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Contact Us

Editor

david@railtalkmagazine.co.uk

Content Submissions

entries@railtalk.net

Technical & Subscription Support

admin@railtalk.net

Content

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 206Xtra

The main news from Europe this month has to be the sale of Arriva from DB to I Squared Capital.....

Deutsche Bahn AG (DB) and I Squared Capital, a leading global infrastructure investor, have signed an agreement to sell the Arriva Group and all remaining Arriva national companies in ten European markets to I Squared. The transaction is expected to close in 2024, subject to customary closing conditions, including the approval of the DB Supervisory Board and the Federal Ministry of Digital and Transport of the Federal Republic of Germany. As part of the Group's Strong Rail strategy, Deutsche Bahn has already made it clear that it wants to sell Arriva. This will enable additional growth in rail transport in Germany and more investments in the core business. Deutsche Bahn acquired the British company in 2010. In recent years, Deutsche Bahn, together with Arriva, has successfully stabilized the business after the corona pandemic and launched a sustainable growth strategy focused on the relevant markets. This includes the sale of Arriva's businesses in non-core markets, including Sweden and Portugal in 2022 and Serbia, Denmark and Poland (Bus) this year.

Dr. Levin Holle, Director of Finance & Logistics at Deutsche Bahn AG: "We are pleased that I Squared is ready to support Arriva in its future growth. The company has good prospects for sustainable growth with the ongoing market liberalization in Europe. Deutsche Bahn's strategic goal is to make record investments in environmentally friendly rail transport in its core German business. This involves a massive increase in investments together with the German federal government in our rail infrastructure and our trains. The signed purchase contract is therefore in line with the Strong Rail. At the same time, the sale to I Squared brings new opportunities for Arriva to realize its growth potential, for example when it comes to the future electrification of fleets in Europe. For Deutsche Bahn, this is an important step to focus even more on future growth in rail transport in Germany."

I Squared has extensive experience operating critical infrastructure around the world. These include transport, logistics, energy, utilities and digital infrastructures. The company follows a sustainable growth approach across its portfolio and supports managements in improving operational performance. I Squared is also specifically driving forward the energy transition with investments in low-carbon infrastructure. The company is a leading investor in the areas of transport and logistics as well as decarbonization technologies. I Squared invests significant amounts of capital to support companies' transition to sustainable, modern public utilities. I Squared's track record includes TIP Group, a freight services specialist where I Squared has invested heavily in fleet transformation, Aggreko, a global energy solutions company based in Glasgow, and renewable energy specialists Conrad Energy and energy.

"Transport is responsible for around a fifth of global CO_2 emissions. Three quarters of this comes from road traffic. Greener public transportation is therefore critical to the transition to lower carbon infrastructure," said Gautam Bhandari, Global CIO and Managing Partner of I Squared. "Arriva's strategic goals of net-zero operations and fleet decarbonization align closely with our focus on developing companies that accelerate the energy transition. With our investments in green public transport, we want to ensure cleaner air in metropolitan areas. We look forward to working with Arriva and supporting the company's future growth as a bus and rail operator."

Mike Cooper, CEO of Arriva Group, said: "We want a future where people leave their cars at home, a future with less traffic congestion and cleaner air. This transaction marks the next phase for Arriva and will benefit our employees, passengers and the many transport authorities we work in partnership with across Europe enormously. This will enable us to make an even greater contribution to a better future. I Squared has an established track record of supporting companies providing essential services and investing in the energy transition. We are pleased that I Squared has committed to providing Arriva with long-term capital to invest in our business and our people. We are confident that together Arriva and I Squared can play an important role in delivering innovative and sustainable public transport across Europe."

Until next month... **David**

This Page

On the Mecklenburgische Bäderbahn Molli, commonly known as the Molli Bahn, steam loco No. 99.2321 arrives at Heiligendamm on October 15th with the 09:35 Kühlungsborn West to Bad Doberan. *Andy Pratt*

Front Cover

ZSSK Cargo 'Grumpy' Class 751.037 runs its short trip freight through Žilina station on October 4th.

Andy Pratt

On September 14th, VTG Class 240 No. 240.100 is seen at Budapest Kelenfold station. *Mark Armstrong*

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HAD-PRINT
Unit 2-4, France Ind. Complex,
Vivars Way, Canal Road, Selby
North Yorkshire YO8 8BE

info@had-print.co.uk | 01757 600211

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

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Australia

Wabtec and Roy Hill Unveil the First FLXdrive Battery Locomotive

Wabtec and its launch customer, Roy Hill, a leading iron ore miner majority owned by Australia's most successful private company, Hancock Prospecting, have celebrated the debut of the FLXdrive battery locomotive, the world's first 100% battery-powered, heavy-haul locomotive for mainline service.

The ceremony unveiled the unique, striking pink-colored locomotive at Wabtec's design and development center in Pennsylvania in front of employees, customer executives, and government and community officials.

"This FLXdrive locomotive represents a major step in the journey to a low-to-zero-emission future in the rail industry," said Rafael Santana, President & CEO of Wabtec. "The FLXdrive is driven from within by our battery technology and the innovative spirit of our employees. Roy Hill is an ideal customer to partner with given their leadership and excellent operational record."

Roy Hill's FLXdrive battery-electric locomotive will feature an energy capacity of 7 megawatt hours (MWh). Based on the route and company's rail operations, the FLXdrive is anticipated to provide a double-digit percentage reduction in fuel costs and emissions per train. Once Wabtec completes the final battery installations and track testing, the locomotive will begin its 17,000-kilometre (10,500-mile) journey in 2024 for delivery to its new home in the Pilbara region of Western Australia, one of the world's premier mining precincts.

"The foresight of our Executive Chairman, Mrs. Gina Rinehart AO, has been instrumental in establishing an environment in which we can successfully leverage the ingenuity of our people alongside key partners like Wabtec to transform our rail and mining operations through next-generation technologies," said Gerhard Veldsman, Chief Executive Officer, Hancock Prospecting Group Operations.

"The FLXdrive locomotive represents not only a first for the Pilbara, but a first for the mining industry. The technological smarts that have gone into the development of the loco makes it well suited for our rail network. By using regenerative braking, it will charge its battery on the 344 kilometre (214 mile) downhill run from our mine to port facility and use that stored energy to return to the mine, starting the cycle all over again. This will not only enable us to realise energy efficiencies but also lower operating costs."

Today, Roy Hill uses four Wabtec ES44ACi "Evolution Series" diesel-electric locomotives in a consist to pull trains that are typically 2,700 meters (1.6 miles) in length carrying more than 33,000 tonnes of iron ore. The addition of the FLXdrive will form a hybrid locomotive consist with Wabtec diesel-electric locomotives, and recharge during the trip through regenerative braking.

The FLXdrive manages the overall train energy flow and distribution through its state-of-the-art energy management software. It is also designed with a unique battery thermal management system using liquid cooling to withstand the Pilbara heat, where temperatures can reach 55°C (130°F).

Roy Hill's iconic pink livery symbolizes the company's commitment to assisting research and those suffering from breast cancer. To commemorate the FLXdrive's premiere, Roy Hill, and Breast Cancer Awareness Month, Wabtec donated $50,000 to Linked By Pink, a non-profit organization consisting of Erie area survivors diagnosed with breast cancer before the age of 45.

About Roy Hill

Roy Hill is a world-class iron ore operation in Western Australia's mineral rich Pilbara region. Roy Hill is chaired by prominent Australian business leader and current West Australian of the Year, Mrs. Gina Rinehart AO. Roy Hill incorporates an integrated mine, rail, and port facilities, shipping more than 63 million tonnes per annum. Roy Hill's first shipment departed Port Hedland in December 2015 to South Korea and in the years since has established itself as a trusted and reliable producer of iron ore, delivering to steel making markets including Japan, South Korea, India, Malaysia, China, and Vietnam.

Austria

On August 12th, the 'Retro' liveried Class 1144.040 is seen hauling Eurocity train No. EC158 'Croatia', at the foot of the Semmering near Schlöglmühl. *Thomas Niederl*

Austria

International trains on none electrified lines in Austria are very rare, but there are two daily IC trains which take their way from Budapest to Graz via the so called 'Steirische Ostbahn' via Borderstation Szentgotthard. There, the electric GySEV loco must be changed to a Class 2016 diesel to continue to Graz. Here Class 2016.081 is seen at Laßnitzhöhe with train No. IC312. *Thomas Niederl*

A pair of Class 5047 DMUs, Nos. 5047.077 and 5047.063, are seen near Bergen on their way from Schärding via Ried im Innkreis to Attnang Puchheim with train No. R3468 on September 25th. *Thomas Niederl*

On September 1st, the first introduced Desiro unit, Class 5022.001, is seen at Laßnitzhöhe on its way as train No. 4719 to Graz.
Thomas Niederl

Lokomotion Class 186.444 and 189.901 are seen near Jenbach with train No. GAG48867 heading towards Brenner and Italy on September 26th. *Thomas Niederl*

Austria

Freight trains hauled by a pair of Class 1142 engines are becoming very rare because there are only about ten engines of this class still in service. Class 1142.640 and 1142.644 hauling train No. 57672 with wagons load with slag are seen next to Aurachkirchen on their way to Gmunden on September 25th.
Thomas Niederl

Steiermarkbahn No. VT34 with trailer No. VS44, which became the first member painted in the new white livery, are seen near Triebendorf Halt, working train No. R8709 to Tamsweg.
Thomas Niederl

Steiermarkbahn operated DMU No. VT32 and Driving Trailer No. VS43 are seen near to Saurau on October 3rd with a Tamsweg - Unzmarkt service. *Thomas Niederl*

From Jenbach, a cog railway leads to Lake Achensee. In this picture, locomotive No. 4 returns from the lake to Jenbach on September 26th. *Thomas Niederl*

OBB Class 1116.096 is seen near to Langkampfen with a diverted Eurocity train No. EC164 ‘Transalpin’ from Graz Hbf - Zürich HB. on September 26th. *Thomas Niederl*

On October 3rd, Steiermarktbahn DMU No. VT32 and Driving Trailer No. VS43 are seen passing the lake located just a few kilometres after Unzmarkt with train No. R8711. *Thomas Niederl*

A special highlight for railway enthusiasts is the annual transport of the sugar beet harvest. There is no other freight traffic on the Linzer Lokalbahn 'LILO' operated by Stern & Hafferl, but in the autumn, the E20.007 loco, built in 1956, is repeatedly used for beet trains on weekdays. Here it is seen near to Fraham in the morning of October 3rd. *Thomas Niederl*

The upper Murtal is served by a narrow-gauge railway which branches off the ÖBB main line in Unzmarkt and leads to Tamsweg. Until the 1970s the route continued to Mauterndorf. The Steiermarkbahn operates regular passenger services from Unzmarkt - Tamsweg. In this picture DMU No. VT32 and Driving Trailer VS43 are seen near Frojach with train No. R8708 on October 2nd. *Thomas Niederl*

On the diesel lines around Wels, ÖBB have two Class 5047s in the original livery of cream, blue and orange. These two DMUs were transferred from eastern Austria in 2021. On October 3rd, both original liveried DMUs were coupled together and formed the school day only train No. R5954 from Neumarkt Kallham to Ried im Innkreis, here photographed next to Pram-Haag. Sadly, on the following night both trains were defaced by graffiti sprayers during there stand at Ried station. *Thomas Niederl*

Austria

Start of the sugar beet campaign

Since the beginning of October, ÖBB Rail Cargo Group (RCG) has been transporting sugar beets to the factories of the Austrian sugar manufacturer AGRANA. Transports have also started in Hungary.

Until the end of January 2024, RCG transports in the agricultural sector will focus entirely on sugar beets. The sugar manufacturer AGRANA has started sugar beet processing at its refineries in Tulln and Leopoldsdorf in Lower Austria. As is the case every year, after careful planning, everything needs to be done very quickly – locomotives, wagons, and personnel must be organised and ready in the right place at the right time, all within a very short time period. In line with a climate-friendly, sustainable strategy, AGRANA is once again relying on RCG's extensive experience in the ongoing sugar beet campaign.

Almost 1.5 million tonnes in Austria …
At nearly 36 collection points in Lower Austria, Upper Austria, Burgenland, Styria, and Carinthia, sugar beets are collected and loaded onto trains.

Every day, up to 13 trains – either in a single wagonload or in a unit train – carry loads of up to 1,400 net tonnes to the refineries. In total, this amounts to approximately 2.6 million tonnes of conventional sugar beet and 40,000 tonnes of organic sugar beet, cultivated on over 36,000 hectares of farmland. More than half of these sugar beet transports can be attributed to RCG. An estimated 365,000 train kilometres will have been covered by the end of January – a distance that could circle the equator almost ten times.

… and up to 470,000 tonnes in Hungary
The Hungarian subsidiary of RCG has also started transporting sugar beets. Until the end of January 2024, they will be handling four trains daily, covering more than 150,000 kilometres over the course of the campaign.

Starting from approximately 40 shipping points, RCG is expected to transport between 450,000 to 470,000 tonnes to the Magyar Cukor Zrt sugar refinery in the coming months.

20 years of RCT-BILK

The Hungarian subsidiary of the ÖBB Rail Cargo Group (RCG), the Rail Cargo Terminal - BILK (RCT-BILK), is celebrating its 20 years jubilee in October. BILK is the strategic hub of rail, major sea ports in Europe and intermodal terminals on land.

