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#### Content

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### Submissions & Contributions

Railtalk Magazine Xtra, a magazine written by the Enthusiast for the Enthusiast. So why not join the team. We are always looking for talented photographers and writers to join us at Railtalk. Be it though pictorial submissions or via provided above. 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

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



#### Welcome to Issue 211Xtra

Last month I mentioned Talgo as one of the newer entrants into the worlwide railmarket, having previously only being thought of as a Spanish train provider. Well interestingly it has come to light that those naughty Chinese might be trying to unfairly muscle in ......

Chinese rail giant CRRC has withdrawn from a tendered project in Bulgaria after the EU last month launched a probe into it over suspected subsidies, the European Commission said on March 26th. As a result of CRRC's withdrawal, the commission "will close its in-depth investigation", it said.

Brussels had announced the probe on February 16th, with EU internal market commissioner Thierry Breton at the time saying CRRC Qingdao Sifang Locomotive was thought to have relied on subsidies to "submit an unduly advantageous offer" to try to win the tender for electric trains in Bulgaria.

On Tuesday, the commission said it "takes note of the withdrawal" by CRRC.

"In just a few weeks, our first investigation under the Foreign Subsidies Regulation has already yielded results," Breton said.

He said that Europe's single market remained open "for firms that are truly competitive and play fair" but that Brussels will take "all necessary measures to preserve Europe's economic security and competitiveness".

Bulgaria's tender was for the purchase of 20 electric trains, and their maintenance over 15 years, for a total value of around €610 million.

CRRC is the world's largest train manufacturer. It has contracts in more than 110 countries and regions, from US cities to India and Latin America.

Under the EU's Foreign Subsidies Regulation, firms have to notify the European Commission of any public procurement tenders in the EU worth more than €250 million, if they were also granted at least four million euros in foreign financial contributions in the three prior years. The EU has recently stepped up scrutiny of Chinese companies that may be benefiting from state subsidies to outbid rivals.

In September, commission chief Ursula von der Leyen announced a probe into Chinese subsidies for electric vehicles judged by European industry to be "artificially

And in January, Brussels unveiled policies to prevent sensitive technology or infrastructure from falling into the hands of economic rivals such as China.

And for those wanting to go somewhere different for a holiday.....

Private passenger operator RegioJet ran its first train from Prague, Czech Republic, to Chop, Ukraine, on March 28th, with the first departure from Chop later the same day.

The daily overnight service, which leaves Prague at 21.38 and Chop at 17.35, is an extension of RegioJet's existing Prague - Košice, Slovakia, service. The company already runs trains between Prague and Přemyšl, Poland, which is on the border with Ukraine and provides connections with Ukrainian Railways (UZ) services.

The train to Chop is the first open-access service to run in Ukraine, using a short section of 1435mm track that runs from the border at Čierna nad Tisou in Slovakia.

"We currently offer 134 seats in three coaches, including two couchettes and one seating coach," says Mr Jakub Svoboda, RegioJet CEO. "We are ready to increase capacity according to demand".

Until next month...

#### **David**

#### **This Page**

United States Sugar Corp Railroad No. 505 departs Clewiston whilst hauling an empty sugar cane train to Moore Haven on February 23rd. *Laurence Sly* 

#### **Front Cover**

Hyundai built GM No. 2921 passes through the Tongi area with a heavily loaded train from the Chittagong direction on February 20th. *Mark Torkington* 



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#### Austria

ÖBB Rail Cargo Group (RCG) is increasing the number of round trips to cater for customer requirements and is modifying the TransFER Villach–Frosinone to meet the high demand. RCG has revised the number of round trips on TransFERVillach–Frosinone in order to better meet the needs of its customers. This TransFER was launched in 2023 as part of TransFER Villach–Italy with one round trip per month. However, demand has grown – especially in the waste management sector – and the TransFER has already been doubled to two round trips per month. If demand continues to grow, RCG plans to increase the number of TransFER round trips between Austria and Italy to four per month – i.e. weekly. This TransFER is also used to transport goods in conventional wagonload transport for customers in the timber industry.

#### Multimodal thanks to MOBILER

One reason for the increase in the number of round trips is the higher demand for transport for new customers from the waste management sector, including the Italian company EuroTIDECO and FCC Austria Abfall Service AG. FCC Austria Abfall Service AG is a company of the international FCC Environment CEE Group and offers comprehensive waste management solutions for municipalities, industry, commerce and private individuals. The company specialises in the environmentally friendly disposal, recycling and treatment of various types of waste.

## More round trips between Villach and Frosinone

RCG has already transported 1,350 tonnes of waste for both companies using MOBILER. This combination of wagons, MOBILER containers and MOBILER trucks combines the advantages of environmentally friendly rail transport with those of flexible road freight and allows for a multimodal end-to-end logistics solution. A hydraulic lifting device on the MOBILER vehicle enables the MOBILER container to be transshipped quickly and easily between truck and wagon – without the need for a crane or a dedicated rail siding.

#### Sustainable freight transport between Austria and Italy

The transit time between Villach and Frosinone is just one day. Customers benefit from end-to-end logistics solutions with first and last mile services as well as the handling of conventional wagonload and container transport (with Profile 22). Additional forwarding services such as handling facilities and warehouse logistics are also available.



## Milestone: 15 years of Rail Cargo Hungaria

15 years ago, the former MÁV Cargo was privatized and incorporated into the Rail Cargo Group as Rail Cargo Hungaria (RCH). This anniversary was celebrated at a major partner event in Budapest. Numerous high-profile guests were on site. The 15th anniversary of RCH was celebrated with hundreds of guests in the Railway Historical Park Budapest. The guests included ÖBB CEO Andreas Matthä, János Kerékgyártó, Deputy State Secretary for Transport Regulation in Hungary, László Mosóczi, CEO of MÁV-START, Zoltán Pafféri, CEO of MÁV Zrt, as well as many other high-ranking managers from other railway undertakings and rail logistics providers, Austrian and Chinese ambassadors and trade union representatives.

## Innovative end-to-end logistics solutions all the way to Asia

"Even 15 years after the privatization of MÁV Cargo, RCH has remained an important strategic company for the Hungarian economy – the Hungarian subsidiary offers reliable and safe freight transport of the highest

quality," emphasized Imre Kovács, Chairman of the Board and CEO of RCH, in his speech. Whether single wagonload transport or the handling of block trains – RCH offers customers efficient end-to-end logistics solutions throughout Europe and beyond. With every tonne transported sustainably, RCH helps the environment to breathe again – for a Europe worth living in.



## Several times a day between Villach and Koper

Non-stop connection of ÖBB Rail Cargo Group (RCG) for wagonload traffic between Austria and Slovenia with connections to the economic centres of Central and South-Eastern Europe.

The port of Koper plays a crucial role in imports and exports and is an important hub for international freight transport. Its location on the Adriatic Sea provides a strategic link to RCG's TransNET network, enabling efficient transport connections to Central Europe, in particular to Austria and on to Germany, Hungary and the Czech Republic.

#### High frequency in own traction

With two to three round trips per day and a transit time of two days, TransFER Villach–Koper offers end-to-end logistics solutions including first and last mile as well as additional forwarding services such as transhipment options, warehouse logistics, customs services and final distribution – all from a single source. All kinds of goods – including dangerous goods (RID) and unusual

consignments – can be transported both conventionally and in containers from 20 to 45 feet, swap bodies from 20 to 40 feet and also craneable trailers. Additionally, RCG offers an intermodal TransFER in TransNET between Villach and Koper with five round trips per week.

#### Logistics services at the Port of Koper

RCG has a direct forwarding contract with the Port of Koper, which enables smooth port logistics before or after rail transport. Customers benefit from a full-service package covering all requirements from initial collection to final delivery. With its own team on site, RCG offers comprehensive forwarding activities and continuous monitoring of freight movements, processes and status 24 hours a day, seven days a week, 365 days a year.

#### Austria

## OBB puts first new-generation Railjet from Siemens Mobility into service and orders 19 more trains

ÖBB orders 19 more trains – delivery by autumn 2028

New level of comfort – cellphone reception improved by 50 percent

High- and low-floor entrances, six bicycle spaces, three wheelchair spaces, on-board restaurant, compartments, open-plan cars

Austrian Federal Railways (ÖBB) has inaugurated service for the first Railjet of the new generation from Siemens Mobility. The new train, featuring numerous innovations, will initially operate on the Vienna-Feldkirch route. Excluding the locomotive, the nine-car train is around 240 meters long and offers 532 seats. It has two first-class cars with business class sections, an on-board restaurant with seating, four second-class (economy class) cars, a multifunctional economy class car, and an economy class driving car. Technical highlights include high-tech lightweight bogies, windows optimized for cellphone reception, innovative power distribution systems with a redundant power supply from the adjacent car, and a self-diagnosis system with a secure radio link to the maintenance depot.

The new-generation Railjet was developed and is being built by Siemens Mobility in Vienna and is based on the same platform used by the new Nightjet trains. ÖBB originally ordered eight trains but has now ordered an additional 19. Siemens Mobility will be delivering a total of 27 new-generation Railjets.

Andreas Matthä, CEO ÖBB Holding: "We are delighted that we're expanding our ÖBB long-distance fleet with 19 more new-generation Railjets. People are traveling more and many prefer to do so by train. In response to this development, which is beneficial for the environment and climate, we are increasing the number of modern trains. With the new travel experience at the Brenner Pass, we are able to further enhance the popularity of this route. The new generation of Railjets offers our passengers a truly first-class travel experience and raises rail comfort to a new level."

Albrecht Neumann, CEO Rolling Stock Siemens Mobility: "The new generation of Railjets with their many impressive innovations in the interior provide the highest level of comfort and convenience to passengers. By helping make rail travel more attractive, these trains

will make an important contribution toward achieving climate targets. The order for 19 additional trains is a strong signal underscoring the quality and technology of Siemens Mobility."

#### **Special technical features**

The new high-tech lightweight bogies are 30 percent lighter, provide a higher level of comfort than comparable products, and require fewer raw materials in production. They also make operation of the train more economical over its entire lifecycle since it uses less energy, particularly when accelerating and braking.

In addition, the trains have windows panes that are optimally radiopermeable for improved mobile haveaspeciallaser-beamedstructure that is scarcely detectable by passengers. Developed by Siemens in Vienna, the windows conduct signal power that is 50 times stronger than standard glass. Measurements taken on an ÖBB Railjet already in service show that the available time of good 4G reception is increased by 33 percent.

Advanced digitalization technology also ensures smooth, problem-free operation of the trains: Each train continually transmits self-diagnostic data to the maintenance depot via a secure and highly reliable data link. This monitoring makes it easier to plan maintenance work, contributing to higher train availability and ultimately more satisfied passengers.

Further sustainability is achieved by increasing the train's energy efficiency with features like LED interior lighting, an air conditioning system operating with a heat pump for both cooling and heating, and fresh air ventilation regulated according to the CO2 level of the interior air. The train's newly developed power distribution system also makes an important contribution to efficiency: It is highly efficient in converting voltage and transporting

energy within the train all the way down to the power outlets on the passenger seats.



Depending on their preference, passengers have a choice of seating: in compartments, in open-plan cars, or in raised seating areas with slightly higher seat heights. Passengers preferring a quieter ride can sit in designated quiet zones, while families can use the family zones with game board tables. Seat backrests without gaps provide greater privacy between the seat rows, so passengers can, for example, work on their laptops undisturbed. WiFi service is offered throughout the train, and a clear, stateof-the-art passenger information system is provided on ceiling-mounted displays and other screens.

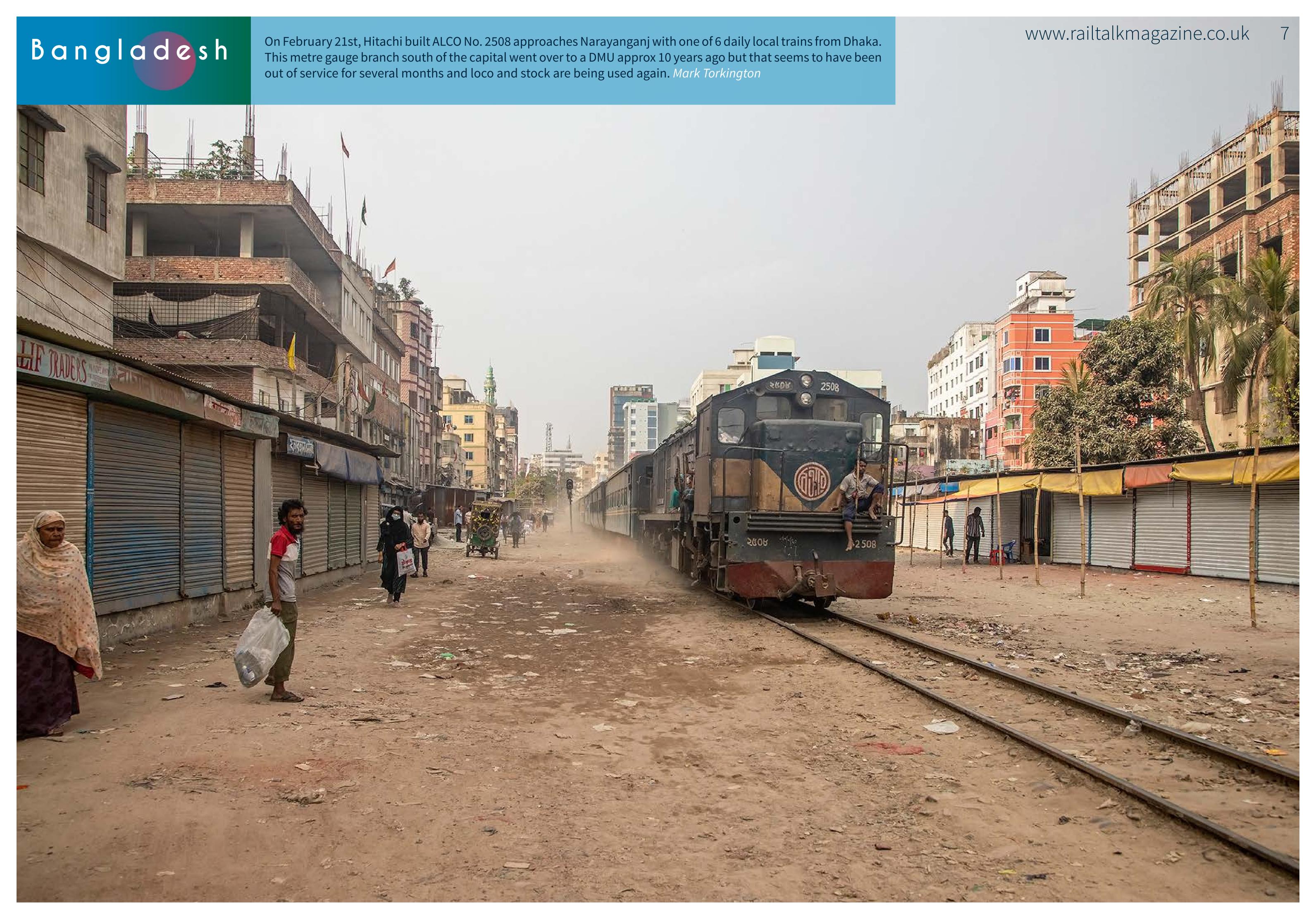
Passenger comfort is further enhanced by an interior lighting concept that automatically adjusts to the time

of day. Both the light color and the temperature of the compartments can be individually adjusted.

