Railtalk Magazine *Xtra*

Issue 202x
July 2023
ISSN 1756 - 5030

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 202Xtra

Well if there was one thing in the rail industry that I though wouldn't be an issue it would be a shortage of freight wagons. However it appears that in Europe this could be the case as Peter Guldbrand, Vice President, Commercial at VR Fleetcare explains....

"The emphasis on sustainable development and climate targets will increase the demand for railway transportation in the future. Rail transport is an environmentally friendly mode of transportation that helps reduce emissions produced by traffic. This is leading companies to shift more and more of their freight transport to rail. According to a report by the European Commission, the need for freight wagons in Europe will increase by 50 percent by 2030 and double by 2050. Due to such rapid and massive demand, there is a need for increased manufacturing capacity for new wagons, as well as modification and modernisation projects for existing wagons. The ongoing Russian aggression has also affected the freight wagon market. The political tensions and economic consequences resulting from the war are impacting the manufacturing of freight wagons and, on the other hand, maintenance as well, as relations between countries deteriorate or economic sanctions are imposed. Previously, wagons manufactured by Russians are no longer available in the market, and it is also challenging to obtain components and spare parts for wagons produced there.

The messages about the growth in demand for new freight wagons are strong, and they have reached us as well. There is currently a bottleneck in wagon manufacturing in Europe, as wagons cannot be produced as much as needed. In addition, major wagon manufacturers only want to produce large wagon series, and it is harder to obtain smaller special batches. We want to contribute to promoting more efficient and sustainable freight logistics and be there to support our customers in meeting their needs. At FleetCare, we have manufactured nearly 50,000 wagons for the logistics needs of Finnish industry, and we have an efficient production line for wagon series. Our strengths in wagon manufacturing lie in challenging technical solutions that support new service concepts. Compared to major wagon manufacturers, we can cost-effectively produce smaller wagon series tailored to our customers' special needs. The principles of sustainable development and safety are the basis of our manufacturing process, supported by material choices and the use of certified and high-quality components. Our manufacturing is backed by extensive experience in wagon modifications, and we strive to utilize existing well-maintained material whenever possible for wagon conversions."

Also this month, is AI taking over the railway?

For example in Scheduling, where one of the most significant areas where AI can impact the rail industry is scheduling. Traditionally, train schedules have been created and managed manually, requiring significant human input and expertise. However, AI algorithms can now process vast amounts of data and generate optimised schedules in real-time, adjusting to unforeseen circumstances such as delays and cancellations. For example, Swiss Federal Railways (SBB) uses an AI-based system to optimise its train timetables, improving punctuality and reducing energy consumption. Or Maintenance, predictive maintenance is another area where AI is making significant strides. By analysing sensor data from trains and infrastructure, AI can identify patterns and anomalies that indicate potential issues before they become critical. This allows railway operators to schedule maintenance more effectively and minimise disruptions to service. For instance, Network Rail in the UK is using AI-powered cameras to monitor the condition of railway tracks, predicting when repairs are needed, and preventing costly breakdowns. and in Security where AI can also enhance security in the rail industry, both in terms of physical safety and cyber security. AI-powered surveillance systems can analyse video feeds in real time, detecting unusual or suspicious behaviour and alerting security personnel. This can help prevent incidents like theft, vandalism and terrorism. In terms of cyber security, AI can monitor network traffic and detect potential threats, protecting sensitive data and critical infrastructure from cyberattacks.

Until next month... **David**

This Page

Georgia and Florida Railway Nos. 4005 and 3806 cross Old Albany Road whilst hauling train No. GF89 from Albany to Moultrie. *Laurence Sly*

Front Cover

United States Sugar Corporation No. 503 departs Fort Pierce heading for Clewiston. *Laurence Sly*

Class 751 No. T478.1148 stands at Kořenov with a railtour. T426.003 can be seen on the rear of the train which had assisted up the rack sections beyond Tanvald to Harrachov. *Mark Pichowicz*

Terms & Conditions

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

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

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

With Thanks

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.

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

Austria

First test train with RCG's own traction in Serbia

With Serbia in the mix, the ÖBB Rail Cargo Group (RCG) now operates in 13 countries with own traction. The first test train has now arrived in Sid – a milestone in the history of the RCG.

The foundation of the Serbian subsidiary means that RCG is already operating with its own traction – i.e. with its own staff and locomotives – in 13 countries. Serbia is the first country outside the European Union in which RCG will now provide transport services from a single source.

The first completely in-house operated test train has already arrived in Sid – a milestone that was celebrated by the international project team on site.

Huge potential for the economy and climate protection

The new railway undertaking will mainly provide transit services between Turkey and Central and South-Eastern Europe, thus strengthening RCG's market-leading position in Turkey. As the sustainable logistics backbone of the European economy, the RCG is now offering Serbian industrial companies an efficient and sustainable connection to European rail freight transport. In-house traction in 13 countries also provides a high degree of flexibility – and this flexibility makes it possible to carry out transports even faster, more efficiently, and in a more customer-oriented manner from a single source.

New Timber Transports from Bolzano to Austria

Due to the bark beetle infestation in South Tyrol, large quantities of timber had to be transported quickly from the region to other sawmills. The first timber train has now travelled from South Tyrol to North Tyrol – even though the Bolzano railway station was still shut down until recently.

In recent years, the forests of South Tyrol have been hit by a massive bark beetle infestation. To prevent them from causing further damage, deforestation is currently being pursued at record speed. However, the South Tyrolean sawmills are reaching their limits with these quantities – last year alone, they totalled five million cubic metres.

The wood must therefore be transported from South Tyrol to other sawmills outside the region for further processing. This is a clear case for transport by rail – yet the Bolzano railway station has been shut down for years, which is why no actual rail transports were able to take place in this area.

Working Together for One Goal

Thanks to the joint collaboration of the Rail Traction Company (RTC), Rete Ferroviaria Italiana (RFI) and Rail Cargo Group (RCG) as well as the Autonomous Province of South Tyrol and the City of Bolzano, it has been possible to revitalise the Bolzano freight station and restore the tracks within the last few months.

The first timber train has now had its maiden voyage and travelled from South Tyrol via the Brenner Pass to North Tyrol – from now on, further transports with 17 wagons per train will be carried out several times a week on the sustainable rails. In future, it is planned to use other border crossings such as Tarvisio to Austria as well.

Good for the Environment and the Region

This logistics solution saves over 100 truck journeys per week – transports that were previously handled via the Brenner Pass. This is not only good for the environment, but also for reducing transit traffic and providing relief for residents in the region. This model example proves that a flexible rail solution can be realised even within a relatively short time if all partners across national borders pull together.

voestalpine Rohstoffbeschaffung, LogServ and Rail Cargo Group extend partnership

A 19 million tonne logistics package guarantees long-term security of supply.

Rail Cargo Group (RCG) has signed a logistics agreement until 2025 with the companies responsible for the inbound transport of raw materials and the outbound transport of finished goods at the voestalpine site in Linz, voestalpine Rohstoffbeschaffungs GmbH and the voestalpine logistics subsidiary Logistik Service GmbH (LogServ), thus securing the transport order for around 9.5 million tonnes of raw materials and finished goods per year.

Extension of long-standing cooperation

With the extension of the existing contract for another two years, the contract partners, with headquarters in Austria, are sending a strong signal for supply security. Specifically, the cooperation covers the transport handling of incoming raw materials, including iron ore, hot briquetted iron, coke, coal and scrap for the voestalpine plants in Linz and Leoben-Donawitz, as well as the shipment of finished goods (coils, heavy plate, sheets) from Linz.

In addition to an increase in the existing transport volumes, a new supply route is also being established. The transport of ore and coke will be handled in RCG's own network with RCC Italia via Italian Mediterranean ports.

The successful cooperation between RCG and Logistik Service GmbH (LogServ) on the use of TransANT lightweight wagons was also extended by two years. The modular freight wagon innovation creates a new standard in the freight transport market and offers impressively high payloads and flexibility in use.

The environment benefits too

At the signing of the new logistics package, the contract partners from the voestalpine Group were also honoured for avoiding CO^2emissions in the contract year 2022/23. For the Linz site alone, voestalpine Rohstoffbeschaffungs GmbH was able to save 137,188.18 tonnes of CO^2 equivalents in raw material inbound transport on behalf of voestalpine Stahl GmbH. Also noteworthy is the 25,924.05 tonnes of CO^2 equivalents saved in outbound finished goods by LogServ, voestalpine's logistics subsidiary.

The CO^2 certificates issued by RCG are assessed by TÜV SÜD and are available to all customers who transfer their transports from road to rail and thus contribute to a better climate.

Austria

New Metro for Vienna – Siemens Mobility's type X-metro starts passenger service

The X-Wagen metro has initiated passenger service on the Wiener Linien. After undergoing extensive tests and receiving its operating permit, the first train of the new metro generation has officially begun service on the U3 line. The train's inaugural run was accompanied by Vienna City Councilor Peter Hanke and numerous project participants from Wiener Linien and Siemens Mobility, among others.

Albrecht Neumann, CEO Rolling Stock at Siemens Mobility, noted: "By introducing the X-Wagen metro, the city of Vienna is taking a big leap into the future of digitalized transport. Innovations like the new passenger information system with real-time updates and the air-free brake system are making their world debut, and the fully automated operation coming later on the U5 line will provide great benefits. Despite dealing with the difficult circumstances of the last few years, we manufactured the trains right on schedule in our Vienna plant and will also be a good and reliable partner for service and maintenance."

"This is a great day for Vienna and the Viennese public transport system. The X-Wagen metro is trendsetting for our climate model city. A sophisticated train with state-of-the-art technical solutions included and produced in Vienna makes public transport even more attractive and comfortable. The X-Wagen metro is part of the comprehensive modernisation of the Vienna public transport fleet, which also includes the new electric buses and trams," says Peter Hanke, city councillor for public transport.

At the Erdberg station on the U3 line came the announcement "All aboard for passengers!" for the new X-Wagen metro train. The train will also begin running between Simmering and Ottakring on the U3 line Monday to Friday over the next few days and weeks. Passenger service was inaugurated with the first X-Wagen metro, and further new trains will follow in the summer. The tenth X-Wagen metro will be delivered by the end of the year, and Siemens Mobility will be handing over up to three more X-Wagen metro trains per year to Wiener Linien beginning in 2024. "We are modernizing our train fleet with the new X-Wagen metro. It will successively replace the Silver Arrow trains and, beginning in 2026, enable fully automated metro operation in Vienna for the first time, on the U5 line. Together with the entire project team, I am delighted that the new X-Wagen metro can now be used by all passengers," said Gudrun Senk, CTO of Wiener Linien.

With the beginning of passenger operations, the maintenance contract between Wiener Linien and Siemens Mobility for the X-Wagen metro also took effect. Digital servicing based on Railigent X will enable future orientated maintenance by specialist staff at Wiener Linien in close cooperation with Siemens Mobility. This will ensure that Wiener Linien has the benefit of better planning for maintenance costs and a long-term partnership on all matters relating to the new trains. Railigent X is part of the open, digital business platform, Siemens Xcelerator, that enables customers to accelerate their digital transformation easier, faster and at scale.

Innovative digital passenger information and guidance system above every door

One innovation featured in the new X-Wagen metro right from the start is the Passenger Information Plus system. The digital passenger information and guidance system was developed by Siemens Mobility and, together with Wiener Linien, tailored to meet the specific requirements of Vienna's public transport system. Continually updated information is displayed to passengers on screens above all doors inside the X-Wagen metro. Screens above doors that open at the next station show the direction of the station's exits, other lines for transfers, and the departure times for those lines. Screens above doors that remain closed at the next station display a digital network map with the train's current location, the direction of travel, the next stop, and important transfer options. Additional information, such as planned operating restrictions in the metro system or out-of-service station elevators, can also be displayed on both sides of the door.

New airless braking system

For the first time, the new airless braking system - winner of the German Innovation Award 2023 - from Siemens Mobility is used in the vehicles. The brakes are controlled by a purely electronic signal - brake-by-wire - which is sent from the brake control unit to the intelligent actuator - the brake caliper. The actuator ensures excellent braking performance, especially in poor rail conditions. By eliminating the usual compressed air components under the carriage, weight and installation space are saved at reduced costs over the entire life cycle. In addition, the new system significantly reduces the time until the vehicle is ready for operation. With conventional compressed air brakes, this takes around 12 minutes; with the new airless braking system from Siemens Mobility, it takes only a third of the time.

Greater comfort and security, optimal accessibility

The new X-Wagen metro provides an open-plan interior featuring spacious entry areas that speed up boarding and exiting. Up to 928 passengers can travel in an X-Wagen metro train, exactly 46 more than in the V-metro train it is replacing. Passengers traveling with buggies or luggage have plenty of space. The seats are made of high-quality plywood and are arranged in a combination of standard transverse rows with additional seating along the sides as well as folding seats. Blue seats indicate priority seating and are designated for passengers with reduced mobility.

The future will be fully automated

Beginning in 2026, the U5 line between Karlsplatz and Frankhplatz will be Vienna's first fully automated metro line operating with the X-Wagen trains. To prepare for this change, the stations from Karlsplatz to City Hall will be equipped with platform screen doors and the U5 Frankhplatz station will be rebuilt. The fully automated operation will make the metro even safer and more reliable.

The platform screen doors will open only when the train has stopped and is properly positioned in the station. Delays caused by objects falling on the tracks will be history.

Photo: First X-Wagen metro in passenger service: Peter Hanke, Vienna city councillor for public transport; Gudrun Senk, CTO of Wiener Linien; Albrecht Neumann, CEO Rolling Stock at Siemens Mobility

KŽC owned Class 749.253 is ready to depart Mikulášovice dolnì nádraží with train No. R1274 15:13 to Praha Vršovice on June 25th.
Andy Pratt

Arriva Group announces new rail contract for growth in Czech Republic

Rail contract awarded for 10 years, worth €94 million
Entering a new region growing Arriva's footprint in Czech Republic
Arriva Czech Republic to start new rail services from December 2024.

Arriva Group has been awarded a rail contract for the operation of trains in the South Moravian region of Czech Republic following a competitive tender process. This latest win is set to further strengthen Arriva's footprint. This signing follows the recent 15-year rail contract awarded to operate services in the Pilsen region of Czech Republic, securing Arriva's position as the second largest private rail operator in the country.

Sian Leydon, Arriva Group's Managing Director for Mainland Europe, commented: "We are delighted that our team has been successful in securing a contract in a completely new region of the Czech Republic, growing our business there. This contract will expand on our presence in the neighbouring region of Zlín."

The new train services are due to start operating in December 2024 and the contract will run for 10 years. Passengers in South Moravia will be served by 13 new trains, which will be able to carry 100 seated passengers, with additional spaces for prams, wheelchairs and bicycles.

Arriva has demonstrated long-standing success in rail operations in Czech Republic, in particular a three-year track record of delivering high-quality passenger services on lines in the neighbouring region of Zlín, which led to this successful bid. In the coming years Arriva aims to ensure seamless inter-city connections and a focus on improved accessibility.

Arriva recognises that the public transport industry has a very real role to play in transforming towns and cities. As a leading passenger transport company, Arriva wants to help shape a future where passenger transport is considered the best choice.

Partnership with passenger transport authorities and municipalities across Europe is at the heart of this ambition.

Czech Republic

A colourful Class 714.217 and its train stand at Zlonice with the diverted Cyklohráček (cycle train) No. Os9783 16:40 Slaný to Praha hl.n.
Mark Pichowicz

ČD 3kV DC loco Class 162.062 pauses between duties at Lysá nad Labem before propelling train No. Os6408 10:17 to Ústí nad Labem Západ on June 26th. *Andy Pratt*

Institutions across transport sector start cooperation on preventive safety campaign

Under the auspices of the Ministry of Transport, Správa železnic, České dráhy (ČD) and Drážní úřad (the Czech rail national safety authority) signed a memorandum on long-term cooperation with the aim to address the unabating number of injuries on the railway.

At the same time, they have symbolically launched a preventive safety campaign to highlight the risks of inattentive behaviour near the railway. The first part starts on social networks; it will focus primarily on the dangerous behaviour of the younger generation on the railway with the summer coming.