For two decades, the terminal BILK in Budapest has been an important part of the Eurasian strategy of the RCG. From here, there are connections to the docks in Hamburg, Koper, Piraeus and Rijeka, and to intermodal terminals in Vienna, Záhony, Istanbul, Enns, Neuss, Wels, Curtici and Ploiesti. With COSCO SHIPPING Group's investment in RCT-BILK in 2019, the importance of the terminal increased even further. Last year, 130,000 multimodal freight shipments were transported – container, semi-trailer and swap bodies.

Round-the-clock intermodal transport
The terminal covers a total of 22.3 hectares and has seven, 750 meter long, loading sidings, and two, 280 meter long, loading sidings. A special feature of BILK is the round-the-clock transportation of multimodal shipments. It is carried out with help from two portal cranes, nine reach stackers, as well as two terminal tractors and terminal semi-trailers.

At the partner meeting organised on the occasion of the jubilee, Attila Czöndör, member of the board and CEO of RCT-BILK, emphasised that the company intends to give green technology innovations and digitisation developments a decisive role in the future.

New TransFER between Villach and Frosinone

ÖBB Rail Cargo Group (RCG) expands the TransFER Villach–Italy with another connection to Central Italy.

RCG's TransNET is extended by another connection: With the TransFER Villach–Frosinone – as part of the TransFER Villach–Italy.

RCG now offers a safe and environmentally friendly transport solution for all kinds of goods between Villach in Austria and Frosinone in Italy. Strategically located in the centre of Italy and close to Rome, the RCG connection to Frosinone offers easy access to important national and international transport links.

Sustainable and efficient freight transport between Austria and Italy
The transit time between Villach and Frosinone is only one day and the TransFER will initially be offered with one roundtrip per month.

This will later be increased to one round trip per week. Customers benefit from end-to-end logistics solutions with first and last mile as well as the handling of conventional wagonload and container traffic (with profile 22).

Additional forwarding services such as transhipment facilities and warehouse logistics are also available.

Belgium

On a dull August 19th, SNCB Class 18 No. 1867 arrives into Brussel Zuid. *Brian Battersby*

Thalys power car No. 4302 now with Eurostar branding is seen upon arrival at Bruxelles Midi on August 19th. *Brian Battersby*

SNCB Class 18 No. 1901 runs light engine through Bruxelles Midi on August 19th. *Brian Battersby*

Belgium

Infrabel locos Nos. 6282 and 6244 top'n'tail a test coach and are seen outside the SNCB technical centre at Liege-Guillemins. *Class47*

The frames of Class 750.229 are seen in the works sidings at Ceska Trebova. *Class47*

ŠKODA GROUP SIGNS CONTRACT TO SUPPLY 30 ELECTRIC TRAINS WORTH EUR 320 MILLION TO UZBEKISTAN

Škoda Group have announced that they are entering into a contract with Uzbekistan Railways to supply 30 electric trains worth EUR 320 million. The agreement represents the largest contract ever awarded to a Czech company in Uzbekistan. It is a testimony to Czech and European Union companies' importance in Uzbekistan and Central Asia. Uzbek Prime Minister Abdulla Aripov attended the contract signing at Škoda Group's headquarters in the city of Pilsen by Uzbek Transport Minister Ilkhom Makhkamov and his Czech counterpart Martin Kupka.

Škoda will supply Uzbekistan Railways with its broad-gauge electric train units that are already in production for rail operators in Latvia and Estonia. Škoda will begin the production during next year. The project is financed by Czech banks with support of the insurance export agency EGAP.

"The fact that we have been selected as a supplier of trains to Uzbekistan is not only a testament to the high quality of our vehicles, but also a significant step in strengthening international partnerships. This contract confirms the important role we play in shaping the future of international rail transport and we will set strategic cooperation with Uzbekistan Railways. The trains for Uzbekistan will have four cars and broad gauge (1520 mm). The main part of production will be held in our production site in Ostrava and part of the assembling of the vehicles will be held in Uzbekistan," says Zdeněk Sváta, President Region Central East at Škoda Group.

"With these cutting-edge trains, we are on the path to revolutionize our railways and enhance the overall passenger experience. This collaboration is just the beginning of a promising partnership. We recognize the great potential for Škoda in Uzbekistan," says Abdulla Aripov, Prime Minister of Republic of Uzbekistan.

"Lobbying for Czech companies is a standard part of our economic diplomacy. I am glad that our trip to Uzbekistan helped to conclude this contract, which is important for the entire Czech industry. The development of the relationship with Uzbekistan opens the way to this country for other Czech companies, not only in the transport sector," concludes Martin Kupka, Minister of Transport of the Czech Republic.

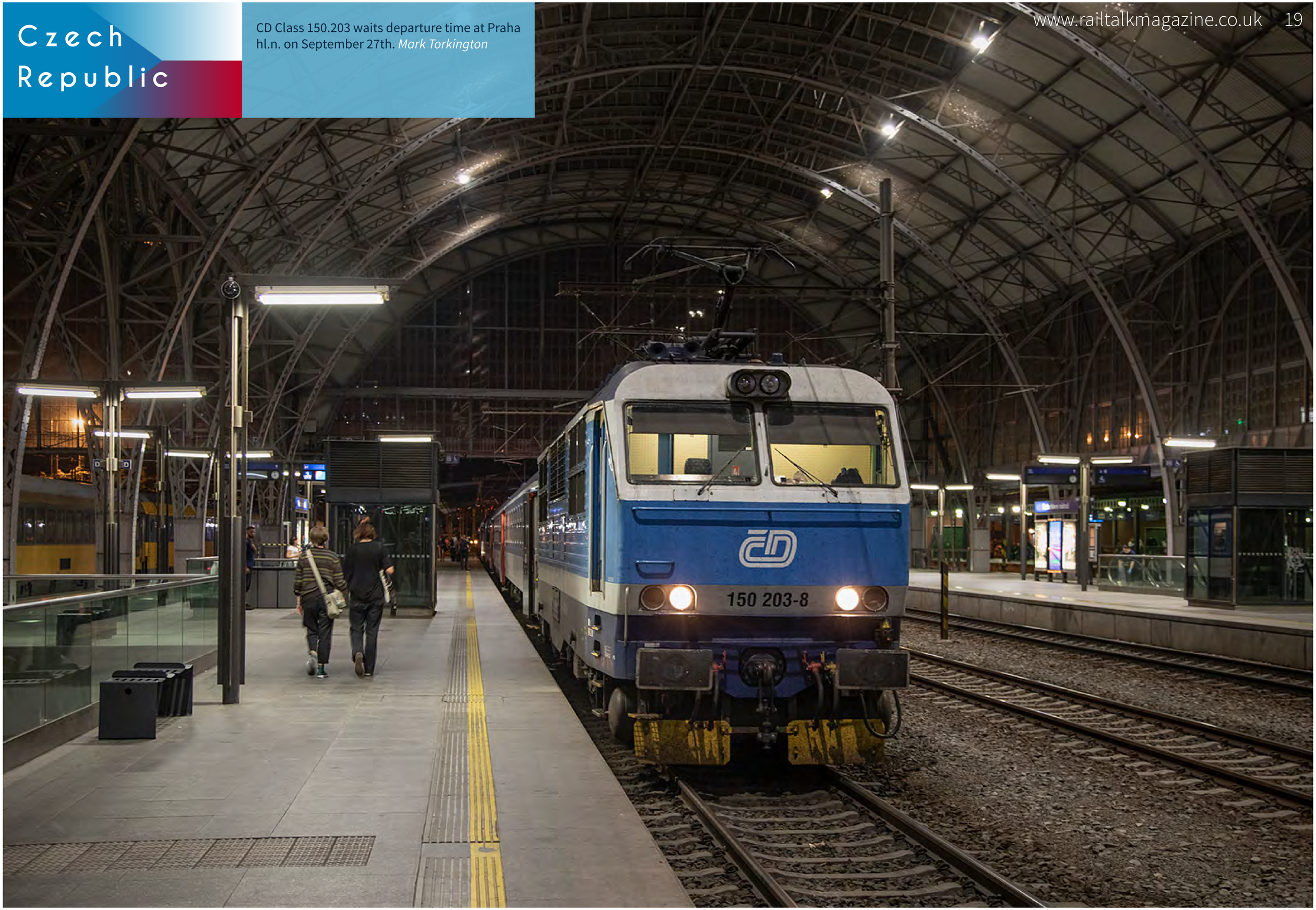
Reliable vehicles for modern mobility

Škoda's modern electric train units offer exceptional performance, reliability and power efficiency. The Uzbekistan Railways units will consist of four cars with a broad gauge, featuring ergonomic seating and a fully air-conditioned interior. Passengers will enjoy onboard Wi-Fi connectivity, and an advanced external and internal camera system will enhance security. The trains will also incorporate partial low-floor design, ensuring full accessibility for all passengers. Production of these units for Uzbekistan will take place at Škoda Group's production facility in Ostrava, well experienced in manufacturing trains for broad gauge tracks. Train sets for Latvia and Estonia are currently in production there.

The rail network in the region is an important part of the Trans-Caspian international transport route, which is intricately linked to the extended Trans-European transport network. The so-called Central Corridor represents the last remaining transport artery between the Far East and the European Union. The Global Gateway strategy emphasises the stabilisation and strengthening of the transport capacity of the Central Corridor. The EU-Central Asia Summit held in Samarkand in November 2022 focused on strengthening sustainable transport links between the EU and Central Asia. Proposed measures include significant investment in rail infrastructure, rolling stock, port facilities and shipping on the Caspian Sea.

Czech Republic

CD Class 150.203 waits departure time at Praha hl.n. on September 27th. *Mark Torkington*



Czech Republic

CD Vectron Class 193.290 departs Prague in the morning sun on September 28th with a service to Berlin. *Mark Torkington*

Czech Republic

Regiojet's TRAXX Class 388.214 sits at Praha hl.n. on the evening of September 27th.
Mark Torkington

Czech Republic

KZC's Class 751.033 waits time at Rakovnik on September 28th with the service to Kralovice u Rakovika. *Mark Torkington*

Czech Republic

Class 751.115 and 751.335 pose for photographers at Greslove Muto during the Grumpy Railtours tour on September 26th.
Mark Torkington

Czech Republic

Class 751.115 runs round at Dolni Lipka about to take the Grumpy Railtours tour up the branch line to Stity on September 27th.
Mark Torkington

Czech Republic

On September 26th, Class 751.335 sits in the sun at Okrisky with the Grumpy Railtours tour.
Mark Torkington

Czech Republic

Erfurter BahnService operated Class 232.083 is seen departing Benešov u Prahy on the rear of a shuttle to Strančice, on September 16th.
Mark Pichowicz

Czech Republic

Steam locos Nos. 354.7152 and 434.2186 stand outside the half roundhouse at Benešov u Prahy during the Festival Parních Lokomotiv on September 16th. *Mark Pichowicz*

Czech Republic

No. T669.0001 (770.001) waits to depart Benešov u Prahy with a shuttle to Sedlčany during the Festival Parních Lokomotiv weekend on September 16th. *Mark Pichowicz*

Czech Republic

Austrian steam loco No. 310.23 stands at Benešov u Prahy after arriving with a train from Zruč nad Sázavou on September 16th.
Mark Pichowicz

Czech Republic

Class 754.008 climbs towards Pecerady working train No. Os9057 09:23 Praha hl.n. to Čerčany on September 17th. *Mark Pichowicz*

Czech Republic

Class 210.059 pauses at Vyšší Brod Klášter working train No. Os18827 11:10 Lipno nad Vltavou to Rybník on September 24th.
Mark Pichowicz

Czech Republic

Having run round it's 2 coach train, KŽC's Class 751.033 is shut down for it's remaining 3½ hour break at Kralovice u Rakovníka before returning to Praha hl.n. at 15:44 on October 1st.
Andy Pratt

Czech Republic

Class 751.335 stands at Jemnice with 'The (elusive) Silver & Green Dream Machine' railtour on September 26th. *Mark Pichowicz*

France

TGV M tests accelerate on the French national railway network

Since June 2023, the future INOUI TGV (5th generation rolling stock, named TGV M) has been undergoing tests on the French national railway network. This campaign, which is being stepped up with the arrival of a new test train, will last until the end of 2023, before the acceptance test phase in 2024.

The TGV M, the future INOUI TGV, from Alstom's Avelia Horizon range, is entering a new phase of testing. Ordered by SNCF Voyageurs for 115 trainsets at a cost of around 3.5 billion euros, it represents the 5thgeneration of TGVs and the realisation of a historic industrial and innovation project between SNCF Voyageurs and the French designer and manufacturer Alstom. It will be rolled out over ten years, starting in 2025, with the first trains running on the Paris-Lyon-Marseille line.

A series of tests required before commercial release

In December 2022, pre-validation tests began at the Velim site, in the Czech Republic. On this closed circuit, the aim was to validate for the first time the train's overall operation at speeds of up to 200 km/h. In March 2023, the future INOUI high-speed train travelled to Vienna for climatic tests. These trials enabled the future train to be tested at extreme temperatures (between -20°C and +40°C). They are critical in the current climate change context, as they will enable to assess the energy efficiency of the future INOUI TGV. The train's resistance to climatic constraints will make an active contribution to the objective of reducing the energy consumption of the future INOUI TGV by 20%. Since June 2023, pre-validation tests have moved to the French national railway network (Réseau Ferré National). They will last until December 2023. They consist of testing and, if necessary, adjusting the train's operation, with trains travelling at speeds of up to 320 km/h.

