenance Facility in Sloan, NV. At this site, crews will perform routine daily maintenance, as well as long-term overhauls and repairs. This will generate high-paying jobs performing train maintenance activities on a permanent basis.

With the selection, Siemens will introduce the AP220 trainsets which represent a new generation of innovative high-speed technology, featuring the latest in passenger experience, cutting-edge digital technology, and a revolutionary propulsion system, built specifically for the U.S. market. These trains are an evolution of the proven Velaro platform, currently operating in Europe. The AP220 will introduce state-of-the-art technology through an American supply chain spurring the United States to establish a new industry rivaling countries that have had high-speed rail for decades. Siemens will establish a new facility to build the AP220 and will announce the location of America’s first true high-speed rail production center when the contract is finalized.

“Just as we redefined train travel with our trainsets for Brightline Florida, we are excited to pioneer this new frontier of manufacturing and development for Brightline West,” said Michael Reininger, Brightline’s CEO. “The momentum we are building, will culminate in new jobs and a new supply chain that will establish the foundation for a high-speed rail industry from coast to coast.”

“We are excited to work with Brightline to transform rail in America. The high-speed chapter of America’s rail story will build on Siemens’ 40 years of designing, building, testing, delivering and maintaining trains in the United States,” stated Marc Buncher, Siemens Mobility North America CEO. “On behalf of our 4,500 rail employees across the United States, we are excited to be selected to build and maintain America’s first true high-speed trains, which will feature some of the world’s most innovative high-speed rail technology. When they enter service, it will be one of the most pivotal moments in the history of American rail.”

The AP 220 will be the first true high-speed train sets to be built in America and are designed for operational speeds of up to 220 miles per hour. The propulsion system, lighter weight and aerodynamic shape makes it more efficient than other high-speed trains. The AP220 features an ultrawide carbody designed for unparalleled passenger comfort and designed to be the most accessible train on the market, exceeding ADA requirements and allowing for guests in wheelchairs to move with ease from car to car. The seven-car trains will carry between 434-450 passengers, depending on final configuration and can make the trip in less than two hours.

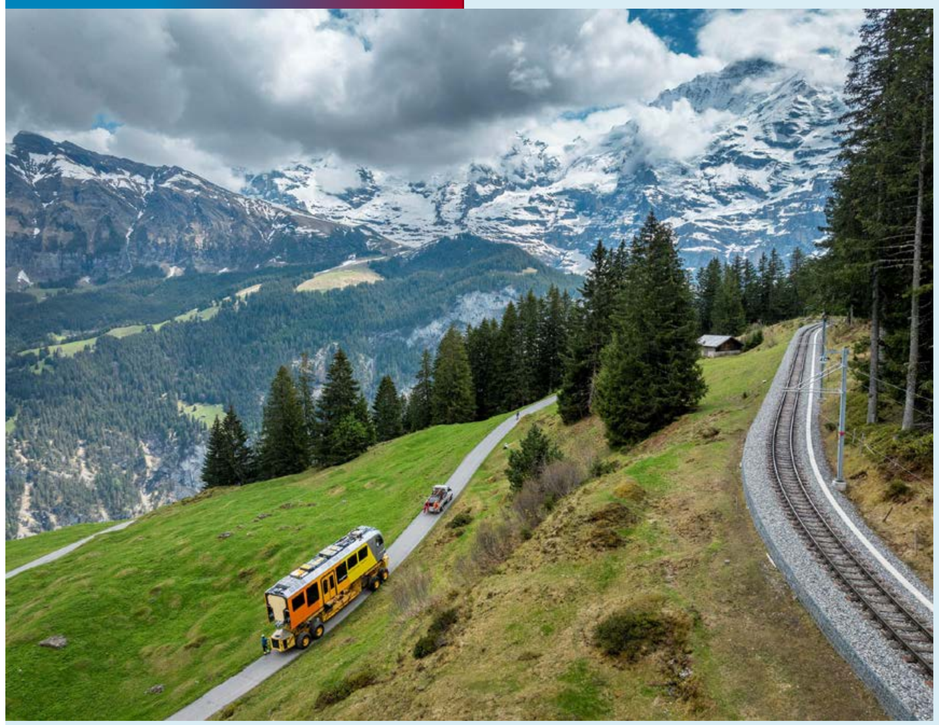
On April 22nd, 2024, Brightline West celebrated its groundbreaking. The 218-mile system will be constructed in the median of the I-15 and is based on Brightline’s vision to connect city pairs that are too short to fly and too far to drive. The system will have stops in Las Vegas, Nev., as well as Victor Valley, Hesperia and Rancho Cucamonga, Calif.