“We would all like to live in an ideal world where accidents do not happen. Unfortunately, we cannot eliminate them completely, but we have to try. At the same time, we must remember that railway is a specific mode of transport and the consequences of such incidents are often fatal”, stated Minister of Transport Martin Kupka.

Last year, a total of 453 accidents with health consequences occurred on the railway and 238 people succumbed to their injuries. The available data shows that disregard for the rules by pedestrians and drivers dominates among the causes of collisions with trains. Statistics also show that the number of injuries to people under the age of 26 is the highest in the last 5 years.

“I am very pleased that we have managed to agree on a common approach on our initiative within the railway area. Thanks to the investments, the operational safety is being successfully improved in the long term.

Effective public education is essential if we are to succeed in significant reducing the number of injuries on the railway,” says Director General of Správa železnic Jiří Svoboda.

“Unfortunately, a collision between a train and a car or a person is not uncommon. We must work together to ensure that there are as few such cases as possible. When a collision with a person occurs, a human life is lost, often due to unnecessary inattention or underestimation of the situation. People in cars and on trains are at risk in collisions at level crossings.

Trucks in particular are a dangerous weapon in this respect. Last year, 17 people, including our employees, were injured in accidents at level crossings. We believe that the campaign makes sense and will serve its purpose,” says Michal Krapinec, Chairman of the Board of Directors and Director General of ČD.

The first phase of the campaign will run on social networks and is primarily aimed at children and young people. It will present the online holiday ten commandments, i.e. the basic rules of caution when moving on the railway, in an engaging way. In this respect, it will build on activities already underway, such as the Safe Rail Prevention Train.

According to the memorandum, cooperation will continue in the autumn, with the second phase culminating in a national media campaign.

“We have been working together for a long time to reduce risks and increase safety on the railway. In addition to the modifications of lines, railway vehicles and other measures that are systematically implemented, the basic prerequisite for preventing injuries is caution and respect for people when moving in the area or close vicinity of the railway,” says Jiří Kolář, Director of Drážní úřad.

Czech Republic

KZC Class 749 No. T478.1006 (749.006) pauses at Nový Bor withtrain No. R1274 15:13 Mikulášovice dolní nádraží to Praha Vršovice.
Mark Pichowicz

Czech Republic

A very tired looking CD Cargo Class 742.170 is seen stabled at Liberec. *Mark Pichowicz*

Czech Republic

GENERAL OVERHAUL OF EIGHT MORE TRAMS FROM LIBEREC WILL BE EXECUTED BY ŠKODA GROUP

Škoda Group will make a general overhaul of another eight trams for the Transport Company of Liberec and Jablonec nad Nisou (DPMLJ).

The general overhaul concerns four T3R.PLF and four T3R.PV trams. The projects will be realized in 2024 and 2025 at the Škoda Group's production site in Martinov, Ostrava. The total value of the contract amounts to EUR 2.7 million. Škoda Group has long experience in repairing and modernising public transport vehicles and this is the second contract of a similar type for DPMLJ.

"One of our main strengths is our broad experience in modernisation. We have already seen the positive impact of refurbished vehicles on the quality of life of citizens. The new vehicles significantly improve the safety and sustainability of transport," said Marek Herbst, Senior Vice President of Service at Škoda Group. "This order is just another one in a row for the overhaul of vehicle car bodies for Liberec. I am glad that we can participate in a project that aims to create a more sustainable and healthier public transport system while bringing a better travel experience to the citizens of Liberec."

The contract for the repair and modernisation of eight T3 trams extends the original contract for the repair of six T3 tram car bodies from 2022, which is currently running in Ostrava. The overhaul covers a range of activities, including complete stripping and blasting of metal parts, replacement of damaged or corroded components, repair of door wings and replacement of air ducts. The interior of the vehicles will also be refurbished, with the complete overhaul of the tables, seats, and dashboards in the driver's cab.

The project to modernise eight vehicles will be carried out in 2024 and 2025 and the total value of the contract is EUR 2.7 million. The repair and modernisation work will be carried out at the Škoda Group's site in Martinov, Ostrava, where work is being carried out on a number of tram orders for both the Czech and foreign markets.

Modernisation and repair of public transport vehicles is a popular option for transport companies as it provides an efficient and economical solution compared to the purchase of completely new trams. A major advantage of modernising trams through comprehensive repairs is a significant increase in reliability and safety. Upgraded trams undergo thorough inspections and refurbishments to ensure that they meet the highest standards of performance and passenger comfort.

By improving safety features and optimising systems, refurbished trams contribute to a safer and more efficient public transport network.

CZ LOKO manufactures and repairs railway wheels in new operation

The CZ LOKO company has invested almost one hundred million crowns in the construction of a new modern rolling mill operation, specialized in the repair and production of railway wheelsets, in the České Třebovsk plant.

This will enable the company, which is the largest European producer of shunting and universal diesel-electric locomotives, to make the services provided more efficient, faster and of a higher quality, and potentially to double the production of two-wheelers to 80 per month. Of these, approximately 60 percent will be used by CZ LOKO for its own production, and the rest will be offered by the company as free capacity for other orders.

"We needed to innovate what has long been the narrowest production site in the Česká Třebová plant, to move it technically and technologically into the third millennium. Therefore, the priority was to automate operations as much as possible in order to fundamentally improve the equality, efficiency and logistics of the entire operation," said Jaroslav Plhák, CZ LOKO's operations director. It was the last major project from the medium-term investment plan, adopted in 2017. It included, among other things, the construction of a new assembly hall for the production of locomotives in Jihlava, including a new locomotive test room. In the Česká Třebová operation, it was a new workshop for the production and testing of chassis, a new engine room or a hall for the modernization of the main frames.

Investments of 100 million have significantly strengthened the self-sufficiency of CZ LOKO and increased labor productivity and thus competitiveness on the demanding railway market.

"Also in the production and repair of railway wheels, we have now become one of the most modern European operations. However, if we want to remain number one in Europe in our segment, where we have made it through hard work in recent years, we must continue to invest in improving products and the working environment," added the director.

The new wheelhouse was created by rebuilding the original hall of completed ČKD engine repairs. Construction began in November 2021, when the covid pandemic was still winding down. The installation of the main machinery began last July, followed by several months of trial operation in the autumn. It has now ended and switched to normal operation.

Czech Republic

Running some 80 mins late, Regiojet's Class 162.113 arrives at Všetaty on June 26th with train No. R1305, 08:36 Ústi nad Labem hl.n. to Kolín. *Andy Pratt*

Czech-French cooperation on high-speed lines celebrates its 5th anniversary

Správa železnic and the French state railways group SNCF have been working together on the Czech high-speed lines (HSL) for 5 years.

During this time, a detailed manual on how to design, build and operate the lines has been prepared. Thanks to this cooperation, the Czech Republic is already designing more than 300 km of new lines. Their technical design takes into account all the experience gained by French colleagues during more than 40 years of operation of TGV trains and the high-speed line system.

The cooperation continues from 2021 onwards based on an eight-year contract concluded between Správa železnic and SNCF Réseau. The French colleagues provide the Czech ones with expert services for the design, construction, operation and inspection of new lines as well as their experience in the management of the preparation of large infrastructure projects.

Jiří Svoboda, Director General of Správa železnic, confirms that the close ties between the companies contribute to accelerating the preparation of the HSL: "We could come up with our own technical solutions. However, years ago, the decision was made to take inspiration from a working system that is efficient, tested and will help us offer high-speed service to passengers as soon as possible. The preparations progress so far confirms that we made the right decision."

But cooperation is not only at the level of infrastructure managers. A bilateral working group at the level of the Czech and French ministries of transport is also involved in the project.

Správa železnic can also draw inspiration from the financing of HSL and the introduction of modern technologies. This is not only the subject of the ongoing Czech – French Railway Days 2023, which are organised by the French Embassy, Business France ČR and the Association for Infrastructure Development.

On the agenda, there are discussions on the functioning of PPP railway projects, the issue of green bonds and the risks related to planning new infrastructure.

Správa železnic is currently designing more than 300 km of high-speed lines. The furthest along are the sections of the VRT Moravská brána (HSL Moravian Gate) between Prosenice and Ostrava, the VRT Jižní Morava (HSL South Moravia) between Modřice and Šakvice or the VRT Polabí (HSL Elbe Flatlands) from Prague to Poříčany. Intensive preparation is also underway on the arm from Prague to Dresden, where contractors are preparing documentation for zoning decision for the section of the VRT Podřipsko (HSL Říp Flatlands) between the capital and the Lovosice exit.

The future longest tunnel in Central Europe is also getting its technical design. The Krušnohorský tunel (Ore Mountains Tunnel), with a length of at least 26 kilometres, is also the most complex infrastructure construction on the Czech HSL network.

The Czech Republic will operate lines at 320 km/h, similar to TGV in the land of high-speed trains. The French solution prefers to build the lines on the ground, which means fewer artificial structures such as tunnels or bridges. This result in lower construction and maintenance costs and the railway can be better integrated into the landscape.

France

Alstom's "lumière" tram is now in service on the Line T10 of the Île-de-France Mobilités network

The "lumière" tram, from Alstom's Citadis range, has entered commercial service on the new T10 tramway line, which now links La Croix de Berny (Antony) to Jardin Parisien station (Clamart) in 20 minutes, via Châtenay-Malabry and Le Plessis-Robinson, in the south of Paris. This new line, almost 7 km long and serving 13 stations, will accommodate almost 25,000 passengers a day.
For Line T10, Alstom is supplying 13 Citadis X05 trainsets, each 45 metres long and able to carry up to 314 passengers. The launch comes just over two years after the first "lumière" tram on the Line T9 entered service, in the Spring of 2021.

In November 2016, Île-de-France Mobilités, the Île-de-France transport authority, which is financing 100% of the rolling stock, with Transamo, the project management agent for lines T9 and T10, chose Alstom to design and supply the trams for lines T9 and T10. The first order was for 22 Citadis trams for Line T9. In May 2021, a further 13 trams were ordered for Line T10, bringing the total number of trams ordered for lines T9 and T10 to 35.
Delivery of the trams for Line T10 began in August 2022 and was completed in April 2023, on schedule.

"We are delighted to see the arrival today of the Citadis "lumière" tram on Line T10 and to offer a new, reliable, comfortable, elegant, and modern transport solution to the residents of Hauts-de-Seine. As well as celebrating another successful milestone for this project, I would like to pay tribute to our employees and their commitment, who have enabled us to deliver this new project on time and to the level of quality expected by our customers and passengers," emphasises Jean-Baptiste Eyméoud, President of Alstom France.

An innovative design, accentuated by a lighting signature throughout the tram
The collaboration between Alstom's Advanced & Creative Design teams, the Design agency Saguez & Partners and the Île-de-France Mobilités design teams resulted in the sleek resulted in the sleek "lumière" tram on lines T9 and T10. It stands out by its elegant lines and is accentuated by a signature lighting that runs throughout the vehicle, inside and out, and which was chosen from three variants proposed by Île-de-France Mobilités to the people of Île-de-France during a public consultation.

Beyond the aesthetic aspect, this signature is also practical: a line of red light illuminates when the doors close, a line of green light when they open, and a continuous line of white light when the tram is moving.

A modern, accessible, and sustainable tram
This tram has 8 double-leaf doors per side, as well as wider, illuminated intercirculations that facilitate traffic flow and increase the passenger exchange rate[1]. It has 45% glass surfaces, 100% LED lighting, 8 extra-large multimedia screens for the dynamic route planner, USB sockets and bench seats.

This new version of the Citadis range highlights the features that have made it such a success: an integral low floor offering level access throughout the tram and easy access for people with reduced mobility, particularly wheelchair users.

This tram is energy-efficient, thanks to improved energy consumption for traction and auxiliaries (100% LED lighting and air conditioning offering -25% and -15% energy consumption, respectively[2]). The overall cost of preventive maintenance has been reduced by 18%[3]. Materials are 99% recyclable.

These trams were designed and manufactured at Alstom's La Rochelle site, the world centre of excellence for Alstom tramways. In total, eight of Alstom's sixteen sites in France were involved in the tram's design and manufacturing: La Rochelle for development and assembly, Ornans for motors, Le Creusot for bogies, Tarbes for modules and equipment, Valenciennes for the interior and service activities, Villeurbanne for onboard electronics, Aix-en-Provence for tachometer generators, and Saint-Ouen for design.

The "lumière" tram is based on Alstom's range of Citadis trams, benefiting from the experience of more than 3,000 trams already ordered in 70 cities and 20 countries around the world. Citadis trams have already covered more than 1 billion kilometres and carried 10 billion passengers since the first tram entered service in 2000.

[1] Interchange rate: ratio that measures the sum of passenger door openings and the total length of the passenger zone for the face of a tram.
[2] [3] Compared with the previous generation of our Citadis X02 trams

Photo: Alstom's "lumière" tram is now in service on the Line T10 (©Alstom / TOMA – Thibaut Priou)

France

Successful tests for the first regional hybrid train on the Toulouse-Mazamet and Toulouse-Rodez lines (France)

The first hybrid electric-diesel-battery regional train underwent its first tests at the beginning of April on the Toulouse-Mazamet and Toulouse-Rodez lines (in the South of France). The aim was to observe how the hybrid train performs on real line profiles and in real conditions (according to the timetable of a commercial service). At the end of this test phase, on June 14th, this innovative train was presented at the Occitanie Technicentre by Jean-Luc Gibelin, Vice-President of the Occitanie Region with responsibility for Mobility and Transport Infrastructure, Philippe Bru, Regional Director of SNCF Voyageurs Occitanie, and Kaïs Albouchi, Director of the Régiolis Hybrid and Hydrogen Projects at Alstom. Commercial service will begin in a few months, as soon as the Etablissement Public de Sécurité Ferroviaire (EPSF) has issued the necessary authorisations for passenger transport.

This electric-diesel-battery regional train is the first hybridisation project for a Régiolis[1] train in France. It was launched in 2018 by the SNCF Group and Alstom, with the mobilisation and financial participation of 4 French Regions (Occitanie, Grand Est, Nouvelle-Aquitaine, and Centre-Val de Loire), and the provision by the Occitanie Region of a trainset from its liO fleet. The objectives are to reduce energy consumption and cut greenhouse gas emissions, thanks to a solution that allows the existing thermal fleet to be modified without having to modify the existing infrastructure. Along with the battery-powered train and the hydrogen train, the hybrid train is one of the three decarbonisation technologies that the SNCF Group is developing with its partners Alstom, CAF, and the French Regions for passenger transport on non-electrified (or partially electrified) regional lines.

France's first regional train to use batteries for propulsion
Hybridization of the Régiolis trainset involved replacing half of the thermal engines with energy storage systems consisting of lithium-ion batteries. This operation was carried out at the beginning of 2021 at the CAF site in Reichshoffen[2], following an initial validation phase for the new energy storage systems at the end of 2020 at the Alstom site in Tarbes, centre of excellence for "green traction" systems.

One car of the train has also been temporarily fitted with a laboratory and multiple sensors to measure the train's energy flows. Equipped with its two energy storage systems and its laboratory car, the trainset has started its tests in the second half of 2021. A static and dynamic fine-tuning phase at up to 60 km/h took place at Reichshoffen to check the train's operation and test the hybrid traction mode. Tests then continued on the Vélim test track (in the Czech Republic), with validation and certification tests at up to 160 km/h. This enabled all the train's new traction modes to be tested at their operating speed, and the route simulation models to be validated.

First positive feedbacks
The tests showed that the train performed as expected. The braking energy recovery rate, used to recharge the batteries, is very high, at over 90%, enabling energy savings of up to 20%, depending on the route. The zero-emission battery-powered mode is designed to power the train for a few kilometres without the need to use internal combustion engines, a feature that could be useful for low-carbon journeys in built-up areas. On non-electric lines, the hybrid regional train retains the range of the initial model for up to 1,000 kilometres.