Two trains are used for this purpose:

- The first train has been running since June 2023, enabling the shunting, energy collection through pantograph, traction, and braking functions to be assessed and validated. It is this train that ran for the first time at the maximum commercial speed of 320km/h, on September 14th 2023 at 3.47pm.
- In October 2023, the pre-validation tests will accelerate with the first runs of a second train. This will enable all the train's safety equipment to be validated.

This new test train is covered with two special liveries (at each end of the train), designed by SNCF Voyageurs and Alstom staff respectively, and will be visible on the Sud Europe Atlantique high-speed line until mid-November. Throughout this period, between 25 and 30 technicians and engineers will be on board to make up the train testing team: experts from SNCF Voyageurs' Rolling Stock Engineering and Alstom teams, drivers, etc.

From January to July 2024, admission tests will be carried out, which consist of testing the operation of the trainset by reproducing the configurations and contexts that it may encounter throughout the real life of the train (single unit, multiple unit, degraded modes, weather conditions, singular points on the network, etc.). They will be conducted by an accredited body on the French national railway network, with traffic running at up to 320 km/h. The admission tests will be used to receive the Marketing Authorisation issued by ERA (the European Railways Agency).

Finally, from autumn 2024, over an extended period prior to the start of commercial service, several trainsets will run throughout the network as part of pre-operation tests. These will assess the train's reliability under operating conditions. All functions will be tested, in particular those relating to passenger comfort. These tests, which will be conducted with the first 4 production trains, will also be an opportunity for drivers and conductors to familiarise themselves with this new train and its innovations.

At the end of all these tests, the future INOUI TGV will have benefited from 350 weeks of cumulative testing and will have covered more than a million kilometres before the first customer experiences the SNCF Voyageurs high-speed train of tomorrow.

State-of-the-art maintenance centres

SNCF Voyageurs has embarked on a major programme to modernise its maintenance centres to accommodate the future INOUI TGV. This work involves adapting maintenance facilities to make them compatible with the future train, for example by installing automated benches that can check several hundred parts in a few seconds. The ecological aspect is also very much present in these investments, and optimal solutions from an energy point of view are encouraged. The 'Technicentre Sud Est Européen' (TSEE), which welcomed the first TGVs in 1981, will be the first to welcome the future INOUI TGV. With its 850 employees, it maintains nearly a quarter of the SNCF Voyageurs TGVs running in France, Italy, Switzerland, Spain, and Germany. The TSEE modernisation project involves investment of nearly €300 million (from 2023 to 2027) and represents the standard for a new generation of maintenance technicentre for SNCF Voyageurs, more modern, more connected, but also more ecological, like the TGV M.

More environmentally friendly, as 64% of the TSEE buildings will be heated by renewable energies and 4,000 m^2 of photovoltaic panels will cover the Technicentre's future car park roof. The TSEE will also be integrated into its neighbourhood by creating a biodiversity corridor between the Bois de Vincennes and the Seine, in Paris. The first phase of the TSEE 4.0 work focused on adapting the 2-track workshop, which can accommodate the future INOUI TGV since July 2023. For this phase, Alstom provided its expertise to SNCF Voyageurs to take into account the specific features of the future INOUI TGV.

The future INOUI TGV promises to usher in a new era in TGV maintenance. It will be a communicating trainset that will provide permanent remote access to technical data and clear information on the state of each of its components. This will make it possible to plan maintenance operations based on the actual condition of the components, and to anticipate breakdowns in doors, air conditioning and, more generally, all the systems that contribute to train operation and passenger comfort.

The TGV maintenance profession will also change with the arrival of the future INOUI TGVs. The day-to-day life of technicians will change, as they will literally be talking to a train, able to explain its problems. Their diagnosis will be more detailed and precise. And work organisation will be made easier because it will be possible, thanks to the data analysis, to anticipate the treatment of a trainset in all its aspects: tools, tasks to be conducted, necessary intervention time.

Alstom launches industrial innovations for the 5th generation of TGVs

To conduct the industrial innovations associated with this new TGV project, Alstom has introduced new industrial processes:

- At Alstom's Belfort site, the creation of a new multi-purpose line dedicated to the new TGV power car. This single line makes it possible to rationalise the footprint of the manufacturing facilities by reducing it by 6,000 m2, automatically resulting in lower electricity and heating consumption.
- At Alstom's La Rochelle site, the creation of a new assembly line for passenger cars. This is a model production line for the rail industry, driven by continuous improvement, which has resulted in greater efficiency, simplified assembly, operator safety and ergonomic workstations. This model line also enables the footprint of the manufacturing facilities to be rationalised, and the associated electricity and heating consumption to be reduced. An office area for support functions (engineering, industrialisation, supply chain, etc.) has also been created as close as possible to the assembly line.

10 French Alstom sites are contributing to this flagship project: La Rochelle and Belfort, as well as Villeurbanne, Ornans, Le Creusot, Tarbes, Petit-Quevilly, Toulouse, Valenciennes, and Saint-Ouen.

Innovations for functional train validation, excluding the physical train

A test laboratory called "TrainLab" has been developed at Alstom's La Rochelle site: functional validation of the train via a "digital twin" is conducted there, without requiring validation on the real train. This laboratory makes it possible to anticipate the validation of the functional train (operation of doors, air conditioning, etc.).

Germany

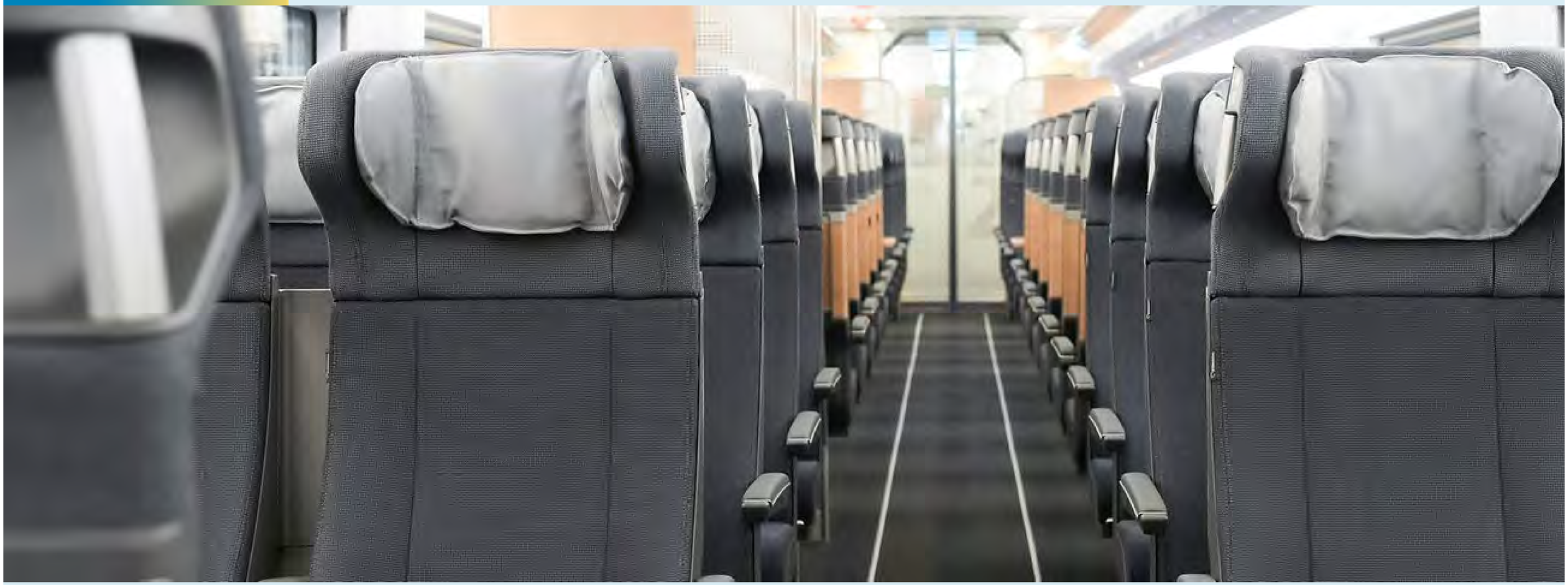
Class 241.008 is seen stabled at Dresden Hbf on August 21st. *Class47*

Germany

DB Class 112.156 stands at Hamburg Hbf on August 19th with an RB81 service to Bad Oldesloe. *Brian Battersby*

Germany

Living room comfort at 300 km/h:
First ICE with new interior design inaugurates service



The new ICE interior design has celebrated its premiere in the 17th ICE 3Neo.

Among its numerous innovations: The completely redeveloped seats are designed as a personal retreat, offering improved adjustment options and even greater comfort. The interior's harmonious new look features modern materials like wood décor accents and premium 85-percent wool upholstery in finely nuanced colours.

Seats in the 1st class are finished in warm gray tones, while blue tones dominate in the 2nd class and burgundy red defines the on-board restaurant. Additional passenger functionality is provided by features like integrated tablet holders and coat hooks in each backrest. With this new interior design, DB is pursuing its strategy to renew its train fleet and further improve travel comfort and convenience. At the Frankfurt Central Station today, representatives of DB and

Siemens saw off the new train on its premiere passenger trip to Cologne – three months earlier than originally planned.

Dr. Michael Peterson, DB Board Member for Long Distance Passenger Transport: "The ICE is a modern design icon and the flagship of our long-distance passenger fleet. Everyone knows the trains with the distinctive red stripe. Now, by introducing a new interior design, we are also taking long-distance travel to a new level of comfort. With specially developed seats, greater privacy, and a refined material and color concept, we are offering our passengers a living room atmosphere and comfort at 300 km/h."

Michael Peter, CEO Siemens Mobility: "We delivered the first trains of the new ICE 3neo fleet in record time – and are now further stepping up the pace. Starting this November, a complete eight-car ICE 3Neo will roll out of our Krefeld plant every 16 days. With our delivery of 90 trains, we are supplying a large part of DB's long-distance transport capacity. Our state-of-the-art technology and new design will significantly rejuvenate the ICE fleet."

With the launch of the new ICE interior design, passengers can now personally experience DB's new design language for long-distance travel across their entire journey – from the new DB Travel Centers and DB Lounges to the ICE 3Neo, the flagship of DB's long-distance fleet. Delivery of 73 additional trains finished in the new interior design will follow by 2028. Since first entering service, the ICE 3Neo has been very popular and has impressed passengers with its high level of reliability.

The ICE 3neo will not remain the only train type featuring the new interior design. At the end of 2024, DB will receive the first of 79 ordered ICE L trains with step-free passenger access. The new interior design will be used for all of the trains. The new ICE 3Neo and ICE L will reduce the average age of ICE and Intercity trains to 12 years, down from 18 at present.

Photo: ©DB AG / Oliver Lang

Germany

TRI operated Class 112.268 pulls into Koln Hbf on August 19th. *Brian Battersby*

Germany

Having successfully negotiated its way past the pedestrians and parked cars on Mollistrasse, Molli Bahn's steam loco No. 99.2322 restarts it's train from the brief halt at Bad Doberan Stadtmitte for the short run to journey's end at Bad Doberan station on October 15th. *Andy Pratt*

Germany

The short stretch of line between Putbus and Lauterbach Mole is laid to dual 750mm and 1435mm gauges. The hourly standard gauge shuttle from Bergen auf Rügen is supplemented by the two hourly steam service on the narrow gauge Rügensche BäderBahn. In reality the line to the harbour is one long siding with no run round loop at the end. The narrow gauge steam has a diesel added to the rear of the train at Putbus to drag the train back.

In this photo we see No. 99.4011 on the buffer stops at Lauterbach Mole with Press Class 251.901 on the other end of the train ready to return to Putbus. *Andy Pratt*

Class 251.901 stands alongside standard gauge 650.032 at Putbus. *Andy Pratt*

Class 650.032 is seen at the end of the line at Lauterbach Mole with the Rügischer Bodden stretch of water just visible in the background. *Andy Pratt*

Germany

Lineas operated Class 186.492 is seen hauling a container train through Aachen Hbf. *Class47*

Germany

DB Regio Südost Bayern Bahn Class 245.003 stands at platform 7 at München Hbf awaiting departure time with train No. RB27029, the 12:07 to Mühldorf (Oberbayern) on October 23rd. *Andy Pratt*

Germany

DB Regio Bayern Class 111.067 stands at the head of train No. RB59154, the 12:26 to Treuchtlingen at München Hbf on October 23rd. The writing on the side of the loco advertises rent or buy used DB stock at www.db-gebrauchtzug.de where you can find, among other things, used Class 218s, 111s and 143s for sale. *Andy Pratt*

Former IRP, now LINEAS Class 1273.102 is seen in Wispenstein with a Nievenheim to Göttingen aluminium train on August 23rd. *Erik de Zeeuw*

On August 22nd, RBH Logistics Class 145.101 passes Linsburg with a rake of tankers heading towards Bremen. *Erik de Zeeuw*

Netzwerkbahn Sachsen (NeS) Class 159.248 speeds through Banteln with a Werra-Kaliregion to Bokeloh lye loaded Innofreight tanktainer train on August 23rd. *Erik de Zeeuw*

DB Fernverkehr Class 101.075 stands at the head of an IC rake in München Hbf on October 23rd. Included in the rake is one of the ill fated Bordbistro coaches, all of which are due to be withdrawn from service at the December timetable change, being replaced by trollies serving from a 1st class compartment. No more hot food or draught beer... *Andy Pratt*

An immaculate Class 110.198 is seen amongst more modern traction at Koln on August 21st. *Class47*

Flex is reaffirming its choice of ELP and is ordering a second EuroDual locomotive!