The $12 billion project was recently awarded $3 billion in funding from President Biden’s Bipartisan Infrastructure Bill. The rest of the project will be privately funded.

Brightline partnered with Siemens Mobility to develop the Venture series train sets, which debuted in 2018 on the company’s Florida system.

Switzerland

Lauterbrunnen-Mürren mountain rail and cableway: New rolling stock is transported by road and rail



Another part of the new rolling stock for the Grütschalp-Mürren adhesion railway of the Lauterbrunnen-Mürren mountain rail and cableway (BLM) was delivered on May 13th and 14th. In summer, the new multiple-unit trains will run in mixed operation with the existing trains on the completely renovated line between Grütschalp and Mürren. Various tests are still necessary beforehand, as is usual with new rolling stock. The railway as well as the stations and stops are fulfilling the requirements of the Federal Disability Discrimination Act. In addition, the journey time will be shortened and the capacity increased, which will contribute to increasing the attractiveness of the car-free village of Mürren.

“We are delighted that we can offer locals and guests even more comfort and quality on this important and unique panoramic connection to the car-free village of Mürren,” says Urs Kessler, Director of Jungfrau Railways. The new rolling stock marks the completion of the CHF 63 million, four-year construction project for the total renovation of the adhesion railway. The new multiple units with level access as well as the renovated and extended Grütschalp and Winteregg stations and Mürren station now fulfil the requirements of the Federal Disability Discrimination Act.

Faster with more comfort

“The travelling comfort on the trains is better and more passengers can be transported. The journey time has been shortened by increasing the maximum speed from 30 to 50 km/h, which allows a new operating concept with a double circuit,” says Stefan Wittwer, head of the Lauterbrunnen-Mürren mountain rail and cableway (BLM), explaining the advantages of the new rolling stock. On May 14th, the second part of the multiple unit was lifted onto the track at Winteregg, made roadworthy and then transferred to the Grütschalp workshop.

The first multiple unit had already been delivered in November 2023. Commissioning was carried out during the winter months. The findings from the winter tests could thus be channelled directly into the completion of the other two multiple units. The rolling stock has been delayed because several of Stadler’s suppliers are struggling with supply bottlenecks as a result of the war in Ukraine and the pandemic, and testing and stabling facilities are restricted due to limited track capacity. The type tests at 1600 metres above sea level at night in very wintry conditions with lots of snow were also extremely challenging and therefore took a lot of time.

Modern and comfortable trains

“As a Swiss manufacturer, it is a particular pleasure for us at Stadler to make a contribution to the Swiss rail infrastructure with the new multiple units for the Grütschalp-Mürren adhesion railway,” says Dennis Laubbacher, CEO of Stadler Bussnang AG. “The new multiple units not only offer maximum comfort with spacious panoramic windows and comfortable seats, but also a modern passenger information system,” Laubacher continues. All of this also testifies to the long-standing partnership between Jungfrau Railways and Stadler for quality and innovation.

All new and barrier-free

In addition to the new rolling stock, the renovation work, which also took place as part of the Federal Disability Discrimination Act, also included the now barrier-free toilet facilities on Grütschalp and the lift in the renovated Mürren station. Guests have been able to enjoy the view of Eiger, Moench and Jungfrau from the new bistro on the roof terrace of Grütschalp station since summer 2023. The Winteregg crossing was also renovated, the Grütschalp workshop was modernised and the Winteregg station was not only renovated, but lifts and a passenger subway were also installed.

For the complete renewal of the BLM line between Grütschalp and Mürren, a total of several thousand tonnes of ballast, around 8000 new oak sleepers and around 9600 metres of track have been laid in several stages over the past few years. “The more than four-year construction phase was intensive and long. I am happy that we were able to carry out the work according to plan and that commissioning is now imminent,” says Stefan Wittwer, Head of BLM.

Switzerland

SBB and Stadler are to strengthen rail connections with France thanks to 33 new FLIRT Evo

SBB has signed a contract option for 33 additional FLIRT multiple units. The order is part of the framework agreement signed in 2022 between SBB, Thurbo and RegionAlps for the development and delivery of 510 single-decker FLIRT trains. On signing the framework agreement, Stadler was commissioned to produce 286 FLIRT trains in an initial call-off order in 2022. Just one and a half years later, Stadler unveiled the train to the pubic with the debut of the first of the 286 FLIRT vehicles.