Next steps
With the final tests on the national rail network having taken place in April, SNCF Voyageurs has now to submit the admission file to the Etablissement public de sécurité ferroviaire (EPSF) with a view to obtaining the necessary authorisations for its commercial operation. SNCF Voyageurs will also use this period to prepare for the launch of the trainset in the various regions (traffic plan, staff training, etc.). The start of the experimental commercial service is scheduled for the end of 2023 in Occitanie, particularly on the Mazamet – Toulouse and Rodez – Toulouse lines. The modified trainset will then run throughout 2024 in the Nouvelle-Aquitaine, Grand Est, and Centre-Val de Loire regions. The industrial deployment of the hybridisation solution on other dual-mode Régiolis trainsets still needs to be specified, and could begin as soon as the Regions, the organising authorities for regional passenger transport, decide to do so.

Funding
- SNCF and Alstom each contributing 3.8 million euro
- The Occitanie, Nouvelle-Aquitaine and Grand Est regions, each contributing 3 million euro
- 250,000 euro from the Centre Val de Loire Region,

giving a total budget of 16,85 million euro.
"In the battle we are waging on behalf of the Regions to decarbonise Regional Trains, we have chosen to invest in hybrid trains, which are a useful solution for reducing CO2 emissions quickly and effectively. Alongside hydrogen and biofuels, hybrid trains are a key part of the range of technologies we are investing in as part of our PLANETER programme to move away from diesel". Christophe Fanichet, Chairman and CEO of SNCF Voyageurs.

"We are very proud to welcome to Occitanie the first hybrid train from the liO fleet to run on the Toulouse-Mazamet and Toulouse-Rodez lines. The skills of the SNCF and Alstom technical teams have made it possible to meet the challenge of integrating an innovative traction system into an existing rolling stock, thus paving the way for the decarbonisation of regional trains. As part of the 2023-2032 agreement, SNCF Voyageurs and the Occitanie Region have set themselves the ambitious target of reducing CO2 emissions per passenger kilometre by 40%. With the first hybrid regional train, Occitanie is the only region involved in all the trials of innovative rolling stock to reduce CO2 emissions, efficiently and quickly". Philippe Bru, Regional Director of SNCF Voyageurs Occitanie.

"The tests on the first Régiolis hybrid train show that hybridisation of diesel trains is a realistic solution, both technically and economically, for reducing energy consumption and greenhouse gas emissions. Alstom is particularly proud to see the hybrid train in the Occitanie region, since the traction system was designed in Tarbes, knowing that this is the greatest innovation of this train". Benoît Carniel, Managing Director of Alstom's Tarbes site.

"The results of these initial tests of the hybrid version of the Régiolis are the fruit of joint work between the Alstom teams and those at the CAF site in Reichshoffen. We are proud to be taking part in the development of a hybrid version of the Régiolis trains, which represents a solution to the challenge of decarbonising rail transport". Alain Picard, Managing Director of CAF in France.

"The greening of the TER train fleet is one of the major ambitions set out in Néo Terra, the Nouvelle-Aquitaine Region's roadmap for accelerating the ecological transition, one of the objectives being to decarbonise transport and get regional trains off diesel by 2030. To achieve this, several technologies and innovations are being considered in the Region: rechargeable batteries, bioGNV, biodiesel (B100), hydrogen, and of course hybridisation, which I'm delighted to be presenting here, and I can assure you that we can't wait to see this train running on Nouvelle-Aquitaine rail lines in 2023. A hybrid TER will very soon be on the rails, which is excellent news for our users, for the industry and for the planet".Alain Rousset, President of the Nouvelle-Aquitaine Region.

"The issue of mobility throughout the Centre-Val de Loire region is our priority. It involves saving and renovating local lines, to which we have made a major commitment with the French government, as well as the vital issue of renewing rolling stock. That's why we've decided to work alongside other regions to promote the hybridisation of existing rolling stock. We will therefore be proud to welcome this prototype trainset very soon, particularly on the Bourges – Montluçon line, which is currently being renovated. The subsequent transition to the production phase of this hybridisation programme demonstrates the relevance of this multi-partner project, and offers a glimpse, in the near future, of cleaner trains that are as close as possible to the regions and their inhabitants". François Bonneau, President of the Centre Val de Loire Region.

[1] The Régiolis train is part of the Coradia Polyvalent range of regional trains developed and assembled by CAF at its Reichshoffen site (formerly owned by Alstom). More than 300 Régiolis trains currently operate in France. The trainset involved in the hybridisation project is a so-called 'dual-mode' trainset (electric and diesel).

[2] The Reichshoffen site (formerly owned by Alstom) became part of the CAF group in August 2022.

On May 26th, GYSEV Cargo/RAABERBAHN Class193.595 passes Oberwesel with a TXLOGISTIK intermodal train from Köln Eifeltor (D) to Curtici (RO). The locomotive is on temporary hired to TXLOGISTIK. *Erik de Zeeuw*

BayernBahn Class 140.432 passes Marksburg Castle in Braubach with a Langenfeld to Wassertrüdingen 'Henkel' train (Persil) on May 26th. *Erik de Zeeuw*

Wiener Lokalbahnen Cargo Class 1193.980 passes Oberhaun with a Bremerhaven (D) to Enns (A) deepsea container train on June 5th. *Erik de Zeeuw*

HSL ‘Ecorider’ Class 185.642 is seen in Banteln with a Bremerhaven Kaiserhafen to St. Valentin (A) car train on June 6th. The Ecorider livery was designed by Mathias Oestreich. *Erik de Zeeuw*

Germany

Alstom, Northrail and RIVE Private Investment sign a framework contract for 50 Traxx Universal locomotives including services

On June 29th, Alstom, global leader in smart and sustainable mobility, and Northrail AG completed a framework contract for 50 multi-system Traxx Universal locomotives with a full-service maintenance package for up to 16 years. The investment was arranged and structured by Northrail for the Paris-based infrastructure investment company RIVE Private Investment (RIVE). Northrail will, on behalf of RIVE, act as asset manager and lessor of the locomotives.

The base order includes 15 multi-system locomotives and eight years of full-service maintenance. The maximum contract value amounts up to 370 million euro. Production will take place at the Alstom site in Kassel, Germany, and is scheduled to start in 2025.

All locomotives will be equipped with ATLAS, Alstom's onboard solution for the European Train Control System (ETCS). The Europe-wide standardised train control system for seamless cross-border traffic enables higher speeds and frequencies on the railways. It saves time and energy and thereby enables an even cleaner freight transport.

Müslüm Yakisan, President of the DACH Region at Alstom, said: "The Traxx locomotives are an innovative investment in the future of rail transport. With more than 150 years of experience and worldwide references, Alstom is pleased to further contribute to the digitalisation and sustainability of rail transport. Given the long-term maintenance agreement, Northrail will also benefit from optimised and plannable life cycle costs as well as maximum availability of the locomotives."

Michael Trentzsch, Member of the Executive Board of Northrail, added: "With this innovative new multi-system locomotive, which in particular includes the homologation for France, we are very pleased to again being a first mover in the locomotive leasing industry. Thus, we very much look forward to receiving the first locomotive in 2025 and therewith further fostering our relationship with Alstom."

Camille Brunel, Partner at RIVE, declared: "This first order with Alstom is a testimony of our trust in Alstom's new products and innovation capabilities. This order made through our leasing platform established with our longstanding partner Northrail will further strengthen the rail strategy of RIVE. By supporting innovation and bringing efficient products to the operators, RIVE is actively contributing to Europe's energy and environmental transition policy."

Photo: At the Kassel site in Germany, a Traxx Universal multi-system locomotive equipped with Alstom's ATLAS ERTMS system (©Imke Koch/Alstom)

Transfesa Logistics celebrates its 80th anniversary

The Spanish DB subsidiary Transfesa Logistics can now look back on 80 years of history, from livestock transport to the orange shipments called "el naranjero" to today's international logistics company with its broad portfolio of services. The anniversary was, of course, marked by major celebrations.

The events included an exhibition at the Railway Museum in Madrid from June 2nd to 8th 2023. This highlighted the eventful history of the company, which was founded in 1943. Exhibits included one of the legendary orange-painted freight wagons once used to transport oranges from Spain to England and Germany.

As Transfesa's "sister" in the DB Group, DB Cargo would like to congratulate Transfesa Logistics on its anniversary and looks forward to further partnership in the "Freight belongs on rail" initiative.

Brief history of Transfesa

- 1943: Founded to transport livestock in Spain.
- 1952: First freight wagons constructed with interchangeable axles for transport from Spain to western and northern Europe; this meant that freight trains could be more quickly changed over to the different gauge at the border with France, making transhipment unnecessary.
- 1950s/60s: Increased fruit exports to western Europe; thanks to the company's own ventilated wagons and the faster switch to standard gauge, transport only took around 48 hours.
- 1960s: Opening of branches in Europe, for example in Germany and Switzerland. This made Transfesa one of the most important forces in promoting the international trade of Spanish products.
- 1970s: Concentration on automotive industry: Transfesa became an important partner and started transporting finished vehicles.
- 1980s: Automotive parts added to portfolio.
- Since the 1990s, Transfesa has also provided services beyond pure logistics, such as wagon maintenance and terminal management.
- Transfesa has been part of the DB Group since 2007.

On May 26th, DB Cargo Class 185.312 approaches Linz/Rhine with a München-Riem to Duisburg-Ruhrort Hafen CT liner.
Erik de Zeeuw

Investments in infrastructure: DB is building between Hamburg and Berlin in 2024

In 2024, Deutsche Bahn (DB) will implement long-term investments in the infrastructure on the route between Hamburg and Berlin: 100 switches, three culverts and a total of around 74 kilometres of track will be renewed between August 16th and December 14th.

The work mainly takes place between Wittenberge and Ludwigslust. Long-distance traffic between Berlin and Hamburg will be diverted during this time, so longer journey times can be expected. There will also be restrictions in regional and freight traffic - also on the further route in the direction of Hamburg. DB is currently preparing the specific timetables in coordination with the railway companies. Travellers should benefit from more punctual trains once the construction work is complete.

The improvements also extend to Rostock
With 230 ICE, regional and freight trains and up to 30,000 passengers per day, the Hamburg-Berlin route is one of the most important direct city connections in Germany.

The high utilization has put a lot of strain on points, tracks and overhead line systems in recent years. The work in the coming year is necessary so that trains can continue to run at full speed and there are fewer disruptions to the infrastructure.

General renovation of the route in 2025
From June 6th to December 13th, 2025, DB will expand the Berlin-Hamburg route into a high-speed corridor. Numerous long-term construction measures are bundled for this purpose. DB thus avoids a large number of closures in the years to come.

DB has examined intensively whether the construction measures for 2024 can be postponed and bundled with the general renovation in 2025. However, there are clear deadlines for maintaining the infrastructure. Therefore, the construction measures must take place in the coming year. DB asks travellers and freight transport customers for their understanding of the unfortunately unavoidable restrictions.

On May 26th, LTE Class 286.940 runs through Kaub with a Rotterdam to Mannheim and Wörth am Rhein CT liner.
Erik de Zeeuw

HSL Class 186.382 rushes through Bohmte with a rake of Uagps hoppers from Rzepin (PL) to Raiffeisen in Twistringen (D) on June 7th. *Erik de Zeeuw*

On June 6th, Holzlogistik und Güterbahn Class 159.216 is seen in Wispenstein working an Innofreight container train (lye empties) from Bokeloh to the Werra mining district. *Erik de Zeeuw*

Germany

On June 3rd, Class 220.033-5 (MEH) is seen at Bad Bentheim. Its original number is V200.033 “Streckendiesellokomotive” and it was renumbered in 2008 to 92 80 1220.033-5 D-MEH. The first five prototypes of the V200 were built by Krauss-Maffei in 1953/1954 with production beginning in 1956, with 61 engines being built by Krauss-Maffei and 20 engines build by MaK. These locomotives were used on various passenger and cargo services and are still active in several countries including Germany, Saudi Arabia, Italy, Greece, Spain, France, Switzerland, Algeria and Albania. At this moment a few V200 are preserved with several in Germany. The following locomotives are preserved in museums or operational, generally operating on private charter trains on DB main lines or hauling freight. V200.001 is the only prototype still existing is the is owned by the Franconian Museum Railway in Nuremberg; V200.002 was at the DB Museum but was destroyed by fire at the museum on October 17th 2005; V200.007 is under the care of the BSW Gruppe at Lübeck but is not operational; V200.009 is a static exhibit at the Rügen Railway & Technology Museum, Prora, on Rügen Island; V200.017 is owned by Classic Train Tours AG of Düsseldorf and is in operational condition; V200.018 is on static indoor display at the Deutsches Technikmuseum in Berlin; V200.033 is owned and operated by the Hammer Eisenbahn Museum at Hamm; V200.053 is owned and operated by Brohltal-Eisenbahn GmbH; V200.013, V200.015 and V200.016 that were previously owned by Swiss Railways are still in existence at Altenbeken and Kornwestheim; V220.058 and V220.071 are both on outdoor display at the Technikmuseum Speyer. *Andre Pronk*

Germany

BELog relies on a third EuroDual locomotive from European Loc Pool for increased capacity and flexibility

The European Loc Pool AG (ELP), a leading provider of locomotive leasing services, is pleased to announce the signing of an agreement for the third EuroDual locomotive with BELog Baustoffe-Entsorgung-Logistik GmbH & Co. KG. This agreement strengthens the longstanding partnership between the two companies and supports the modernization of BELog's fleet. The decision of BELog to lease an additional EuroDual locomotive was driven by the modernization of their fleet. The high demands led to frequent breakdowns of older locomotive types, which required regular and increasingly longer maintenance intervals. In contrast, the EuroDual locomotive is known for its high reliability and low failure rates, resulting in more efficient operations.

Emiel Knarren, Chief Commercial Officer of ELP, adds, "The EuroDual locomotive offers BELog unbeatable advantages for their business. With its electric and diesel-electric drive, it can be used on both electrified and non-electrified tracks. This allows BELog to reach remote areas and effectively transport heavy loads, such as construction materials."

Furthermore, the dual-mode technology enables independent operation on the first and last mile at loading and unloading stations without relying on third-party services.

"What is particularly outstanding about the EuroDual locomotive is its exceptional traction and performance. Compared to pure diesel or electric locomotives, the EuroDual can carry up to 35% more load. This corresponds to an additional capacity of approximately 840 tons or roughly 30 saved truck trips," said Timo Pape, CEO of BELog.

The third EuroDual locomotive will primarily be deployed on routes from Central Germany to Southern Germany (Stuttgart/Heidenheim). This allows BELog to optimize logistics and ensure efficient goods transportation in this region. ELP will deliver the third EuroDual locomotive to BELog by the end of 2023.

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.

Starting in mid-2023, the second generation of ELP's dual locomotives, the Euro9000, will be 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.

About European Loc Pool AG
European Loc Pool (ELP) is a young, innovative leasing company for locomotives and was founded in May 2018. The company is headquartered in Frauenfeld, Switzerland. ELP ordered the first EuroDual locomotives in the third quarter of 2018 Since then, ELP has signed a framework agreement with Stadler for 100 Co'Co' hybrid locomotives. From this agreement, 85 locomotives have already been leased under long-term full-service contracts with more than 30 operators in six countries. ELP targets rail operators and logistics companies across Europe and focuses on new innovative six-axle hybrid locomotives. ELP's full-service leasing includes a comprehensive maintenance and insurance offer as well as the possibility to customise the exterior of the locomotives. ELP is committed to sustainability and utilise advanced technology to reduce their environmental impact while improving operational performance. ELP's experienced team of professionals prioritises safety, reliability, and cost-effectiveness to exceed customer expectations.

Germany

Deutsche Bahn expands use of AI for more punctual trains

Artificial intelligence (AI) with real time savings: Deutsche Bahn (DB) is expanding the use of AI for scheduling trains. With the help of a self-developed tool, rail operations throughout Germany are to become more punctual. The program supports dispatchers in controlling traffic efficiently and avoiding delays.

The tool is already in use on the S-Bahn trains in Stuttgart, in the Rhine-Main network and in Munich. A total of 58,000 minutes of delay were avoided there last year. In the second half of this year, AI will be introduced at the S-Bahn in Berlin. As a result, DB expects around 90,000 minutes of delay to be avoided throughout Germany in 2023. In the coming year, the tool will also be used in the Hamburg S-Bahn network. This means that all five metropolitan S-Bahn trains in Germany will be able to work with AI in the future.

