



Railtalk Magazine *Xtra*

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Submissions & Contributions

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

Photographic Contributions

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

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

Welcome to Issue 199Xtra

After an enjoyable, although sometimes stressful, trip across Europe last month it is clear that many other European countries are also suffering the same symptoms that we in the UK are, namely higher energy prices and crippling strikes of public transport as people want an increase in salary to combat the increase in cost of living.

For many years, one of the reasons for heading to Czech was its large amount of classic diesel locos operating passenger services. Visitors had the choice of either 'Grumpies' or 'Goggles', but not for much longer it would seem as after major purchases of electric locomotives, České dráhy is also preparing to renew its diesel locomotives. They have launched preliminary market consultations, which are the first step towards announcing a tender for the purchase of up to 30 diesel or dual locomotives.

According to the information on the client's profile, the carrier is counting on a competition for the purchase of 15 locomotives with an option to purchase the same number of units. They should be approved for operation in the Czech Republic and Slovakia, or in Poland, Germany and Austria. An option is to rent and buy locomotives.

The spokesman of Czech Railways, Petr Štáhlavský, confirmed that it is mainly about the replacement and addition of the locomotives nicknamed brejlovec. "It will be a replacement of the locomotives of the 754 series (year of manufacture 1979/1980) and the addition of the modernized series 750.7 (modernization between 2010 and 2012), which ČD equips with ETCS," Štáhlavský said.

The carrier currently has 19 locomotives of the 750.7 series and 55 locomotives of the 754 series. The turnover requirement is currently 44 locomotives (including seven locomotives loaned to Poland for PKP Intercity). In addition, Die Länderbahn uses diesel locomotives for services from Pilsen to Česká Kubica.

České dráhy approached a total of eight manufacturers for consultations. These are Alstom, CAF, Newag, PESA Bydgoszcz, Siemens Mobility, Stadler Rail, Škoda Transportation and CZ LOKO.

According to the technical specification, these are locomotives with a speed of 140 km/h (in independent traction) and 160 km/h (in dependent traction). Dual locomotives combine combustion engine propulsion with traction electricity propulsion when running on an electrified line. Tracks require that they can also be used for freight transport. The power must be at least 2000 kW.

The number of locomotives purchased may also vary depending on the pace at which the electrification of the Czech railway network will continue. However, the carrier reminds that it needs powerful line locomotives to ensure operation during power outages; not only the planned ones, but also the unplanned ones.

"We can recall voltage blackouts, e.g. during the modernization of tracks or several months of damage to the traction line in South Moravia after the tornado in 2021, catastrophic conditions such as frost, etc.," Štáhlavský added.

Currently, large line motor locomotives are used, for example, on lines R 18 to Luhačovice or R 11 Brno – Jihlava – České Budějovice – Plzeň in the section Brno – Jihlava. It also runs on the R 16 line in the section Klatovy – Železná Ruda, R 17 Silva Nortica in the section Veselí nad Lužnicí – České Velenice. They are deployed on the connection of line Ex 7 to Český Krumlov and R 18 to Zlín, line Ex 6 in the section Plzeň - Domažlice - Furth im Wald. On the R10 line, they are deployed in the section Hradec Králové – Trutnov, on express trains in the section Zábřeh na Moravě – Jeseník. It is also present in regional transport services, for example push-pull trains in Ostrava.

It will be interesting to see if Slovakia, who run similar aged units will also follow suit.

Until next month...

David

This Page

ZSSK 'Gorilla' Class 350.020 arrives at Poprad-Tatry on March 19th with train No. Ex17628 14:07 SuO Košice to Bratislava Hl. St. [Andy Pratt](#)

Front Cover

OBB Class 2068.027 with the local freight train from Zeltweg to Weisskirchen reaches its destination on the morning of February 16th. [Thomas Niederl](#)





On February 15th, OBB Class 2016.084 and 2016.094 reach the village of Kathal with the second train of woodchips of the day. *Thomas Niederl*

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On February 8th, Class 1116.191 passes Pass Griessen, with Eurocity train No. EC164 'Transalpin' from Graz heading towards Zürich HB. The train is formed mostly of Swiss carriages including a first class Panoramacoach. *Thomas Niederl*