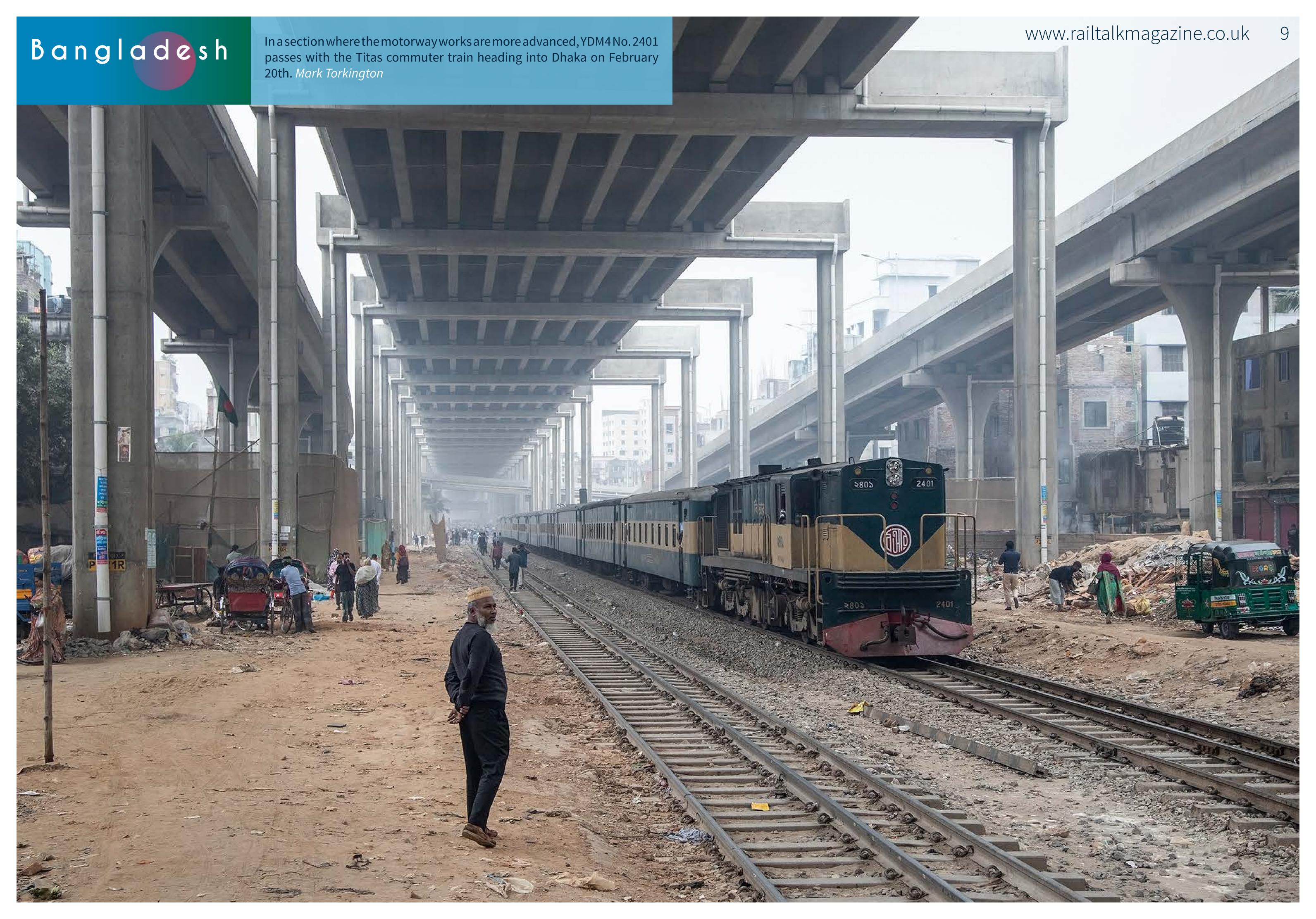
The new double seats are equipped with folding center armrests, allowing them to be converted into a small sofa if capacity is available. Each seat row is also equipped with three charging options: a USB port, wireless NFC charging, and a 230-volt power outlet. Luggage can be stored securely and unattended in spaces accessed via NFC or individual numerical codes.

For passengers with limited mobility, the train has three wheelchair spaces and barrier-free access via a platformlevel, extra-wide entrance in the multifunctional car. Space for storing skis and snowboards is available in the multifunctional car as well, along with six bicycle spaces.









No. 6525 (an Indian built broad gauge ALCO) departs Joydebpur Junction with the daily Rajshahi commuter train on February 13th. Mark Torkington







## Belgium

Lineas, Europe's largest private rail freight operator, is proud to present its new FAME locomotive. With this locomotive, the company highlights its commitment to finding sustainable solutions to reduce CO2 emissions in the transport sector.

FAME, short for Fatty Acid Methyl Ester, is a biofuel produced - among others - from non-food raw materials such as used cooking oil. Although it is already used in marine engines and simple combustion systems, waste-based FAME has not been used yet in locomotives. Lineas had the premiere of being the first rail freight operator to test it.

Lineas is currently in the final testing phase, which is expected to last until June of this year. These tests, conducted in collaboration with Cargill, are critical to validate the performance and reliability of FAME-powered locomotives before they are put into service.

With the FAME locomotive presented, Lineaswantstoemphasizetheimportance of biofuels such as FAME: it is a readily available alternative to diesel, that can be used on non-electrified railroad lines such as those in Flemish ports.

The use of FAME offers significant emission reductions, provided it meets strict criteria (e.g. being obtained from waste streams and certified according to

REDII standards): these amount to up to 84% compared to conventional diesel. Thanks to the use of FAME and other biofuels, Lineas aims to reduce its Scope 1 emissions by 42% by 2030, a target that is in line with the validated Science Based Targets.

"The tests currently being conducted with FAME highlight our efforts to implement sustainable transportation solutions," says Bernard Gustin, Executive Chairman of Lineas. "We are committed to reducing our environmental footprint while ensuring the efficiency and reliability of our services."

# Lineas presents its new FAME locomotive, a milestone in sustainable transportation innovation.



Krzysztof Szmidt, EMEA Regional Transportation and Global Water Mode Lead at Cargill adds: "We're pleased to announce that the trial has been a success so far, opening the door to greater decarbonization efforts across Belgium and beyond. Cargill is collaborating with partners like Lineas to accelerate the transition to cleaner, renewable energy as we look to a future in which we can grow and move goods more sustainably."

Although the use of biofuels such as FAME is a major step forward, Lineas would also like to emphasize that there is an urgent need for further infrastructure development to enable widespread use of these fuels.

Currently, there is no refueling infrastructure for the supply of biofuels, which hinders their immediate rollout. Lineas calls for the cooperation of all stakeholders to develop this important infrastructure and accelerate the transition to sustainable transportation fuels.

Even if freight transport by rail is already the greenest transportation solution, Lineas intends to continue its efforts to make transport even more sustainable.

In this way, the company also aims to help its customers significantly reduce their transport emissions, while providing them with the highest quality of service.

North Sea Port, one of the main logistics hubs in Lineas' operating area, also expresses satisfaction with FAME's deployment in rail freight transport within its region. Daan Schalck, CEO North Sea Port, states "North Sea Port wants to increase the share of freight transport by rail from 10 to 15%.

The emission reductions enabled by FAME will make a valuable contribution to making transport in the port area more sustainable. Suppliers of alternative fuels and rail operators will become important partners of the port in this regard."



## Renovated station building will become embellishment of entire spa triangle

Passengers in Františkovy Lázně will use the new station building as early as next spring. Správa železnic has inaugurated its complete renovation. The works will include the restoration of the historical facade as well as the modernisation of the check-in hall and ticket counters. All accesses will be barrier-free. The total cost of the construction amounts to CZK 252 million.

"Thanks to the reconstruction, the railway station in Františkovy Lázně will become a worthy gateway to the town, which together with Karlovy Vary and Mariánské Lázně is part of the socalled spa triangle, inscribed on the UNESCO World Heritage List in 2021. A modern station building with an original face will be exactly how we should approach the historical heritage on the railway: with an eye for the beauty of the original architecture and with the current needs of passengers in mind," said Minister of Transport Martin Kupka.

The roof and facade will be restored to its original appearance, both in terms of colour and materials, and the appearance of the historic cornices. In the interior, the floors, walls and ceilings will be completely restored, and the doors will be refurbished. A total of 11 apartments on the upper floors will be renovated. The check-in hall and ticket counters are being modernised. The main entrance to the building will also be renovated, and access walkways will be created directly to Platform 1. Bicycle boxes, parking spaces for bicycles and places for charging electric bicycles will be built in close proximity to the building.

"The overall renovation of the building has seen its first success even before the work has started. Last year, the expert jury of the competition 'Stavba Karlovarského kraje' (Construction of the Carlsbad Region) awarded it the prize for the best project. So, passengers have something to look forward to," noted Jiří Svoboda, Director General of Správa železnic. The project documentation was prepared by APRIS 3MP.

"When renovating the station building in Františkovy Lázně, we will take advantage of our extensive experience with the reconstruction of historical buildings. We will again involve our colleagues from the Monuments Restoration Operation, who have valuable knowledge and skills in the field of historical crafts. The implementation will be carried out during uninterrupted operation, which will bring some inconvenience for all involved. We will do our best to ensure that the construction work affects passengers and staff as little as possible," said Karel Volf, Director General of the company Metrostav DIZ. It is the contractor of the works together with the company AVERS. Construction will be completed in May next year. Its financing is provided by Státní fond dopravní infrastruktury (State Fund for Transport Infrastructure).



## Czech Republic

Valenta Rail employed Retrolok's Class 749.146 to power it's special train from Praha hl.n. - Marianske Lazne on March 2nd. Running a few minutes late, the train is seen enteringPrahaSmichovstationonit's outbound journey. Tickets for the trip started at 650CzK return, approx £22, and included a tour of the Chodovar Brewery in nearby Chodova Plana. *Andy Pratt* 

Praha Tatra T3 trams Nos. 8161 and 8162 have been painted in Ukrainian colours to show the city's support to the people of that country. They are seen arriving at Malostranska tram stop on March 3rd whilst working a line 22 service to Vypich. *Andy Pratt* 

Praha vintage tramcar No. 349 operates the historic line 42 service on March 3rd. The 1915 built vehicle is seen arriving at Malostranska tram stop. *Andy Pratt* 















# 70 years since the establishment of AŽD - achievements in the domestic market, abroad and forced organizational changes

The AŽD company is celebrating 70 years since its establishment this year. The company has changed significantly during that time, but it still remains in the hands of Czech owners and should continue to do so. A stable dominant inland position, expansion abroad, expansion of road telematics and especially cooperation with an US company in the field of nanotechnology forced the company's management to switch to a holding structure. Simplifying management and streamlining communication between the parent company and more than twenty subsidiaries are the main reasons for the already initiated process of changing the organizational

structure of the AŽD group. After its completion in 2025, the owners of this Czech company expect to ensure the continued successful development and prosperity of the entire group, its further expansion, as well as greater stability and flexibility. AŽD has been in the hands of Czech owners since privatization in 1993, and information about the sale of the company or its parts has turned out to be odd. The expansion of operations on the domestic market and expansion into neighbouring countries, especially Slovakia, Hungary and Poland, but also Bulgaria, Croatia and many others, has brought the company to the European level.

The company also owns two test lines that are integrated into the railway infrastructure of the Czech Republic. While regular passenger traffic was fully restored on the Plum railway within the U10 line (Litoměřice horni nádraží – Lovosice – Most), AŽD is now preparing conditions for the operation of autonomous trains and the AŽD Competence Centre to support Czech university education on the Kopidlnka (Kopidlno – Dolní Bousov line).