Following the introduction of continuous connections between Switzerland and France in 1997, Stadler is now pleased to be working with SBB to adapt cross-border regional transport to meet the needs of an international economic area. The new vehicles will be used for cross-border transport and will enable more efficient, faster direct connections to operate between Northwestern Switzerland and Alsace. The new multiple units will be approved in Switzerland and France and, from the end of 2030, will be able to take passengers to their destinations more directly and quickly every 30 minutes.

“We are proud to be able to expand rail services to France with our proven best-selling FLIRT model. The signing of this contract option represents a significant step forward for cross-border transport. We are looking forward to working with SBB to offer passengers more comfort and flexibility with our modern FLIRT trains optimised to meet demand, thereby ensuring a better travel experience,” says Peter Spuhler, Chairman of the Board of Directors of Stadler.

Multiple units with special features

The vehicles have two integrated traction current and railway safety systems to ensure operation in both Switzerland and France. In addition, up to three FLIRT Evo can run coupled in France. In Switzerland, mixed traction with other FLIRT Evo up to quadruple traction is also possible. This contributes to flexible deployment and therefore economical operation of the fleet.

The FLIRT trains have been optimised and improved in terms of overall capacity. They provide more storage space for bicycles, pushchairs and large items of luggage. At the same time, the vehicles take into account the needs of passengers with reduced mobility. Each vehicle has a total passenger capacity of 146 seats, or 292 seats in double traction.

Israel

Alstom signs a contract for the light rail system between Haifa and Nazareth in northern Israel

Alstom, member of the HN - Light Rail Line Ltd. consortium and its partners Electra Ltd. & Minrav Ltd., has signed a contract, awarded on February 2024, for the design, finance, construction, operation and maintenance of the light rail system between Haifa and Nazareth issued by Trans Israel company. The NofiT project is valued at 1 billion euro and Alstom’s share is valued at more than 700 million euro[1], including the maintenance contract worth approximately 140 million euro.

Alstom’s responsibility includes the design, engineering, supply, integration, testing and commissioning of the light rail system including tracks, electrification, energy saving power supply, signalling, communication system, depot equipment and the supply and maintenance of 54 Citadis trams. Electra and Minrav will manage the design and construction of the civil works. The operation and maintenance will be performed by a joint venture composed of Electra Afikim, Minrav and Alstom.

“We are proud to be able to support Trans Israel in this project, whose tramway will connect the towns and people of northern Israel” said Eran Cohen, Managing Director Alstom Israel.

Eran adds “We are committed to continuing to do our utmost in creating an efficient, fast and innovative transport system for the benefit of the entire Israeli population. This important project is another step in Israel’s public transport evolution, and a real engine of growth for the entire northern region. Alstom and its partners Electra Ltd. and Minrav Ltd. are convinced that this project will contribute to the growth of the rail ecosystem in the country and support the creation of hundreds of jobs”.

This project is groundbreaking for the promotion of public transportation in northern Israel. The Line, extending from Haifa to Nazareth over 41km with 20 stations, will have state of the art trams and is expected to move 120,000 passengers per day with approximately 21 years of operation and maintenance.

With a track record of more than 30 years and over 8,000 vehicles ordered or in successful revenue service in 140 cities around the world, Alstom is the global leader in tram and light rail solutions. Alstom also leads the industry with proven solutions to make urban transport even safer by providing technologies for obstacle detection, overspeed monitoring, collision prevention and automatic braking, and to integrate seamlessly in urban environments by offering the widest variety of solutions for catenary-free operation.

Alstom is the market leader in rail services, supporting customers over the entire asset lifecycle with the broadest portfolio of services solutions. Alstom’s train operation and system maintenance solutions cover the full spectrum of customer needs, including operations for all types of fleets, maintenance for trains, rail systems and infrastructure, as well as turnkey and Private Public Partnership (PPP) solutions. Customers benefit from reduced operating costs and increased operational efficiencies through technologies and best practices based on over 40 years of experience operating and maintaining trains and systems.

[1] booking expected at financial close, expected in H1 2025/26

Egypt

Alstom celebrates the trial operation of five stations on Cairo Metro line 3 – Phase 3C

Alstom, global leader in smart and sustainable mobility, has successfully supplied, tested and commissioned part of Cairo Metro line 3 – Ph3C with a total of 5 stations from Kit Kat to Cairo University.