In the north of Upper Austria, near the border to the Czech Republic, a diesel operated line serves to connect Aigen-Schlögl and Linz. The line has been isolated from the rest of the ÖBB network since 2014 when the connecting line was closed and the Danube bridge demolished. Here DMU Class 5047.080 working train No. R3187 is seen here next Oepping. *Thomas Niederl*



On the Lavanttalbahn, a line which connects Zeltweg via Obdach with Wolfsberg in Carinthia, passenger services were withdrawn in 2010. However a lot of freight trains still use this line. On February 15th, a train transporting woodchips hauled by Class 2016.048 and 2016. 051 passes Taxwirt halt. *Thomas Niederl*













OBB Class 5047.002 still carries its first livery from 1987 of cream, blue and orange. For the last three decades it worked in the east of Austria, however last year it was moved to Upper Austria and is seen here on February 28th working train No. R3209 to Grünau im Almtal and is calling at Scharnstein-Mühldorf. *Thomas Niederl*





1000th Alstom Austria tram from Vienna

Alstom celebrates its 1000th tram manufactured in Vienna. Since 1990, Alstom Austria, which acquired Bombardier Transport in 2021, has manufactured 1000 modern trams in Vienna for global customers from Austria to Australia. “We are proud that today we are celebrating the 1000th tram from our Vienna production site. Our trams shape cityscapes all over the world and are truly Viennese,” said Jörg Nikutta, Managing Director of Alstom Austria.

“As city councillor for economic affairs, I am particularly pleased that the trams for our environmentally friendly public transport are ‘Made in Vienna’ here at Alstom. Vienna’s passengers can look forward to more modern vehicles with which they can safely and cleanly complete all their journeys in the city. With production here in the Donaustadt, these orders naturally also secure jobs in Vienna as a business location and create added value here,” says Peter Hanke, City Councillor for Finance and Economic Affairs.

The 1000th tram is a Flexity Vienna for Wiener Linien and will soon be in daily service for the Viennese with unmistakable signage.

“Wiener Linien is constantly renewing its vehicle fleet with a special focus on energy efficiency and accessibility. The Flexity Vienna will replace the last high-floor tram models in the coming years and thus make the public transport system barrier-free. It is already in use on five lines, and two more will be added in the course of the

year with lines 46 and 49,” reports Gudrun Senk, Managing Director of Wiener Linien for the Technical Division, Construction and Facilities Management (CTO).

“Alstom is an important company for the business location Donaustadt with the potential to continue to be one of the most successful companies in the district in the future,” emphasises Ernst Nevriy, district leader of Vienna’s 22nd district. The site in Vienna is Alstom’s global competence centre

for trams and light rail vehicles and employs around 800 people who cover the entire value chain - from initial customer contact to development, assembly, component production and post-commissioning support. Worldwide, there are only ten of 140 Alstom locations that play such a role.

The Austrian driver has just relieved his Slovenian counterpart at Jesenice and reconfigured ÖBB Taurus Class 1216.147 from 3kV DC to 15kV AC for the final leg of the journey to Villach Hbf of train No. EC210 08:39 from Vinkovci on March 24th. *Andy Pratt*



The 76km long 760mm gauge MurtalBahn in Austria links Unzmarkt with Tamsweg and follows the River Mur through some stunning Alpine scenery. A power car and trailer approach the request stop at Ramingstein on March 23rd with train No. R8709 13:22 from Unzmarkt. With typical photographers' luck, seconds before the train appeared a cloud moved across the sun. *Andy Pratt*



LINZ AG shifts large volumes onto the railways

The new TRANSFER system for LINZ AG that uses innovative, multimodal MOBILER logistics is an excellent example of the successful implementation of the Waste Management Act in Austria.

As a company providing services to the general public, LINZ AG is involved in the fields of energy, telecommunications, transport and communal services. It serves Linz and a further 116 municipalities in Upper Austria. In the field of waste management (LINZ AG ABFALL), the company is already a long-standing customer of the ÖBB Rail Cargo Group (RCG). Now – in line with the Waste Management Act – a new TRANSFER system has been developed. Since the beginning of the year, RCG has been transporting an annual volume of 7,500 additional tonnes of municipal waste from Graz to Linz using innovative MOBILER logistics.