"The expansion of the company's business and the associated changes in the organizational structure of the AŽD group prove to be necessary and logical. We

certainly do not make changes to sell the company, but quite the opposite. In the future, we want to be even more competitive, not only on a national scale, to which the management mechanisms of the AŽD group must also correspond. We are convinced that after the change of the organizational structure is completed, the AŽD Group will be a stable Czech company that will not only pay taxes properly in our country, but we will reinvest the company's profits in research and development, in cooperation with universities and secondary schools, and in technological projects," says CEO of AŽD Zdeněk Chrdle.

## Czech Republic

ČD Pendolino Class 682.004 working train No. SC507 to Ostrava passes through Česká Třebová on February 23rd. *Gerard van Vliet* 

ČD Class 380.002 with train No. R891 Slovácký express from Praha hl.n. - Luhačovice calls at Česká Třebová on February 23rd. *Gerard van Vliet* 

Leo Express' Flirt Class 480.003 with service No. LE1256 Ostrava hl.n. - Praha hl.n. passes through Česká Třebová on February 23rd. *Gerard van Vliet* 







## Czech Republic

ŽSSK locomotive Class 361.125 with train No. EC129 'Valašský expres', Praha hl.n.- Púchov (SK) arrives at Česká Třebová on February 23rd. *Gerard van Vliet* 

ČD Vectron Class 193.579 (D-RAILL) with train No. Sp1752 from Brno arrives at Česká Třebová on February 23rd. *Gerard van Vliet* 

RegioJet Traxx Class 388.202 with train No. IC1012 passes through Česká Třebová without stopping on February 23rd. *Gerard van Vliet* 





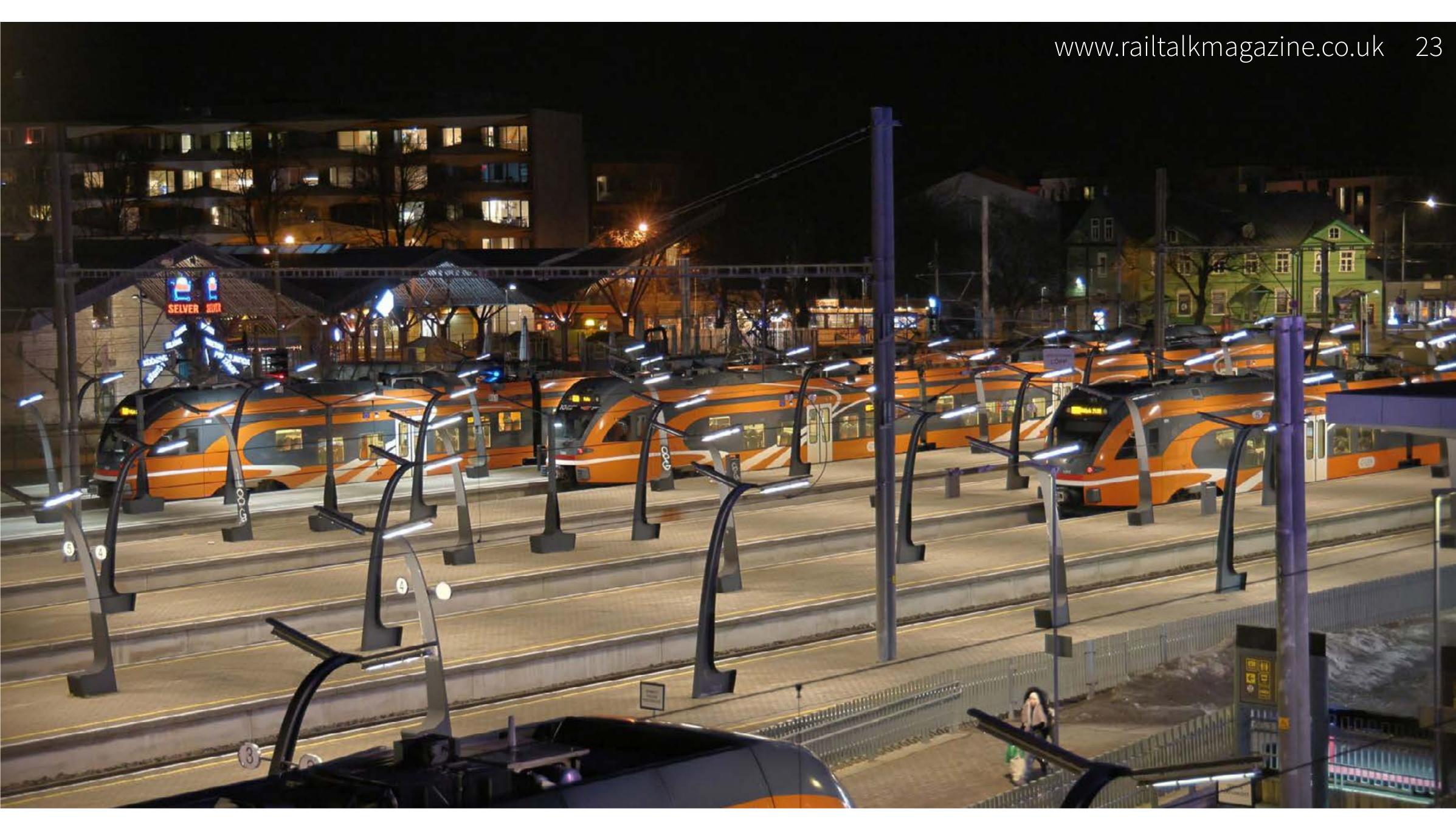


## Estonia

On March 4th, Elron trains Nos 1401, 1323, 1311 and 2431 are seen at Tallinn. *Thomas Niederl* 

On March 5th, TEM-18.054 is seen with a freight service at Valga. *Thomas Niederl* 

Elron No. 2318 working service No. 335 stands at Valga on March 5th. *Thomas Niederl* 



















# France

RATP, on behalf of Île-de-France Mobilités, has placed an order with Alstom for 103 additional MF19 trainsets worth over €800 million

These new trains, 100% financed by Îlede-France Mobilités, will be deployed on lines 13, 12 and 8 from 2027. Eventually, the MF19 trains will operate on eight lines of the Paris metro network (lines 3, 3bis, 7, 7bis, 8, 10, 12 and 13)

Modern, reliable, and eco-responsible, the MF19 metro puts technology at the service of passenger comfort and safety

Alstom,globalleaderinsmartandsustainable mobility, will supply Île-de-France Mobilités and RATP with 103 new MF19 trainsets, which is the new generation metro on rail, for a total contract value of more than €800

## Alstom receives an additional order for 103 MF19 new generation metros to modernise the Paris region network

million, 100% financed by Île-de-France Mobilités. This new fleet will replace the existing rolling stock on lines 13, 12 and 8 of the Île-de-France metro as of 2027.

This additional order is part of the framework agreement signed in December 2019 between RATP (on behalf of Île-de-France Mobilités) and Alstom for the delivery of up to 410 MF19 trainsets. The MF19 will eventually equip 8 lines of the Île-de-France metro (lines 3, 3bis, 7, 7bis, 8, 10, 12, 13).

In 2019, an initial batch of 44 trainsets was ordered which will be gradually deployed on lines 10, 7bis and 3bis from 2025 onwards. This makes a total of 147 MF19 metros that have now been ordered to date, demonstrating Île-de-France Mobilités' and RATP's renewed confidence in this modern rolling stock.

103 5-car trains to renew lines 13, 12 and 8 The fleet of 103 additional trainsets will comprise

- 67 trains for line 13,
- 22 trains for line 12,
- 14 trains for line 8.

These 103 trainsets will all have a driver's cab. As the MF19 trains are fully reversible to adapt to the needs and developments of the lines, these can be converted into automatic metros if the lines are automated.

## A comfortable, reliable, safe and environmentally friendly metro equipped with innovations to serve passengers as well as the operator

Each train will have a "boa" configuration (open circulation without separations between cars) and will feature interior fittings designed to optimise passenger flows. They will feature modern passenger information

systems, large picture windows and 100% LED lighting. They will also offer a pleasant travel experience, with ergonomic seating, heating and air conditioning, reduced noise emissions and USB sockets for recharging mobile devices.

Equipped with video surveillance cameras along the entire length of the trainset and integrated cybersecurity protection, the MF19 trains will enhance passenger safety. Environmentally friendly, the new metros are eco-designed (20% recycled materials in their production), enabling 98% of the metros to be recyclable at the end of their lifecycle. They will consume 20% less energy than the trains currently in service, thanks notably to 100% electric braking.

#### MF19 production goes ahead Production of the MF19 metros has started

at Alstom's Crespin and Valenciennes-Petite Forêt sites, in Hauts-de-France. The first vehicles have been manufactured, the first trainset has been assembled and is about to enter the testing phase.

The MF 19 metro is designed and assembled in France. Eight of Alstom's 16 sites in France participate in the project:

- Valenciennes-Petite Forêt and Crespin are inchargeofstudies, design, trainset assembly, tests/validations, and homologation,
- Crespin and Le Creusot produce the bogies,
- Ornans, the motors,
- Tarbes, the powertrain equipment,
- Toulouse, the development of electrical harnesses,
- Villeurbanne, on-board electronics,
- Aix-en-Provence, IT security.

A total of 2,300 Alstom employees, including 700 engineers, are working on the project.

## Alstom wins contract to extend Le Mans trams in France

'Le Mans Métropole' has chosen Alstom for its project to extend existing Citadis trams

The contract awarded to Alstom for 57 million euro includes the extension of the 34 trams of the city, from 32 to 44 metres, and the modernisation of some specific systems

The lengthening of the trams will increase transport capacity by 40%

Alstom, global leader in smart and sustainable mobility, has been chosen by 'Le Mans Métropole' to extend the existing Citadis trams of the city. The 34 32-metrelong Alstom trams, acquired successively in 2007, 2010 and 2013, will be extended to 44 metres, increasing passenger capacity by 85 passengers per tram. After the complete assessment of a first tram, the project will also enable some systems to be modernised (CCTV, tachometric control unit) and new

ones to be installed (lubrication and antidrift systems).

"Alstom is very proud to be carrying out this project to extend the Le Mans metropolitan authority's trams, thereby contributing to the development of a more modern, higher-capacity urban transport network. These energy-efficient Citadis trams will also improve comfort and operating conditions. We would like to thank Le Mans Métropole for its renewed confidence in our tramway solutions," said Jean-Baptiste Eyméoud, President of Alstom France.

Delivery of the first extended trams is scheduled in March 2026, with commercial service expected to begin in the summer of 2026.

#### Citadis trams to enhance passenger wellbeing

With a length of 44 metres and a width of 2.40 m, the extended trams will have two

additional double doors on each side, to make it easier for passengers to get on and off. They will have a total capacity of 296 passengers. Compliant with the PMR (People with Reduced Mobility) regulation, the extended trams will benefit from the improvements made to the existing fleet in 2023. For a comfortable journey in complete safety, these Citadis trams will be airconditioned and equipped with a dynamic passenger information system currently under development, as well as a new CCTV system.

#### Energy-efficient and environmentallyfriendly trams

At the same time as providing an enhanced level of service and comfort for passengers, these energy-efficient Citadis trams will incorporate air-conditioning systems that comply with the latest environmental regulations. These trams are eco-designed, 92% recyclable and 99% reusable.

## Seven Alstom sites in France will contribute to the success of this project

All the work required to build the first extended tram will be carried out at Alstom's La Rochelle site. The other 33 trams will be assembled in Le Mans by Alstom Services teams from La Rochelle and Crespin, at the Setram[1] workshops.

In total, teams from seven Alstom sites in France will be involved in the project:

- La Rochelle and Crespin, for the design, industrialisation and assembly of the trams;
- Le Creusot, for bogies;
- Ornans, for engines;
- Villeurbanne, for on-board electronics;
- Aix-en-Provence, for tachometric units;
- Tarbes, for cooling units and power modules.

A leader in low-floor trams and rail services
To date, Alstom has sold more than 3,000
Citadis trams to 70 cities in 20 countries
around the world (including 25 cities in
France). Citadis trams have covered more
than one billion kilometres and carried

10 billion passengers since the first tram entered service in 2000.

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

[1] Setram is the operator of the Le Mans trams. Setramstands for 'Société d'économie mixte des transports en commun de l'agglomération mancelle' (which means semi-public company for public transport in the Le Mans area).









## Germany

## DB Cargo Logistics modernises timber wagons

Turning old into new: How used steel wagons are being turned into almost brand new timber wagons. Modernising rolling stock is often associated with high investment costs. But there are also innovative and resourcesaving ideas for renewing vehicle fleets sustainably. DB Cargo recently put these into practice for its timber fleet.

#### "New" wagons for two fleets

The innovative fleet renewal project started with a lucky coincidence: the Steel and Timber divisions at DB Cargo were both planning to change their own rolling stock at the same time. "We were looking for wagons to reinforce the timber fleet and wanted a solution that was as cost effective and resource efficient as possible. As DB Cargo also needed to adapt its steel transport fleet to changing customer requirements at the same time, we quickly realised that the two departments could help each other. The Steel transport division gave us suitable wagons that could be converted into modern stanchion wagons for our fleet at a manageable cost", explains Erik Loebel, Equipment Manager Timber. The Timber

division took a total of 50 wagons, which were around half-way through their service lives, and set about converting them.

#### Converting old wagons for new tasks

This conversion was necessary because the steel wagons were not designed for securely transporting valuable raw or processed wood. The flat wagon formed the ideal basis; all that was left was to make the necessary adaptations for wood. After extensive testing of a converted prototype, the main part of the project began at the start of 2023. The conversion was carried out by DB Fahrzeuginstandhaltung and took only around two weeks per wagon. The results are impressive: for a comparatively small financial outlay, the timber fleet has received refurbished wagons that are now entering the second half of their service lives. This is an upcycling project that delivers incredible value.