In addition, the tool is currently being tested on the route between Elmshorn and Sylt. In this section, the AI operates for the first time outside of a closed S-Bahn system and has to deal with mixed traffic, i.e. freight, local and long-distance trains. If these tests are successful, the next step is to use the system on the heavily used route between Mannheim and Basel.

dr Daniela Gerd tom Markotten, DB Board Member for Digitization and Technology: “With artificial intelligence we are creating more punctuality and reliability for our customers. At the same time, the AI tool makes our dispatchers’ work easier and grows with their tasks. This is how we work our way step by step towards the nationwide real-time timetable.”

The area of application of AI is thus gradually expanding. Basically, the higher the complexity, the greater the effect that can be achieved with AI. The long-term goal is a real-time timetable that, like a kind of brain, should become the digital control center of German rail traffic.

With the help of AI, all delays caused by disruptions, construction sites or other incidents could then flow directly into traffic control. Internal processes are therefore accelerated and made more efficient by the enormous computing power of the AI.

The functionality of the AI tool is based on a digital twin of the respective network. With this digital image, the system can simulate railway operations in around 100 times real time and run through different variants of the traffic situation. The dispatchers then receive suggestions for measures for an optimized operational process and can intervene at an early stage before a bottleneck occurs. As a result, trains are less likely to have to slow down or wait when another train is blocking a section of track. As a result, the AI ensures more punctuality and also creates more capacity on the rails through better use of the existing infrastructure.

DB sends the regional train of the future on its premiere journey

Deutsche Bahn (DB) is making its trains even more comfortable and is promoting innovations in local transport with the Idea Train of the Southeast Bavarian Railway. The double-decker, which has been completely redesigned, travelled with passengers for the first time on its home route between Munich Central Station and Mühldorf/Inn. From July 3rd, the car will be in regular passenger service on this route.

The DB subsidiary Südwestbayernbahn has implemented a total of ten innovations from the Idea Train concept together with the Bavarian Railway Company as the transport authority in the double-deck car. There are, for example, office cabins for undisturbed work, corner benches and a regulars’ table area for sociable group travel, and a display that provides information about free seats on the train when boarding. The aim is to use innovative concepts to make regional trains even more attractive in order to convince even more people to switch to climate-friendly local transport.

Evelyn Palla, Head of Regional Transport DB AG: “With the idea train of the south-eastern Bavarian railway, the local transport of the future is already becoming a reality today. In our trains, passengers should be able to use the travel time even more sensibly, be it for relaxation, work or family time together. The ideas train works like a construction kit: We want to adopt individual elements in more than 500 trains nationwide by 2026.”

Christian Bernreiter, Bavarian Minister of State for Housing, Construction and Transport:“The Idea Train makes rail travel even more attractive. It sets new standards in terms of design, passenger information and travel comfort, and that’s what passengers expect from future rail travel. The Free State of Bavaria is funding the ideas train with around 1.5 million euros. I am already looking forward to seeing it in action on the route from Munich to Mühldorf am Inn.”

Thomas Prechtl, Management Spokesman for the Bavarian Railway Company: “I hope that the ideas train will give the entire railway industry an impetus to try new things. For us at the BEG, one thing is clear: the ideas train should not remain a nice idea. It belongs on the rails - and preferably in the area - even if it’s just individual modules.”

From July 3, the Ideas Train will be in service several times a day on the Munich–Mühldorf am Inn route.

With the development of the idea train, DB has developed methods and know-how to be able to implement visionary interior concepts in reality. With the partner network that has been established, DB is working intensively on integrating the new interior concepts in more and more trains throughout Germany.

With more than 22,000 train journeys daily, DB Regio is the largest local transport operator in Germany. As an innovation driver for the entire industry, DB makes concrete offers for the regional and S-Bahn trains of tomorrow with its idea trains. These include variable interior concepts for different passenger numbers. Individual elements from this are already in use in the S-Bahn trains in Munich, Stuttgart and Hamburg.

Germany

DB Cargo and voestalpine: climate-friendly supply chains for green steel production

Scrap is valuable - as a sustainable raw material for steel production. Together, the steel and technology group voestalpine and Europe's largest freight railway DB Cargo are increasingly focusing on a circular economy. The goal: to produce high-quality steel that conserves resources and energy. With shuttle services on the rails between large automobile plants, the use of new lightweight freight cars and the large-scale reuse of industrial scrap, additional important steps are now being taken on the way to climate-friendly steel production. The existing logistics partnership between DB Cargo, voestalpine and Logistik Service GmbH (LogServ) has now been sealed for another two years.

Pierre Timmermanns, Head of Sales at DB Cargo AG: "DB Cargo offers customer-oriented solutions for the cycle between the steelworks and the automotive industry. For voestalpine, we bring steel and scrap quickly and CO_2-free to various industrial centers in Western and Northern Europe on our European rail network, thereby supporting the transformation towards green steel production."

Wolfgang Mitterdorfer, Member of the Management Board of voestalpine Stahl GmbH:"The steel industry is facing a major transformation process towards climate-friendly production. Our goal is to significantly increase the proportion of scrap that is reused. This significantly intensifies the cycle from steel to scrap to steel (recycling)."

The "Schwaben-Shuttle" is already transporting steel from Linz to south-west Germany and from there to voestalpine's German and French end customers. Another example is the "Bayern-Shuttle", for which DB Cargo was awarded the German Logistics Prize 2021 together with LogServ and CargoServ, the logistics subsidiaries of the Steel Division of voestalpine AG. This jointly developed transport concept meets several customer requirements at the same time: On the one hand, the supply of voestalpine with high-quality scrap for steel production. On the other hand, the delivery of high-tech steel for the automotive industry in a closed circuit.

With this, DB Cargo transports half a million tons of steel and scrap per year between the plants of voestalpine and the southern German automotive industry. What makes it so special is that voestalpine in Linz can send steel to three different locations every day and obtain scrap from three shipping locations in one round trip.

About the Steel Division of voestalpine:
As a global manufacturer of high-quality steel products, the Steel Division of the voestalpine Group plays a key role in shaping a clean future worth living in. In steel production, the Steel Division sets benchmarks for the current production route and, with greentec steel, is pursuing an ambitious phased plan for climate-neutral steel production. As a first step, the Steel Division is already offering all flat steel products in a CO_2-reduced greentec steel edition, while at the same time working on the implementation of climate-friendly production technologies based on green electricity and hydrogen. With its high-quality steel strips, the Steel Division is the first point of contact for well-known automobile manufacturers and suppliers worldwide.

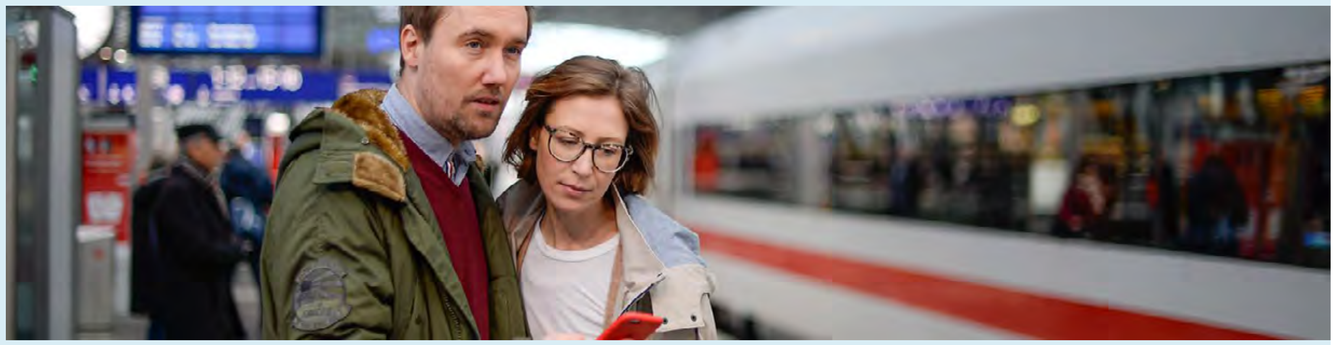
From November: Travel better informed with the new DB Navigator

Deutsche Bahn (DB) is expanding its digital travel companion. From November this year, Germany's most successful mobility app - the DB Navigator - will have numerous improved functions. This makes passenger information even easier and more intuitive for passengers. In recent years, DB has invested a three-digit million amount in its sales systems for more digital services.

Stefanie Berk, Board Member for Marketing and Sales at DB Fernverkehr: "The DB Navigator is part of the digital basic equipment for Germany's travellers on long-distance and local transport. We are constantly expanding our app and will place it on a new, modern and even more powerful technological platform. A big thank you to the 200,000 users who are already testing the new DB Navigator and are helping us to make the further developed app even more customer-friendly from November."

The most important improvements of the new DB Navigator at a glance:

- Information that is even clearer will be bundled more strongly in the future, thereby reducing the number of notifications. Current information is presented even more clearly and travellers always have all the essential information about their trip at a glance.
- Even more precise: The new travel preview offers customers a better overview of the individual travel sections including all relevant information (e.g. in the event of a platform change or delay)
- Even clearer: In the event of cancellations or delays, travellers can see at a glance when the train connection has been cancelled and an alternative connection to the destination can be selected. With one click, this connection can be adopted for the digital travel companion in the new DB Navigator. As a result, passengers are also actively informed about possible further changes on the new connection.
- Even easier: With the new DB Navigator, tickets for dogs can be booked online for the first time. Digital bike maps are now also available with just a few clicks in the app.
- Even more modern: The design of the new DB Navigator is even clearer and more modern and also offers a dark mode that is easy on the eyes and battery.



If you want to know exactly what the new DB Navigator will look like, you can download "Next DB Navigator" from the app and play stores today and test it extensively. The DB Navigator app has been the digital everyday companion for long-distance and local rail travel since 2009.

With helpful real-time information and convenient ticket booking, the DB Navigator simplifies everyday travel for passengers. In the meantime, the DB Navigator has reached the mark of over 60 million downloads. Last year, over 90 million tickets were booked in the app and more than a billion travel information was called up - that's more than three million queries a day.

Germany

Batteries instead of diesel – A new era of climate-friendly drives begins in Ortenau

After only one-and-a-half years of construction, Siemens Mobility is opening a new railway workshop in Offenburg together with Südwestdeutsche Landesverkehrs-GmbH (SWEG).

The new, modern depot will be used to maintain the Siemens Mireo Plus B battery-powered trains that are expected to enter service in the Network 8 “Ortenau” as of mid-December 2023 – a first in Germany. SWEG will lease the depot to Siemens Mobility for 30 years from June 2023. As part of the opening ceremony today, the Mireo Plus B also took its first public test run on the route between Offenburg and Gengenbach.

In addition, Baden-Württemberg’s Transport Minister Winfried Hermann and SWEG CEOs Tobias Harms and Dr. Thilo Grabo signed the transport contract for Network 8 transferring operation of the network from the state to SWEG for 15 years as of December 10, 2023.

“With this new depot, we have created a new home for sustainable mobility together with SWEG,” said Johannes Emmelheinz, CEO Customer Services at Siemens Mobility. “The completion of the new facility lays the foundation for operating our first battery-powered train fleet in Germany that will provide climate-friendly, local zero-emission passenger transport. Our contract to provide the trains’ maintenance and repairs will ensure reliable and punctual regional rail service over the long term. Our goal is to secure 100-percent availability of the train fleet over its entire lifecycle.”

Minister Hermann stated: “This December we will inaugurate the battery-electric age for regional rail transport in Baden-Württemberg in Ortenau. Passengers will travel comfortably in modern, air-conditioned, and barrier-free trains. The trains will operate emission-free on non-electrified routes and thus make an important contribution to climate protection. With today’s signing of the contract, the state has given SWEG the responsibility of using this innovative technology to bring passengers safely and reliably to their destinations for another 15 years.”

“With the new depot for Siemens, an underfloor lathe, and the existing SWEG workshop, SWEG has created a comprehensive service center for rail vehicles here in Offenburg in just five years that is unique in southern Germany in terms of possibilities and modernity,” explained SWEG CEO Tobias Harms. “There’s nothing to remind one of the historic rail depot that once stood here. With this new facility, Offenburg is truly a railway city again.” He added: “The renewed contract to run the Ortenau S-Bahn operations for another 15 years is further proof of the highly successful development of SWEG into one of the most important mobility groups in the state. I’m especially pleased that we can continue offering our passengers the usual high SWEG quality.”

The new workshop is located near the Offenburg train station in the city’s northeast. Covering an area of 1,350 m2, the depot includes two pit tracks, roof work stands, and a full-length gantry crane. Two outbuildings, 350 m2 and 200 m2 in area, provide space for storage, offices, and social facilities. It was also agreed that Siemens Mobility can use the onsite SWEG infrastructure, such as the outdoor car wash. The depot warehouse can rely on a minimum of stock since Siemens Mobility uses its MoBase e-commerce platform for managing spare parts. With it, required parts can be delivered on demand within 24 hours. Condition-based, predictive maintenance of the trains is made possible by using the cloud-based Siemens Mobility application suite Railigent X. Thanks to its advanced algorithms and data analytics, possible faults are detected before they lead to failures.

In 2020, the Baden-Württemberg State Authority for Rail Vehicles (SFBW) ordered 27 two-car, 120-seat Mireo Plus B battery-powered trains from Siemens Mobility. With their battery hybrid drive, the trains can operate on electrified as well as non-electrified routes. Running on batteries, the Mireo Plus B has a range of around 80 kilometers under real conditions.

As of mid-December 2023, Network 8 (“Ortenau”) will include the following routes: Offenburg – Freudenstadt/Hornberg, Offenburg – Bad Griesbach, Offenburg – Achern, Achern – Ottenhöfen, and Biberach (Baden) – Oberharmersbach-Riersbach.

The reactivated Hermann Hesse railway between Calw and Renningen is expected to join the network in 2025. Network services currently total around two-and-a-half million train kilometres a year.

Germany

Pick&Go: Deutsche Bahn opens cashless 24/7 ServiceStore

Select your purchases, take them with you and continue straight to the train: Travellers and visitors can now shop around the clock in the new 24/7 ServiceStore at Berlin Ostbahnhof. The special feature: In this shop for travel needs, guests neither need to pull out their wallets nor stand in line at a cash register. In this way, shopping based on the Pick&Go principle at the train station becomes “Pick&Ride”. Customers gain access via an app and the billing of the purchase is also digital. Travellers can also make efficient use of a short stay at the station. With this additional offer in the Ostbahnhof, DB is improving the service for around 80,000 travellers and visitors every day.

Horst Mutsch, Head of Commercial Sales at DB Station&Service AG : “With the future-oriented concept of our 24/7 ServiceStore, we are making Berlin Ostbahnhof more attractive and showing how digitization offers our customers real benefits in their daily shopping. Because our goal is to use modern train stations and innovative services to help make the environmentally friendly train the preferred means of transport for even more commuters and travellers.”

Martina Klement, State Secretary for Digitization and Administrative Modernization in the Berlin Senate Chancellery : “The opening of the 24/7 ServiceStore in Berlin’s Ostbahnhof is a great example of how digital progress can simplify everyday life and bring about positive changes for all of us. Artificial intelligence and digitization are tools that offer new and efficient solutions for various challenges - such as the shortage of skilled workers or the acceleration of administrative processes.”

Wenzel Bürger, Managing Director of SSP Germany and franchise partner of ServiceStore DB : “We see the new 24/7 ServiceStore as a real milestone in the further development of stationary retail. We are convinced that concepts of this kind have a great future. With our expertise as food travel experts and long-standing partner of Deutsche Bahn, we look forward to working together and operating this innovative store concept, which fits seamlessly into our digitization strategy and enriches it.”

This is how cashless shopping works
Customers register once in advance in the 24/7 ServiceStore app with their personal data (minimum age 14 years) and information on the means of payment (credit card, PayPal). To gain access to the store, customers scan a QR code generated in the app at the entrance. Purchasing works according to the Pick&Go principle: Customers select the desired products and simply leave the store. The app then automatically calculates the total of the purchase and creates an invoice, which customers are informed of by email. This is made possible by the use of artificial intelligence and the latest camera technology. The app is a web app that customers can load and use in the web browser regardless of the operating system of any end device.