His Excellency the Minister of Transport Kamel El Wazir, witnessed the trial operation in the presence of Dr. Tarek Gewaily, Chairman of NAT (National Authority for Tunnels), Mena Azer and Ahmed Abdelhady Project Managers of Alstom Egypt.

Ramy Salah, Managing Director Alstom Egypt, stated: "We are proud to have contributed to the improvement of line 3 of the Cairo metro, providing Alstom's Urbalis signalling solution. Thanks to the remarkable work of our teams, we are improving transport conditions for Egyptians. We remain committed to working with the Egyptian government to meet their expectations and contributing to the development of local competencies to meet Egypt's 2030 vision".

This successful trial operation is part of a series of milestones achieved by Alstom. With the Urbalis solution, an advanced signalling system, we help operators to ease commuter congestion. Constantly upgraded, the solution aids urban operators in maximising their performance and capacity while providing standard supervision and control supporting their operational needs. Designed for heavy ridership metros, the system offers a considerable range of functions that improve headway and average speed performance. Alstom's signalling solution will enable the whole Cairo metro Line 3 to run at speeds of 80 km/h, across 34 stations, 41.2km and ultimate capacity of 60,000 passengers per hour and per direction. The line is operating for 19 hours a day serving and transporting Egyptian citizens.

Alstom has been present in Egypt for over 40 years and has contributed to support the strong trend of railway infrastructure development in the country. Over decades, Alstom Egypt has developed a local talent pool that is today in charge of a centre of excellence related to signalling, Power Supply and Depot Equipment which is supporting our projects within the AMECA region.
It is this heritage that has allowed Alstom Egypt to make a significant contribution to Egypt's rail industry development. Alstom™ and Urbalis™ are protected trademarks of the Alstom Group.

U.K.

Alstom secures £8.8 million contract from c2c for paint and repair of Class 357 fleet in the UK

Alstom, global leader in smart and sustainable mobility, has signed a £8.8 million (€10.3 million) contract with passenger operator c2c for the paint and repair of its Class 357 Electrostar fleet. The contract will involve 74 four-car units, initially built at Alstom's Derby Litchurch Lane site between 1999 and 2002, and currently leased from Angel Trains and Porterbrook. The scope of work on the electric trains includes the repair of huck bolt covers, body end corrosion, side vent corrosion, sole bar corrosion, roof corrosion and the repaint of all the units. This work will be undertaken at Alstom's Ilford depot over a 24-month period. Ilford has a long-established history in the execution of heavy maintenance and modernisation and refurbishment programmes, employing approximately 120 people.

This new contract will support up to 25 additional roles at the Ilford site. A number of UK suppliers – including small and medium-sized enterprises (SMEs) – will also be involved in providing the materials for this project, all of which will adhere to Alstom's ethical and sustainability requirements. For example, water-based paint solutions will be applied, prioritising safety for workers, passengers and the environment.

"We're thrilled to embark on this new journey with c2c, rejuvenating the Class 357 fleet and enhancing the travel experience for fare-paying passengers. This contract underscores Alstom's commitment to sustainable mobility and British craftsmanship, exemplified by our dedicated team at the Ilford depot," said Peter Broadley, Service Managing Director UK and Ireland at Alstom.
He added: "Through this contract, we not only renew the vitality of the Class 357 fleet but also fortify local economies by fostering job creation at our Ilford depot and engaging the wider UK supply chain, including SMEs."

Alstom's Ilford depot opened in 1949 as an AC electric multiple unit (EMU) depot. Today, the site's capabilities include modernisation, refurbishment, vehicle painting, re-branding and overhaul. The depot also provides off-site labour deployment services to customers and other Alstom sites. The site has four main workshops with a capability for C4 (undercarriage) and C6 (body) classified overhauls, a logistics centre, paint facilities, and a ground lathe.

Ilford's combined modernisation, refurbishment and fleet maintenance capabilities include traction system replacement, European Train Control Systems (ETCS) installation, system upgrades, heavy corrosion repairs, structural modifications and asset life extension, steel and aluminium welding capability, minor collision repairs, and vehicle re-wiring.

Alstom is the market leader in rail services, supporting customers over the entire asset lifecycle with the broadest portfolio of services solutions. Alstom's FlexCare Modernise portfolio enhances and extends the lifetime of rolling stock with Life, Smart and Green modernisation solutions. Alstom addresses a wide range of customer needs including minimising lifecycle costs, reducing environmental impact, and enhancing passenger comfort and train performance. Alstom has modernised over 40,000 vehicles around the world.