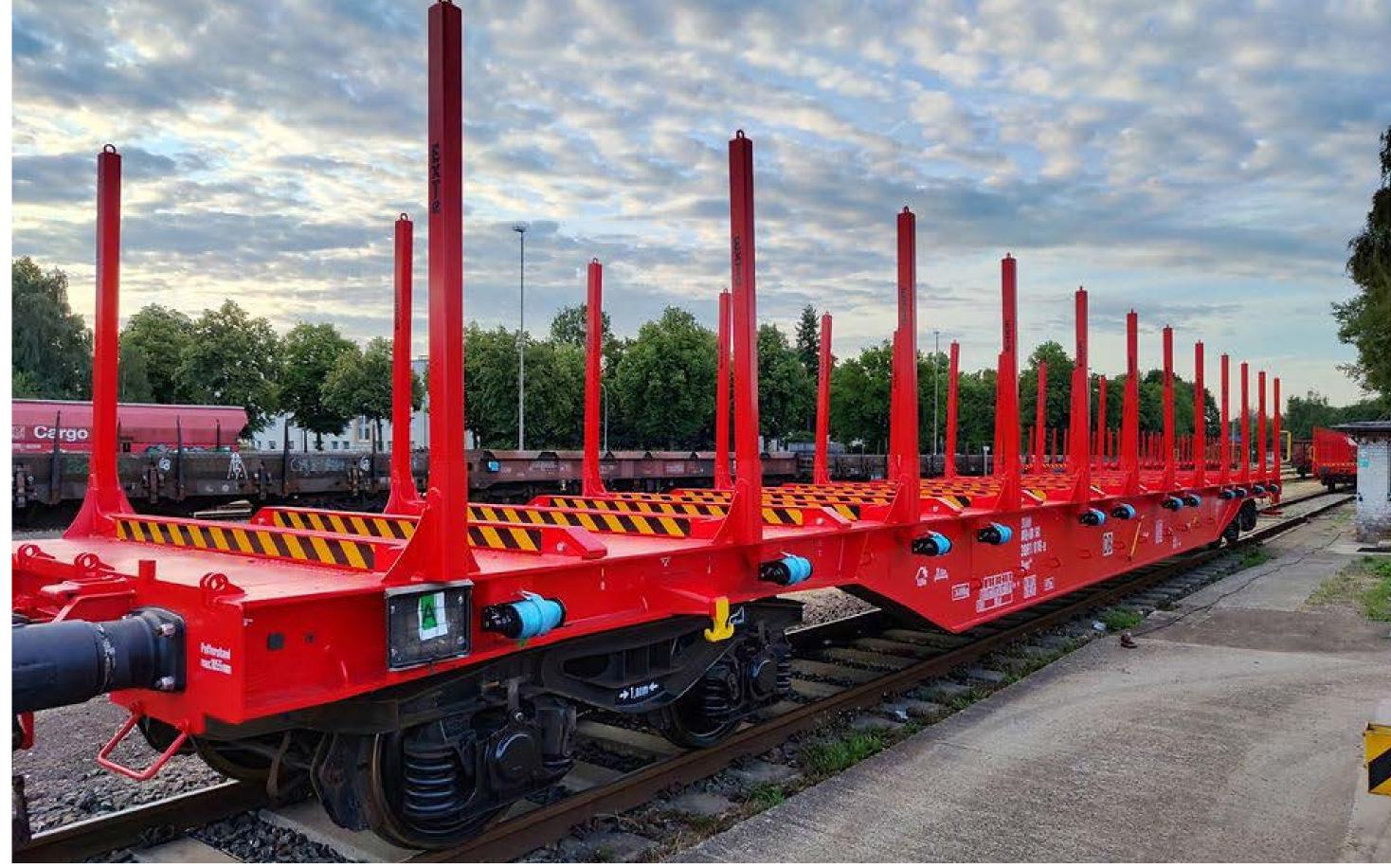
#### Converted wagons enable flexible use

So what can the 50 "new" wagons in the timber fleet do? Their biggest asset is their flexibility. With their 12 pairs of stanchions

and 11 integrated auxiliary bolsters, they can transport raw timber in all standard market lengths from three to 12 metres, as well as palletised square-sawn timber. This allows for efficient round trips: the wagons can transport logs to sawmills, for example, before taking the squaresawn timber to wood processing companies and returning empty to their starting point. The new wagons have already been well utilised, with DB Cargo viewing the conversion as a great success.

Sylvia Debler, who led the project to completion together with Erik Loebel, project The manager in the Vehicle

Projects department at DB Cargo is pleased with the extra-sustainable solution: "Wagon



upcyclingisnotonlyidealfromaninvestment point of view, but is also an excellent way to save resources. It means that two of our divisions, Timber and Steel, can continue to serve their customers with flexible, modern wagons."

## More efficiency for DB Cargo: Freight transport with two power options

A new generation of locomotives have been unveiled that will make DB Cargo's fleet more efficient and powerful in the future. The "Vectron Dual Mode light" combines electric and diesel drive for adaptability in freight transportation. The modern hybrid locomotive can easily switch between electric and diesel operations. It helps avoid time-consuming shunting and maneuvering, and can be used flexibly, with or without overhead lines.

The Vectron Dual Mode light has been specially optimized for DB Cargo's operational requirements. Compared to a conventional Vectron Dual Mode, it is several tons lighter for even more efficient operations and provides access to branch lines and sidings with lower load capacities.

This benefits single wagon loads, which will become faster and more efficient as the time to reclamp locomotives will be significantly reduced. In addition, the new generation of locomotives is pre-equipped for digital train operations in the future.

Sigrid Nikutta, Member of the Board of Management for Freight Transport at Deutsche Bahn and Chairwoman of the Board of Management of DB Cargo: "This new generation of locomotives is important for DB Cargo. Many customers will be nefit from this and – important for all of us – the environment is the big winner. If we operate this locomotive with green electricity and HVO diesel from cooking oils, we offer our customers an almost CO2-free supply chain from start to finish – without intermediate stops. All in all, the new generation of locomotives will make rail freight transport more efficient in the long term. And we can focus even more on the wishes and circumstances of our customers, because the new locomotive can be used under all conditions."

"Our state-of-the-art Vectron Dual Mode light reduces CO2 emissions, lowers maintenance efforts, and ensures greater flexibility in freight transportation," says Michael Peter, CEO of Siemens Mobility. "On electrified sections of the line, it is purely electric, while on sections without overhead lines, it is possible to switch to conventional drive without changing locomotives.

In this way, we are supporting DB Cargo in implementing climate-friendly supply chains right down to the 'last mile.' "Thanks to many digital technologies and equipment on board, such as shunting by remote control or the modern ETCS train control system, our locomotive is perfectly equipped for the future for DB Cargo."

DB has ordered 150 locomotives from Siemens Mobility in an initial order. With the use of the new dual-power locomotives, DB Cargo will save around 12 million litres of fuel and 25,000 tons of CO2 per year.

The first locomotives will be used around Europe's most modern marshalling yardin Halle (Saale) in Saxony-Anhaltand Saxony where DB Cargo's customers in the region will be the first to benefit. DB Cargo's goal is to equip around 70 percent of its diesel locomotives with innovative drives by 2030.

## Germany

#### TRAM PRODUCTION FOR THREE GERMAN CITIES HAS ADVANCED

At the Škoda Group's production site in Pilsen, the first Škoda ForCity Plus FCB trams are nearing completion. These vehicles are tailor-made for three German cities with different needs and environments - Frankfurt (Oder), Brandenburg an der Havel and Cottbus. The first tram will be heading to the first named in April, while a month later, the citizens of Cottbus can look forward to their one. Recently, representatives of transport companies from Brandenburg region came to Pilsen to see the production process of their trams. They had a unique opportunity to see the result of precise work, which will soon be on the German network. Brandenburg's transport companies currently have a total of 39 vehicles on order, with a further 8 available for option.

"For Škoda, this project is another important step into Germany, alongside the projects for cities of Bonn, Mannheim, Heidelberg, Ludwigshafen, Chemnitz, and Kassel. My hat is off to the members of the joint teams of our customers and Škoda Group involved for their hard work on these trams. It is only thanks to them that we are getting closer to delivering the first trams to our customer. The recent visit of Christian Kuke, Jörg Vogler and Ralf Thalmann is an example of the strong partnership we are building with our customers. Together we are creating more than just trams; we are creating a comfortable, modern, and environmentally friendly way to travel around Frankfurt, Brandenburg, and Cottbus," commented Jan Harder, President Region West and North Škoda Group.

The new trams will increase the attractiveness of public transport in all three cities. The Škoda ForCity Plus trams will be low-floor and are therefore also ideal for people with reduced mobility. The new vehicles will offer all elements of comfort: air conditioning, easy boarding, multifunctional spaces for prams, bicycles, etc. Of course, aspects of the environment and economic efficiency are also important, and the Škoda group's offer meets the expectations of the federal state of Brandenburg with its approach.

#### **Škoda ForCity Plus trams**

These are modern unidirectional, three-section, 70% low-floor vehicles with two radial and one non-radial bogie. Passengers can look forward to comfortable, air-conditioned, spacious and barrier-free vehicles, in the interior of which there are multifunctional spaces for wheelchairs, prams or bicycles. The new trams will have an easy-to-understand information system with several screens and panels. The tram will also be equipped with a camera system for a better overview of the driver and increased traffic safety. The transport company will appreciate the low operating costs of the product from the Škoda ForCity Plus platform.



### 137th ICE 4 christened "Spree" at the Berlin Central Station

## Fleet expansion continues: DB will take delivery of a new ICE every three weeks on average this year

With the delivery of the 137th train, the ICE 4 fleet of Deutsche Bahn (DB) is now complete. The punctually delivered train was christened "Spree" in Berlin on March 19th. Richard Lutz, CEO of DB, Volker Wissing, Federal Minister for Digital Affairs and Transport, Manja Schreiner, Senator for Mobility, Transport, Climate Protection and the Environment in Berlin, Michael Peterson, DB Member of the Management Board for Long Distance Passenger Transport, and Roland Busch, CEO of Siemens AG, took part in the official naming ceremony at the Berlin Central Station. The 7-car ICE 4 was christened with water from the Spree River in Berlin. Manufacturer Siemens Mobility has delivered 137 ICE 4 trains in three different variants since 2016 – totaling over 1,500 cars with around 105,000 seats. This ceremony marked the completion of the largest procurement program in DB's history.

Richard Lutz, CEO of Deutsche Bahn AG: "Siemens and DB have delivered this project right on time. Expansion of the DB fleet is a central lever for achieving the goal of our Strong Rail strategy: doubling the number of travelers using our long-distance rail services. Because those who travel by train help protect the climate. We invested six billion euros in the 137 ICE 4 trains alone. And we will continue putting a new ICE train in service for our passengers every three weeks in 2024."

Volker Wissing, Federal Minister for Digital Affairs and Transport: "People in our country rightly expect reliable and punctual trains again as soon as possible. Modernizing the fleet is a key element in minimizing disruptions. By 2030, around 12 billion euros will therefore be invested in new long-distance trains, the ICE fleet will grow to 450 ICE trains and the average age of ICE and Intercity trains will fall from 18 to 12 years. In combination with the general refurbishment of the network, all the signs point to improvement."

Manja Schreiner, Senator for Mobility, Transport, Climate Protection and the Environment in Berlin: "Modern, contemporary trains are important for the attractiveness of rail transport in the Berlin-Brandenburg metropolitan region. If the decarbonization of the transport sector were a card game, then the ICE 4, whose fleet has a

### Billion-euro project completed on time: ICE 4 fleet now complete



total of 105,000 seats, could be described as the ace of trumps."

Roland Busch, CEO of Siemens AG: "The punctual delivery of the last ICE 4 marks a great joint success for Deutsche Bahn and Siemens. As the longest train in the ICE fleet, the ICE 4 has around 25% more seats. And since it is lighter and more aerodynamic, it uses 30% less energy than previous models. Over its lifetime, each train replaces 20,000 cars and saves up to 400,000 tons of CO2. Every ICE in service is good for the climate, for mobility, and for Germany's position as a location for industry and business. My special thanks go to the teams at DB, Siemens, and our partners for this great achievement."

All in all, DB received a total of 137 ICE 4 trains in different variants. In addition to the 37 7-car trains, there are 50 12-car trains as well as 50 13-car XXL ICE trains in service. The latter offer seating for nearly 1,000 passengers – more than ever before in an ICE and five times more than in medium-haul aircraft. These long trains run on routes that are particularly in demand, such as from Hamburg via North Rhine-Westphalia and via the Rhine/Main high-speed line to southern Germany. Like the other 7-car trains, the ICE "Spree" will primarily operate between Berlin and North Rhine-Westphalia as well as between Frankfurt am Main, Munich, Salzburg, and Klagenfurt.

DB now has the most modern and, with over 400 trains, the largest ICE fleet of all time. DB will also be taking delivery of another ICE train every three weeks in 2024.

By heavily investing in the modernization of its fleet and the purchase of new trains, DB is continuing to drive its strategy for ensuring a strong rail system in Germany. DB initiated this strategy in 2019 and has consistently implemented it ever since – despite facing adverse circumstances such as the COVID-19 pandemic, the war in Ukraine, and the energy crisis – with the clear goal of achieving the German government's transport sector targets.

Photo: 'Spree'@Oliver Lang/Deutsche Bahn

# Deutsche Bahn will invest a record sum of 7.6 billion euros in Strong Rail in Germany in 2023



Operating result negative as expected: Adjusted EBIT is minus 964 million euros

Advance expenditure of 1 billion euros for infrastructure renovation

Demand in passenger transport continues to rise

EBIT of plus over 1 billion euros planned for 2024

In 2023, the DB Group (DB) invested more than ever before in an efficient rail network and vehicle fleet, thereby continuing to consistently implement the strategy for a strong rail system in Germany. In comparison, the net investments from Deutsche Bahn's own funds are around 7.6 billion euros increased by over 16 percent compared to the previous year – a new record.