European Loc Pool (ELP), a leading provider of innovative locomotive leasing services, is pleased to announce the signing of a contract for another EuroDual locomotive with Flex Rail Services GmbH. The signing of the 10-year lease agreement significantly strengthens the partnership between the two companies. Flex has already gained excellent experience with ELP's EuroDual locomotive, which has been in operation at Flex since August 2023.

The EuroDual is a six-axle hybrid locomotive, ideal for the "first and last mile." It has the capability to transport very heavy loads and boasts up to 2.8 MW under diesel power and up to 6.2 MW under electric power.

The EuroDual locomotive that Flex already has in operation is known for its versatility. Jan Habraneck, CEO of Flex Rail Services, stated: "We see the versatility of the EuroDual locomotive as a clear advantage. It opens up new opportunities for a wide range of tasks in freight transportation. The immense flexibility of this locomotive and the option to increase train capacities are crucial factors for us."

The choice of the EuroDual locomotive reflects Flex's strong commitment to sustainability and efficiency in the transportation sector. This focus on sustainability and efficiency is crucial for maximizing the benefits of the railway system. Flex is actively working to minimize the use of diesel locomotives, and these efforts are well-received by customers.

"Flex primarily focuses on spot traffic, which demands a high level of flexibility. In this regard, the EuroDual locomotive stands as the market leader – a true multitasker. It is therefore irreplaceable and unbeatable," says Willem Goosen, CEO of European Loc Pool.

The high availability of the locomotive is another crucial aspect. Jan Habraneck underlines, "In addition to the procurement of the locomotive, which we couldn't handle alone, the locomotive's availability is of paramount importance. ELP has already taken a leading role in this regard by ensuring unprecedented availability, which is of immeasurable value to us."
The delivery of the second EuroDual locomotive to Flex is scheduled for January 2025.

More about the hybrid locomotives
European Loc Pool focuses on innovative six-axle hybrid locomotives with a power output of up to 2.8 MW diesel, 9 MW electric and a traction capacity of 500 kN. As standard, all vehicles are equipped with ETCS Baseline 3 for Level 2 operations. The first ELP EuroDual locomotives have been in service on the German rail network since April 2020. They enable operation on electrified and non-electrified lines as well as load-mile and shunting operations. All dual locomotives are equipped with radio remote control.
From mid-2023, the second generation of ELP's dual locomotives, the Euro9000, were put into service as a hybrid multi-system electric locomotive designed for use in all European corridors. As the "launching

customer," European Loc Pool ordered the first ten Euro9000 locomotives from Stadler in May 2019. The first version with 1.9 MW of diesel and 9 MW of electric power at 500 kN tractive effort will be used in Germany, Austria, the Netherlands, Italy, Belgium, and Switzerland. Subsequently, the locomotive's area of operation will be expanded to other countries and corridors.

Germany

Franconia-Thuringia Express inaugurates with ultra-modern Siemens trains

The movement to modernize regional transport continues to gain momentum: When the timetable changes in December 2023, 18 new Desiro HC double-decker trains from Siemens Mobility will inaugurate service for the Franconia-Thuringia Express. With a top speed of 160 kilometres per hour, 380 seats, spaces for 36 bicycles, WiFi service, high-frequency windowpanes that significantly improve cellphone reception, as well as an electronic passenger information system with 27 monitors, the new Franconia-Thuringia Express operated by DB Regio Bayern offers a special experience for its passengers. The new trains will operate on many routes in the future, such as between Nuremberg and Bamberg daily between 5:00 a.m. and 10:00 p.m. every 30 minutes in both directions. The trains will provide over 10,000 additional seats on this route. DB Regio Bayern and Bayerische Eisenbahngesellschaft (BEG), which plans, finances and controls regional and S-Bahn transport on behalf of the state of Bavaria, presented the new train today together with Siemens Mobility at the Bamberg main station, followed by a press tour through Franconia. The states of Bavaria and Thuringia are investing a total of €320 million in the new train fleet to expand regional transport capacities.

The new, red Desiro HC will begin service for the Franconia-Thuringia Express in two stages: In December 2023, 18 new four-car trains will start operating on four routes in Franconia and southern Thuringia. The second stage will follow in June 2024, when eight new six-car Desiro HC trains, specially designed for a top speed of 190 kilometres per hour and fitted with 634 seats, start running on the VDE 8.1 (German Unity Transport Project Number 8) high-speed line in the direction of Erfurt. They will be among the fastest regional trains operating in Germany. Passenger access to train cars has been optimized for serving the region's busiest stations with a platform height of 0.76 meters.

Bärbel Fuchs, Managing Director of BEG: "Passengers on the Franconia-Thuringia Express can look forward not only to more comfortable new trains, but also to a big improvement in service: On most of the lines, the regional trains will run more frequently than at present. For example, we have ordered and financed 20 percent more regional express trains in order to provide daily half-hour service between Bamberg, Erlangen, and Nuremberg when the new timetable takes effect. And two trains will run every hour between Bamberg and Kronach in the future, providing half-hourly connections for most stations on this route as well. As of June 2024, we will connect Coburg with Bamberg and Nuremberg on an hourly basis via the new high-speed line. The new trains will also provide extremely fast connections five times a day from Franconia to Erfurt, where there are interesting connections to many parts of eastern and northern Germany."

Hansrüdiger Fritz, CEO DB Regio Bayern Regional Management: "The timetable change in December 2023 will mark the beginning of a new era for the Franconia-Thuringia Express. We will be significantly expanding our offering of climate-friendly rail service with the addition of the new trains. On the high-volume Nuremberg-Bamberg route, we will be providing between 100 and 200 additional seats per train. At the same time, a train will run from Nuremberg to Bamberg and back every half hour during the day. Passengers will benefit from greater comfort and convenience, such as WiFi service and highly dependable cell phone reception. We are delighted to be working together with the states of Bavaria and Thuringia as well as Siemens Mobility on the further modernization of our train fleet, and excited that we will be operating even faster trains beginning in June 2024."

Dr. Elmar Zeiler, Head of Commuter and Regional Trains at Siemens Mobility: "Siemens Mobility is proud that our Desiro HC double-decker trains will be making a significant contribution to strengthening rail and driving the mobility transition in our home region of Franconia and Thuringia. The proven Desiro HC trains are especially powerful and comfortable and are highly popular with passengers."

Two-stage concept: The new trains will begin service on these routes
Following the timetable change in December 2023, the four-car Desiro HC will serve as the standard train on the following routes:

- the Nuremberg-Bamberg-Würzburg/Saalfeld Regional Express (on the Nuremberg-Bamberg section in double traction, i.e., two multiple-unit trains coupled together)
- the Nuremberg-Bamberg-Coburg/Saalfeld Regional Express (also operating in double traction on the Nuremberg-Lichtenfels section)
- the Bamberg-Kronach regional train (mixed operation with current trains until June 2024)
- the Nuremberg-Bamberg-Coburg Regional Express via the new VDE 8.1 high-speed line will continue to operate with the existing double-decker trains until June 2024.

Following the minor mid-year timetable change in June 2024, the especially powerful six-car Desiro HC trains will run on the Nuremberg-Bamberg-Coburg-Sonneberg/Erfurt regional express route, via the high-speed VDE 8.1 line. The complexity of developing new trains for this particular route accounts for the two-stage commissioning process.

Photo: ©DB AG/Hans-Martin Issler

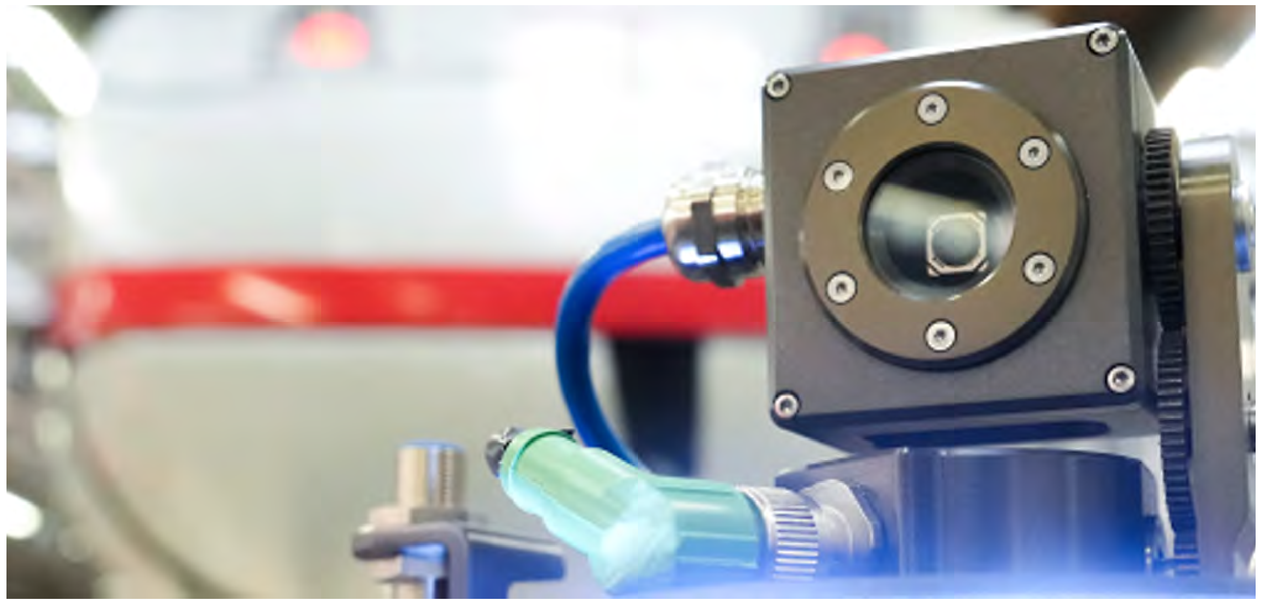
Germany

Digital ICE maintenance: Deutsche Bahn is investing 55 million euros in robots and artificial intelligence

The Deutsche Bahn (DB) train fleet is growing. On average, DB puts three new ICE trains into operation every month. Robots and artificial intelligence (AI) are now being used to maintain the growing number of trains more efficiently and get them back into service for passengers more quickly. The DB is investing 55 million euros in the E-Check process. The first ICE plant to be equipped with the new technology is Cologne-Nippes. Berlin, Dortmund, Hamburg and Munich will follow by 2025. Together with DB board member Michael Peterson, Federal Minister Volker Wissing visited the Cologne-Nippes ICE plant on October 12th.

Dr. Michael Peterson, DB board member for long-distance passenger transport: "By using digital technology, we are revolutionizing the maintenance of ICE trains. Thanks to E-Check, we can virtually create the capacity of an entire ICE plant. This means that the trains will be back in service for our passengers more quickly. With E-Check we are also facing the challenges of a growing fleet and the increasing shortage of skilled workers."
Dr. Volker Wissing, Federal Minister for Digital and Transport: "This project shows the power that lies in the combination of digital technology and human expertise: employees are relieved and at the same time the maintenance capacity of the site increases by 25 percent. In view of our rapidly growing ICE fleet, this is absolutely necessary. I am convinced that we as a society can only achieve our ambitious goals if we use innovative technologies on a large scale instead of thinking up reasons not to."
E-Check consists of several components. With the help of a camera gate and optionally a mobile underfloor device, an ICE is inspected from all sides. An AI evaluates the recordings. Any deviations from the target condition that are identified are reported to the technicians in the factory. The human checks the image and decides whether there really is an error. A work order is then automatically sent to the workshop staff's tablet. The technology is able to detect both the smallest deviations such as a screw that is no longer properly seated, a need for repairs, as well as "blemishes" such as damaged pictograms on the outside of the train.

So-called cobots are responsible for supplying the ICE with fresh water and pumping out the wastewater. The robots are able to fully automatically recognize the position of the connections on different types of trains. To do this, you move along the ICE, open the flap above it and attach the appropriate connection piece. Once the supply or disposal is finished, the cobot independently removes the nozzles, closes the flap and moves to the next trolley.
With E-Check, the specialists in the plants are relieved of standard tasks and can concentrate on demanding tasks such as repairs. Efficiency also increases: the journey of a 374 meter long XXL ICE with 13 cars through the camera gate only takes around five minutes. The entire e-check process with water supply and disposal takes one and a half hours, which is half as long as before when people do this.



K+S is increasingly relying on environmentally friendly rail

K+S, one of Europe's largest fertilizer manufacturers and salt suppliers, is expanding its collaboration with DB Cargo. The existing logistics partnership has now been extended with a 10-year contract. Around 70 million tons of transport volume have been agreed, which is more than a million freight car loads. The company plays a key role in the global food supply thanks to the production of fertilizers. K+S also delivers industrial and food salts to customers worldwide.

Dr. Burkhard Lohr, CEO of K+S AG: "We continue to rely on environmentally friendly modes of transport when transporting our products. For us, DB Cargo is a reliable partner who will guarantee us high availability of freight wagons in the long term and will integrate innovative bulk freight wagons into existing transport."

Dr. Sigrid Nikutta, CEO of DB Cargo AG, CEO of Freight Transport DB AG: "Potash salts and other mineral raw materials from K+S make our lives easier. K+S fertilizers and other ingredients are the basis of many products for agriculture, medicine and industry. As DB Cargo, we make rail logistics for K+S climate-friendly and safe. That's why I'm pleased to now be starting the next chapter of the long-standing success story – thanks to DB Cargo's rail freight transport, K+S saves more than 200,000 truck journeys every year."