New generation of the digital station shop
The 24/7 ServiceStore is located in the shopping arcade of Berlin Ostbahnhof and has a sales area of approx. 45 square meters. The franchise partner SSP Germany takes over the operation. The range includes around 400 items. These include specialty coffees and cold beverages, baked goods, salads, sandwiches and wraps, as well as savoury snacks, confectionery and tobacco products. At the Ahrensburg station, DB, together with the franchise partner Valora Holding Germany GmbH, tested the first 24/7 ServiceStore for a year from summer 2021. The findings from the test site have been incorporated into the development of the new generation of the 24/7 ServiceStore. Together with a tech partner, Deutsche Bahn has developed the 24/7 ServiceStore 2.0, which it is now implementing for the first time in Ostbahnhof.

Via ServiceStore DB
The ServiceStore DB franchise concept, founded in 1998, is part of DB Station&Service AG and has around 200 locations throughout Germany, which are operated by a total of 20 franchise partners. In the conceptual development, the focus is primarily on sustainability and digitization. The concept of the 24/7 ServiceStore, which does not require sales staff, enables shopping around the clock with the help of an app.

Photos: This is how the 24/7 ServiceStore works ©DB

Indonesia

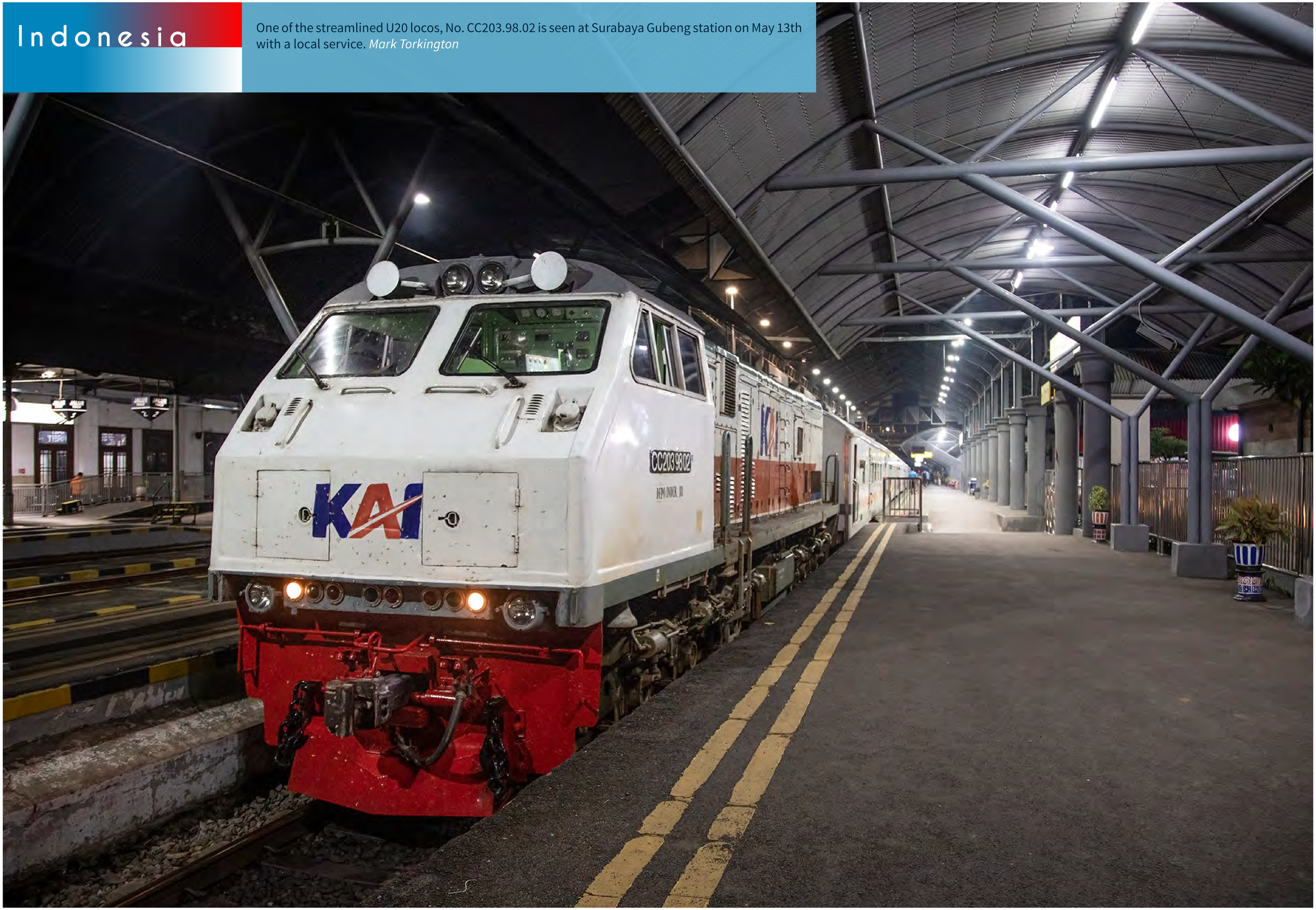
On May 10th, No. BB203.78.02 pauses at Binjai with an evening commuter service from Medan (on the island of Sumatra) to Kuala Bingai. Most of these services only go as far as Binjai, but twice a day they're extended to the new station of Kuala Bingai another 14kms further on. *Mark Torkington*

On May 12th, No. CC206.13.29 (one of the relatively new GEVO locomotives built under license from GE) arrives at Cirebon with an Intercity service to Jakarta. *Mark Torkington*

On May 13th, No. CC201.83.31 pauses at Cepu with a stopping train from Semarang to Surabaya. This loco is one of two painted in the heritage livery by KAI. *Mark Torkington*

Indonesia

One of the streamlined U20 locos, No. CC203.98.02 is seen at Surabaya Gubeng station on May 13th with a local service. *Mark Torkington*



On May 14th, No. CC201.83.14 calls at Solo Balapan station on its way to Yogyakarta. *Mark Torkington*

On May 14th, on the right No. CC201.77.05 is looped at Gedangan with a stopping service whilst being overtaken by CC206.13.47 on the left with an express. *Mark Torkington*

Train No. 102, 06:18 Modi'in Center - Nahariya approaches Haifa Bat. The locomotive at the rear is an unidentified Alstom Prima JT42BW. *Laurence Sly*

Israel

No. 1324 approaches Haifa Bat whilst working train No. 444 07:57 Haifa Hofcarmel - Karmi'el.
Laurence Sly

No. 774 passes Atlit Beach whilst hauling train No. 29 09:28 Nahariya - Be'er Sheva Center.
Laurence Sly

No. 1310 passes Carmel Beach whilst hauling train No. 109 08:48 Nahariya - Modi'in Center.
Laurence Sly

Train No. 166, 12:48 Modi'in - Nahariya passes Zihron Ya'akov. No. 737 is the locomotive on the rear. *Laurence Sly*

Israel

No. 770 approaches Carmel Beach whilst hauling train No. 111 09:48 Nahariya - Modi'in Center. *Laurence Sly*

Train No. 108, 09:08 Modi'in Center - Nahariya passes Atlit Beach with loco No. 1319 on the rear. *Laurence Sly*

No. 1302 passes Atlit Beach whilst working train No. 119, 13:48 Nahariya - Modi'in Center. *Laurence Sly*

Italy

Class 464 No. 91 83 2464.268-8 arrives at Taranto with empty coaching stock. *Michael Lynam*

A Trenitalia Class ETR104 'POP' EMU arrives at Taranto. *Michael Lynam*

Shunter No. 98 83 2245.340-4 is seen hauling a Class 445 loco at Taranto. *Michael Lynam*

Moldova

On June 11th, one of Moldova's D1 multiple unit rebuilds sits under the new station roof at Chisinau with one of the stopping services to Iasi across the border in Romania. *Mark Torkington*

On June 11th, broad gauge CHM3 No. 4952 has dropped coaches off in the Ungheni gauge changer and 20 minutes later a standard gauge CHM3 will pick them up to shunt back into the station for the Romanian engine to take forward. *Mark Torkington*

Montenegro

Monte-cargo class JZ644 No. 024, an EMD G22 series locomotive built under licence by Material y Construcciones S.A. (MACOSA) between June 1973 - January 1974. The locomotive is seen leaving the Port of Bar light engine having delivered a rake of box wagons to the port area.
Michael Lynam

A view of the vast amount of disused coaching stock located around the Bar station area.
Michael Lynam

On May 6th. RTB Cargo Class 193.726 approaches Holten with a Bentheim (D) to Rotterdam (NL) tank train. *Erik de Zeeuw*

Netherlands

VolkerRail No. 7143 approaches Wierden running light engine from Amersfoort (NL) to Bentheim (D) on June 2nd. *Erik de Zeeuw*

On May 17th, TCS No.101004 passes Holten with a Bentheim (D) to Amsterdam empty stock movement. *Erik de Zeeuw*

DB Cargo No. 6455 named 'Klaas Abel' is seen in Rijssen, crossing the bridge over the Regge with a military transport from Bentheim (D) to 't Harde (NL) on June 2nd. *Erik de Zeeuw*

On June 3rd, LTE Class 193.956 and classmate 193.729 are seen in Rijssen working an Epaht container train (corn) from Ukraine to Oss in the Netherlands. *Erik de Zeeuw*

On June 2nd, NS No. 1752 speeds through Rijssen with train No. IC140 from Amsterdam CS to Berlin Ostbahnhof. By the end of this summer these locomotives will be replaced by Vectrons. *Erik de Zeeuw*

Netherlands

UTRECHT TRAM BET ON LEADMIND TO UPGRADE FLEET PERFORMANCE

The path to fleet operation excellence

The recently renewed Utrecht Tram fleet relies on data-based solutions to optimize the performance of the units. The mission of leveling up the passenger experience through digital transformation is now a reality. In the last years, LeadMind has accompanied the Dutch fleet to achieve its objectives and continue to grow the excellence levels thanks to the digital platform.

The Dutch city of Utrecht owns 54 new CAF's Urbos trams. The system has 3 tram routes that run through the central station, residential areas, and the Utrecht University. Fleet availability and reliability; these are the objectives that shape the path of Province of Utrecht and in which CAF's digital platform is becoming an indispensable partner.

"LeadMind gives us all necessary operational information regarding the behaviour of the trams, a quick overview of the fleet health and for me as a Fleet Manager, is very important. The advantage is that we get clear, correct, accurate and real time information about the trams. We can read the tram from a distance" notes Kees van de Groep, Process Manager Assets Rolling Stock

REAL TIME MONITORING OF TRAIN EVENTS FOR A SAFE JOURNEY AND PASSENGERS ON TIME

Utrecht tram team has access to real time monitoring of train events and key information from the vehicle. LeadMind shows fleet health status in a simple way, so that decisions can be made quickly and effectively. Solving technical issues that need immediate attention, reducing operational delays and interruptions.

"We use LeadMind platform to get a better insight in the failures, so we can analyze them and fix them in a very quick way. We are able to avoid breakdowns or fall downs in the service, so we get a better operational fleet in Utrecht"continues Brahim El Aazouzi: Technical Manager Assets Rolling Stock

Maintaining by condition based. Utrecht tram is now able to repair potential failures before the train component fails or performance falls below the optimal level. CBM enables smart maintenance driven by asset health information to ensure maintenance is performed only when evidence of need exists.

A great opportunity to yield the next big efficiency leap in maintenance, diagnosing and anticipating breakdowns, reducing the number of failures and the amount of unplanned maintenance.

AUTOMATIC INSPECTION OF TRAIN ASSETS

Utrecht tram goes a step further and has chosen to integrate the automatic inspection of wheelset and bogie. LeadMind Wayside allows to automate routine tasks enabling workshop work to be planned based on the train assets conditions and to optimize each UT's stops ensuring fleets maximum availability.

"With the automatic wheel profile measurement system, we can detect any deviation very quickly, act accordingly and plan a reprofiling action. Saves around 90% of the time required in comparison to have it measured manually and the quality of the measurement it is also better". Ernst Visser, Technical Manager Assets Rolling Stock

The path to reach this point has been very enriching and the team keeps committed to the next steps that will allow to raise the level of excellence in the fleet management of Province of Utrecht. In close cooperation with LeadMind are being built new functionalities for managing and controlling energy consumption and analyze and improve driver performance.

LeadMind continues to grow steadily with over 60 projects, implemented and in process, around the world. More than 2000 active users making smart decisions on their fleet operations based on real data. CAF´s digital platform continues to offer the latest technology at the service of operators and maintainers' challenges.

Arriva submits application for its first cross-border Open Access rail services

Arriva Netherlands has submitted an application to its Consumers and Markets Authority (ACM) to start operating its first 'Open Access' international train service between the cities of Groningen in the North of the Netherlands and Paris, France.

The proposed service would connect Groningen with Amsterdam, Rotterdam, Antwerp, Brussels and Paris through a new, privately operated, Open Access train route, responding to increasing demand for more sustainable transport options in Europe and meeting the objective of the European Commission to create more train connections across European borders.

Arriva intends to run the daily service from June 2026 with a total journey time of just over five hours. If the application is approved, there will be an outbound and a return schedule, with a third daily connection linking just Amsterdam and Paris in the middle of the day.

The plan will see rail connections between the major capital cities of Amsterdam, Brussels and Paris, as well as a stop at Schiphol Airport which could encourage plane to train connections.

Mike Cooper, Arriva Group CEO, commented: "International rail has an important role to play in supporting the sustainability agenda by encouraging people away from aviation for shorter distance inter-city connections. This type of innovative thinking is good for competition which in turn benefits passengers. By using our experience across European markets to grow the potential of rail networks, we have a real opportunity to facilitate changing travel patterns and encourage more sustainable choices".

With this application, Arriva draws on its experience operating Open Access night trains between Groningen and Schiphol Airport, launched in December 2022.

This was Arriva's first Open Access route outside the UK, where it already serves passengers under its Grand Central train operating company.

The Open Access operating model means the train operator carries all the associated costs and risks with the services, without any government concession or subsidy.

In future, Arriva Netherlands expects to submit other applications from different Dutch regions to parts of Belgium and France.

The train will depart from Groningen at 05:30 and stop at Zwolle, Almere, Amsterdam South, Schiphol Airport, Rotterdam Central, Antwerp Central, Brussels South and arriving at Paris Gare du Nord at 10:40. The return journey would depart Paris at 19:15, arriving at Groningen around 00:30.

In addition, Arriva plans an third daily train connection between Amsterdam and Paris in the middle of the day.

Arriva's application is in response to a deadline set by the Dutch government to apply for international Open Access before June 10, 2023.

Poland

On June 2nd, Pesa Gama No. 111Ed007 hauls a LOTOS southbound tank train through Różyny (PL). *Anton Kendall*

On June 2nd, CD Cargo Poland Class 182.107-3 hauls a LOTOS southbound tank train through Różyny (PL). *Anton Kendall*

On June 3rd, No. 311D-01 (a former ST44 loco) hauls a rake of Cedrob Cargo containers southbound through Różyny (PL), having shortly earlier left the city of Gdansk.
Anton Kendall

Cargounit locos Class 181.114-0 and 181.144-7 haul a northbound tank train through Różyny (PL) on June 1st, heading into the refinery complex in Gdansk. *Anton Kendall*

Poland

On June 2nd, Cargounit Class 181.144-7 hauls a LOTOS southbound tank train through Różyny (PL). *Anton Kendall*

On the evening of June 3rd, Pesa Gama No. 111Ed034 hauls a LOTOS northbound gas train through Różyny (PL) towards Gdansk.
Anton Kendall

Pesa Gama No. 111Ed020 hauls a LOTOS southbound container train through Różyny (PL) on the evening of June 3rd.
Anton Kendall

On June 3rd, Maxima No. 92 80 1 264 004-3 hauls a rake of box wagons southbound through Różyny (PL), having shortly earlier left the port complex in Gdansk. The former HVLE loco is now working for Rail STM. *Anton Kendall*

On June 1st, TRAXX No. 91 51 5 170.019-1, working for ORLEN, hauls a northbound tank train through Różyny (PL). *Anton Kendall*

Alstom and Air Products sign an agreement to develop transport solutions with zero direct emissions in Poland

Alstom, global leader in smart and sustainable mobility, and Air Products, world's largest supplier of hydrogen, have signed a cooperation agreement to promote the development of transport solutions with zero direct emissions in Poland. Based on the agreement Air Products will distribute and store hydrogen and provide the hydrogen refuelling infrastructure within its own supply chain. Alstom will provide hydrogen fuel cell-powered trains.