As expected, additional expenses for infrastructure and substantial advance payments for the federal government amounting to more than one billion euros had a negative impact on DB's operating result (EBIT). The DB Group therefore closed the 2023 financial year with an adjusted EBIT of minus 964 million euros (previous year: 1,225 million euros). For 2024, DB expects a positive adjusted EBIT of over one billion euros. Demand for passenger transport by rail will continue to rise in 2023.

DB has also made significant progress in its offerings for travellers in 2023, for example with a larger and more modern vehicle fleet, additional connections and more digital services.

#### Railway boss Lutz: Clear plan for Germany's climate goals

"We made advance payments in 2023 and built more than ever before, because the renovation and modernization of the infrastructure cannot be delayed," said DB CEO Dr. Richard Lutz in Berlin: "At the same time, the year 2023 marks a turning point: together with the federal government, we have decided on the largest and most comprehensive investment program since the railway reform in 1994. We are no longer driving the rail network to wear and tear, but are renovating and modernizing the infrastructure from the ground up. Thanks to the federal government's significant increase in budget resources, we can invest around 30 billion euros additionally. In this way, we are driving forward the implementation of our Strong Rail strategy. Only with an efficient network can we achieve the federal government's climate and transport policy goals and more traffic on environmentally friendly rail." The central lever of infrastructure renovation for greater stability and quality

is the general renovation of around 40 so-called corridors in the highly stressed rail network. The routes will be completely renovated - from the extended

platform to the superstructure to the digital signal box. By 2030, a high-performance network stretching over 9,000 kilometres should be available in Germany. This year, the 70-kilometer-long Riedbahn between Frankfurt and Mannheim begins. During a test phase in January, it was possible to use five times as much building material as conventional construction sites.

In 2023, DB and the federal government increased gross investments by around twelve percent compared to the previous year to a total of 16.9 billion euros. More than 94 percent of the record investments flowed into the railways in Germany and, above all, into the infrastructure there. As a result, among other things, of investments in the rail infrastructure and vehicle fleet as well as pre-financing for the federal government, net financial debt increased as expected as of December 31st, 2023. The annual result in 2023 was around minus 2.4 billion euros (in the previous year: minus 227 million euros). Among other things, the significantly increased interest expenses had a negative impact here, driven also by the higher debt for investments. Additional burdens from inflation-related cost increases, sharp increases in personnel costs and several strikes also had an impact on the consolidated result.

#### Around 1.8 billion travellers on DB trains

DB Group's sales amounted to around 45.2 billion euros in the 2023 financial year - around 13 percent less than in 2022. The decline is essentially due to an industry-wide normalization of freight rates in international logistics, which, as expected, DB Schenker also felt. With an operating profit of 1.1 billion euros, DB Schenker's adjusted EBIT was still more than twice as high as the pre-Corona level.

In DB's core business, the rail system network, sales rose by 6.2 percent to around 26.2 billion euros. Long-distance transport increased its sales by 18.4 percent to around 5.9 billion euros in 2023 compared to the previous year. The local transport subsidiary DB Regio achieved sales of around 9.7 billion euros - an increase of 7.4 percent compared to 2022. In terms of transport performance (rail and bus), DB Regio increased significantly by over 9 percent to around 43.5 million passenger kilometres, also thanks to the Germany ticket. DB Long-Distance Transport's traffic performance in 2023 was around 45.5 million passenger kilometres (plus 9.0 percent) for the first time above the pre-Corona level.

At DB Cargo, sales rose by 6.4 percent to around 5.6 billion euros in 2023. In total, around 1.8 billion people travelled in a climate-friendly manner on DB trains in 2023 - 5.8 percent more than in the previous year. Long-distance travellers alone saved around 7.5 million tons of greenhouse gas emissions in 2023 compared to traveling by car. In order to meet increasing demand, DB continued to expand its offering last year: the company put an average of three new ICE trains into operation every month. With the timetable change in December 2023, long-distance transport connections were significantly expanded. The digital DB Navigator, the most popular German mobility app, received many new service functions.

Operating performance on the busy rail network fell slightly by 1.3 percent to around 1.12 billion route kilometres in 2023 compared to the previous year. High utilization of the rail network in combination with the high level of construction activity has had a negative impact on punctuality in long-distance transport: it was 64.0 percent (previous year: 65.2 percent). At DB Regio (rail), punctuality was 91.0 percent (previous year: 91.8 percent).

#### Outlook

For 2024, the DB Group expects sales to increase to around 47 billion euros. The operating result should also be clearly positive again at over one billion euros. The main drivers are replacements for the advance payments for maintenance work paid in 2023. The DB Group also expects positive effects from a renewed increase in demand for passenger rail transport and from efficiency-enhancing measures.

"Our railway companies will have to earn money again in the future and pay for their investments from current income," said DB CFO Dr. Levin Holle on the occasion of the presentation of the balance sheet: "To achieve this, we have to become significantly more efficient."

Gross investments together with the federal government are expected to increase further to around 21 billion euros. The DB Group also wants to significantly increase its net investments from its own funds again in 2024. In long-distance transport, the DB Group expects punctuality of around 70 percent this year, while DB Regio (rail) predicts punctuality of around 93 percent.

The forecast is subject to uncertainty, particularly in view of the lack of legal and regulatory requirements for higher federal payments.



Class 132.088 (ex DB 232.088) departs
Magdeburg Hbf with the InterTourex
Schnupperfahrt (Taster Trip) returning to
Aschersleben on March 16th. *Andy Pratt* 

DB Regio Class 146.243 arrives at Regensburg Hbf with train No. RE4858, the 11:44 München Hbf-Hof Hbf on March 19th. Alexa Class 223.065 is stabled alongside awaiting it's next turn of duty. Presumably if you want to know it's next working you should Ask Alexa.... Andy Pratt

DB Regio Class 146.029 arrives at Magdeburg Hbf on March 16th with train No. RE16316, the 11:14 from Halle (Saale) Hbf. The train terminates at Magdeburg and returns to Halle at 12:35 as train No. RE16321. *Andy Pratt* 











## Latvia

EMU No. DR1AC-187.3 working service No. 814 is seen in Rīga on March 6th. *Thomas Niederl* 

T6B5SU tram No. 35217 working a line 2 service to Stacijas laukums is seen in Zasulauks on March 6th. *Thomas Niederl* 

Soviet era unit No. ER2T-7114-09 working service No. 6518 is seen at Sloka on March 6th. *Thomas Niederl* 







## Latvia

EMU No. ER2T-220601 working service No. 6414 passes Majori on March 6th. *Thomas Niederl* 

T3SU tram No.31096 working a line 2 service to Stacijas laukums is seen in Zasulauks on March 6th. *Thomas Niederl* 

Skoda built 16EV-0009 working train No. 6410 is seen at Sloka on March 6th.

Thomas Niederl









Skoda built EMU No. EJ575-006 working train No. G833 an express service to Kaunas is seen at Vilnius on March 7th. *Thomas Niederl* 

Tram No. 15T1 No. 58512 with a line 1 service to Imanta is seen at Rīga Nacionālā bibliotēka on March 6th. *Thomas Niederl* 















Seminole Gulf Railway GE B39-8E Nos. 593 and 598 run alongside I75 whilst making their way from Arcadia to Fort Myers on February 19th. *Laurence Sly* 

After working Butwell Stone, Seminole Gulf Railway GE B39-8E Nos. 593 and 598 depart Punta Gorda for Fort Myers on February 19th. Laurence Sly

On February 19th, Seminole Gulf Railway GE B39-8E Nos. 593 and 598 approach Punta Gorda whilst hauling the Desoto Turn south to Fort Myers. *Laurence Sly* 











# U.S.A.

Tri Rail EMD F40PHR No. 810 passes Boynton Beach whilst working train No. P677 13:30 Mangonia Park - Miami Airport on February 24th. *Laurence Sly* 

Tri Rail EMD F40PHR No. 810 passes Lake Worth whilst working train No. P669 09:30 Mangonia Park - Miami Airport on February 25th.

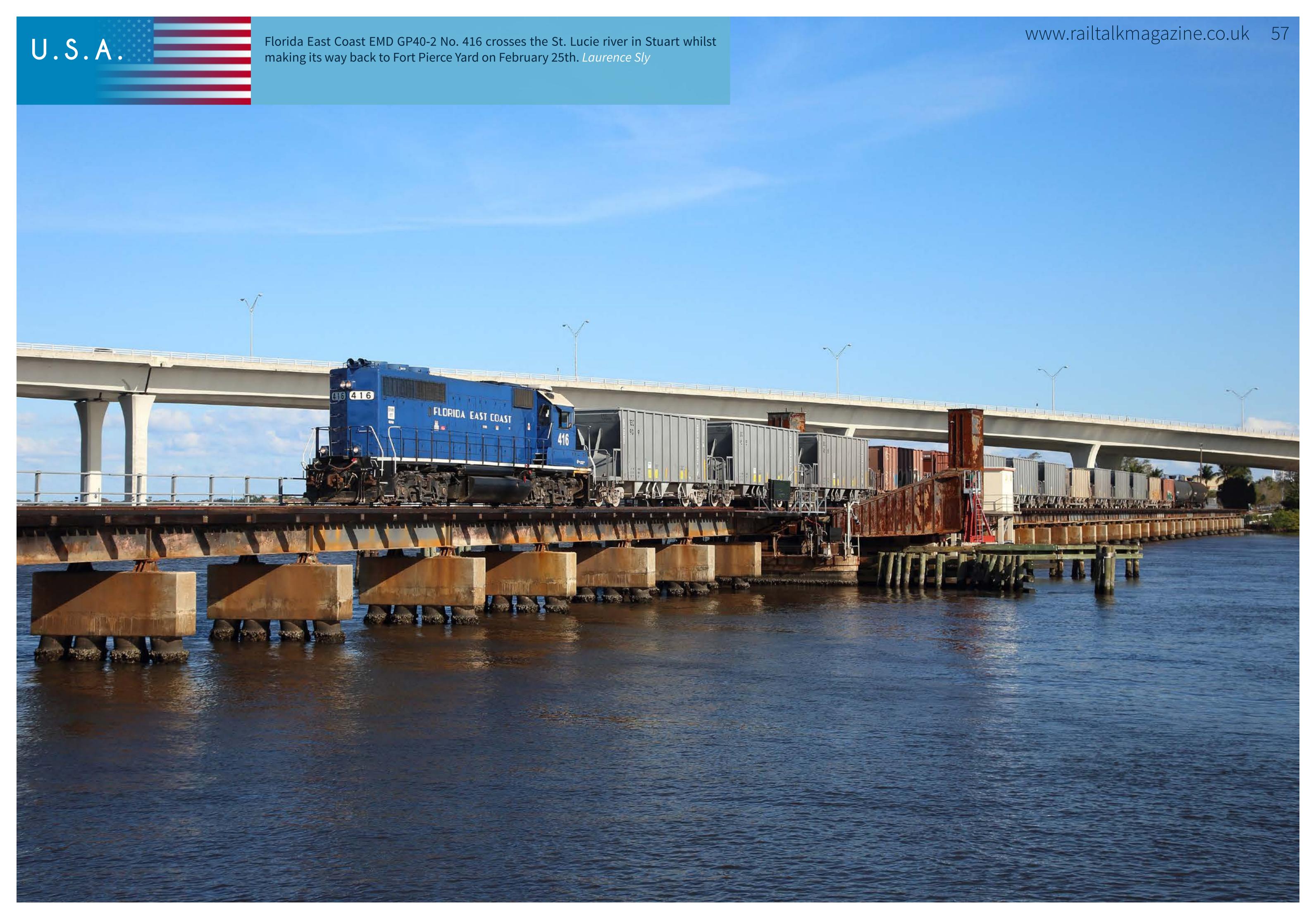
Laurence Sly

Tri Rail EMD F40PHR No. 811 departs West Palm Beach whilst working train No. P683 16:30 Mangonia Park - Miami Airport on February 24th. *Laurence Sly* 









## U.S.A.

Florida East Coast Nos. 813 and 816 pass St. Augustine whilst hauling train No. 202 from Miami to Jacksonville on February 26th.

Laurence Sly

Florida East Coast EMD GP40-2 No. 422 passes St. Augustine whilst hauling local train No. 905 from Jacksonville Bowden Yard to Dorena on February 26th. *Laurence Sly* 

Florida East Coast Nos. 713 and 416 pass St. Augustine whilst hauling train No. 204 from Fort Pierce to Jacksonville on February 26th. *Laurence Sly* 













# Alstom secures maintenance contract with VR Sverige AB for X-trafik trains in Gävleborg

Alstom, a global leader in smart and sustainable mobility, will maintain the X-trafik fleet consisting of nine two-and three-carriage trains. The maintenance is carried out through VR SverigeAB's new contract as operator for the X-trains in Gävleborg County.

The eleven-year contract includes both operations and maintenance. While VR Sverige AB takes over the role of operator, Alstom's workshop in Gävle will handle the maintenance of X-trafik's trains. In 2023, Alstom renewed its maintenance agreement with VR Sverige AB, which was initially valued at approximately one billion SEK and covered 30 regional trains over a ten-year period. Now, Alstom will also be responsible for the maintenance of X-trafik's fleet consisting of nine two- and three-carriage trains in the Regina model, serving routes from Gävle to Ljusdal and Sundsvall.