K+S has been relying on environmentally friendly rail transport for several decades. DB Cargo currently transports six million tonnes annually.

"To achieve this, we are modernizing DB Cargo's freight wagon fleet," announces Dr. Nikutta: From mid-2025, a total of up to 650 new Tanoos bulk goods wagons will be procured. The trolleys are particularly suitable for transporting K+S products.

DB Cargo takes over rail logistics for K+S at the Verbundwerk Werra locations (Unterbreizbach, Heimboldshausen, Heringen) as well as Neuhof, Sehnde, Zielitz and Baalberge. DB Cargo transports most of the goods for K+S on the routes from the Verbundwerk Werra or Neuhof to Hamburg and from Zielitz to Hamburg. K+S products are shipped from the port of Hamburg to various international markets.

Germany

From December: Super savings prices still available from 17.90 euros

The prices for the BahnCard 50 as well as the starting prices for the Super Saver Prices and Saver Prices at 17.90 euros and 21.90 euros respectively remain stable at Deutsche Bahn. The majority of customers will be traveling as cheaply as before from December onwards. Because now out of ten tickets for single journeys on long-distance transport, eight are saver prices and two are flex prices. However, due to rising costs, the prices for some long-distance transport offers will be adjusted when the timetable changes on December 10, 2023. For these, too, the price increase, at an average of 4.9 percent, remains below the previous general inflation rate in 2023.
The changes at a glance

- Flex prices increase by an average of 4.9 percent. What is new is that in the future customers will also be able to save on flex prices by booking early. Travellers already know this principle from the saver prices: the earlier you book, the cheaper the tickets are. This will also help DB to manage capacity utilization even better in the future.

- The prices for BahnCards increase by an average of 4.9 percent. For example, the BahnCard 25 for 2nd class will now cost 62.90 euros per year (instead of 59.90 euros). The prices for the BahnCard 50 remain unchanged. The prices for route season tickets also increase by an average of 4.9 percent.

- The (super) savings price for seniors will be available as a permanent offer in the future. The cheap tickets are available from 15.90 euros (super saver price for seniors) or 19.90 euros (super saver price for seniors).

- There is a change to the City Ticket . Previously, the City Ticket for free travel or onward travel on public transport was automatically included in all flex prices and saver prices. However, many travellers now have a ticket for local transport with the Germany Ticket. That's why the City Ticket will no longer be available for saver prices in the future. If required, Sparpreis customers and, for the first time, Super Sparpreis customers will receive a city ticket for public transport at the current transport association price. The City Ticket is still always included in the flex prices. Further information can be found at bahn.de/city-ticket .

All information about the innovations can be found at *bahn.de/info/fahrplanwechsel*. Bookings for the new timetable with all offers including trips around the Christmas holidays start on October 11th. Anyone who books their trip up to and including December 9th will still travel at the old prices. Information about the BahnCard campaign is available at *bahn.de/bc25aktion* .

More efficient and environmentally friendly: NRS orders additional EuroDual locomotive from ELP

European Loc Pool (ELP), a leading provider of innovative locomotive leasing services, proudly announces the signing of a contract for a EuroDual locomotive with Nordic Rail Service GmbH (NRS). NRS will thus add the second locomotive of this type to its fleet, having already gained experience with its own EuroDual locomotive.

As emphasized by Jörg Ullrich, Managing Director of Nordic Rail Services GmbH: "A crucial factor is the exceptional load capacity of the EuroDual locomotive and its ability to efficiently handle the so-called 'first and last mile.' This is of great significance as we often operate on non-electrified routes at unloading points and branch lines where the use of electric locomotives is not feasible. The EuroDual locomotive enables us to navigate these routes efficiently and in an environmentally friendly manner."

Nordic Rail Service GmbH (NRS) is a part of the Lübecker Hafen-Gesellschaft (LHG) corporate group. NRS's decision to lease the second EuroDual locomotive is the outcome of a meticulous evaluation process. The EuroDual locomotive offers significant advantages for bulk goods transportation, particularly in terms of its performance and reliability. According to NRS, the EuroDual locomotive offers significant advantages compared to 6-axle diesel locomotives. 6-axle diesel locomotives are more demanding in terms of maintenance due to their diesel engines, whereas the EuroDual additionally provides a diesel-electric concept that is not only more reliable but also more powerful and faster in acceleration. This is crucial for increasing efficiency. Furthermore, operators like NRS benefit from lower operating costs and reduced environmental impact since they can operate more frequently under overhead lines.

The EuroDual locomotive is utilized on various routes in the northern German region, particularly for transporting construction materials. It is used to load materials from quarries and unload them at asphalt plants and transshipment points in non-electrified areas.

"Nordic Rail Service has established a reputation in the heavy freight train transport sector, particularly with its numerous construction material shipments. The company has years of experience in using 6-axle locomotives and is excited to fully transition to the EuroDual as the successor to its pure diesel heavy-duty locomotives," says Emiel Knarren, Sales Manager at ELP.

Jörg Ullrich is pleased with the collaboration with ELP: "We especially value the comprehensive service package that ensures we can focus on the locomotive's operation. The short delivery time also played a crucial role in our decision to choose ELP."

On September 14th, loco No. V43-1110 is seen on display near Katinyi mártírok parkja tram stop (electrical engineering college). *Mark Armstrong*

Hungary

OBB Vectron Class 1293.176 passes through Budapest Kelenfold on September 14th. *Mark Armstrong*

OBB Railjet Class 1116.213 arrives at Budapest Kelenfold with a Eurocity service on September 14th. *Mark Armstrong*

On September 14th, GySEV Vectron Class 471.003 calls at Budapest Kelenfold station. *Mark Armstrong*

Hungary

German registered Akiem/VHID Class 186.356 passes through Budapest Kelenfold station with a rake of timber wagons on September 14th. *Mark Armstrong*

On September 14th, GySEV Class 415.504 calls at Budapest Kelenfold station working a service to Gyor. *Mark Armstrong*

Slovakian Class 240.005 arrives at Budapest Kelenfold with a rake of vans on September 14th. *Mark Armstrong*

Hungary

Slovak operator Budamar's Class 240.083 hauls a rake of grain wagons through Budapest Kelenfold on September 14th. *Mark Armstrong*

On September 14th, Class 740.818 and 740.736 storm through Budapest Kelenfold. *Mark Armstrong*

On tram line No. 17, trams Nos. 4291 and 4103 call at Katinyi mártírok parkja on September 14th. *Mark Armstrong*

The NSB El17 is a class of twelve electric locomotives built by Thyssen-Henschel and Norsk Elektrisk & Brown Boveri (NEBB) for the Norwegian State Railways (NSB). No. 17-2230 on Flåm Line in the line's green livery is seen at the railway museum. *Brian Battersby*

Former Czech railways railbus, now in service with Shortlines, No. SKPL 810.054 'Tomek' is seen at Zagórz on August 4th. *Gerard van Vliet*

Former NS3102, now in service with Shortlines as SKPL No. SN82-001 'Marzanna', is seen at Uherce Mineralne working train No. R30304 to Sanok on August 4th. *Gerard van Vliet*

Slovakia

ZSSK Cargo double electric loco Class 131.072 and 131.071 pass through Žilina station with a freight on October 4th. *Andy Pratt*

Slovakia

On October 5th, their work done for the day, ZSSK Grumpy's Class 752.070 (L) and 752.052, 752.051 and 752.043 (R) with 742.227 just out of sight on the rear take rest on the old depot at Prešov before their next days work. *Andy Pratt*

Slovakia

ZSSK Cargo Class 363.094 passes through Žilina station with a lengthy freight on October 4th. *Andy Pratt*

ZSSK dual voltage Class 361.107 departs Žilina at the head of train No. R708 13:30 to Bratislava hl.st. on October 4th. *Andy Pratt*

ZSSK Class 362.024 departs Vrutky with the late running train No. Ex607 11:27 Bratislava hl.st. - Košice on October 4th. *Andy Pratt*

India

India's first semi high-speed regional train by Alstom – NaMo Bharat gets inaugurated, sets a new world standard in advanced signalling technology

Alstom, global leader in smart and sustainable mobility, has reached a milestone for India's rail revolution with the inauguration of NaMo Bharat with its rolling stock and signalling solutions provided by Alstom India. India's first semi-high-speed regional rail service was flagged off by the Hon'ble Prime Minister Shri Narendra Modi alongside the Chief Minister of Uttar Pradesh, Shri Yogi Adityanath and other government dignitaries. The first phase i.e., the Duhai-Sahibabad section (17 kms) of the Delhi-Meerut corridor which will be operational from October 21st for general public also marks the world debut of the Level 3 ETCS (European Train Control System). This will not only contribute to safety, but also will facilitate interoperability, reduce wait time and enable efficiency. It will be equipped with Automatic Train Operation (ATO) over Long Term Evolution (LTE) in the future to further increase network performance and capacity.

Designed and manufactured in India, the NaMo Bharat reinstates Alstom's commitment to Atmanirbhar Bharat with end-to-end engineering, manufacturing and signalling work done in India. In the last two years, Alstom's 360+ engineers & designers devoted thousands of hours and ran hundreds of hours of tests to deliver the phase-I commitments to National Capital Region Transport Corporation Ltd. (NCRTC). The company is aiming to also achieve its delivery commitments by 2025. Commenting on this landmark moment, Olivier Loison, Managing Director - Alstom India said, "It is a moment of pride for us at Alstom to yet again be a part of India's Rail Revolution. NaMo Bharat will be a first-of-its-kind experience for Indian commuters for its speed, advanced technology and passenger experience. This project also marks the world premiere of several new signalling technologies which will set new benchmarks in the rail space globally. All of this is set to make sustainable mobility at scale real in India. These Made in India trains reflect our robust capabilities, and we are truly humbled to be contributing to India's rail-based infrastructure growth."

World debut of signalling technologies towards modernisation and improved efficiencies

Alstom India is making the world debut of European Train Control System (ETCS) Level 3 signalling, with integrated Platform Screen Doors using Long Term Evolution (LTE) communication with NaMo Bharat. These solutions are designed and stacked together to provide utmost safety to passengers. A key feature of the technology being introduced in RRTS is interoperability, which facilitates seamless commuter movement across the corridors, without the hassle of changing the trains for passengers. ETCS signalling system will not only facilitate interoperability but will also allow to optimise the usage of existing infrastructure, thus reducing the waiting time for passengers. This signalling system provides high level of safety for trains running at close headway of 180 seconds by virtual block implementation (hybrid level 3) to ensure continuous and safe separation and eliminates accidents due to human error. This service also comes with Automatic Train Protection (ATP), Traffic Management System (TMS), Platform Screen Door (PSD) sub-systems using Long Term Evolution (LTE) communication between track side and train.

Sweden

Alstom and FLOX Robotics announce pioneering collaboration on Wildlife Detection Technology

Alstom, global leader in sustainable and smart mobility solutions, and Flox Robotics, an innovator in robotic solutions, reveal their joint strategy for tackling a significant issue in the railway sector: incidents involving wildlife collisions.

The coexistence between wildlife and humans has consistently presented substantial challenges. Due to the speeds and braking distances of trains, the railway industry, often faces unavoidable collisions with wildlife. These incidents result in substantial material damages, emotional trauma for train drivers, and unfortunately, fatalities for the animals. In a world where trains and tracks operate at their maximum capacities, with a growing global awareness of nature conservation, preventing collisions with animals has become a priority.

"As a global leader in mobility solutions, Alstom is strongly committed to more than just connecting places. Our primary focus is to ensure that our innovations respect and protect the world around us. Our collaboration with FLOX Robotics exemplifies this commitment. By addressing the challenge of wildlife collisions, we're taking a significant step towards aligning transportation with environmental harmony. We believe that with technology and determination, we can create solutions that benefit both humanity and nature", says Gaël Chosson, Innovation Station Manager at Alstom.
"We combine state-of-the-art wildlife expertise with artificial intelligence to make sure the solution is multi-species, autonomous and works with high efficiency over long periods of time - to prevent wild animals from becoming accustomed to it, which has proven to be an issue with existing solutions."", says Sara Nozkova, CEO at FLOX Robotics

Innovative Solution

The collaboration introduces an innovative solution designed to repel animals, thereby reducing the likelihood of collisions. Leveraging advanced image analytics and AI algorithms, the technology can identify animals in proximity and emit a tailored repellent noise to deter them. Developed in partnership with the Swedish Agriculture University (SLU), this repellent noise technology adapts over time, ensuring sustained efficiency. Tests conducted in Sweden with Trafikverket, the Swedish National Transport Administration, have confirmed its effectiveness in 88% of cases.

Unlike alternative solutions that lose effectiveness over time as animals acclimate to the repellent noise, the Alstom-FLOX Robotics system ensures prolonged effectiveness.

Traditional systems that emit a consistent noise for all animals often fail to deter certain species.
Moreover, systems that generate noise upon a train's approach can unnecessarily disturb both the local community and wildlife not present on the tracks.
The collaboration aims to roll out pilot projects in selected regions later this year, emphasizing the commitment to environmental conservation and railway safety.

Global Impact

- Sweden reports a staggering 5,000 collisions each year.
- France witnesses 2,000 collisions annually.
- Norway faces 1,250 collisions per annum.

Brazil

Alstom signs a contract with Metrô BH to provide new signalling for Lines 1 and 2 of Belo Horizonte

Alstom, a global leader in smart and sustainable mobility, has signed a contract with Metrô BH, a company under Grupo Comporte, to supply a new signalling system and Operational Control Center (OCC) for Line 1 and its extension, and the new Line 2 of Belo Horizonte's Minas Gerais State metro. As part of this agreement, Alstom will implement an Automatic Train Operation (ATO) system, including new signalling and state-of-the-art onboard equipment. New systems will allow Metrô BH provide more efficient service since the start of operation of the future Line 2.