"Each year c2c continues to achieve some of the best punctuality and reliability figures of any train operator in the country, and it is no coincidence that our fleet of 357 trains are behind these excellent results," said Rob Mullen, Managing Director at c2c.

He added: "As well as maintaining and servicing our trains so they are ready to serve the tens of thousands of customers they carry each day, our dedicated engineering and presentation teams work around the clock to make sure they are always clean and in great condition both inside and out.

"The forthcoming paint and refurbishment work – carried out by our partners at Alstom – will see all of our 74 Class 357 trains refreshed with the distinctive look and feel of our new Class 720 trains. We are excited at the prospect of this work starting and can't wait to get the refreshed trains back out on our route."

Owned by Trenitalia, c2c operate rail passenger services on the London, Tilbury, and Southend line – also known as Essex Thameside – in east London and south Essex. Alongside the Electrostars, they also operate 12 Class 720 Aventra trains, which were also built by Alstom in Derby.

India

Wabtec Inaugurates New Manufacturing Campus in Rohtak India

On May 20th, Wabtec Corporation (NYSE: WAB) inaugurated its new manufacturing campus in Rohtak, India. The new plant represents a $18 million (Rs. 150 crore) investment and will initially manufacture transit rail components and subsystems followed by other Wabtec product lines in the coming years.

Several Wabtec executives were on hand for the grand opening including Pascal Schweitzer, President - Transit Business, Sujatha Narayan, Senior Vice President and India Regional Leader, and Ajay Mani, Managing Director - Transit India.

"India is an important growth market for Wabtec, especially for the transit business," said Schweitzer. "The new site will further improve Wabtec's ability to deliver enhanced value through our diverse product offerings for both Indian and global customers."

The factory, set on 10,000 square meters will start off producing axle mounted disc brake systems, distributor valves, brake calipers, and actuators, as well as friction material for freight cars, metro coaches, and locomotives for Indian Railways and metros. This campus is expected to host many products in the coming months and years that serve the rail, mining, and industrial segments, a testament to Wabtec's commitment to the Indian market and the "Make in India" initiative.

"We intend to grow this site with plans to invest an additional $10 million (Rs. 80 crores) over the next few years," said Narayan. "We currently employ 300 people and as the business grows, we do intend to add another 200 employees with a keen focus on diversity hires."

Wabtec's Transit business in India offers diverse solutions through its manufacturing sites in Hosur and Rohtak, which includes brake systems, couplers, pantographs, relays, air-conditioning systems, passenger access doors, and friction solutions. The company's large engineering presence in Hosur and Bengaluru also provides engineering and service support for Wabtec operations around the world.

Wabtec is one of the largest rail equipment manufacturers in India, having supplied more than 600 locomotives to Indian Railways and with an installed base of subsystems in over 18,000 LHB (Linke Hofmann Busch) coaches and locomotives.

The company currently employs 3,000 people in India.

Norway

NEW CONTRACT AWARDED TO CAF BY CITY OF OSLO TO SUPPLY UNITS FOR THE NORWEGIAN CAPITAL'S METRO NETWORK

Sporveien, the public urban transport operator for the municipality of Oslo, has once again placed its trust in CAF to supply vehicles to operate in the Norwegian capital's urban transport system. In this case, the agreement with CAF includes the supply of 20 metro trains and their corresponding spare parts, with an option to increase the number of units by up to 90 additional units. The base contract exceeds a value of €150 million, which would increase significantly should the customer decide to implement the established options.

The Oslo metro, or T-Bane, is one of the most used means of transport in the city, with more than 85 kilometres of track, split into 6 lines. The new M4000 units for the metro will be vehicles based on CAF's metro platform, called INNEO. These are 3-car two-way units, each of which will have 3 double doors on each side. This design will ensure easy and quick access, thereby optimising stopping times at each of the stations.

The trains will be designed to operate in the severe weather conditions in the Norwegian capital, including snow and extreme temperatures. All bogies will be motor bogies, improving the grip and traction of the unit during operation. Furthermore, the vehicles will also be equipped with on-board batteries, enabling them to reach the next station in the event of an accidental power cut or to manoeuvre at the operator's depot if required. All of the above prioritises efficient energy consumption in order to achieve a sustainable vehicle. Finally, the vehicles will also be prepared to be fully automated for GoA4 autonomous driving if required in the future.

This investment forms part of the operator Sporveien's strategy to meet the anticipated increase in passengers using its services in the coming years. This will enable the company to achieve its goal of increasing transport capacity while also contributing to achieving safer, more efficient and sustainable transport.