"We are proud of our collaboration with VR Sverige AB and look forward to continuing to provide our expertise in train maintenance, ensuring reliability and efficiency for passengers. Our commitment to developing and maintaining a sustainable and high-performing train fleet contributes to a greener future for public transport," says Maria Signal Martebo, CEO of Alstom Sweden.

VR Sverige AB is part of the Finnish VR Group. VR Sverige is responsible for the Pågatågen in southern Sweden on behalf of Skånetrafiken, Skåne's public transport, and the Östgötapendeln, Småland's railway network. In Stockholm, VR Sverige operates buses, trams, and local trains on behalf of SL, Stockholm's public transport. The Finnish VR Group is Finland's railway network that has been operating trains, buses, and trams in Finland for 160 years.

Alstom is the largest supplier to the Swedish train market, with over a thousand trains delivered to the Swedish railways and several major maintenance contracts. Alstom also leads the implementation of ERTMS in Sweden, both onboard and along the tracks, and is delivering the new national traffic management system to the Swedish Transport Administration.

Alstom is the market leader in rail services, supporting customers over

theentire asset lifecycle with the broadest range of service solutions. Alstom's FlexCare Performmaintenance services are tailored to customer needs and operational requirements, from technical support with spare parts



to fully outsourced maintenance solutions. Alstom maintains over 35,500 vehicles worldwide and is a trusted partner for servicing both Alstom and non-Alstom rail assets.



# Towards the first railway cybersecurity international standard - why standards are important for secure railways

Cybersecurity standards, such as CENELEC TS-50701 and IEC 62443 are quietly at work, ensuring the robust security and resilient operation of our critical rolling stock and rail infrastructure. Standards are sometimes overlooked, but they are an important element in protecting our transport networks from potential cyber threats.

Being at the forefront of shaping the first first railway cybersecurity international standard, hear from Eddy Thésée, VP of Cybersecurity Products & Solutions at Alstom, to understand the importance of adopting standards for rail companies.

#### A new international standard for the railway industry

Cybersecuritystandards are empowering the rail industry to better protect against cyberthreats. The widely adopted IEC 62443 already provides a comprehensive framework for securing industrial automation and control systems, including rail networks, devices, and operations centers. Despite its coverage, IEC 62443 lacks a proven track record for mixed distributed systems – an essential characteristic of railway systems - which is where the

CENELEC technical standard, TS 50701, comes in to address the gaps. With TS 50701 laying the foundation towards the first railway cybersecurity international standard (IEC 63452), the future IEC 63452 standard will unify cybersecurity management in railway systems, tailored to the sector's specific operational environment, building on top of the IEC 62443 series.

#### Why are cybersecurity standards important?

- Threat identification and risk assessment: Understanding vulnerabilities and prioritising mitigation strategies.
- Security controls: Implementing measures like network segmentation, access control, and intrusion detection.
- Incident response: Establishing clear procedures for identifying, containing, and recovering from cyberattacks.
- Patch management: Keeping systems updated with the latest security fixes.

"The new standards provide powerful tools for building a layered defense against cyber threats," explains Eddy. "They offer a holistic approach that addresses

vulnerabilities across the entire system, from trains to back-office IT and remote shared resources."

#### Alstom, a key player in shaping the standards

Alstom recognises the transformative potential of industry standards and actively contributes to shaping them. Here are four ways that we leverage and interpret these standards to benefit rail companies.

- 1. Future-proofing security: "Cyber threats are constantly evolving," says Eddy. "The new standards are designed to be flexible and adaptable, allowing us to stay ahead of the curve and ensure long-term cybersecurity." By adhering to these standards, rail companies can be confident their systems are built with future threats in mind.
- 2. Enhanced efficiency: Standardised security practices across the supply chain streamline communication and collaboration. This reduces integration costs, accelerates project timelines, and facilitates interoperability between different systems and vendors.



- 3. Best practice for security operations and maintenance of effective defense: At Alstom, we see the new standards as a way for rail companies to achieve a higher level of security awareness in their daily operations by driving a proactive security culture, where trainings and internal audits become a standard practice fortifying the company's overall cybersecurity posture.
- 4. Building trust and transparency: Compliance with industry-recognised standards demonstrates a commitment to robust cybersecurity. This fosters trust with regulators, passengers, and other stakeholders, ultimately enhancing the reputation of the rail industry.

# Alstom plans to operate its own passenger train service in the UK for the first time



Photo: Wrexham General railway station. ©El Pollock

Alstom, global leader in smart and sustainable mobility, plans to operate a new passenger rail service across England and Wales. Working in partnership with consultancy SLC Rail, the open access operation will be known as Wrexham, Shropshire and Midlands Railway (WSMR). As the country's foremost supplier of new trains and train services, and a leading signalling and infrastructure provider, Alstom will operate its own rail service in the UK for the first time. WSMR is seeking to introduce direct connectivity to and from North Wales, Shropshire, the Midlands and London that doesn't exist today, linking growing communities and businesses,

and making rail travel more convenient, enjoyable and affordable. WSMR offers passengers in Wrexham, Gobowen, Shrewsbury, Walsalland Coleshilla direct link with the capital, alongside Darlaston once its new station opens. Meanwhile, journey times between Shrewsbury and Walsall will be dramatically reduced from the current alternative.

"These exciting proposals could see better connections for communities

across North Wales and the Midlands, including direct services to London from Shrewsbury, Telford and Wrexham," said Huw Merriman, Rail Minister.

He added: "Competition delivers choice for passengers and drives up standards, which is why we continue to work with industry to help make the most of open access rail."

It is anticipated that WSMR services could begin as early as 2025 and it is expected the new operation will create around 50 new jobs, with roles mostly based in North Wales and the Midlands.

"As the country's leading supplier of rolling stock and train services, it makes perfect sense that we now move into operating our own fleet to serve passengers directly. Having been part of the fabric of UK rail for two centuries, we're excited to enter this new era as an open access operator," said Nick Crossfield, Managing Director UK and Ireland at Alstom. He added: "Alstom is also committed to embedding sustainability into every element of our organisation, and WSMR will help drive a modal shift from road to rail by offering a greener alternative for travellers across England and Wales."

The proposal envisages a service of five trains per day in each direction Monday to Saturday, with four travelling both ways on Sundays. Trains will stop at Gobowen, Shrewsbury, Telford Central, Wolverhampton, Darlaston, Walsall, Coleshill Parkway, Nuneaton and Milton Keynes on their journey between Wrexham General and London Euston. WSMR estimates it would serve a core catchment area of around 1.5 million people outside London, a population which is set to grow by 16 per cent over the next decade. "From the Welsh borders to the Midlands, our routes will forge new connections, linking overlooked regions of England and Wales with direct services to and from London. Passengers will benefit from more competitive fares and new technology to simplify ticket purchasing for our new services. Delighting the customer will be at the forefront of what we do; we want WSMR

passengers to experience a new excellence in customer service onboard our intercity trains," said Ian Walters, Managing Director at Midlands-based SLC Rail. He added: "Our proposal will support sustainable housing growth, nurture communities, and unite business, leisure, and commerce along the corridor. This will enhance economies and bring a positive impact to both communities and the environment – and we can't wait to get started!"

In the West Midlands, WSMR trains will avoid Birmingham – one of the most complex and congested parts of the British rail network – by utilising the Sutton Park line, which is currently only used for freight services. This would enable Wolverhampton and Walsall to serve Nuneaton directly for the first time, offering new travel options across the West Midlands, North Warwickshire and beyond. As an open access operator, WSMR is a wholly commercial operation, which remains separate from the Government's franchised rail operations. WSMR have submitted a formal application to add its services to the UK network to the Office of Rail and Road (ORR) on Thursday March 14th.

Details regarding WSMR's fleet, brand and service provision will be announced at a later date.

### Slovenia

Situated along Corridor X near the border with Croatia, Dobova is a small town with a big role in freight wagon maintenance. As our go-to depot for large-scale maintenance and overhauls on freight wagons, the workshop in Dobova is VPI-certified and went through a number of upgrades in the past years. Certificates issued by reputable certification bodies demonstrate the importance we place on delivering quality services and meeting your expectations. A number of important improvements have been achieved recently with respect to technology and environmental protection.

We have recently overhauled the Rafamet UBB 112/2 lathe for wheelset reprofiling. The lathe was fully dismantled and shipped to an overhaul supplier. In the

### Upgrades to the Freight Wagon Maintenance Centre in Dobova

meantime, we rebuilt the foundation of the lathe in Dobova. After the lathe was overhauled and the foundation rebuilt, we purchased a conveyor belt to automatically remove metal chips from under the lathe and discharge them at a container.

We also purchased another lathe for reprofiling wheelset journals and axles, which we installed next to the refurbished lathe. The lathe is a second-hand Potisje ADA PA-50/4000 unit, which was completely refurbished and upgraded with a custom Newall measuring system. Journal and axle machining is a new service at our shop in Dobova, so we also obtained the relevant VPI certificate for the service. With these lathes, we are able to deliver complete IS1 and IS2 wheelset overhauls.

Recognising the growing demand for complete brake inspections on freight wagons, Dobova has acquired an additional automatic brake test unit. After some market research, we decided to purchase the Pdr 7 RailTab brake tester from DB Fahrzeuginstandhaltung GmbH Werk Fulda.

The Dobova centre has renovated its paint chamber to comply with environmental standards and to keep up with the end-of-life of the equipment. The renovation included major maintenance work.

To improve working conditions during winter and ensure more environmentally friendly heating practices, we have recently renovated our heating system by transitioning to an automated boiler house, which is one of the most advanced systems available in the market.

These upgrades add value to the maintenance of freight wagons in Dobova, but they are not the end of our modernisation efforts. To keep up with the needs of our customers, we need to continuously evolve and adapt. To maintain our reputation as a reliable maintenance partner, we strive to anticipate the needs of our customers and continuously update our facilities to align with the latest standards.



# Alstom's leading urban signalling technology selected to enhance passenger connectivity on the Metro do Porto Pink Line in Portugal

Alstom, global leader in smart and sustainable mobility, has been awarded by Metro do Porto a contract to supply the signalling, safety and control systems for Metro Porto new pink line. Alstom will develop and equip the new line with the Cityflo 250 signalling system, including a state-of-theart interlocking, which will enable vehicles' real time monitoring. The engineering, installation and commissioning of the system will be developed at Alstom's site in Maia, Porto district. This first section of the pink line, 3 kilometres long and with 4 underground stations, will connect S. Bento and Glorieta de Boavista, improving access to the centre of Porto.

Once inaugurated, demand is expected to increase by more than 30 million passengers in the first full year of operation. It will significantly reduce the use of private vehicles, thereby reducing traffic congestion and avoiding the emission of almost 1,500 tonnes of CO2 per year. Metro de Porto aims to continue expanding the pink line, ultimately forming a circular route that connects with the entire Metro network.

"It is a great honour for Alstom to partner again with Metro do Porto, to improve mobility for citizens and tourists in Porto. We will develop this project from our engineering facilities in Maia, where we lead signalling projects and digital mobility technologies for the Portuguese and international market," declared David Torres, Alstom in Portugal Managing Director. "This project is a proof of our commitment to promote sustainable mobility in Portugal." Metro do Porto is the light rail system for the city of Porto, encompassing approximately 78 km of track and six lines, and accommodating around 70 million passengers each year. Alstom supplied the network with 102 trains currently in service, as well as the onboard signalling systems. Alstom continues to support

Metro do Porto's growth, having provided the onboard ATP (Automatic Train Protection) system for the 18 newly trains added to the fleet.

Alstom has been present in Portugal for over 30 years and, currently, two out of three trains running in Portugal have been manufactured by Alstom or with Alstom technology, including high-speed, regional, metro and tram trains.

In addition, more than 1,500 km of the Portuguese rail network and more than 500 on-board units are managed by Alstom's ATP system, a signalling solution developed specifically for the Portuguese market. Alstom oversaw the signalling system for Metro do Porto and the fleet of 102 trains currently in service on this network.

A strong leader in the mass transit market with over 30 years' expertise in communications-based train control (CBTC) and over 190 metro lines equipped in over 32 countries.



#### Netherlands

CAF has reached a new milestone in its already extensive history in the Netherlands by gaining the trust of a new customer in said country. In this case, it is the public transport operator Qbuzz, part of FS Group, who has chosen CAF to supply 10 commuter trains, as well as a corresponding spare parts package, which are scheduled for delivery from 2028.

Qbuzz is a public transport company in the Netherlands serving concessions in region Groningen-Drenthe, city of Utrecht and in the region between cities Utrecht and Rotterdam. Founded in 2008, it operates bus, tram and train lines, transporting approximately 350,000 passengers every day.

The trains Qbuzz has chosen are part of the Civity platform and will be equipped with CAF's ETCS (European Train Control System) signalling system. They will be energy efficient units designed to run at a speed of 160 km/h. Each train will consist of 3 cars and will have a capacity for approximately

#### CAF SECURES NEW CONTRACT IN THE NETHERLANDS

350 passengers along its almost 60 metre length. They will also include areas for people with reduced mobility and areas for bicycle transport.

This investment is part of the initiative being implemented by the province of South Holland to be capable to operate on ERTMS-lines, improve public transport and make it more sustainable. These new units will be used on the line running between the cities of Dordrecht and Geldermalsen (the "MerwedeLinge line"), which was awarded to operator Qbuzz by the South Holland Provincial Authority in 2018. Qbuzz' intention in acquiring this new fleet is to replace the units currently operating on the line that are not equipped with the advanced ERTMS signalling system, which is scheduled to be implemented on parts of the line by 2027.