ATO provides a safer, more efficient and reliable system for riders. This technology ensures the trains stop at the right points and that doors open and close at set intervals. In addition, 48 Automatic Train Control (ATC) systems will be installed to equip 24 new trains that will be acquired in the future, besides the modernisation of existing trains operating on Line 1.

"The contract celebrates a significant transformation in the city's urban mobility. Through the implementation of state-of-the-art signalling technology and the improvement of the Operational Control Center, we are redefining the industry's standards of excellence in Belo Horizonte. The pioneering introduction of the ATO system underscores our commitment to bringing innovation and tangible enhancement to the transportation experience in Belo Horizonte," says Michel Boccaccio, president of Alstom in Brazil and general director for Latin America.

To prepare for the ATO system, Alstom will be installing signalling on 28.1 km of Line 1 on the Eldorado-Vilarinho section, already existing, in addition to a future extension that will include the Novo Eldorado station, with an additional 1.6 km of permanent line extension. Additionally, the São Gabriel yard will be modernised, providing greater efficiency in operations and maintenance. Completion of the new Line 1 signalling, including the extension to the Novo Eldorado station, is scheduled for 2026.

Line 2 will have a total length of 10.5 kilometres of signalling with 7 stations that will extend from Nova Suíça to Barreiro. By 2027, work on line 2, including Barreiro station, will be completed. The concession contract provides that this section will be in operation by 2028. When both lines conclude, there will be approximately 40 kilometres of Alstom signalling in the metro of Belo Horizonte and it is estimated that more than 260,000 passengers will be benefited.

Grupo Comporte

The Comporte Group was founded in Patrocínio, in the Triângulo Mineiro region, and has been operating in the transport market for over 70 years, and currently is one of the biggest mobility operators in Brazil. In the railway sector, the Group has expertise in the tramway that connects Santos to São Vicente (SP), which is run by BR Mobilidade.

The Belo Horizonte metro was auctioned to the private sector on the São Paulo Stock Exchange in December 2022. Grupo Comporte won the service with a bid of R$25.75 million. In March 2023, the concession contract was signed and the company Metrô BH, belonging to the Comporte group, is responsible for managing the metro system in the Metropolitan Region of Belo Horizonte, modernising and expanding Line 1, implementing Line 2 and operating the entire system over the next 30 years.
With the signing of the signalling contract, Grupo Comporte becomes a new Alstom mobility customer in Brazil.

Alstom Brazil

Present in Brazil since 1955, Alstom has actively participated in the development of infrastructure and mobility in the country, promoting social progress and respecting the environment. Leader in rail mobility in the Brazilian market, the company also has the largest installed signalling base in Latin America, with more than 6000 km of signalled lines and more than 2000 pieces of on-board equipment in operation.

Alstom promotes mobility through all rail transport product lines, delivered to the main passenger operators in Brazil, such as São Paulo (SP), Rio de Janeiro (RJ), Porto Alegre (RS), Fortaleza (CE), Recife (PE) and Brasília (DF). The production of rolling stock and the control and signalling systems, responsible for the safe movement of trains, are also present in the development of mobility projects for other countries in Latin America and around the world, such as Argentina, Colombia, Chile, Ecuador, United States, Mexico, Panama, Peru, Dominican Republic, Romania and Taiwan.

ZSSK Cargo 'Grumpys' Nos. 752.070 and 752.051 are seen stabled up for the night at Prešov on October 5th. *Andy Pratt*

Canada

Alstom concludes the successful demonstration of the first commercial service hydrogen-powered train in North America

Alstom have announced the first results of North America's first demonstration of hydrogen-powered trains. The Coradia iLint carried more than 10,000 passengers, over 130 trips spanning 10,660 kilometres in Quebec this summer from mid-June to the end of September. The demonstration saved the railway partner an estimated 8,400 litres of diesel and averted 22 tons of CO2 emissions compared to the diesel trains that normally service this route [1]. Moreover, Alstom and its partners welcomed 34 commercial, governmental and regulatory delegations from all over North America looking to witness this hydrogen-propulsion technology and capture the requirements for wider implementation across North America.

"This summer, we demonstrated that hydrogen trains can be an attractive, safe and viable alternative to diesel on non-electrified lines and that we can do it right here in North America," said Michael Keroullé, President of Alstom in the Americas. "Alstom has clearly taken the lead in supporting rail operators and authorities in their environmental transformation, thanks to its unmatched portfolio of green solutions and its ability to bring together the best players in the industry."

Only 1% of the North American rail network is electrified today. To decarbonise the rail sector in time to meet national, provincial and state-level climate goals, there must be significant investments in track electrification along with the adoption of alternative green traction solutions, including battery-powered and hydrogen-powered trains. Alstom conducted this first-time-in-America demonstration as a proof of concept in real operating conditions for hydrogen trains, which bring multiple benefits, including no carbon emissions from the propulsion system, quieter operations, and a greater operational autonomy before refuelling than battery-powered trains.

There have been several takeaways from this demonstration:

- Hydrogen-powered trains are safe and reliable – if a robust hydrogen ecosystem is available to provide fuel.
- Hydrogen-powered mobility requires an agile and reliable hydrogen fuel production and distribution system. North America is taking the first steps towards building this kind of hydrogen ecosystem. Continued investment and commitment will be needed to scale.
- To unlock the benefits of hydrogen-powered trains, North American decision-makers will need to adapt regulatory standards that were created before hydrogen was conceived for this purpose.
- As this ecosystem matures, it will create new jobs requiring new skillsets around the operation and maintenance of a hydrogen fuel network, hydrogen-powered traction systems and hydrogen fuel cells.

Alstom is partnering with the Hydrogen Research Institute of the Université du Québec à Trois-Rivières to analyse the results of the demonstration project and will issue a final report for public authorities in early 2024.

The demonstration project was made possible thanks to a partnership between Alstom, which supplied and maintained the trains, Train de Charlevoix/Réseau Charlevoix who made their teams and tracks available, Harnois Énergies, which provided the right amount of green hydrogen at the expected pressure, HTEC, which implemented the mobile hydrogen charging solution and Accelera by Cummins, which supplied and maintained the fuel cell during the pilot. The project was also authorised and supported by the Government of Quebec.

Alstom's Coradia iLint is the world's first hydrogen passenger train. It has travelled more than 220,000 kilometres in eight European countries since it started commercial service in 2018. The train is powered by a hydrogen fuel cell that emits only water during operation while ensuring a quieter environment for passengers and those close to tracks. With the demonstration project in Quebec, the hydrogen train proves that it is a viable alternative to diesel on non-electrified lines with low density over long distances for clean, safe and sustainable operation.

[1] First estimate based on an internal study showing emissions typically emitted by a diesel train over a similar distance.

Switzerland

The TRAMLINK starts regular services in Bern

On November 1st, BERNMOBIL will start regular service with the TRAMLINKs. The order, placed at the end of 2019, comprises 20 bi-directional vehicles and 7 one-way vehicles to be delivered between 2023 and 2025. The new trams will replace existing vehicles that are reaching the end of their useful life. The first five vehicles are already in Bern.

With more than 300 TRAMLINKs sold in 15 cities, Stadler trams are setting standards in terms of performance, safety, universal accessibility and comfort. The TRAMLINK trams are already in service e.g. in Erfurt and Rostock (Germany), Gmunden (Austria), Santos (Brazil), and will soon be operating in Jena (Germany) and Milan (Italy). In Switzerland, the TRAMLINK runs on the Waldenburgerbahn, on the Limmattalbahn and on the Lugano-Ponte-Tresa-Bahn, and also in Bern.

"We are particularly proud to supply Bern's new trams and to be able to offer its citizens high standards of travel comfort, safety and accessibility," said Ignacio Erce, Operations VicePresident of Stadler Valencia.

BERNMOBIL's new TRAMLINKs have been designed to meet the mobility needs and infrastructure requirements of the Swiss capital. With 42.5 m long, 2.3 m wide offer large passenger capacity, up to 250 people (at four people per m2 of standing area). The first thing that attracts attention is the vehicle's elegant exterior design and its bright, spacious, barrier-free interior. With wooden seats and large multifunctional areas for wheelchairs or pushchairs next to the doors, the unique interior design serves the comfort of the passengers.

As main innovations, these vehicles incorporate a modern passenger information system, rear cameras instead of rear mirrors, an efficient air conditioning system that works by measuring the CO2 in the passenger compartment to minimize energy consumption and a brake assistance system for collision avoidance. In addition, the TRAMLINK features innovative bogies with real axles for smooth and comfortable driving through the narrow streets of its historic center with small radius curves.

For all these details, the TRAMLINK for BERNMOBIL has been awarded the prestigious Red Dot Design Award 2023.

"With the TRAMLINK, BERNMOBIL now has a state-of-the-art tram fleet that is completely barrier-free," says René Schmied, Director of BERNMOBIL. "This will make public transport in the city and region of Bern even more attractive and sustainable."

Italy

Alpha Trains and Alstom sign Service Agreement

Alpha Trains, Europe's leading leasing company for locomotives and trains, has formalised a Framework Maintenance Service Agreement with Alstom, global leader in smart and sustainable mobility, in Italy. The contract provides for the maintenance of up to 20 TRAXX locomotives manufactured by Alstom at its depots in Italy over a period of eight years.

This extensive, long-term commitment will permit Alpha Trains to enhance its full-service offering of Traxx locomotives throughout Italy.

Through this agreement, Alpha Trains continues to bolster its Europe-wide network of professional and reliable workshops to provide its customers with the best service for maintaining a fleet of highly dependable Traxx locomotives in Italy.

Gianmaria Castori, Commercial Manager for the Italian Market, about this partnership: "The product knowledge, the wide service network as well as the quality of maintenance delivered by Alstom have prompted us to reach this agreement, thereby enabling Alpha Trains to offer an exceptionally reliable fleet of Traxx locomotives throughout Western and Central Europe."

This strategic collaboration between Alpha Trains and Alstom underscores their commitment to sustainable and efficient transportation solutions throughout Europe.

Photo: Alpha Trains and Alstom sign Service Agreement. © Alpha Trains/Alstom/Serse-Zoppi

Luxembourg

Alpha Trains expands fleet with 12 new Stadler EURO9000 locomotives

Alpha Trains and Stadler have signed a contract for the purchase of 12 EURO9000 locomotives. This is the first order of this latest generation of six-axle hybrid multi-system locomotives by Alpha Trains. Scheduled for delivery in 2025 and 2026, these state-of-the-art locomotives will be built at Stadler's factory in Valencia.

The project is funded with a total of 15 million Euros by the German Federal Ministry for Digital and Transport (BMDV) as part of the BMDV's rail funding guideline. The funding guideline is coordinated by NOW GmbH and implemented by Project Management Jülich (PtJ).

The multisystem electric EURO9000 locomotives are also equipped with diesel power units. They enable rail freight operations on AC and DC electrified lines and on non-electrified track sections, even on international routes with mixed traffic. With their advanced traction capabilities and their high-performance, they are ideal for a wide range of freight services and perfectly complement Alpha Trains' large and diverse portfolio.

By investing in efficient and innovative alternative propulsion vehicles, Alpha Trains is helping to reduce diesel consumption and thus improves the sustainability of rail freight.

"The purchase of the EURO9000 demonstrates our company's position as a key player in the industry, and it reflects our commitment to providing leasing solutions that meet the specific needs of our customers.

The exceptional power and efficiency of the EURO9000 locomotives is perfectly in line with our goal to promote sustainable and reliable transport solutions," said Fernando Pérez, CEO of Alpha Trains Group.

The decision in favour of the EURO9000 locomotives continues the long and successful partnership between Alpha Trains and Stadler. Alpha Trains already has an impressive fleet of 121 Stadler locomotives and 162 Stadler multiple-unit passenger trains.

"This new order reinforces our long-standing collaboration with Alpha Trains to offer the market locomotives that support the modal shift from road to rail by increasing the competitiveness of rail freight transport with sustainable, efficient and economically profitable solutions. The EURO9000 locomotive is the latest example," said Iñigo Parra CEO of Stadler Valencia.

About Alpha Trains

Alpha Trains is the leading rolling stock lessor in Europe. A total of 130 employees from 17 countries work in offices in Luxembourg, Antwerp, Cologne, Madrid, Paris and Warsaw. Alpha Trains owns more than 1,000 locomotives and passenger trains and offers tailor-made leasing solutions, comprehensive know-how in maintenance and vehicle repairs as well as long-term experience in the financing of new-build projects.

Alpha Trains' fleets are in use at many public and private operators in 22 European countries. Alpha Trains' shareholders are APG, Arcus European Trains, PGGM and Swiss Life.

U.S.A.

More hydrogen trains for the State of California

The State of California and Stadler have signed a landmark agreement marking a significant step towards a sustainable, emissions-free future for the Golden State. Under this transformative contract, Stadler will provide the California State Transportation Agency (CalSTA) and Caltrans with four state-of-the-art hydrogen-powered trains, with an option to acquire up to 25 additional train sets.

A partnership between Stadler and the San Bernardino County Transportation Authority (SBCTA) paved the way for the creation of the very first hydrogen-powered train in North America. The groundbreaking vehicle was unveiled to the world at two international events: InnoTrans 2022 and APTA EXPO 2023, capturing the attention of industry partners, transit agencies, rail enthusiasts and environmental advocates alike.