Heavy transport, including trains, buses and trucks, require a rapid energy transition. The joint effort on the Polish ground is a continuation of Air Products' partnership with Alstom undertaken in 2022 with the signing of a letter of intent to decarbonise rail transportation in the Czech Republic through the use of low-carbon hydrogen.

"As a world leader with more than 60 years of experience in safe delivery and hydrogen infrastructure, we are investing in projects that enable low-emission hydrogen. We believe that together with Alstom we can build environmental awareness among operators and suppliers of the transport industry in Poland. We want to implement solutions for hydrogen fuelling of transportation means, including rail vehicles. Together we will prove that hydrogen is applicable to railroads, and that the operation of hydrogen trains is a robust technology that is both safe and environmentally friendly, as well as economically efficient," said Jacek Cichosz, President of the Management Board, Air Products in Poland.

"Decarbonising transportation and moving toward carbon neutrality requires real and immediate action. The development of innovative rail transportation is the right answer to this challenge. Alstom was the first to introduce a hydrogen train for commercial use, which is already being successfully used in passenger traffic.

Thus, the Coradia iLint™ is the world's first operating passenger hydrogen train with zero direct emissions that is also energy efficient. Based on our experience in developing innovative technologies, together with Air Products, we are ready to introduce the hydrogen train to Polish railways, thus participating in the hydrogen revolution," said Sławomir Cyza, CEO and Managing Director of Alstom in Poland, Ukraine and Baltic States.
In Poland, Air Products has pioneered deployments of hydrogen-powered public transportation. After demonstrating a hydrogen-powered city bus in Jaworzno, conducted jointly with partners bus manufacturer Solaris, PKM Jaworzno and the city government, the company has taken another step toward applying hydrogen to transportation, this time by rail. In Europe, Air Products opened its first hydrogen refuelling station back in 1994 and continues to make significant progress in the application of hydrogen both as a transportation fuel and as a fuel for power generation.

Alstom has extensive expertise in propulsion technologies for non-electrified networks, and offers a large portfolio of green traction products for hydrogen, battery, hybrid and bi-mode catenary and hydrogen applications. As a leader in sustainable mobility, Alstom has developed the world's first hydrogen fuel cell powered passenger train, Coradia iLint™. The train was first put into service in 2018 in Germany. Since then, it has been tested in Austria, the Netherlands, Sweden, Poland and France. In addition, Alstom presented the hydrogen train in the Czech Republic and Slovakia during its Railshow which occurred on May 17th-25th 2022.

By combining Alstom's state of the art hydrogen technologies and Air Products' 60 years of experience in the production and distribution of hydrogen, the partners guarantee significant technological advances and gain a joint competitive advantage in the market. The cooperation undertaken by Air Products and Alstom opens Polish rail transportation to future zero-emission technologies. Both companies, as pioneers in the country's hydrogen industry, are constantly taking important steps to accelerate the energy transformation of transportation and other sectors of the economy.

Portugal

On May 27th, Medway Class 1900 No. 19135 is seen at Vila De Gaia Devesas.
Mark Armstrong

Portugal

On May 23rd, Lisbon tram No. 577 is seen working a Line 18 service. *Mark Armstrong*

CP No. 1413 departs Tua whilst working train No. IR865, 09:20 Porto Sao Bento - Pocinho. *Laurence Sly*

Class 1400 No. 1429 passes Godim whilst working train No. IR866, 11:08 Pocinho - Orto Campanha. *Laurence Sly*

Portugal

CP Class 1400 No. 1455 passes Ribadouro whilst hauling train No. IR865, 09:20 Porto SB - Pocinho. *Laurence Sly*

Lisbon tram No. 552 working a line 28 service is seen at Chiado. *Mark Armstrong*

Fertagus EMU No. 3555 is seen departing Campolide on May 23rd. *Mark Armstrong*

Portugal

Class 1400 No. 1429 passes Santa Leocarda whilst working train No. IR869, 13:20 Porto SB - Pocinho. *Laurence Sly*

CP DMU No. 220M departs Pinhao whilst working train No. IR873, 17:17 Regua - Pocinho. *Laurence Sly*

CP Class 3500 No. 3526 is seen stabled at Campolide depot. *Mark Armstrong*

Portugal

CP Class 1400 No. 1408 is seen at Lisbon Santa Apolónia. *Mark Armstrong*

Lisbon tram No. 571 working a line 28 service is seen at Martim Monizd. *Mark Armstrong*

CP Class 1400 No. 1429 approaches Pinhao whilst working train No. IR876, 17:14 Pocinho - Porto SB. *Laurence Sly*

Portugal

CP Class 1400 No. 1427 departs Tua whilst working train No. IR865, 09:20 Porto SB - Pocinho.
Laurence Sly

Portugal

CP Class 1800 No. 1805 (similar to the UK's Class 50) is seen on display in the Museum of Entroncamento. *Mark Armstrong*

On May 25th, Medway Class 1400 No. 1404 is seen in Entroncamento Yard. *Mark Armstrong*

CP Class 1400 No. 1461 seen en route to Pocinho on May 25th. *Mark Armstrong*

Portugal

On May 25th, Takargo Class 6000 No. 6005 passes through Aveiro station. *Mark Armstrong*

CFP 4-6-0T No. E-2132 sits rotting away at Pocinho. *Mark Armstrong*

CFP1 (Minho e Douro) 0-4-0T No. E-1 (201) is seen at Regua. *Mark Armstrong*

Portugal

DSTrainrail No. 36025 stands at Vila De Gaia Devesas on May 27th. *Mark Armstrong*

Takargo Class 6000 No. 6005 is seen at Porto Campanhao on May 27th. *Mark Armstrong*

The narrow gauge railway at Livração has been sitting unused since 2011. *Mark Armstrong*

Portugal

A collection of steam locos are still sat at Vila De Gaia Devesas, originally destined for a museum but years later there doesn't seem to have been any movement on them. *Mark Armstrong*

Romania

On June 9th, No. 60.0853 arrives at Constanta with a local service from Mangalia. *Mark Torkington*

On June 12th, No. 66.0847 has just arrived into Bucuresti Basarab with a commuter train - this station is called Bucuresti Nord Gare B on some CFR websites but is a 5 minute walk north of the main station and seems to be used as extra capacity for commuter trains. *Mark Torkington*

On June 9th, No. 80-0589 adds extra domestic coaches to a Budapest to Bucurest overnight train at Brasov. *Mark Torkington*

On June 15th, BLM built electric twin unit driving cab trailer No. 55 departs Chamonix for the Mer de Glace glacier on the Chemin de Fer du Mentenvers. *James Haywood*

Switzerland

Stadler Pano units Nos. 146 and 147 are seen standing at Kleine Scheidegg, Jungfrau region on June 10th, awaiting their next duties to Lauterbrunnen. *James Haywood*

On June 11th, Stadler Pano unit No. 141, in Co-op livery, stands at Kleine Scheidegg forming the 16:14 departure to Lauterbrunnen. *James Haywood*

BLM single unit No. 31 arrives at Winteregg in the Bernese Oberland with an afternoon service from Grutschalp to Murren on June 10th. The photo taken from the driving cab of a service travelling in opposite direction. *James Haywood*

SLM/BBC unit No. 134 waits to depart Kleine Scheidegg with a service to Lauterbrunnen via Wengen on June 11th. *James Haywood*

Georgia and Florida Railway Nos. 4005 and 3806 arrive at Colquitt Agriculture Services where they will drop off and pick up cars, hauling train No. GF89 from Albany to Moultrie. *Laurence Sly*

Valdostda Railroad's Nos. 1200 and 1554 are seen tied down by the yard office in Clyatville. *Laurence Sly*

Florida Northern Railroad's No. 59 is seen stabled at Newberry. Florida Northern and Florida Midland both use Florida Central locomotives. *Laurence Sly*

Seminole Gulf Railroad No. 580 approaches Tallevast Road whilst hauling a train from the CSX interchange to customers in Sarasota.
Laurence Sly

Florida Central's No. 7033 passes Lake Jem whilst hauling the Eustis turn back to Modello Yard. *Laurence Sly*

Amtrak Nos. 835 and 832 approach DeBary whilst hauling the Amtrak Autotrain from Saanford to Lorton, *Laurence Sly*

Preserved former Atlantic Coast Line No. 100 is now the switcher at Conrad Yelvington's Gainesville Yard. *Laurence Sly*

U.S.A.

After collecting cars from the CSX interchange at Sebring, USSC Nos. 404 and 303 head back to Clewiston. *Laurence Sly*

USSC No. 503 passes Port St. Lucie whilst hauling the ‘Fort Pierce’ turn. *Laurence Sly*

Thailand

Alstom's automated Innovia monorail system enters service in Bangkok

Alstom, global leader in smart and sustainable mobility, announces the entry into passenger service of the MRT Yellow Line in Bangkok. The Eastern Bangkok Monorail Company Limited, operators of the Yellow Line, awarded Alstom the contract to supply the turnkey Innovia monorail system in 2017. Bangkok's first driverless urban line features 30 four-car monorail train sets, fully-automated train control and integrated wayside railway systems. Alstom is also delivering the system for the MRT Pink Line, expected to enter service in 2024.

The project delivery, led by Alstom's Turnkey regional hub in Bangkok, included system integration, installation and test and commissioning of the Innovia monorail trains, Cityflo 650 GOA4 driverless signalling, communication systems, power supply and conductor rail, track switches, platform screen doors and depot equipment. The Innovia monorail trainsets have been manufactured at the Alstom joint-venture CRRC Puzhen Alstom Transportation Systems Ltd. (PATS) in China. Alstom is providing 20 years of long-term maintenance for most of the systems provided and has mobilised a team of 170 services professionals to support the two monorail lines. Alstom's portfolio of fully automated, driverless turnkey transport solutions is the ideal solution for the particular challenges of Bangkok's urban transportation. Designed to serve rapidly growing cities and dense urban areas, Innovia monorail systems are elevated and operate on dedicated guideways. This ensures a smooth service that does not interfere with surrounding road traffic. The solutions are characterised by exceptional route flexibility, outstanding availability and high efficiency in terms of passenger capacity, energy consumption and land use. The monorail also features spacious and open designs, low interior noise and vibrations as well as large windows to create a bright atmosphere and comfortable passenger experience.

The Full Trial Run Opening Ceremony on June 19th was attended by Prime Minister Prayut Chan-o-cha. Toby Tiberghien, Alstom's Managing Director East Asia commented: "Alstom does more than simply deliver operationally functional rail systems. We transform mobility at large, by pioneering smarter and greener mobility solutions to the benefit of all. The inauguration of Bangkok's Yellow Line is another step in transforming urban mobility in the densely populated capital and will provide passengers with a comfortable, safe and efficient journey, cutting journey times by a third."

As the leading global provider of integrated urban solutions with over 50 years of experience, Alstom has all the know-how, products and resources needed to implement turnkey solutions: from rolling stock and infrastructure to signalling and information systems and maintenance.

The leading rail technology company in Thailand, the Alstom Group employs more than 900 highly-skilled employees and delivers multiple mobility projects across and beyond Asia Pacific. Its Bangkok hub is also base to one of the two global railway engineering delivery centres in Asia Pacific, serving both the local and global markets in digital urban and mainline engineering.

Spain

Alstom reveals the future design of the 201 Coradia Stream high-capacity trains for Renfe

The Spanish Minister of Transport, Mobility and Urban Agenda, Raquel Sánchez, and the President of Renfe, Raül Blanco, visited Alstom's industrial site in Catalonia, where the future design of the 201 Coradia Stream high-capacity trains that Alstom will supply to Renfe in Spain were revealed.

The new trains, with 6 cars each (4 low-floor cars and 2 double-deck cars), will have capacity for more than 900 passengers. The 12 doors on each side, evenly distributed along the train, improve station dwell time by speeding up passenger flow and the transport capacity of suburban networks. In addition, the future trains, fully accessible for people with reduced mobility, will have spaces for PRM chairs, and multifunctional spaces for bicycles, suitcases, baby prams and more.

Technically, the new vehicles will be equipped with state-of-the-art equipment to improve reliability and punctuality. In addition, technology implemented will allow for thousands of data per second to be collected from the entire fleet. This real-time information ensures more efficient operational decision-making, which will result in a better service for commuters.

The first three units that are currently being manufactured and the validation and certification process will begin in 2024. Once this is over, series production of the remaining 198 units will begin, with the aim of delivering between 3 and 4 trains to Renfe each month. During the visit to the factory, accompanied by Alstom's Managing Director for Spain and Portugal, Leopoldo Maestu, the Spanish Transport Minister and Renfe's President have reminded us that this order is the biggest ever in Spain. The contract for manufacturing these 201 Coradia Stream high-capacity trains amounts to 1.8 billion euro, including supply of spare parts and maintenance for 56 of the trains for 15 years.

First in the Americas: Alstom's hydrogen train enters revenue service in Charlevoix in Quebec

It is a first in Canada and in the Americas, driven by Alstom, global leader in smart and sustainable mobility, with its partners the Government of Quebec, Chemin de fer Charlevoix, Train de Charlevoix, Harnois Énergies, HTEC and Accelera by Cummins. On June 17th, a hundred passengers boarded the Coradia iLint for the first hydrogen train journey ever on the North American continent. The train connected the Parc de la Chute-Montmorency in Quebec City to Baie-Saint-Paul, a 90-kilometre trip in the heart of the UNESCO-listed Charlevoix Biosphere Reserve along the St. Lawrence River. The Coradia iLint, which generates its own energy using fuel cells supplied by Accelera by Cummins, which has operations in Ontario, is powered by green hydrogen produced by Harnois Énergies at its Quebec City site.

The province of Quebec will be the first jurisdiction to run a train with zero direct emissions powered by green hydrogen, demonstrating its leadership in the transition to a low-carbon economy and the set-up of ecosystems dedicated to hydrogen. The commercial operation of this train will allow Alstom and its partners to better assess the subsequent steps for the development of an ecosystem for hydrogen propulsion technology and its penetration into the North American market. The Hydrogen Research Institute of the Université du Québec à Trois-Rivières will accompany Alstom in the analysis of the results of this demonstration project.

The Coradia iLint first entered commercial service in Germany in 2018 and has travelled more than 220,000 kilometres in eight European countries. Currently, Coradia iLint is operating in commercial service on two different networks in Germany. The train is powered by a hydrogen fuel cell that emits only water vapour during operation, while ensuring a quieter environment for passengers and those close to tracks. On September 15th, 2022, the Coradia iLint travelled the record distance of 1,175 kilometres without refuelling. Coradia iLint has a top speed of 140 km/h and acceleration and a braking performance comparable to a standard regional diesel train – but without the noise and the emissions. Coradia iLint stands out for its combination of innovative features: clean energy conversion, flexible energy storage in batteries, smart traction and energy management. Designed especially for non-electrified lines, it allows for safe, clean and sustainable operations. To date, 41 trainsets have been ordered by clients in Europe.

"We are very proud to see our Coradia iLint hydrogen train onboard and carry its first North American passengers here in Quebec," said Michael Keroullé, President of Alstom Americas. "Alstom is fully involved in the decarbonization of mobility in the world and particularly in America. Hydrogen technology offers an alternative to diesel and demonstrates our ability to provide more sustainable mobility solutions to our customers, agencies and operators, as well as passengers. It will also provide an extraordinary showcase for Quebec's green hydrogen ecosystem, which is under development."

"This project is made possible thanks to the collaboration of Chemin de fer de Charlevoix, which is owned by Groupe Le Massif," said Claude Choquette, President of Groupe Le Massif and Chemin de fer de Charlevoix. "In addition to defining new foundations for sustainable tourism, the hydrogen train's launch allows many visitors from around the world to discover Charlevoix while creating value for the entire region."