Over the last few years, CAF has undertaken major contracts in the Netherlands, including successive contracts with the Dutch operator NS

(Nederlandse Spoorwegen), for which more than 200 commuter units have been supplied since the first agreement was entered into between both companies in 2014, as well as the project that CAF is currently undertaking for the manufacture of 60 double-decker units, which amounts to operations valued at more than €1,600 million with this customer.

Besides this, other projects worthy of mention include the supply of metro and tram units for Amsterdam, and the trams operating in the city of Utrecht. In fact, with this new order, the total number of vehicles supplied or in CAF's order book for customers in the Netherlands stands at 452 over the last 10 years, which demonstrates the company's commitment and success in this country.

### EUROMAINT OPENS THE MOST ADVANCED TRAIN MAINTENANCE DEPOT IN SWEDEN

EuroMaint, the Swedish based CAF Groups' railways services provider company, celebrated on Friday March 8th, the opening of a 35.000 square meters modern maintenance center including a stabling yard and a depot of 7,500 square meters in Nässjö, a strategic location in Sweden, to maintain the new trains that CAF is delivering to Transitio AB for the Krösatåg operations.

The modern facility will serve to maintain the regional trains that AB Transitio awarded CAF under the terms of a framework agreement signed in 2014 by the Swedish public company relative to regional train purchases.

The base contract comprises the production of 20 EMUs (electric units), 4 cars each, and 8 BMUs (biodiesel-electric bimodal units) consisting of 3 cars plus a power car.

The contract provides for additional options that could increase the number of units by an additional 19 EMUs and 7 BMUs. The base contract amounts to more than €250 million, a figure that would almost double should all the additional vehicle options included in the contract be executed.

The depot is equipped with five tracks in the workshop, including a combi hall with automatic wash and de-icing systems for winter seasons.

The workshop is also built to facilitate a smooth spare parts supply flow thanks to an automatic paternoster storeand 130 squaremeters of stores. The project featured a sustainability program, with a focus on renewable electricity, eco-friendly materials, sustainable surface water management and minimization of transport journeys.

"We are heavily investing in the Nordic market. We are creating the Nordic's flagship railways maintenance depot here by means of our LeadMind advanced digital platform. This revolution in the Swedish railway will bring higher traffic availability and safer work environment", says Gorka Tamayo, CEO of EuroMaint Gruppen AB.

In 2019, CAF Group took over the Swedish company EuroMaint-trainmaintenance sector leader in its country - thereby consolidating its foothold in Nordic countries. EuroMaint has been a benchmark company in the Nordic railway market for many years, with a significant market share in the train fleet maintenance sector, an activity the company combines with the supply of railway components for operators in the region. Its current workforce is around 1,000 people and yearly revenues close to €200 million.

## Belgium

Lineas, Europe's largest private rail freight operator, is happy to provide the traction for the new night train to Prague. This train, produced by Train Charter Services on behalf of European Sleeper, has stops in Dresden, Bad Schandau, and Prague.

Lineas' participation in this initiative highlights the company's dedication to offering sustainable and efficient transportation solutions. By providing traction for this train, the company shows it offers more than freight transport. Other notable achievements include the traction support for the Venice Simplon Orient Express, the Red Devils fan train, and Tomorrowland.

Night trains are an interesting alternative to other modes of transport, as they produce up to 28 times less greenhouse gas emissions compared to air travel. In addition, they offer passengers the convenience of maximizing their time and efficiency by traveling while they sleep. To celebrate their partnership, Train Charter Services and Lineas have revealed a special livery on the train, symbolizing the collaboration and commitment to delivering exceptional travel experiences.

Photo: ©Train Charter Services

# Lineas offers traction support for the new night train to Prague, produced by Train Charter Services on behalf of European Sleeper





Siemens Mobility has been chosen by Metrolinx, the regional public transit operator for the Greater Toronto and Hamilton Area, to handle their track, signal, and right-of-way maintenance for the Central Region of Toronto's passenger railway infrastructure system. This partnership builds upon Siemens Mobility's existing maintenance services in the West Region and signal and communications services at the Metrolinx

Siemens Mobility brings a local team of experts and over 25 years of experience in rail infrastructure maintenance across North America. In addition, by using its world-class digital tools and software, it will provide Metrolinx with rail infrastructure performance data, ensuring highest availability.

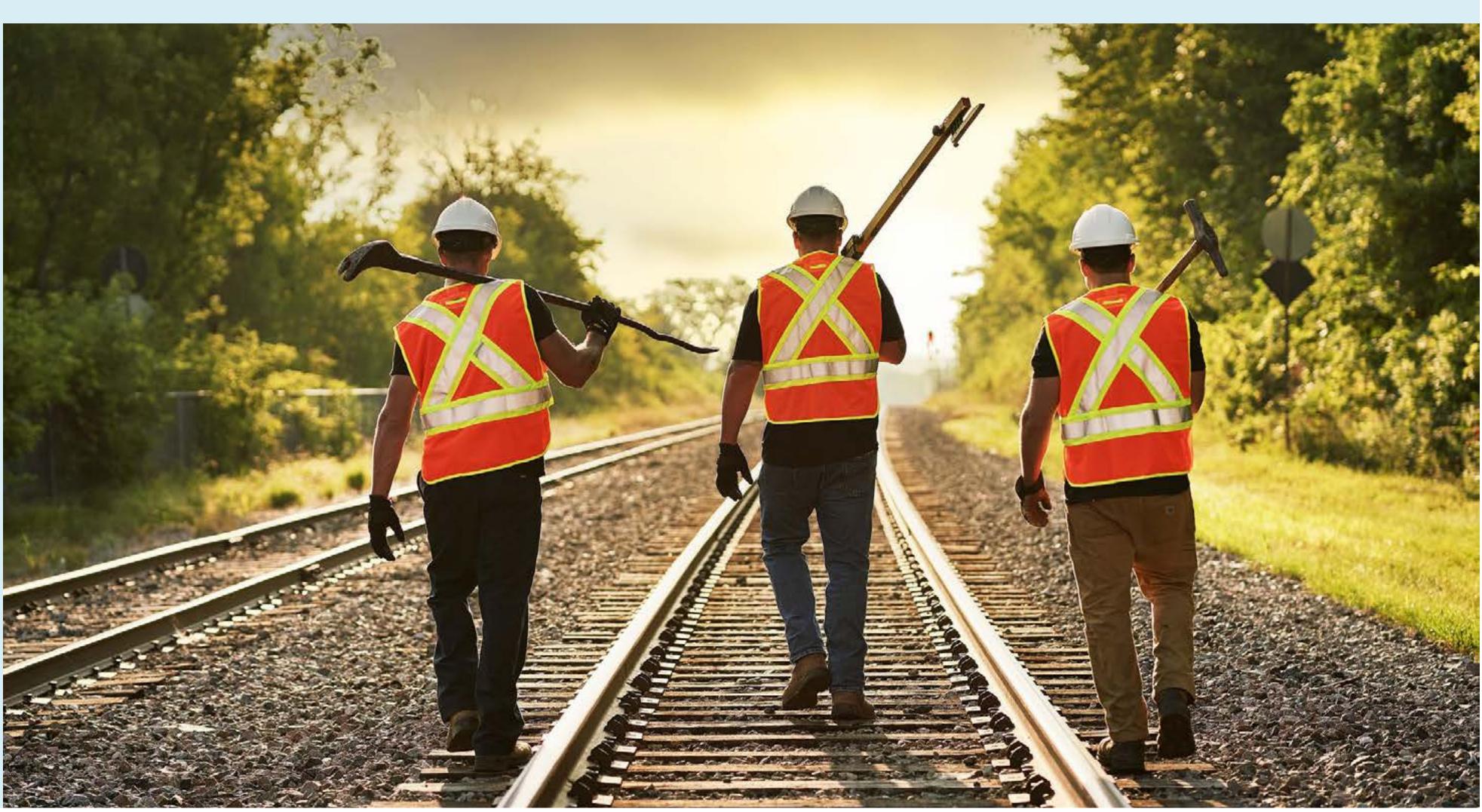
Network Operations Center.

"We are excited to strengthen our partnership with Metrolinx, keeping their system running safely, efficiently and sustainably for a reliable operation for their passengers," said Johannes Emmelheinz, CEO Customer

# Siemens Mobility awarded further service contract from Canadian operator Metrolinx

Services Siemens Mobility. "With a combination of our on-the-ground rail infrastructure maintenance experience and our digital services, we can ensure up to 100% system availability."

In Canada, Siemens Mobility has been providing solutions to the transportation industry for more than 40 years, including, among others, railway infrastructure maintenance services on the rail networks in Quebec and Ontario, light rail vehicles in Edmonton and Calgary, trainsets delivered to VIA Rail Canada, new trainsets for Ontario Northland, an order for locomotives for Montreal's exo, and the rail electrification and overall system maintenance of the light rail transit network in Kitchener-Waterloo.



## Uruguay

## Wabtec Signs First Locomotive Deal with Grupo RAS in Uruguay

Grupo RAS, a Uruguay-based multinational integrated logistics leader with over 30 years of experience, announced today an order for three C23EMP locomotives from Wabtec Corporation (NYSE: WAB). This deal marks a crucial step for Grupo RAS as it enters the Uruguayan railway market.

"This deal with Wabtec is a cornerstone for Grupo RAS," said Mr. Ruben Azar Scarone, President and Founder of Grupo RAS. "It allows us to integrate rail transportation into our portfolio for the first time, offering unmatched efficiency and competitiveness to our clients. Not only will this boost Uruguay's position as a gateway for Mercosur markets, but it will also significantly improve connectivity within the region, facilitating faster and more cost-effective export and import operations."

The investment aligns perfectly with Grupo RAS's vision to become a key operator within Uruguay's revitalized national railway network. The company will operate three subsidiaries, focusing solely on rail transportation along

the crucial Route 5 and other national routes. This expansion strengthens Grupo RAS's position as a comprehensive logistics solutions provider and enhances its strategic location at the Port of Montevideo and its nearby industrial park, offering customers seamless railway access.

"We are thrilled to support Grupo RAS in this ambitious endeavor," said Danilo Miyasato, President and Regional Leader of Wabtec for Latin America. "These locomotives will provide Grupo RAS the performance and reliability needed to be successful. This order also allows us to expand our presence in Uruguay, where we have a longstanding history, and further solidify our commitment to the Latin American market."

The C23EMP locomotives are designed for reliable light-axle-load operations on narrow-gauge tracks. The locomotives are equipped with fuel-efficient, electronically-fuel-injected 12-cylinder FDL engines. Wabtecwill manufacture the locomotives at its plant in Contagem, Brazil. The locomotives are

expected to deliver by late 2025, marking the commencement of Grupo RAS's rail operations in Uruguay.

#### **About Grupo RAS**

Grupo RAS is a multinational integrated logistics leader with over 30 years of experience in planning and managing logistics services across 11 countries. The company operates in three specialized divisions: Transportation Modalities, Infrastructure, and General Logistics Services. Visit Grupo RAS's website at https://gruporas.com/.

### Sweden

### Alstom to supply 20 additional Movia C30 metro trains for SL in Sweden

Alstom, global leader in smart and sustainable mobility, and SL have concluded an agreement for an option of 20 additional Movia C30 metro trains on the existing contract. The first agreement, signed in 2013, included an order for 96 metro trains with an option for an additional 80. The contract has been extended, and Alstom will supply a total of 116 metro trains or 464 cars, which operate on the Stockholm metro system.

The C30 metro trains currently run on the red line in the Stockholm metro system, gradually replacing the older C20 trains on the line. These new trains are part of a modernisation and capacity increase to enable SL to transport over one million passengers daily. The C30 metro train is now approved to operate on both the blue and green lines in preparation for future options.

"It has been a privilege to supply Stockholm with advanced Movia C30 metro trains. Even more gratifying is witnessing the expanded fleet. We take pride in delivering these exceptional trains with an excellent collaboration with SL. The positive reception of the design among the people in Stockholm is truly rewarding." says Maria

Signal Martebo, Managing Director of Alstom in Sweden.

#### Swedish design

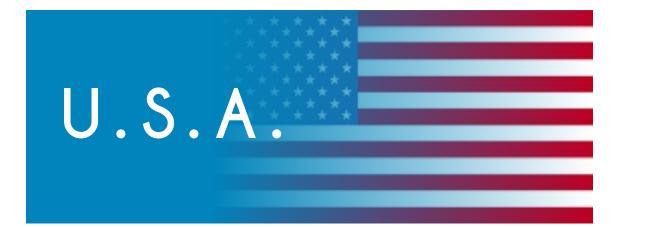
The carriages, renowned for their robust regional design, were put into service in 2019. Manufactured in Germany, the design is described as "straightforward and Scandinavian," featuring many delightful design touches. For instance, ventilation holes under the windows incorporate playful elements such as the computer game character Pacman, crowns, hearts, and play symbols, offering charming details for commuters on the go. The new carriages are easily identifiable to passengers as they arrive on the platform, featuring a modern white exterior and distinctive front lights. Inside, there is a modern is edinterior with improved accessibility, enhanced lighting and surfaces that maximise capacity during peak hours.

Improved accessibility and passenger information contribute to shorter station dwell times, as passengers can board and alight more efficiently. This facilitates smoother operation of the C30 metro trains according to the required timetable.



The trains are also recognised for their advanced technology, equipped with features that will eventually enable driverless operation. With a driver's cab at both ends, these trains meet rigorous environmental

standards, focusing on energy efficiency and material choices, including woollen seat covers sourced from Sweden.