Stadler's new hydrogen train has undergone extensive testing in both Switzerland and the USA, affirming its exceptional performance and reliability. The successful trials have led to an unprecedented decision by CalSTA and Caltrans to embark on this innovative path alongside Stadler.

The contract, signed recently, represents the next phase in the collaboration, introducing a further developed SBCTA model with enhanced transport capacity. It demonstrates Caltrans' unwavering commitment to investing in cutting-edge technology that will help California meet its ambitious zero-emission rail mandate.

«Stadler's goal is to help make travel in North America environmentally-friendly through the vehicles and services we provide. Only very few rail lines in the US are electrified, which is why solutions like the FLIRT H2 are so important here.» says Ansgar Brockmeyer, EVP of Marketing and Sales, Stadler Group.

Martin Ritter, CEO Stadler US says «Our design of the battery fuel cell train is changing the US rolling stock industry for alternative propulsion systems, combining the typical Stadler top quality and reliability. We're driving innovation that's not just transforming railways, but the very essence of sustainable transportation in America.»

He adds «This contract is a testament to our relentless pursuit of sustainable, eco-friendly transportation solutions, and we are thrilled to play a pivotal role in California's journey towards a cleaner, greener future.»

As California's next big rail investment unfolds, the deployment of these hydrogen trains across the state is poised to revolutionize the rail industry while significantly reducing carbon emissions.

Stadler's unrivaled expertise in alternative drives positions the company at the forefront of sustainable transportation solutions. California's commitment to a zero-emission rail network, coupled with Stadler's innovative technology, marks a groundbreaking partnership that will have a lasting impact on the environment and the future of rail transportation.

India

DB subsidiary starts operations on new rapid transit network in India

The first section of a new regional rapid transit network has opened in the Indian capital Delhi. In the presence of Prime Minister Narendra Modi, the first state-of-the-art regional trains began operations - controlled by Indian employees of the Deutsche Bahn subsidiary DB International Operations (DB IO).

India's first regional rapid transit system (RRTS) begins operations.
The Regional Rapid Transit System (RRTS) is the first rapid transit network in India. It will connect the cities of Ghaziabad and Meerut with Delhi from 2025. The network is being expanded to a total of 82 kilometres by the National Capital Region Transport Corporation (NCRTC); it includes 25 stations and two depots. Under the name RAPIDX, the service should be able to transport around 800,000 passengers a day at full capacity - comparable to the Hamburg S-Bahn.

The trains travel at up to 160 km/h, making them the fastest in India to date. India is investing around four billion dollars in the project. It is intended primarily to benefit commuters who travel between megacities. The first trains are currently running on the 17-kilometre route between Delhi and Duhai.

In July 2022, DB International Operations received the twelve-year contract for rail operations and maintenance. Since then, the company has, among other things, trained train drivers and station staff, organized the workshops and set up timetables. Trains, stations and other operating facilities were gradually taken over for operations.

"We are here in one of the largest metropolitan areas in the world. India has enormous tasks ahead of it to advance sustainable urban development. We are therefore proud of our team of experts, who made the successful start to the new rail network possible in a very short time. It is a great opportunity to create an India-German partnership for green urban mobility.

At the same time, we can learn a lot – given the state-of-the-art technologies in this project – ahead of their imminent introduction in Germany," said Niko Warbanoff, CEO of the DB ECO Group, of which DB IO is a part.

"This is a long-awaited moment for the people of India. The NCRTC team has worked diligently over the last four years to make this system a reality. The inauguration of this flagship project by the Indian Prime Minister marks the beginning of a new chapter for railways in India. Together with our operating partner DB RRTS India, we aim to set new benchmarks in the quality of services provided to our commuters," added Vinay Kumar Singh, CEO, NCRTC.

The new rapid transit network will be equipped with the latest technology. These include the ETCS Level 2/Hybrid Level 3 train control system and automatic train operation. This technology, which uses LTE communication, will also be used in Germany in the future. The technology and knowledge transfer also strengthens the German railway system. DB IO specializes in the operation and maintenance of rail transport systems and is responsible for DB's international operating projects outside of Europe.

Finland

Track Condition Monitoring from In-Service Trains is Introduced in Finland

In a comprehensive track infrastructure condition monitoring pilot project, commercial trains will be utilised to collect data from various rail sections on a daily basis. The pilot project will focus on monitoring the condition of elements such as isolation joints and switches and detecting rail defects and fractures. Also changes in stiffness of the supporting structures and locations causing instability of ride will be detected.

The project aims to explore the benefits of continuous rail infrastructure condition monitoring for enabling faster and cost-effective responses to network defects and for making it possible to determine the optimal moment to apply proactive maintenance. The pilot consists of an already completed three-month preparatory phase and a one-year measurement and monitoring period. VR FleetCare, in collaboration with EKE-Electronics, is providing this service to the Finnish Transport Infrastructure Agency (FTIA).

Measurement equipment has been installed in a Sr2 locomotive operated by VR, which operates according to normal fleet control. Measurement data is collected daily from an average distance of 800 kilometres, amounting to approximately 260,000 kilometre of different rail sections over the entire measurement period. The data from the measurement equipment will be analysed using the SmartVision™ platform by EKE-Electronics. The same equipment also provides real-time monitoring of the locomotive's bogies and drive motors.

"Condition monitoring has long been employed in proactive maintenance across various industries and through various methods. In the maintenance of rail networks, we must increasingly shift towards predicting faults and taking planned actions based on actual conditions. This ensures precise and safe train operations in a cost-effective manner. Through this trial, we aim to test a new approach to monitoring the condition of different rail components and work towards more systematic, condition-based maintenance," explains Marko Lehtosaari, an expert in rail maintenance at FTIA. During the pilot project, FTIA will have access to real-time condition data of its network via the user interface of SmartVision™ Track Condition Monitoring, as well as further analysis services provided by experts of VR FleetCare and EKE-Electronics.

"We have been developing this solution together with EKE for several years, so it is exciting to collaborate with FTIA to validate the benefits of this new measurement method in maintaining the rail network. Undisturbed and efficient traffic is naturally our goal as a rolling stock maintainer. With that in mind, we are advancing our digital condition monitoring solutions," states Sami Kalevirta, Head on Digital Solutions at VR FleetCare.

France

SNCF Voyageurs and Alstom present the first of five battery-powered trains ordered by the French regions

Alstom, global leader in smart and sustainable mobility, and SNCF Voyageurs presented the first battery-powered Regional Train (TER) on October 18th at the Rencontres Nationales du Transport Public, in Clermont-Ferrand.

The Auvergne-Rhône-Alpes, Hauts-de-France, Nouvelle-Aquitaine, Occitanie Pyrénées-Méditerranée and Sud Provence-Alpes-Côte d'Azur regions have been working with SNCF Voyageurs and Alstom since 2021 on a project to develop battery-powered trains, to help reduce CO2 emissions on non-electric lines. Five dual-mode electric-diesel trainsets are to be modified by replacing their diesel engines with batteries, in order to become 100% electric. The first battery-powered trainset entrusted by the Nouvelle-Aquitaine Region left the Crespin Alstom site during the summer and has just begun its dynamic tests.

"Decarbonising mobility is at the heart of Alstom's strategy, and the battery solution completes our range of relevant solutions, along with hydrogen and hybridisation, to reduce greenhouse gas emissions from mobility," said Jean-Baptiste Eyméoud, President of Alstom France. "In this respect, we are proud to be able to present the first battery-powered TER, developed in collaboration with SNCF Voyageurs and with the support of the five partner Regions".

An innovative project to decarbonise rail transport

Launched in 2021, the first order is for five trainsets, some of which have already been in service for almost 20 years on the railway networks of the partner regions.

Now equipped with a new, cleaner and more environmentally-friendly traction system, they will be put back into commercial service to run on electrified and non-electrified lines for a further 20 years.

A successful first tune-up

A static and dynamic development phase at up to 60 km/h took place during the summer of 2023 at the Crespin Alstom site, in order to check the train's operation and test its battery-powered traction mode. The first trials show that the battery charging and discharging system is working properly.

Tests are now continuing at the Centre d'essais ferroviaires at Bar-le-Duc, with validation and certification tests at up to 160 km/h. The train's new traction modes will be tested, in order to validate the various route simulation models under operating conditions identical to those in commercial service.

Next steps

The final phase of tests on the French national railway network (RFN) is scheduled for December 2023 and January 2024. These tests should prove that the train is compatible with the existing French infrastructure. They will enable SNCF Voyageurs to finalise the admission file that will be submitted to the Etablissement Public de Sécurité Ferroviaire (EPSF), with a view to obtaining the necessary authorisations for its commercial service.

The aim is for this new so called "AGC batteries" model of regional train to be authorised to enter commercial service as from December 2024 in the partner Regions, during an initial experimental period, enabling the technology to be rolled out on a larger scale. The overall budget for the project, including the pre-production run of five trainsets, is 40.2 million euro, co-financed by the partners as follows: each Region contributing 5.7 million euro, Alstom 5.5 million euro and SNCF 6 million euro.

Poland

Alstom and Łukasiewicz – Poznań Institute of Technology sign a letter of intent regarding cooperation

Alstom, global leader in smart and sustainable mobility, has signed a letter of intent with Łukasiewicz – Poznań Institute of Technology. The letter of intent aims to launch cooperation in the fields of innovative solutions for the rail transport industry. It includes technical and implementation analyses, with both Alstom and Łukasiewicz – PIT jointly undertaking initiatives for the interested agglomerations and municipalities in Poland. "As the largest employer and exporter in the Polish railway industry, we provide access to state-of-the-art technologies for sustainable mobility on a global scale. For many years, our local teams have been successfully executing international contracts that demand a high level of expertise. We want to combine our practical, professional experience, as well as unique knowledge and experience in the Polish market, with the recognised scientific and research team of the Łukasiewicz Network.

I am confident that our collaboration will facilitate the development of innovative solutions which in turn will drive further dynamic growth in the railway industry within Poland," declared Sławomir Cyza, Managing Director of Alstom in Poland, Ukraine and the Baltic Countries.

Łukasiewicz – PIT conducts research, development, and innovation work in the field of new and modernised rolling stock. The centre implements projects related to the development of all types of rail vehicles, including locomotives, multiple units, passenger and freight wagons, trams, rail buses, and rail-road vehicles. In addition to the extensive development of entire vehicles, this work also includes important assemblies and subassemblies, as well as their modernisation.

"One of our key goals is to expand the scope of cooperation to foreign markets. Alstom is a very good partner with whom we can exchange knowledge and international experience in the rail industry. The solutions we offer are interdisciplinary and therefore innovative. We combine artificial intelligence, logistics, railways and other research areas that we deal with on a daily basis. We also develop projects in the field of sustainable transport. This cooperation is a great example of implementing the idea of science for business," said Aleksandra Remelska, the Deputy Director for Finance at Łukasiewicz – Poznań Institute of Technology.

Alstom has cooperated with Polish research centres and universities for many years. Since 2014, the Katowice site has organised numerous courses and teaching activities at various faculties of the Silesian University of Technology. These encompass subjects like the design of secure and interdependent systems, electrical engineering, and software. The company has also provided the University with specialised Local Control Center software and offered year-round internships to the University's students from around the world. Out of over 280 trained students, approx. 90 people have decided, so far, to continue their professional career at Alstom.

In February 2023, Alstom signed an agreement with the Kraków University of Technology, which includes, among others, cooperation related to research and graduates' careers, promoting achievements in the development of modern railway traffic control systems, as well as constant exchange of knowledge, experience, and competences in this field. As part of its teaching and research activities, the Kraków University of Technology, in cooperation with Alstom, organises education related to railway traffic control at engineering, doctoral and postgraduate levels.

In September 2023, Alstom signed a letter of intent with the Polish Railway Institute, as well as with leaders of mobile technologies, regarding the implementation and testing of FRMCS – an advanced communication standard based on 5G technology. The implementation of this new standard is a key step towards a full digitisation of rail transport in Poland. The cooperation assumes joint research and development projects, verification of requirements and solutions in real railway conditions.

Saudi Arabia

Saudi Arabia Railways (SAR) partners with Alstom to showcase the world's first passenger hydrogen train in the Kingdom of Saudi Arabia

Saudi Arabia Railways (SAR), in partnership with Alstom, a global leader in smart and sustainable mobility, will operate and demonstrate the world's first passenger hydrogen-powered train, the Coradia iLint in Riyadh in the month of October. This ground-breaking demonstration marks the first-ever introduction of a hydrogen-powered train in the Middle East and Africa.

The collaboration between SAR and Alstom signifies a strong focus by the Kingdom to identify and test innovative sustainable mobility solutions to reduce carbon emissions from transport and meet Vision 2030 targets set by the Kingdom's leadership.

The planned demonstration follows the memorandum of understanding signed by SAR and Alstom in September 2022 to develop or adapt hydrogen solutions for the needs of the Kingdom. Alstom's Coradia iLint, a hydrogen-powered passenger train will embark on a first-of-its-kind journey in the Kingdom, travelling 10 to 20 kilometres on Riyadh's East Network's Line 1 or Line 2.

Dr. Bashar Al-Malik, CEO of Saudi Arabia Railways (SAR), stated, "SAR is fully committed to its essential national role, implementing game-changing initiatives in line with our strategic framework, closely aligned with the National Transport and Logistics Strategy (NTLS)." He went on to emphasize the significance of the hydrogen train, declaring it to be one of the most crucial modern innovations in sustainable transportation. "Driven by emission-free energy generation, the hydrogen train offers a myriad of benefits, making it a compelling choice for sustainable energy solutions. Its positive impact spans across the environment, economy, and the future of generations to come."