Multimodal end-to-end logistics solution

In order to meet the most diverse customer needs, the logistics professionals at RCG

design customised solutions for any transport requirement. A new type of trestle has been developed specifically for the new TRANSFER. The MOBILER truck places the empty containers on the trestle. The containers are then filled. The truck is no longer needed during this step – in this way, RCG guarantees optimum use of resources. When full, the containers are collected by the MOBILER truck and taken to Graz Ost station, where they are transferred to the wagons of the RCG trains, which then continue to Linz. The MOBILER truck returns to the Graz Holding site with new empty containers. After an environmentally aware journey by rail, the MOBILER containers are unloaded at the LINZ AG site and emptied to the rear. Previously, all these steps were carried out by trucks. This new sustainable logistics solution results in an annual saving of 315 truck journeys.

Innovative MOBILER logistics

The innovative transport logistics of MOBILER combines the advantages of the

environmentally friendly railway and flexible road freight transport into one system. A hydraulic lifting device on the MOBILER vehicle enables fast, straightforward handling of MOBILER containers between the truck and the wagon – without a crane or industrial sidings.

Waste management act

As of January 1st 2023, the new Austrian waste management act (in German “AWG”, short for “Abfallwirtschaftsgesetz”) requires waste loads with a total weight of more than 10 tonnes to be transported by rail if the distance exceeds 300 km. From January 1st 2024, such waste loads will have to be transported by rail for distances of 200 km or more, and from 1 January 2026 for distances of 100 km or more. In total, there is potential for around 15 million tonnes of waste to be transported by rail in Austria.



RCG and Baumann Paletten strengthen the EUR brand

Rail Cargo Group (RCG) has signed a partnership agreement with the Munich family firm Baumann Paletten to strengthen the EUR brand.

Logistics would be unthinkable without the Euro-pallet. Estimates suggest that there are about 600 million Euro-pallets in circulation worldwide. The trademark rights to the original Euro-pallet with the EUR symbol have belonged to ÖBB Rail Cargo Group (RCG) since 1961. In order to strengthen this brand and the open exchange pool, the ÖBB freight transport subsidiary and the Munich logistics company Baumann Paletten are working with railway undertakings and with testing and pallet organisations that belong to the International Union of Railways (UIC, the Union internationale des chemins de fer) to put the spotlight

on the Euro-pallet as a tool in sustainable logistics. This partnership, which will take the form of a brand REFRESH, was sealed with a collaboration agreement on January 17th.

Euro-pallet: the backbone of logistics

The introduction of the Euro-pallet in 1961 has increasingly revolutionised logistics throughout Europe and beyond. To give just one example, their use has cut the time required to load railway wagons by more than half. The world of logistics is based on their measurements of 800 mm x 1,200 mm x 144 mm – from the dimensions of storage spaces and transport systems, right through to loading spaces in HGVs and goods lorries. Their rapid spread meant that an international pooling system could also be established itself from the start.

The Euro-pallet consists of 100% wood and is produced and tested for quality according to the UIC standard 435-2 ff. All EUR Euro-pallets are heat-treated according to the ISPM 15 standard and can be used for export. The original is easy to spot – the characteristic “EUR” in an oval shape can be found on the right-hand corner block of each individual pallet. Because of its ubiquity and multifunctionality, the EUR Euro-pallet is a reusable and recyclable way of transporting heavy loads.