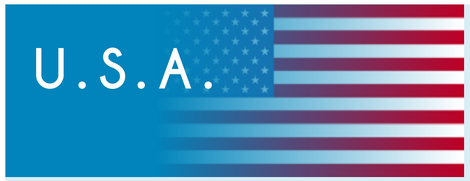
"Harnois Énergies is a partner in this project, positioning itself not only as a hydrogen producer, but also as a distributor. The hydrogen used will be produced at our Quebec City station and will then be transported via high-pressure tanks to Baie St-Paul. Harnois Énergies is focused on the future and keeps an open mind. Energy diversification is at the heart of the company's priorities," explains Serge Harnois, President and CEO of Harnois Énergies.

"As Accelera continues to innovate, we're guiding customers through energy transition roadmaps by providing end-to-end hydrogen solutions," said Alison Trueblood, General Manager of Fuel Cell and Hydrogen Technologies at Accelera. "This includes advancing traditional transportation methods, like passenger trains, through the adoption of zero-emission technologies and enabling industry infrastructure with hydrogen-producing electrolyzers. Together with Alstom and many other partners, we are advancing hydrogen propulsion technology in the North American market."

Commercial service of the Coradia iLint in Quebec is the first mandate of Alstom's new innovation centre in the Americas, which is dedicated to sustainable mobility solutions. This is the first milestone in the development of an ecosystem around Alstom's rail solutions with zero direct emissions. The primary mission of this centre, located in Saint-Bruno-de-Montarville, Quebec, is the development of future platforms with hybrid, battery or green hydrogen propulsion specifically adapted to the North American market, leveraging the proximity to the more than 700 Alstom engineers currently working in the city to help accelerate the decarbonisation of the rail sector.

Alstom is the world leader in innovation for sustainable mobility. The company employs 1,800 people in Quebec and its Americas headquarters is in Saint-Bruno-de-Montarville, Quebec.

Alstom provides rolling stock, signalling solutions, services, infrastructure and turnkey systems, notably in Montreal for the Réseau express métropolitain project, the Société de transport de Montréal and exo, as well as in Canada's largest cities and for its major rail networks. Alstom is a proud Canadian player and has been certified "Top Employer 2023" in Canada, for the third year in a row, by the Top Employers Institute.



Alstom selected by Southeastern Pennsylvania Transportation Authority to deliver 130 low floor electric Citadis light rail vehicles

Alstom, global leader in smart and sustainable mobility, has signed a contract with the Southeastern Pennsylvania Transportation Authority (SEPTA), to deliver 130 full low floor electric streetcars valued at over €667 million (approximately USD$ 718.2 million), with options to build an additional 30 streetcars.

The agreement calls for the delivery of fully customised, sustainable, next-generation Citadis light rail vehicles (LRVs) specifically designed for North America and made to navigate the historic streets of Philadelphia. The new Citadis streetcars will provide an energy-efficient mobility solution that utilises state-of-the-art, service-proven traction technology and offers a 20% reduction in energy consumption compared to a standard light rail solution. Additionally, energy efficiency is achieved by integrating LED lights and sensor-based air-conditioning, and each vehicle is 99% recyclable at the end of its 30-year lifespan.

The cars will feature 100 percent full low floors with wider aisles to facilitate passenger movement and accessibility, ramps at all doors for disabled access, audio and visual messaging systems to inform and communicate upcoming stops and service changes to passengers and metro-style seating characterised by flexible interiors that accommodate larger items while adjusting to capacity, demand and need, as well as designated spaces for wheelchairs, walkers, strollers, and bicycles. The new streetcars will also help SEPTA provide a faster and more reliable service that carries more passengers, uses less energy, reaches more destinations, and above all, provides equitable service for everyone.

“We are proud to be selected by the Southeastern Pennsylvania Transportation Authority to build and supply 130 next-generation LRVs,” said Michael Keroullé, President, Alstom Americas. “The new Citadis streetcars will bring more efficient accessible and equitable service to the people of Philadelphia’s metropolis, as they will replace the existing SEPTA fleet that dates from the 80’s. We are thrilled with the opportunity to serve over 80,000 daily riders with a more accessible, comfortable, and modern experience.”

SEPTA’s seven trolley lines run for 68 miles and connect communities in west, southwest and north Philadelphia and Delaware County directly with the region’s two largest employment and healthcare centres, Center City and University City. The current trolley vehicles have served riders since the early 1980s.

The streetcars will be manufactured in the United States, at Alstom’s Hornell facility in upstate New York, which has years of proven experience and the established capabilities necessary to meet “Buy America” requirements. Alstom has invested extensively in the Hornell site over the past few years, including the construction of a stainless-steel car body shell manufacturing facility to localise car body shell production, which will provide greater quality control over the entire production process for SEPTA.

Additionally, Alstom will manufacture the advanced propulsion system for the streetcars at its North American centre of excellence for advanced propulsion technology research and development and engineering in West Mifflin, Pennsylvania.

Alstom’s Citadis range of low-floor trams and light rail vehicles offers modern and energy-efficient transportation for cities. With a wide variety of solutions for catenary-free operation, Citadis products are especially suited for new lines and urban renewal projects.

Since the first tram entered service in 2000, Citadis trams have covered over 1 billion kilometres and transported 10 billion passengers. More than 3,000 Citadis vehicles have been ordered or are already in successful revenue service in 70 cities – including Paris, Nice, Caen, Nantes, Frankfurt, Rotterdam, Dublin, Barcelona, Athens, Dubai, Lusail, Casablanca and Sydney – in more than 20 countries.

CAF SECURES CONTRACT EXTENSION FOR THE SUPPLY OF ADDITIONAL DLR TRAINS IN LONDON

CAF has secured an agreement to extend the contract awarded in June 2019 for the supply of trains for the DLR managed by Transport for London (TfL). This extension agreement includes the supply of 11 additional units, which will be added to the 43 initial units included in the contract. The contract amount of this extension surpasses €90 million.

Just like the previous units, the new ones will each consist of 5 cars and will offer a range of additional improvements for passengers, including state-of-the-art real-time visual and audio travel information, as well as air conditioning, mobile device charging stations, multi-purpose areas (for pushchairs, bicycles and luggage), and wheelchair spaces.

Indeed, the first unit of the initial contract was officially handed over in London last February; an event which was attended by Sadiq Khan, the Mayor of London. In his words, he stressed that each of these new units would increase the capacity of the DLR train fleet by 10%; a system which, providing over 90 million journeys each year, is currently the most used light rail system in the United Kingdom.

Tom Page, TfL’s General Manager for the DLR, said: “These new DLR trains will transform the journeys of millions of existing customers but will also give us the opportunity to welcome many more as new jobs and homes are created in east London and the Docklands area.

Testing is progressing well ahead of the trains being introduced from 2024 and I really look forward to welcoming this new fleet to help contribute to the DLR’s continuing success.”

Richard Garner, CAF UK Director, said “CAF is absolutely thrilled to be supplying 11 additional trains to DLR to supplement the original order of 43 trains and play out part in the growth and accessibility of London”

Modernising the DLR is a major part of London’s transport strategy, with the end goal being to transform the British capital city into a more environmentally friendly and more accessible place to live, work and visit, and drive employment and population at the same time. The investment intended to improve public transport in the city will help reduce people’s dependence on cars and contribute towards the goal of 80% of all journeys being made using public transport, cycling or walking by 2040.

This contract further underpins CAF’s recent track record in the UK railway market, reasserting the company’s recent successes in the country. These include numerous contracts with various operators such as First Group, Serco Group, West Midlands Trains, KeolisAmey and the aforementioned Transport for London. The aggregate value of these projects which have played a significant part in upgrading some of the main train fleets operating in the country is in excess of €2,500 million.

Singapore

Alstom reveals first of new trains for North-South, East-West Lines in Singapore

Alstom, global leader in smart and sustainable mobility, revealed on June 1st the first of 106 six-car high-capacity trainsets comprising a total of 636 cars, to enter service for the East-West and North-South Lines of Singapore's MRT system.

The new rolling stock will replace 106 trains comprising the first, second and third generation trains which have been in service, on average, for close to 30 years. These new trains are part of the North–South and East–West Lines' core systems upgrade and renewal programme, and delivery of the 106 new trainsets will be completed by end of 2026. These trainsets are being supplied under the Land Transport Authority (LTA) contract awarded to Alstom in 2018.

The first two trains arrived in Singapore from China in February 2022, followed by progressive delivery of more trains. The first of the new trains to enter service was revealed at a June 1st event attended by Minister of Transport Singapore S. Iswaran, Mr. Alan Chan Heng Loon, Chairman LTA, Mr. Ng Lang, Chief Executive, LTA, Mr. Seah Moon Ming, Chairman SMRT and Ms. Ling Fang, Region President, Alstom Asia-Pacific.

Commenting on the milestone, Yann Maixandeau, Managing Director Singapore Malaysia for Alstom said: "We do not just deliver operationally, we transform mobility at large, by pioneering smarter and greener mobility solutions for all. The deployment of the latest Movia trainsets from Alstom ensures that Singapore continues to boast the world's most advanced urban metro systems."

The trains, designed in Germany and manufactured in Alstom's Chinese joint venture Changchun Alstom Railway Vehicles Co., Ltd. (CARC) in Changchun, China, offer a number of commuter-friendly features including refreshed LCD screens that keep passengers informed on their journey, spacious areas for wheelchairs and strollers that promote inclusive travel and larger windows that offer more views of unique neighbourhood towns.

For over 20 years, Alstom has pioneered sustainable and innovative mobility solutions in Singapore, ranging from urban systems to signalling and services.

Today, all the country's current Mass Rapid Transit (MRT) lines and the Bukit Panjang Light Rapid Transit (LRT) carry the Group's solutions. Alstom is currently manufacturing trains and supplying the CBTC signalling system for the extension of the North East Line – the world's first fully automated underground driverless heavy-capacity metro system and the Circle Line - Singapore's first medium-capacity MRT line.

Alstom's modern metro trains are serving the different needs of customers worldwide for over 60 years. Designed to fit new and existing infrastructure, metro trains from Alstom can be adapted to multiple capacity needs. With flexible configurations from 2-to-9-cars, small to large gauge profiles, different voltage systems, and individual interior designs, Alstom's metros can be operated manually or driverless.

They feature low noise levels, high recyclability, and optimised energy-efficiency to minimise environmental impact. Over 35,000 metro cars have been ordered or are in operation in more than 70 cities in 40 countries.

Spain

THE TRAIN DEMONSTRATOR OF THE FCH2RAIL PROJECT: FIRST HYDROGEN TRAIN TO PERFORM TESTS ON THE SPANISH RAILWAY NETWORK

The testing phase in the Spanish tracks has started with the first test run on the Zaragoza-Canfranc line, in the Aragonese Pyrenees and it will continue on lines in Madrid and Galicia.

The FCH2Rail project is developed by a consortium made up of CAF, DLR, Toyota, Renfe, Adif, CNH2, IP and Stemmann-Technik with a budget of 14 million euros.

The FCH2Rail project, in which a bi-mode demonstrator train with hydrogen fuel cells is being developed, has achieved an important milestone by obtaining authorisation to run in tests on the Spanish National Railway Network, and having completed the first of the routes planned with the arrival of the unit at Canfranc station, in the Aragonese Pyrenees. The demonstrator train is the first hydrogen train to achieve this milestone. This is an outstanding highlight, because the Canfranc line is a particularly demanding line due to its steep and high gradients, which involve a great challenge for the new power generation systems. To this end, the demonstrator train, a Renfe's Civia commuter unit, has run on the Zaragoza-Canfranc line both in electric mode, in the electrified area, and in hybrid mode, combining energy from hydrogen fuel cells and batteries in the non-electrified sections.

A new stage of on-track testing is now underway with the aim of testing the new technology in a wide range of power and energy demand conditions, simulating different commercial services. To this end, the train is scheduled to run on different lines of the Spanish Railway Network, mainly on lines in Aragon, Madrid and Galicia. The test scenarios include running under different climatic and operating conditions. This will allow a more complete characterisation of the new on-board technology, for the subsequent evaluation of the competitiveness of the new bi-mode hybrid propulsion solution with hydrogen fuel cells as a sustainable alternative to the diesel traction currently used on many lines.

The FCH2Rail project is being carried out by a consortium of companies formed by CAF, DLR, Toyota, Renfe, Adif, CNH2, IP and Stemmann-Technik. The demonstrator train is based on one existing Renfe commuter train, in which CAF has installed a new power generation system that uses the hybridisation of energy from hydrogen fuel cells and batteries. This new power system has been integrated into the vehicle's existing traction system. After the static testing phase at the CAF's plant in Zaragoza and the first hydrogen refuelling, the dynamic tests began in mid-2022 on a closed track, which have served to optimise the new power system prior to the current testing phase on representative lines of the Spanish Railway Network. The start of this new testing phase has meant the first authorisation from Adif for the circulation in tests of a hydrogen train on the Spanish Railway infrastructure, passing all the risk analysis and safety validation processes inherent to the testing of new technologies. At the same time, the train drivers and train managers from Renfe have received the necessary training to drive the CIVIA train converted to a bi-mode hydrogen train.

The success in the development of this project confirms and reinforces the commitment of the companies that make up the FCH2Rail consortium to the development of environmentally friendly mobility solutions. Likewise, the project counts during this stage of the tests on the invaluable collaboration of companies such as IBERDROLA, in terms of the supply of green hydrogen for the train tests, SHIE-ARPA, providing a high-pressure hydrogen dispensing solution, and Ercros, a producer of green H2 for mobility applications, which has facilitated the use of its facilities in Sabiñanigo during the testing stage between Sabiñanigo and Canfranc.

It should be remembered that this is a project that began in early 2021 and is scheduled for completion by the end of 2024. The project has a €14 million budget, 10 million of which is being funded by the Clean Hydrogen Partnership, formerly FCH2 JU, a European Commission agency dedicated to promoting the development of hydrogen and fuel cells.

ŠKODA GROUP SECURES DEAL WORTH OVER ONE BILLION EUROS TO MODERNISE AND MAINTAIN AT LEAST 280 LOCOMOTIVES IN EGYPT

Škoda Group has signed contracts with Egyptian National Railways (ENR) to modernise and maintain at least 280 electro-diesel locomotives.

The project marking Škoda Group expansion into Africa, consists of two contracts. The first is for the overhaul of locomotives over a period of nine years, followed by a full-service maintenance up to 15 years. Most of the works will be carried out directly in Egypt, which will support the localisation and include work in all production positions. These large contracts underscore Škoda Groups focus on also providing life cycle full-service and modernisation. Total value exceeds 1 billion euros.

“These contracts mark a historic milestone for Škoda Group. With our strong record of accomplishment in servicing and modernisation, we are uniquely positioned to deliver superior locomotive rehabilitation and overhaul services. Our aim is to use our skills and experience to build lasting relationships and make a long-term contribution to improving the quality of the rail sector in the Middle East and Africa. The success of being awarded with this project is further confirmation of our strategy of expanding into foreign markets. I would like to thank the Egyptian government and Minister of Transport H.E. Kamel al-Wazir for the trust they have placed in us,” stated Didier Pfleger, CEO of Škoda Group.

To start the project, two prototype locomotives will be modernised at the Škoda Group production and service site in Šumperk in the Czech Republic. The remaining locomotives will then be modernised, overhauled and maintained in Egypt with the help of Škoda’s extensive knowledge and competence.

To ensure successful execution, the group will provide training at its sites specifically for the prototypes. The Egyptian staff will acquire the necessary expertise in Egypt and in the Czech Republic to carry out work on the locomotives to European industrial standards. Škoda will also collaborate with its partner in Egypt to find and retain such workers.

“We are excited to bring enhanced reliability, availability and safety to the Egyptian national railways and passengers. Over the next nine years, we will deliver at least 280 rehabilitated and overhauled locomotives to Egypt with an extended service life of another 15 to 20 years. We will perform up to 15 years of full-service for these locomotives. We are convinced that full-service is the most efficient way for our customers to receive quality care and maintenance for their entire fleet of vehicles,” said Marek Herbst, Senior Vice President Service at Škoda Group.

What is included in the modernisation and overhaul (rehabilitation)?

ENR’s locomotives will undergo a major review and renewal of their components. The locomotives’ drives and pneumatic parts will be overhauled, and their braking systems and electrical wiring comprehensively modernised. The driver’s cabs will also be transformed, with new control panels being installed.

The TCMS train control system will also be checked and modified. Finally, the locomotives will undergo a major design makeover.