"This is a remarkable milestone in the history of Saudi Arabia Railways and Alstom. Alstom is honoured to partner with SAR to showcase our hydrogen train in Riyadh. This collaboration signifies our shared commitment to sustainable transportation and our dedication to driving innovation in the railway industry. Hydrogen trains hold immense potential in reducing carbon emissions and providing a viable alternative to diesel trains for non-electrified lines. This is a major steppingstone in co-developing hydrogen-powered train systems for operations suitable for and meeting the increasing capacity need of the Kingdom and SAR networks.

We are committed to working with SAR in their drive to support the Kingdom's engagements on clean energy and a net-zero target by 2060,"said Mohamed Khalil, Managing Director of Alstom in Saudi Arabia.

The Coradia iLint is the world's first passenger train powered by hydrogen fuel cells that generate electrical energy for propulsion. Last year, the train travelled 1,175 km without refuelling its hydrogen tanks. This first zero direct CO2 emission train is quiet and emits only water during operation, and features several innovations: clean energy conversion, flexible energy storage and smart management of the traction power and available energy. Alstom has developed hydrogen traction solutions across multiple platforms and has signed several contracts for hydrogen fuel cell-powered trains. The first two fleets started commercial passenger service in Germany last year.

Italy

FNM and Alstom present Italy's first hydrogen-powered train

FNM, the leading integrated group in sustainable mobility in Lombardy, have presented, jointly with the manufacturer Alstom, global leader in smart and sustainable mobility, the hydrogen-powered Coradia Stream train that marks the beginning of a new era in passenger rail transport in Italy.

The event was held as part of EXPO Ferroviaria 2023. The train will enter commercial service in Valcamonica between the end of 2024 and the beginning of 2025, along the non-electrified Brescia-Iseo-Edolo line of FERROVIENORD on which the rail service is operated by Trenord, as part of the H2iseO project, which aims to create Italy's first Hydrogen Valley in the area of Brescia. The hydrogen-powered Coradia Stream meets the European target of reducing CO2 emissions by 100 percent by 2050 and is the first zero direct CO2 emission train for Italy equipped with hydrogen fuel cells, with a total capacity of 260 seats and a range of more than 600 km.

The presentation ceremony was attended by Sen. Matteo Salvini, Vice-President of the Council of Ministers and Minister of Infrastructure and Transport, Sen. Alessandro Morelli, Undersecretary of State to the Presidency of the Council of Ministers, the Lombardy Region, present with Councillors Franco Lucente (Transport and Sustainable Mobility), Claudia Maria Terzi (Infrastructure and Public Works). Also speaking were FNM President Andrea Gibelli, FERROVIENORD President Fulvio Caradonna, Trenord President Federica Santini, Trenord CEO and FNM General Manager Marco Piuri, Alstom President of Europe Region Gian Luca Erbacci, and Alstom Italy General Manager and President and CEO of Alstom Ferroviaria, Michele Viale.

This event follows the agreement signed by FNM and Alstom in November 2020 to supply Trenord with six hydrogen fuel cell trains, with an option for eight more. The introduction of the hydrogen train is part of the H2iseO Hydrogen Valley project. Promoted by FNM, FERROVIENORD and Trenord, H2iseO aims to develop an economic and industrial hydrogen supply chain in Valcamonica, starting from the mobility sector, initiate the energy conversion of the territory, and contribute to the decarbonisation of a significant part of local public transport. It is a highly innovative project, which envisages, among other things, the construction of 3 plants for the production, storage and distribution of renewable hydrogen without CO2 emissions (in Brescia, Iseo and Edolo), as well as the commissioning of 40 hydrogen buses to replace the entire fleet used today by FNM Autoservizi.

The new hydrogen-powered trains are based on the model of Alstom's single-deck Coradia Stream regional train, aimed at the European market and already produced by Alstom in Italy. The hydrogen-powered Coradia Stream will maintain the high standards of comfort already appreciated by passengers in its electric version and will provide the same operating performance as diesel trains, including range. The hydrogen-powered Coradia Stream can operate on non-electrified lines as a replacement for trains using fossil fuels, and offers comfort and quietness characteristics comparable to other electric Coradia models, with a range of more than 600 km.
The train was created and produced at Alstom's plants in Italy, involving the Savigliano site for development, certification, production and testing,

the Vado Ligure site for the outfitting of the "power car" in which the technologically innovative hydrogen-related part is installed, the Sesto San Giovanni site for components and the Bologna site for the development of the signalling system.

"This event marks a milestone in the journey started by the FNM Group in November 2020 with H2iseO," explained FNM President Andrea Gibelli. "This is a project with a high innovation content, embracing social, economic, geographic, environmental and mobility dimensions, and it has great value in terms of sustainability because it allows us to use the already existing railway infrastructure by putting new hydrogen trains into service, which are able to cut emissions, contribute to the decarbonisation of mobility in the valley and ensure greater comfort for travellers. In addition, the creation of an economic and industrial district based on hydrogen, starting with but not limited to rail mobility, will have positive effects on the economy and employment in the area."

Ukraine

The first grain container train from Ukraine arrives in the port of Riga

The company "Rīgas Universālais Terminmāls" (Riga Universal Terminal - RUT) has recently received and unloaded the first test train with Ukrainian cereal products, which was delivered to the Freeport of Riga by SIA LDZ CARGO, a subsidiary of the SJSC "Latvijas dzelzceļš". 1423 tons of rapeseed from Ukraine were delivered in 54 containers. Containers from Ukraine arrived at the port of Riga via the Kaunas intermodal railway terminal, where they were loaded onto the platforms of SIA LDZ CARGO to be delivered to Riga. Currently, Ukrainian rapeseed has been unloaded and stored in RUT warehouses.

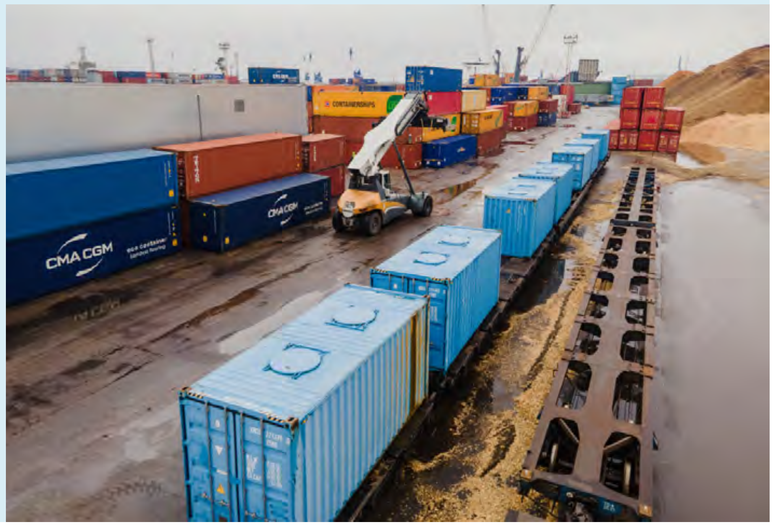
"We must do everything possible to promote a faster victory for Ukraine. I am pleased with the successful cooperation between Latvian railway, the Port of Riga and "Rīgas Universālais Terminmāls", providing for the delivery of the first Ukrainian grain cargo by rail and further transshipment at the port. Latvia will continue to be a critical ally of Ukraine in the future, promoting its integration into the European transport network," said Kaspars Briškens, Minister of Transport.

"Since the beginning of the war, the terminals of the Port of Riga have been actively working to transport Ukrainian grain products, but until now they came to the port by road, which in terms of efficiency and volume cannot be compared to rail transportation. Several terminals in the port of Riga in terms of technology and infrastructure capacities would be fully ready to accept and efficiently process container trains with Ukrainian grain products. We hope that this first test will prove successful for the entire logistics chain, and in the future, we will receive trains with Ukrainian grain in the Port of Riga on a regular basis," emphasized Ansis Zeltiņš, the Freeport of Riga CEO.

Receiving grain in containers is a new experience for the terminals of the Port of Riga. Edgars Rudzītis, Head of the bulk warehouse department of the company RUT, said that the terminal, being equipped and ready for the acceptance of grain container trains from Ukraine, is boasting the necessary technologies for container processing, as well as warehouses and suitable infrastructure for storage and loading of bulk cargo. Despite the new type of transshipment and relevant challenges, all the work was performed efficiently – the terminal's capabilities made it possible to fulfill the main requirement of the carrier – to quickly release the railway platforms so that they can be used for new transportation tasks.

"This is the first cargo from Ukraine to be transported through our infrastructure within the last year and a half, and I think it is a symbolical and very significant event. We have repeatedly confirmed that due to the capacity of "Latvijas dzelzceļš" infrastructure and SIA LDZ CARGO we are able to transport and process large-scale cargo, including grain cargo from Ukraine. In accordance with the current situation, we have created new possibilities for cargo transportation, and we plan to further develop these cargo transportation solutions so that transportation of grain and other products between Ukraine and Latvia can take place regularly," said Rinalds Pļavnieks, Chairman of the SJSC "Latvijas dzelzceļš" Board.

Containers from Ukraine were shipped on September 25th, on October 8th they were reloaded in Kaunas onto the SIA LDZ CARGO platforms, and on October 11th the platforms reached the Port of Riga and cargo unloading was started at the Riga Universal Terminal. Railway transportation was organized by SIA LDZ CARGO in cooperation with the Client - SIA "LTG Cargo Ukraina", within the framework of the cooperation agreement concluded in November 2022.



Germany

Schweerbau expands fleet with a second EuroDual locomotive from European Loc Pool

European Loc Pool (ELP), a leading provider of innovative locomotive leasing services, is pleased to announce that an agreement for a second EuroDual locomotive has been signed with Schweerbau GmbH & Co.KG.

This marks a great expansion of the successful collaboration, as Schweerbau already operates one EuroDual locomotive from ELP in their fleet.

Lutz Jelitto, Managing Director of Schweerbau, commented on the decision to acquire another EuroDual locomotive: "So far, we have consistently had positive experiences with the EuroDual. Availability, reliability, performance, and flexibility are excellent and fully meet our expectations. We use the locomotive extensively in our construction activities, for transporting our machinery, materials, and for on-site operations."

Schweerbau, an 800-employee family-owned company, has a history of over 90 years deeply rooted in the advancement of mobility solutions. The company shares European Loc Pool's philosophy of driving sustainability and progress through the use of cutting-edge technology.

Willem Goosen, CEO of ELP, emphasizes: "The expansion of this partnership with Schweerbau not only highlights that the EuroDual is an outstanding locomotive for heavy freight transport but also that construction companies have recognized the manifold benefits of this series. This partnership further underscores our commitment to positively transform this industry and promote sustainable developments. It is a win-win situation for both companies, and we look forward to continuing to support Schweerbau."

Lutz Jelitto also expressed his satisfaction with the partnership with European Loc Pool: "From a leasing company, our primary expectations are straightforwardness, clarity, and reliability. We find all of these qualities in ELP."

The delivery of the additional EuroDual locomotive to Schweerbau is planned for the fourth quarter of 2024.

From the Archives

Czech Republic

CSD Class E499.101 catches the evening sunlight whilst waiting to depart Prague Hlavni Nadrazi with a service to Ceske Budejovice on December 3rd 1976. *John Sloane*

From the Archives

France

Two SNCF ‘Submarines’, Nos. CC-65011 and CC-65005, rest inside the roundhouse at La Rochelle on April 9th 1977. *John Sloane*

From the Archives

E. Germany

In East Germany, DR Diesel hydraulic No. 119.013 calls at Ravenstein on February 23rd 1986. *John Sloane*

From the Archives

India

Metre gauge YL 2-6-2 No. 5121, attached to a supplementary water carrier, departs Jaipur with the 17:00 train to Toda Rai Singh on April 18th 1984. *John Sloane*

From the Archives

Italy

FS former USATC S160 type No. 736.113, converted for stationary boiler duty, stands outside the roundhouse at Naples Smistamento on July 29th 1986. *John Sloane*

From the Archives

Morocco

ONCF Bo-Bo Class DI diesel No. 513 is seen at Marrakesh on April 11th 1993.
John Sloane

From the Archives

Myanmar

MR Alsthom built Bo-Bo diesel No. DD.934 sets off from Yangon (Rangoon) main station with a stopping train for the commuter circle line on January 25th 2006. *John Sloane*

From the Archives

Portugal

CP No. 1202 is seen at Faro with a local train from Villa Real to Tunes on August 14th 1974. *John Sloane*

From the Archives

Serbia

Two 0-8-0s, Nos. 9 and 5 top and tail a train on the steeply graded line from Kostolec to the nearby opencast coal mine on May 27th 2007. *John Sloane*

From the Archives

South Africa

A sparkling Class 16CR Pacific No. 825 departs from New Brighton station with an inbound commuter train for Port Elizabeth on October 23rd 1973.
John Sloane

From the Archives

Turkey

TCDD 2-8-2 No. 46101, built by Robert Stephenson in 1929, storms out of Izmir Basmhane with a local service on August 12th 1976. *John Sloane*

From the Archives

Ukraine

Two Czech built Chme3 heavy diesel locos are seen in a yard outside Donetz in the now Russian annexed Donbas area on May 2nd 1993. The loco on the left is fitted with a pantograph, perhaps for de-icing work in the winter. *John Sloane*