This is the third contract that the CAF Group has been awarded in the past few years for the city of Oslo, following a contract in 2022 to supply 183 electric articulated buses, which have been running on the streets of Oslo since last year, and the contract to supply 87 trams which are currently in the process of being delivered. All of the above confirms CAF's recognised expertise as a supplier of the most extensive and cutting-edge range of zero-emission collective transport solutions for today's towns and cities.

Italy

Stazioni del territorio: the FS Group project to regenerate small towns with new services

The initiative aims to enhance and convert 20 stations into multifunctional hubs in municipalities with less than 15,000 inhabitants

Go-ahead for five pilot stations in the 2009 and 2016 earthquake zone of central Italy

Agreements signed with Amazon Locker, Associazione Nazionale Carabinieri, Italian Red Cross, Federfarma, FIMMG, Sport e Salute

Make stations a more valuable part of the social fabric by exploiting their widespread presence throughout the country and converting them into multi-service centres for citizens and local communities.

This is the aim of Stazioni del Territorio, a project promoted by FS Group companies and involving railway stations in municipalities with fewer than 15,000 inhabitants.

The purpose of the initiative is to convert stations into multifunctional hubs by using available space in buildings and disused outdoor areas, and making them available to citizens for multi-purpose and public utility services.

The project was presented at the FS Group's headquarters in Rome by Deputy Prime Minister and Infrastructure and Transport Minister Matteo Salvini, the 2016 Earthquake Repair and Reconstruction Commissioner Guido Castelli, ANCI Secretary General Veronica Nicotra, FS Group CEO Luigi Ferraris, the CEO and Executive Manager of RFI Gianpiero Strisciuglio, the Director of the Luiss School of Government and Co-Director of the Luiss Policy Observatory Giovanni Orsina.

During the presentation, a live link was made to the Popoli-Vittorito station (Pescara).

Spain

Talgo increases its revenue by 31.4% and registers €166.5 million up to March

Talgo S.A., leading company in the design, manufacture, and maintenance of high-speed light trains, registered a revenue of €166.5 m through March, a 31.4% increase over the figure recorded in the same period of the previous year. This revenue growth is mainly due to the increase in the company's manufacturing activity, with projects for the German railway operator, DB, and the Danish railway operator, DSB, as well as the very high-speed powerheads project for Renfe. This was further supported by an increase in recurring revenues from maintenance services.

The company registered an EBITDA of €20.1m in the first quarter of 2024, with a 12% margin growth. This figure endorses the company's industrial action plan, aimed to implemented to mitigate supply chain disruptions and the impact of inflation through the indexation clauses included in manufacturing and maintenance projects, thus. These measures help to reducing project execution risks, while also reducing the impact of materials and commodity volatility. Net profit stood at €10.4m in the first three months of 2024, which represents a significant increase over the €2.4m registered in the same period of the previous year. During the first quarter of 2024, the company's industrial activity has reflected the expected growth, with an increase in the manufacturing pace of ongoing projects. Talgo expects this trend to continue throughout the year.

Backlog and commercial visibility

Talgo has an order backlog of more than €4 bn, with most relevant new manufacturing orders being contract extensions, such as DB and DSB, which include indexation clauses to mitigate potential inflation and execution risks. The order backlog is also supported by recurring maintenance services activity, contributing to business growth with stable long-term contracts. On the commercial side, the company has a global presence with a strong focus in Europe and MENA markets. Talgo also stands out for its experience in the long-distance segment, driven by the latest technological advances such as the increased energy efficiency of trains and greater accessibility, all with the highest standards of quality and safety. The order backlog, at record highs, provides great visibility on the company's revenues and future industrial activity. Moreover, it positions Talgo's cutting-edge technology and know-how as an international benchmark in the decarbonization of passenger transport, especially in the European market.

2024 Outlook

The solid business and the strong project execution performance confirm the outlook set for 2024, which includes a high level of activity and, therefore, a high level of revenue recognitions during this period, with stable EBITDA margins of c. 11.5%. In 2024, Talgo also establishes a Capex investment forecast of c. €30 m and a Net Financial Debt stable vs. 2023 at a leverage of c. 3.0x EBITDA, that reflectings the expected cash requirements of ongoing projects.of stable projects as compared to 2023, at c. 3.0x EBITDA.

Finland

VR FleetCare has delivered the last refurbished metro train to Helsinki Metropolitan Area Transport

The metro modernisation project, which has been ongoing since 2019, was successfully completed when VR FleetCare handed over the final refurbished M200 series metro train to Helsinki Helsinki Metropolitan Area Transport in April 2024, as per the scheduled timeline. The project consisted of two phases: the M100 series was completed in 2023, followed by the M200 series, which was finalised this year, 2024.