▶ On PTGs highly successful Clear Cambodia raittour that featured 8 different ex Indian YDM4s and 3 other locos (of Chinese and Czech origins) for haulage over 7 days, covering 99.9% of the track in the country! On March 8th, the tour re-enters Kampot station after a photo stop with No. 6546 at the helm. The flat wagon behind the engine is a translator to allow the freight locomotive to couple to the passenger stock. *Mark Torkington*

▶ No. 6428 poses for photos on the viaduct at Kampot on March 7th. *Mark Torkington*

▶ On March 10th, No. 6375 stops for photos at the Thai/ Cambodian border at Poipet. The tour was allowed over the Friendship Bridge (seen behind) into Thailand at Ban Klong Luk station but participants couldn't get off due to the inevitable passport/visa complications. *Mark Torkington*



On PTGs highly successful Clear Cambodia railtour that featured 8 different ex Indian YDM4s and 3 other locos (of Chinese and Czech origins) for haulage over 7 days, covering 99.9% of the track in the country! Nos. 6675 and 6375 running in top and tail formation are seen back at Phnom Penh station on March 11th. *Mark Torkington*









Cooperation between ČD Cargo and METRANS confirmed

At Děčín railway station, the christening of the advertising livery of the ČD Cargo locomotive 388.015, highlighting the successful cooperation with the major combined transport operator, METRANS, took place.

In addition to long-term cooperation in domestic transports and implementation of the first/last mile by rail, METRANS now uses the services of ČD Cargo in international transport as well. Every week, ČD Cargo locomotives, including drivers, are deployed on 6 pairs of trains between the port of Hamburg and the terminals in Česká Třebová and Prague-Uhřetevsi.

ČD Cargo is currently licensed to operate rail freight transport in seven European countries. At the same time, it pays great attention to investments in new interoperable locomotives, without which foreign expansion would not be possible.

Tomáš Tóth, chairman of the board of ČD Cargo, as, and Martin Hořínek, member of the board of METRANS, as took part in the christening of the livery.

Photo: © CD Cargo



New Class 393 locomotive series in the ČD Cargo fleet

At the end of March this year, two new Class 393 Vectron AC locomotives with an auxiliary diesel engine (DPM) will be added to the vehicle fleet of ČD Cargo. These locomotives are part of the Siemens X4 modular platform that includes locomotives of various purposes and systems.

The locomotives of the 393 series are four-axle interoperable dual-system locomotives capable of running at a speed of up to 200 km/h on 15kV (16 2/3Hz) and 25kV (50Hz) AC traction systems in this design.

The new engines are equipped with an auxiliary diesel engine (DPM – Diesel Power Module) for operation on handling tracks and sidings without traction catenary line or when shunting. The DPM module consists of a 180-kW diesel unit located in the engine room and, a fuel tank.

As symbolized by the labelling on the locomotives, they are primarily intended for operation in Austria and Germany - they will be used primarily by our foreign branches.

Their home SOKV will be České Budějovice. However, ČD Cargo drivers will also be trained to operate the 393 series engines.

Photo: © CD Cargo



Germany

On February 15th, DB Cargo Class 185.213 passes 'Abzweig Lotharstrasse' with a rake of tankers heading towards Oberhausen West. *Erik de Zeeuw*









On March 27th, the 'Rheingold' (DPE) 320 is seen on its way from Koblenz (dep 05:41) to Westerland (Sylt). E-loc No. 103 113-7 brought the remarkable train to Hamburg-Altona where two Class 218 diesel locomotives ran the train to the island of Westerland (Sylt). Here Class 218.345-7 and 218>344-0 with the 'Rheingold' train have just departed Niebüll heading towards Westland (Sylt). *Andre Pronk*



At Düsseldorf Rath, due to engineering work, services were diverted between Düsseldorf Hbf and Oberhausen. Here passes an ICE with the classic railroad signalling. These are still active but have been altered with instead of cables, electric motors are mounted to operate the signals. Also digital speed limit signs have been added. How long this signalling will remain in place for is not sure. *Andre Pronk*





Germany

DB Class V169.001 was a locomotive with an additional gas turbine booster engine and is considered as a prototype of the class. Built in 1965 by Klöckner-Humboldt-Deutz and has been with Deutsche Bundesbahn, Impresa Attilio Rossi, Bahngesellschaft Waldhof AG (BGW), Eisenbahnen und Verkehrsbetriebe Elbe Weser GmbH (EVW). In 1968 the locomotive was renumbered to Class 219.001. The gas turbine failed with damage to the combustion chamber in 1974, and so the locomotive was converted to a diesel engine. In 1985 the locomotive was sold to company of Elizabeth Layritz GmbH in Penzberg, Subsequently, the locomotive was sold to Impresa Attilio Rossi in Italy and worked between Rome and Naples (as T1591) up till 1998/9. In 1999 the locomotive was brought back to Germany and refurbishment included the replacement of the original Maybach engine with a Caterpillar diesel, but locomotive had an accident resulting in frame damage in 2013 and has not been in service since then. However in August 2021 the V169 was bought by a locomotive engineer that founded his own company and the loco was restored to its current configuration. Since September 20th 2022 under the UIC number 92 80 1219 001-5 D-LR' it has operated various trains from its base at Oldenburg. *Andre Pronk*