# STADLER'S HYDROGEN-POWERED TRAIN FLIRT H2 ACHIEVES A NEW GUINNESS WORLD RECORDS TITLE

Stadler is proud to announce that the FLIRT H2 has been entered into the Guinness World Records database for the longest distance of 1,741.7 miles (2,803 kilometres) achieved by a pilot hydrogen fuel cell electric multiple unit passenger train without refueling or recharging. This achievement underlines Stadler's innovative strength and technological leadership in the field of sustainable rail transport. Innovation has always been one of the core factors contributing to the company's success and the entry in the Guinness World Records database marks another exciting highlight that proves the FLIRT H2's capabilities and its pioneering technology.

Stadler had the honour of presenting the FLIRT H2 to the public for the first time at InnoTrans 2022 in Berlin. A significant number of detailed solutions were developed to integrate fuel cells and hydrogen storage systems into the modern FLIRT commuter train product line. These solutions have since been tested thoroughly, first in

Switzerland and more recently on a dedicated test ring in Colorado in the United States. Close to completion of testing, the company was eager to prove the reliability and capability of this innovative train. To do so, an attempt to set a new records title for the range of the hydrogen train without refueling or recharging was undertaken under the close watch of the Guinness World Records adjudication team.

Dr. Ansgar Brockmeyer, EVP of Marketing and Sales at Stadler said: "This world record establishes the ideal performance range of our hydrogen version of the best-selling FLIRT Electric Multiple Unit, the FLIRT H2. This is a monumental achievement from our entire team and we are very proud to hold another record title."

Martin Ritter, CEO Stadler US Inc. said: "Stadler is consistently focusing on the future of rail transportation with alternative drive systems by continuously developing innovative technologies. By using hydrogen

as a clean energy source, we are actively contributing to environmental protection and shaping the sustainable and zero emission travel of tomorrow."

The world record journey started in the evening of March 20th, 2024 where the train set out for its first laps around the test track. The team of engineers from Stadler and ENSCO continued driving the vehicle in shifts throughout the night and following day and concluded the successful attempt at 5.23 p.m. (MST), on March 22nd , 2024 (at 12.23 a.m. CET, on March 23, 2024). Altogether, the train travelled 1,741.7 miles (2,803 kilometres) for over 46 hours on one tank filling.

With this, Stadler's FLIRT H2 officially holds the world record for the longest distance travelled by a hydrogen-powered passenger train without refueling or recharging. The record attempt was made at the ENSCO test center in Pueblo, Colorado where the vehicle had undergone its type test procedure. Detailed records before, during and after the world record attempt were kept to ensure

precise and transparent evidence is established.

The FLIRT H2 for San Bernardino County Transportation Authority (SBCTA) is Stadler's second Guinness World Records title winning train with alternative propulsion. In December 2021, the FLIRT Akku, the battery-powered FLIRT model, set the world record for the longest journey with a battery multiple unit in pure battery mode, covering 224 kilometres in Germany.

There is great international interest in sustainable public transportation. Stadler's FLIRT H2 hydrogen train has been well received on the market. In addition to a recent order of further hydrogen FLIRT for California, Stadler is the first train manufacturer in the world to produce narrow-gauge hydrogen trains. In Europe, the Italian railroad operators Ferrovie della Calabria (FdC) and ARST have already redeemed options, which means that Stadler is contracted to now supply a total of 15 hydrogen-powered vehicles in Italy.

# STADLER IS INVESTING IN THE FUTURE: THE SWISS RAIL VEHICLE MANUFACTURER IS BUILDING A NEW COMMISSIONING CENTRE FOR TRAINS IN HENNIGSDORF

Stadler continues to grow and is building a new commissioning centre for rail vehicles in Hennigsdorf by 2027. The previous commissioning centre in Velten will be converted into a service centre.

Stadler has acquired a plot of land measuring around 46,000 square metres in Hennigsdorf, in the district of Oberhavel in Brandenburg. In the future, the Swiss rail vehicle manufacturer's new site will be used to commission the trains produced at the Berlin-Pankow plant.

The existing halls at the Hennigsdorf site will be renovated and expanded and a new customer acceptance centre will be built

between 2024 and 2027. In the future, 128 employees will work at the site.

The company is planning a total of 1,314 metres of tracks inside the hall with a new and modern infrastructure that includes crane and pit systems as well as fixed roof work stands. For dynamic tests, a 744-metrelong track system will be built in the outdoor area, which will have overhead line systems for regional trains as well as third rails for underground and S-Bahn trains. The electrical supply for the high-voltage area in the new customer centre and the dynamic test tracks in the outdoor area will be provided by a separate, state-of-the-art multi-voltage supply system.

"Stadler is already firmly connected to the Berlin-Brandenburg metropolitan region with several locations," says Jure Mikolčić, CEO of Stadler in Germany. "Our commissioning centre in Velten is now reaching the limits of its capacity. For this reason, we have decided to establish Hennigsdorf as a location and set up our new commissioning centre with modern infrastructure there. In doing so, we are not only creating future-oriented jobs in the region, but also setting another milestone in our 20-year history of growth."

Thomas Günther, Mayor of Hennigsdorf, commented: "I am delighted that it was possible to tie Stadler, as a manufacturer of

commuter trains, underground trains, trams and regional trains, to Hennigsdorf. The modern, traditional company is continuing here its success story in Germany here. With its proximity to the capital, the production site in Berlin-Pankow and the good transport connections, we offer Stadler optimal conditions.

This will strengthen our metal and rail cluster - one of three major economic pillars in Hennigsdorf. Everyone benefits from this - in addition to exciting new jobs, we are strengthening rail vehicle construction and thus also the regional business location."

Commissioning includes all the activities required to make a fully assembled rail vehicle ready for operation. For example, the relevant functions of the trains are tested on the hardware and software side while stationary and while travelling so that the vehicles can then be handed over to the customer.

In future, the Service Division's work in Germany, such as modernisations, overhauls and accident repairs, will be carried out at the previous commissioning site in Velten.

### Hungary

Stadler have signed a contract with GYSEV Zrt. for the supply of 9+4 intercity EMUs. The operator railway company plans to put the vehicles into service on the Sopron-Budapest and Szombathely-Budapest routes from 2027. The new multisystem trains will have a license to operate not only in Hungary, but also in Austria. The aluminum bodyshells of the five-car trainsets will be made by Hungarian specialists in Stadler's center of competence for carbodies in Szolnok. The signing of the contract also has railway historical significance, as a new intercity motor trains were procured last time for Hungary exactly 30 years ago.

#### 9+4 new intercity EMUs

The contract consists of a base order of 9 vehicles and an option for up to 4 units. GYSEV has 3 months to decide how many optional trains it will order from Stadler starting from the date the contract enters into force. According to the delivery schedule, Stadler has time to hand over the first vehicle to GYSEV within 36 months, while the last unit of the base order will enter passenger traffic on the Sopron-Budapest and Szombathely-Budapest routes within 44 months. After that, Stadler has another two years to obtain the authorization to operate in Austria. The supplier contract will enter into force after

the conclusion of the financing contract. The purchase is financed by GYSEV with loan provided by European Investment Bank EIB.

#### **Energy efficient cutting edge technology**

GYSEV's passengers are already familiar with FLIRT trains, as the railway company ordered a total of 20 FLIRT units from Stadler in three different procurements between 2013 and 2018. The new intercity vehicles, on the other hand, will differ in many respects from the previously purchased fleet, the exterior and interior appearance of the vehicle follows and reflects the higher level of service. In addition to the maintenance-friendly design, the manufacturer also equips the vehicles with modern electric traction motors, thanks to which the intercity trains can be operated with lower energy consumption values, which also reduces the overall life cycle costs of the vehicle.

The length of the five-part vehicles, capable of a speed of 160 kph, is 106.2 meters, and the number of seats can be flexibly changed depending on the summer and winter seating arrangements. In the case of winter configuration, the number of seats is 280, of which 32 are first class. When the demand for the transport of bicycles is higher, especially during the summer season,

the transport of up to 18 bicycles becomes possible by reducing the number of second-class seats. The new vehicles are manufactured according to the latest international standards that came into force at the end of last year. The new trains are characterized by a modern passenger information system, security cameras that improve the safety of passengers, sockets for charging phones, tablets and laptops, spacious, bright, airconditioned, low-floor passenger spaces, 2 standard and 1 PRM toilet. Due to the usually longer journey times on

Stadler and GYSEV signed agreement for the delivery

of next generation intercity EMUs

intercity routes, the vehicles are also equipped with food and drinkvending machines, and a dining area designed for this purpose is also created for the consumption of the purchased meals.

## Local production in the focus

The FLIRT is Stadler's most successful product, with more than 2,500 units sold in 21 countries since 2002. The vehicle type is also very

wellknownin Hungary, 20 of which are currently operated by GYSEV and 123 by Hungarian State Railway Company MÁV. Stadler's domestic plant has taken a great part in the production of the most successful type, the Szolnok factory has produced almost 1,000 FLIRT trains, which means a total of 3,883 carbodies. Within the framework of the order just signed, depending on all option orders, a total of 65 FLIRT IC car coaches could be manufactured in Szolnok for GYSEV.





These world-class Movia metro trains integrate advanced signalling solution for safe and reliable service

Equipped with Flexx metro bogies and Mitrac propulsion system to increase energy efficiency

Alstom's commissioning of Cityflo 650 moving block CBTC technology for Agra Metro will significantly improve connectivity, reduce travel time, and ensure reliable service, perfectly poised to meet the increasing mobility demands

## The trains are built in India and can operate at up to 80 kmph

In a landmark moment, the historic city of Agra witnessed the commencement of metro service with the inaugural run made by the world-class trains built by Alstom. These new Movia metros are equipped with advanced Cityflo 650 signalling solution to ensure safe, reliable, and sustainable mobility to the commuters. The first train was flagged off by Honourable Prime Minister of India Shri. Narendra Modi virtually and Honourable Chief Minister of Uttar Pradesh Shri. Yogi Adityanath from the Taj Mahal Metro Station.

Alstom, a global leader in smart and sustainable mobility, has designed these trains at its engineering centre in Hyderabad with the signalling solution developed at Gurgaon & Bangkok. These trains have been manufactured at Alstom's state-of-the-art facility in Savli (Gujarat), under the 'Make in India' and 'Aatmanirbhar Bharat' initiatives. Embedded with modern energyefficient propulsion systems and regenerative braking, that reduce energy consumption, this is a sustainable and eco-friendly alternative to other modes of transportation. Olivier Loison, Managing Director - Alstom India said, "We are thrilled to witness this moment as Agra becomes the 6th city in Uttar Pradesh with an operational metro service. We have a strong association with UPMRC and are proud to have contributed to almost all metro projects in the state. The metro promises to be a gamechanger for Agra as it will enhance tourism by providing a sustainable and efficient mode of transportation to visit the city's cultural treasures, including the iconic Taj Mahal. It will also prove to be a boon for residents as it will offer improved connectivity, reduced travel time, and a modern mobility service."

# Transforming Agra's mobility with Alstom-built trains and CBTC signalling technology as metro revenue service begins

The first trainset was delivered to Uttar Pradesh Metro Rail Corporation (UPMRC) by Alstom in September 2021 in Kanpur, and Kanpur revenue service was inaugurated by Honourable Prime Minister of India Shri. Narendra Modi in December 2021. So far, a total of 26 trainsets have been delivered to Agra (9) & Kanpur (17) / UMPRC. Each trainset can accommodate approximately 960 passengers in the three-car configuration. Over two million residents of the city are expected to benefit by the Agra Metro Rail Project, directly and indirectly.

Shri Sushil Kumar, MD, UPMRC, said, Uttar Pradesh Metro has the privilege of starting the Metro projects in the fastest phase, and Lucknow was started in three years' time, while Kanpur priority section was started in two years, two months and now underground section constructed and started in less than two years' time in Agra. One of the biggest reasons to achieve this target was the fastest commissioning of trains. As most of the prototype testing of the train was done in Kanpur as the Kanpur and Agra trains are the same, we were able

to save almost one year time in commissioning of trains and interface with signalling that was huge saving, which was achieved for the first time in India. Support of Alstom team was instrumental in the entire journey".

Inspiration from Uttar Pradesh's rich cultural heritage combined with best-in-class design has resulted in an attractive look for the metro fleet. Built with stainlesssteel car bodies, the airconditionedcarswillhave automated sliding doors, comfortable seating and standing spaces, dedicated areas for entry of specially abled, who use wheelchairs and modern passenger information systems,

combining to provide an accessible and welcoming environment for passengers. Aerodynamic modular design of the new Movia metros will offer a host of safety, security, and environmental benefits along with great passenger experience.

The trains will be equipped with Flexx metro bogies and the Mitrac propulsion system to increase energy efficiency, reduce operating costs, and ensure the new trains meet the highest environmental standards.

Agra Metro is equipped with Alstom's advanced moving block CBTC solution Cityflo 650. This includes a modern ATP system with continuous supervision and continuous update of this information through transmissions from the radio. The vehicles and infrastructure are supervised using a modern computer-based control and supervision system. It ensures maximum availability and safety by using redundant interlocking computers. Alstom's advanced signalling system provides a high level of passenger comfort – smooth braking and acceleration.

Alstom's scope on the Agra-Kanpur metro project includes designing and delivering 201 metro cars (67 metro trainsets) and equipping Agra's 2 Corridors (27 stations, 30 Km) with an advanced CBTC signalling solution (Cityflo 650).

The Movia metros for Agra and Kanpur are part of Alstom's market-leading Metropolis metro solutions, designed to keep cities breathing for over 60 years. More than 80 customers worldwide operate metros made by Alstom. As an undisputed leader in CBTC technology with over 30 years of expertise in communications-based train control and more than 190 metro lines equipped in over 32 countries, Alstom's CBTC technology answers the worldwide mobility challenges of today and provides fluid, connected mobility to passengers in times of increasing transportation needs.