Our collaboration with the customer and partners was excellent. Despite minor challenges, the project has been a great demonstration to our growth opportunities and our ability to tackle various challenges and enter new market areas, says Mikko Aalto, Project Manager at VR FleetCare.

The project began in 2019 with the modernisation of 39 M100 series metro trains, manufactured by Valmet/Strömberg between 1979 and 1984. The project was carried out in Pieksämäki and Helsinki. In addition to the refurbishments that improved travel comfort, the metro train bodies were surface-treated and the driver's cabins were updated, including the control desks. The last M100 series metro train was returned to the customer in March 2023.

Following this, the refurbishment work continued with 12 M200 series metro trains. A total of 12 Bombardier metro trains, manufactured between 2000 and 2001, were overhauled at the Helsinki depot. These refurbishments focused on enhancing travel comfort and providing the customer with more sustainable and modern solutions. The last metro train was delivered to Helsinki Region Transport in March 2024.

This project was a confirmation to our commitment to providing high-quality and sustainable solutions for both our customers and the environment. We thank all parties involved in making this project a success, says Toni Harju, Director of Project Services at VR FleetCare.

The metro refurbishment project has been part of VR FleetCare's strategy to expand as a provider of demanding overhauls for rolling stock. This strengthens our competitiveness both in the domestic market and abroad.

Latvia

Rail passenger numbers increase 9% to 17 million passengers in 2023

Last year, rail passenger numbers continued to grow steadily, gradually approaching the pre-pandemic level of 2018, and a total of 17 million passengers used rail services in 2023, an increase of 8.9% compared to 2022. At the same time, due to the geopolitical situation and related factors, freight volumes transported by rail fell 27.6% year-on-year.

External factors continued to affect operations of SJSC "Latvijas dzelzceļš" and its subsidiaries in the past year: as sectoral sanctions against Russia and Belarus expanded, the volumes of freight transported by rail continued to decline. In 2023, a total of 15.6 million tons of freight were transported by rail, which is 5.95 million tons or 27.6% less than in 2022. Imports accounted for the largest share of freight transported at 61.6% of total freight turnover. A key performance indicator of SJSC "Latvijas dzelzceļš" is the number of kilometres run by trains (train-km), which is the basis for calculating the infrastructure use charge and determining the depreciation of the infrastructure.

In 2023, the total train-km stood at 9.77 million, which is 9.1% less compared to 2021, consisting of a 27.7% decrease in freight transportation and a 4.1% increase in passenger transportation. Last year, a total of 3.22 million train-km of public-use railway infrastructure was used for freight traffic and 6.54 million train-km for passenger transport.

Last year, cereal products accounted for the largest share of freight carried at 36.7%, followed by petroleum products at 17%. Coal shipments decreased significantly to 10.7% of the total volume of freight carried by SJSC "Latvijas dzelzceļš". In the meantime, the share of timber and timber products accounted for 2.7% in 2023.

SJSC "Latvijas dzelzceļš" Chairman of the Board Rinalds Pļavnieks: "In 2023, the impact of geopolitical developments on the freight transport industry continued to deepen and LDz, just like other international freight industry companies, is currently going through dynamic and challenging times. Several years ago it became clear that LDz's historical positioning had changed: with freight volumes gradually declining, our priority focus has now completely changed, and we aim to become a modern passenger infrastructure developer, while continuing to develop new services and freight transport for Latvian farmers and other local producers. This change was evidenced by the Group's efficient expansion beyond Latvia last year – LDZ CARGO successfully launched operations in Estonia, and the first shipments in Lithuania were also carried out. Other companies of the Group have also been highly active over the past year in promoting their services in the Baltic countries and elsewhere, signing contracts for significant freight shipments in Central Asia and successfully developing continuing with partners in Ukraine, Poland and elsewhere."

The majority of LDz Group's revenue is generated by "LDZ CARGO" Ltd., one of the key transport and logistics companies in Latvia. In order to increase freight transport volumes and diversify freight segments, in January 2023 "LDZ CARGO" Ltd. commenced freight shipments in Estonia and in June opened a branch in the neighbour country. Throughout 2023, "LDZ CARGO" Ltd. continued work on attracting new customers and developing new routes in Estonia, and in 2023 the company transported a total of 384,000 tons of domestic and transit freight in Estonia. At the end of last year, "LDZ CARGO" Ltd. signed an agreement with LTG INFRA to use Lithuania's public railway infrastructure for development of the company's operations in the neighbouring country.