RENFE OPTS TO EXTEND THE MEDIUM-DISTANCE TRAIN SUPPLY CONTRACT BY 32 UNITS

The Board of Directors of RENFE has confirmed its decision to make use of the option to extend the amount of medium-distance electric units provided for in the contract which was awarded to CAF at the end of 2022.

The initial contract, awarded to CAF in October last year, established the initial supply of 28 electric trains to run medium-distance services, together with the supply of their relevant depot parts and train maintenance services for 15 years. This agreement includes further options to extend the scope in the future.

One of these was the production of up to 42 additional trains and it is part of this option that RENFE has now enforced; specifically, 32 electric trains, of which 24 will be 3-car consists and the other 8 trains will be 4-car consists. This extension is worth approximately €190 million.

The trains to be supplied by CAF will will have similar specifications to those previously ordered - currently in the manufacturing process, with an operating speed of 200 km/h. One of the stand-out features of the unit is its capacity to run short distances autonomously on sections of the network where there is no catenary or when required when a power cut occurs, on account of the batteries the units are equipped with.

CAF’s incorporation of this technology on a number of its latest projects is testament of its commitment to developing this zero-emission solution to address passenger transport decarbonisation. The company is working in this area both by developing the vehicles themselves to make them more efficient and lighter, and by improving operation, with a view towards achieving optimum integration between vehicles and infrastructure.

RENFE has placed its trust in the CAF Group once again, further strengthening the close relationship established between both companies over the past few years. The most recent example of this is the project that was awarded just 3 months ago for the supply of 29 commuter trains which is currently in the engineering stage.

It should be stressed how this new agreement brings the company’s projects with RENFE over the last three years to a total of more than 1 billion euro. This reaffirms CAF’s opportunity to partner with RENFE for the latter’s plan to update a significant portion of its train fleet and to incorporate more efficient and environmentally-friendly units.

U.S.A.

Wabtec Wins G&W Order for 'Pre-Owned' Power

Wabtec on June 27th reported that it will deliver 69 "certified pre-owned" locomotives this year to six of Genesee & Wyoming Inc.'s U.S. subsidiaries in a deal that includes an extended warranty.

The order for Buffalo & Pittsburgh; Chicago, Ft. Wayne & Eastern; Connecticut Southern; Indiana & Ohio; New England Central; and Providence & Worcester comprises 35 Dash 9s and 34 Dash 8s; their addition will grow G&W's fleet of Wabtec units to more than 100. Delivery will begin immediately and will wrap up by December, according to the manufacturer.

Wabtec described its certified pre-owned program as providing small railroads and industrial manufacturers "a range of high-performance locomotives that are equipped with original design specifications, maintenance records and operational histories." The locomotives are certified through a "rigorous 275-point inspection process to ensure each is roadworthy and meets its standards," according to the company. To date, Wabtec said, it has sold more than 210 locomotives to eight customers through the program, which includes Dash 8-32Bs, Dash8-40Bs, Dash 8-40C/CWs, and Dash 9-44CWs.

"These engines will make our fleet more efficient, enabling us to better meet our customers' needs for safe and reliable freight-rail transportation," said Michael Miller, President of G&W's North American operations, which includes 110 short lines and regionals serving 43 U.S. states and four Canadian provinces over more than 13,000 track-miles. "Furthermore, with rail being the most sustainable way for our customers to move goods over land, these locomotives will generate lower emissions to help both us and our customers achieve our ESG goals."

"This order demonstrates the value of our certified pre-owned program to the short line market," said Alicia Hammersmith, a 2022 Railway Age Women in Rail honoree, who in April became President of Wabtec's Global Freight Services. "Certified pre-owned locomotives provide G&W an affordable way to upgrade its fleet while improving performance, reliability and fuel efficiency, as well as reducing carbon emissions. These locomotives deliver the performance G&W needs to continue meeting their customers' growing demands."

Photo: ©Wabtec

Italy

Stadler has been awarded ATM's new tram order for Milan

Stadler and Azienda Transporti Milanesi S.p.A. (ATM) have signed another framework agreement for the supply of up to 50 TRAMLINK trams for the city of Milan. In a first call-off, ATM has ordered 14 high-capacity vehicles that will be financed with the PNRR (National Recovery and Resilience Plan) fund. The fourteen vehicles will be delivered before June 30th 2026.

The medium-capacity TRAMLINKs are similar to the tramways to be delivered under the framework agreement signed in 2020 and that Stadler is currently manufacturing. They have three modules and are about 25 m long. ATM has already ordered 60 out of the 80 vehicles covered by this framework agreement. The first unit arrived in Milan on December 1st 2022 and, currently, is performing tests on the city's tram network.

The high-capacity version of the TRAMLINKs is based on the above but features five modules and a length of 35 m. They are bi-directional and have an attractive open interior equipped with two specific areas for wheelchair users. The barrier-free low floor and four doors per side allow passengers to board and alight easily and quickly thus reducing stopping time. In addition, the innovative bogies allow the trams to run smoothly in the narrow curves. This significantly reduces noise to the benefit of passengers and residents.

Particular attention has been paid to the safety of passengers, drivers and pedestrians. The ergonomically designed driver's cab maximizes the driver's visibility. Additionally, the TRAMLINK is equipped with an anti-collision device that can intervene when it detects a potential collision situation with pedestrians, cars or other obstacles. No blind spot cameras guarantee the security throughout the whole vehicle. The excellent dynamics as well as the high levels of safety and comfort improve the travel experience.

"We are very proud that ATM is once again relying on Stadler trams to improve and enhance public transport in Milan," said Iñigo Parra, CEO of Stadler Valencia. "Our vehicles are a benchmark in terms of performance, reliability, safety, universal accessibility, comfort and state-of-the-art technology. We are convinced that they will be a success also here in Milan".

Switzerland

An international best-seller: sale of the 2,500th FLIRT multiple unit

Stadler is celebrating a major anniversary: the sale of 2,500 FLIRTs. Around 20 years since the first vehicle was ordered, Stadler has just sold the 2,500th multiple unit from the FLIRT family. An international best-seller, the FLIRT boasts an innovative design and is recognised by customers for its high quality and unrivalled performance. The FLIRT is now in operation in 21 countries – from the Arctic Circle to North Africa.

The latest order received by Stadler for its FLIRT model has enabled the company to reach a landmark milestone. The contract for four FLIRT electric multiple units for the Italian region of Valle d'Aosta marks the sale of the 2,500th multiple unit from the successful FLIRT family. FLIRT stands for Flinker Leichter Intercity- und Regional-Triebzug (English: "fast, light, innovative intercity and regional train") and has become one of the most popular and successful platforms for modern rail vehicles.

The first FLIRTs were designed as four-car articulated trains with two traction end bogies. The design followed the same philosophy of concentrated traction as in Stadler's innovative articulated railcar (GTW), but shifting the traction to the ends of the multiple unit. This resulted in a spacious low-floor interior along the whole length of the train, setting new standards in the market for regional multiple units. The innovative concept was first used in the Zug S-Bahn for Swiss Federal Railways (SBB), but Stadler did not stop there.

Continuous improvements have been made to the FLIRT over the last 20 years, and a variety of new options have been developed in terms of drive technology. As well as full electric traction, drive modules are now also available for hydrogen, battery and diesel operation, or using hybrid solutions combining several of these technologies. The latest innovation incorporates Stadler's in-house signalling solutions, resulting in a highly digitised vehicle. The FLIRT has been an important catalyst for Stadler's success story over the last few decades.

"When we launched the FLIRT, it was an extremely impressive concept. Being imitated by the major rail vehicle manufacturers was a welcome acknowledgement for Stadler – and a driver for further innovation. The success of the FLIRT is a credit to our dedicated team.

We are constantly endeavouring to develop and improve the vehicle. The sale of the 2,500th FLIRT is a significant milestone for Stadler, and demonstrates the outstanding quality and performance of our vehicles. We are proud that the FLIRT is appreciated by rail operators and customers worldwide, and that it is helping to make rail transport more efficient and more attractive," says Peter Spuhler, Executive Chairman of Stadler's Board of Directors.

From Switzerland to the wider world

The success story of the FLIRT began with a pioneering order from Swiss Federal Railways (SBB) in 2002. Stadler won a tender to deliver twelve FLIRTs to Stadtbahn Zug and a further 30 FLIRTs to Basel S-Bahn. These initial compositions were put into service about two years later and proved very popular with passengers. The FLIRT not only conquered the Swiss market, but was also very well received internationally. Norway in particular has become one of the most important sales markets for the FLIRT. The Norwegian state railway NSB has ordered a total of 150 FLIRTs for use on the Oslo suburban train network or as intercity trains.

Routes that operate with FLIRT trains have witnessed an increase in passenger numbers of up to 20 percent without any other timetable measures being taken.

Every second rail passenger in Norway now travels on a Stadler train. In March of this year, the state-owned company Norske tog signed another contract with Stadler for the manufacture and delivery of up to 100 additional FLIRTs.

The largest FLIRT fleet outside Switzerland is currently in service in Germany, where almost 500 vehicles are used by various operators for regional and regional express transport.

Recipe for success: the FLIRT's modular structure

The FLIRT combines an intelligent, innovative design with tried-and-tested technology. It is also extremely versatile thanks to Stadler's proven module concept. The FLIRT is a cost-effective response to urbanisation and the growing pressure in the transport market on account of its high-performance drive system, excellent acceleration and braking characteristics, ergonomic driving properties, comfortable interior design and functional modular set-up.

Wide variety of drive options

In 2015, the Valle d'Aosta region ordered the first FLIRT trains with bimodal drive. Today, Stadler's FLIRT model offers a variety of drive solutions that meet customers' needs whilst being environmentally friendly and efficient at the same time.

Alongside models with fully electric, diesel or mixed drive, Stadler also produces FLIRTs with alternative drives such as battery and hydrogen. Stadler is supplying 55 battery-powered FLIRT Akku trains to Nahverkehrsverbund Schleswig-Holstein (NAH.SH) and 58 battery-powered FLIRT Akku trains to DB Regio in Germany, for example. It is also developing the first hydrogen-powered FLIRT for the American San Bernardino County Transportation Authority (SBCTA). Moreover, Stadler holds the world record for the longest journey in a battery-powered train in battery-only mode with its FLIRT Akku model.

Lithuania

Stadler FLIRT enters new market: First contract awarded in Lithuania

The success story of the FLIRT multiple unit continues: after more than 2,500 FLIRT trains have been sold wordwide, Stadler has now been awarded with the first FLIRT contract in Lithuania. Lithuanian railway operator LTG Link and Stadler have signed a contract for delivery of fleet of state- of-the-art FLIRT vehicles. This is Stadler's first contract in Lithuania and a major sales success in the Baltic region. With the delivery of electric and battery-electric trains, Stadler contributes to Lithuania's path to suistainable mobility.

LTG LINK will acquire 15 FLIRT multiple units (mandatory scope) with plans to exercise optional scope and additionally procure up to 13 electric FLIRT Intercity multiple units, 15 battery-electric FLIRT multiple units with 100km range and 11 battery-electric FLIRT multiple units with 70 km range. In a first call-off, Stadler will deliver nine electric FLIRT for intercity operations and six battery-electric FLIRT to be operated on non-electrified railway lines. The company will also supply a technical support and spare parts for 10 years from the delivery of the last vehicle.

"Stadler has already sold over 2,500 FLIRT trains worldwide – it is a tried and tested, reliable and comfortable vehicle model based on a light-weight modular design, that is available in a number of drive variants, meets the expectations of the most demanding customers and is environmental friendly. I'm happy that our vehicles will soon carry passengers in Lithuania too. I'm certain that Lithuanians will love FLIRT trains and enjoy travelling on them", said Peter Spuhler, the Executive Chairmain of the Stadler Group.

"Every day, we strive for more and more people to switch to environmentally friendly railway transport. Today we can confidently say that the new trains will make a significant contribution to the realization of our sustainable mobility goals. They will bring a significant leap in the quality and experience of train travel for all passengers.

The design works of trains adapted specifically for Lithuania will soon begin. Battery-powered trains adapted to harsh climate conditions and wide gauge railways will be produced for the first time in Europe. And together with the supplier that won the public procurement, we will ensure their efficient operation for many years," says Linas Baužys, the Head of the passenger transport company LTG Link.

A new level of comfort

Designing trains for LTG Link, Stadler's engineers have focused largely on travel comfort and state-of-the-art vehicle design. Comfy seats in passenger areas, a friendly interior design and a bistro will ensure a high comfort event during long-distance travels.

Fully electric Intercity model

The nine FLIRT Intercity electric multiple units are 93m five-car units. They will seat up to 200 passengers, including 16 passengers in the first class. Each vehicle will accommodate 14 to 30 bicycles, according to the season of the year and route-related requirements. A spacious baggage area and a toilet will also be provided. The trains will meet the high requirements of all types of passengers, both families with kids seeking to relax during their journey and business passengers who will be seated in a dedicated train area to ensure they have comfortable working conditions and may hold business talks. There will also be a bistro area on board the vehicle, where passengers can order a meal.

Sustainable on non-electrified lines

The six FLIRT battery electric multiple units with a length of over 65 m will consist of three passenger cars and a dedicated Power Pack car housing motive-power batteries. Each vehicle will seat up to 128 passengers and 6 to 30 bicycles according to the season of the year and route-related requirements. Vehicles will have a toilet and vending machines selling snacks to passengers. The vehicles will replace diesel trains that are now operated on non-electrified sections. They are designed to navigate the most challenging routes of the Lithuanian railway infrastructure without a power supply from the contact system, so they will run on non- electrified lines emission-free.

Both vehicle types will cater to the needs of persons with reduced mobility - entirely free of any stairs, they will allow for smooth movement aboard. They will have lifts to assist with the boarding of passengers on wheelchairs from the lowest platforms and adapted toilets. An optimum number of vehicle doors (5 doors in an EMU and 3 doors in a BEMU) will provide for an efficient passenger exchange while improving the acoustic comfort on trains. With the contract awarded from LTG Link, Stadler continues the success story in the Baltic States. Already in 2012 and 2014, Stadler supplied 38 FLIRT multiple units to the Estonian operator Elron.

From the Archives

Austria

OBB Class 1045.03 seen with a local train at Attnang Puchheim on March 25th 1975. *John Sloane*

From the Archives

France

SNCF BB No. 13025 stands at Strasbourg on April 8th 1972 with a vintage De Dietrich railcar in the background. *John Sloane*

From the Archives

France

SNCF 2D2-5518 is seen at Toulouse shed on April 13th 1974. *John Sloane*

From the Archives

Germany

DB Class 112.141 is seen crossing the Rendsburg bridge on April 26th 2006.
Mark Enderby

From the Archives

Germany

Former DR Class 155.229 on a northbound freight heads through Dusseldorf Rath on July 9th 2013.
John Sloane

From the Archives

Germany

DB Class 143.637 approaches Ediger-Eller on May 7th 2005. *Mark Enderby*

From the Archives

Germany

BHG No. D24 approaches Wunstorf on April 28th 2006. *Mark Enderby*

From the Archives

Hungary

MAV M47-2070 is seen at Budapest Railway Museum on September 13th 2008. *Mark Enderby*

From the Archives

India

On the metre gauge in Goa, YD 2-8-2 No. 30158 is ready to depart Vasco Da Gama with a passenger train to Kolamb on April 24th 1984.
John Sloane

From the Archives

Italy

FS Crosti boiler No. 741.053 stands out of use in the shed yard at Messina on August 9th 1971. *John Sloane*

From the Archives

Italy

ATCM Bo-Bo electric loco stands at Modena with an engineer's train on March 29th 2000. *John Sloane*

From the Archives

Kenya

EAR 2-8-2 No. 2910 ‘Gala’ with the stock of the overnight service to Nairobi is seen at Mombasa station on July 21st 1978. *John Sloane*

From the Archives

Spain

Benidorm as it once was - before the worst of the tourist boom! FEVE diesel railcars stand at a rural looking Benidorm station on April 18th 1976.
John Sloane

From the Archives

Ukraine

Two Czech built locos stand at Kiev main station on May 4th 1993. The diesel on the left is a Chme3 Co-Co whilst the electric is a fibreglass bodied ChS4 Co-Co. *John Sloane*