"LDZ ritošā sastāva serviss" Ltd., another subsidiary of SJSC "Latvijas dzelzceļš", also continued to promote its services in the Baltic countries and elsewhere last year, actively building cooperation with foreign customers and partners and successfully attracting new foreign customers for railway rolling stock repairs. In the meantime, "LDZ Loģistika" Ltd. revenues are generated by the provision of transport and forwarding services, and last year the company furthered cooperation with customers requiring transport of freight from the European Union and other countries via Latvia as a transit country, offering a wide range of services in all modes of transport: roads, sea, rail, and transhipments. "LDZ Loģistika" Ltd. is also actively working on the development of direct business and provision of high added value services, including the development of a full range of 3PL services, and in 2023 container transport volume exceeded 15,000 TEUs.

"LDZ apsardze" Ltd. continued to expand the range of its technical security services and offered customers a broad range of security and fire protection services in 2023. By actively participating in various security services tenders, LDZ Apsardze Ltd. acquired new customers outside of LDz Group.
In 2023, SJSC "Latvijas dzelzceļš" continued its efforts to improve the company's operational efficiency by revising business, organizational and technological procedures in order to increase operational efficiency and reduce costs, as well as to improve the company's competitiveness and sustainable operations. The average number of SJSC "Latvijas dzelzceļš" employees in 2023 was 3,945, while LDz Group as a whole on average employed 6,219 people in 2023.

Net turnover of SJSC "Latvijas dzelzceļš" was EUR 165.41 million in 2023, which is EUR 12.25 million or 8% more than in 2022, while the operating performance result for 2023 is 0.

Despite declining rail freight volumes, LDz Group continued to maintain the quality of infrastructure and services provided as well las the required safety level, and the Group's capital expenditure in 2023 totalled EUR 72 million, of which EUR 51.3 million was invested in infrastructure development, EUR 15.9 million in renovation, and EUR 3.85 million was invested in renovation, modernization and acquisition of fixed and intangible assets of LDZ CARGO Ltd.

In 2023, LDZ continued active work on major infrastructure modernization projects, completing the "Modernization of Riga railway junction Sarkandaugava - Mangali - Ziemelblazma" project last year. In the meantime, the geopolitical situation, coordination of technical solutions with third parties and other unforeseeable circumstances had an impact on meeting the deadlines for projects "Modernization of the railway passenger infrastructure" and "Modernization of the railway infrastructure to increase train speed". Due to these circumstances, contracts concluded for implementation of the projects have been extended and the projects are to be completed between two programming periods for EU funds: 2014-2020 and 2021-2027.
LDz Group continues to work on its key operational priorities – quality infrastructure and a significant expansion of the current operations – while developing new services, improving the efficiency of infrastructure services, and attracting new freights to the Latvian transit corridor.
LDz Group's main priorities and objectives for 2024 deal with a significant increase in operational efficiency and regaining and strengthening of the Group's financial balance, as well as implementation and stabilization of newly developed organizational and technological processes. LDz will also continue to work actively on the development of comfortable and efficient infrastructure for railway passengers, as well as on the improvement of safety on and along the tracks.

From the Archives

France

SNCF BB No. 15001 departs Paris Est with an express to Strasbourg on February 28th 1998. *John Sloane*

From the Archives

Germany

Metronom liveried Class 146-15 stands at Hamburg Harburg on April 30th 2006. *Mark Enderby*

From the Archives

Germany

NEG T4 is seen at Niebull on April 29th 2006. *Mark Enderby*

From the Archives

Peru

Hunslet narrow gauge 2-8-0 No. 107 shunts freight stock at a wayside station whilst working the daily mixed train from Huancayo to Huancavelica at some 10,000ft high in the Andes on December 9th 1981. *John Sloane*

From the Archives

Philippines

A busy scene at the Victorias Milling Co. yard at Victorias as diesel 27 DE arrives with a cane train and 0-8-0TT No. 3 (Hens/26) waits in the sidings beyond on January 30th 1980. *John Sloane*

From the Archives

Russia

On March 21st 2002, No. Chs 4-690 is seen at Rostov on Don with Ukrainian stock. *John Sloane*

From the Archives

U.S.A.

BNSF Nos. 2127, 2901 and 2870 are seen at La Conner on October 10th 2007. *Mark Enderby*