Power supply by rail: DB Cargo doubles coal transport

In autumn 2022, several coal-fired power plants previously held in reserve were reactivated across Germany with the goal of ensuring a stable power supply over the winter months after gas deliveries from Russia were halted. The plan has paid off, with DB Cargo making a significant contribution to its success.

Transport service doubled within a short time

The results speak for themselves: Since October 2022, DB Cargo has supplied some 15 German coal-fired power plants with a total of three million tonnes of bituminous coal. To make this extraordinary achievement possible, DB Cargo modernised and reactivated over 1,000 coal wagons, which now transport an average of 30,000 tonnes of coal from the North Sea ports to the power plants daily – twice as much as usual.

For the most part, the coal is transferred onto rail in the ports of Rotterdam and Amsterdam. The main routes then lead to Saarland and southern Germany. Due to the great importance of these coal deliveries, they are transported via “energy corridors” that give them priority on the rail network.

“No other mode of transport can do this”

“DB Cargo has delivered! Rail freight transport has proven itself a vital and reliable part of our power supply system this winter. Thanks to a lot of hard work, we were able to very quickly double our usual transport volumes in a matter of weeks. No other mode of transport, and no other freight operating company, could have achieved this on such a large scale,” says Dr Sigrid Nikutta, Member of the DB Management Board for Freight Transport and CEO of DB Cargo AG, expressing her satisfaction at completing this mammoth

task.

Power plants continue to rely on DB Cargo

Currently, the power plants are still being supplied with coal as and when required. Given the present situation on the energy market, experts predict that coal-fired power plants will most likely be needed for the rest of this year. Once again, the rail network and DB Cargo will be called upon to support Germany’s power supply.

Metrans expands rail network to South-Eastern Europe

Metrans, the rail subsidiary of Hamburger Hafen und Logistik AG (HHLA), is investing in the expansion of its network, particularly to South-Eastern Europe. With investments in Croatian Adria Rail and an additional terminal in Hungary, Metrans is gradually extending its high-frequency rail connection and hinterland terminal services. The company is thus sending a clear signal in support of the continued shift of road transport to the more environmentally friendly railroad.

In March 2023, Metrans acquired a 51 percent stake in Croatian Adria Rail, which is not solely a rail operator but a rail transport company that also provides rail transports from the Adriatic region to Central and South-Eastern Europe. The inland terminal in the Serbian city of Indija, near the capital Belgrade, also belongs to Adria Rail. Through its investment in Adria Rail, Metrans is now operating its first terminal in Serbia. From there, it will combine various transport options to and from South-Eastern Europe.

Metrans is also continuing to invest in Hungary. In addition to the construction of the hub terminal in Zalaegerszeg, which is already in progress, an additional terminal will be built in the Hungarian city of Szeged. Both inland terminals are scheduled to be operational by 2025. This will allow Metrans

to expand its European network to 21 inland terminals at important hubs.

Peter Kiss, CEO of the Metrans Group: “Countries in South-Eastern Europe are experiencing dynamic growth, therefore new logistics solutions are required. We want to provide climate-friendly rail transport that efficiently connects freight flows and hubs throughout Europe. We are pleased to offer our customers an even wider range of services, with many containers already moving carbon-free by rail.”

In 2022, Metrans transported 1.4 million TEU through Europe. The company offers its customers more than 650 regular rail connections per week. In the past year, Metrans began operations of three additional cranes in Budapest, Ceska Trebova and Dunajska Streda, which improves the carbon footprint at those terminals. Metrans’ European network now extends from the North Sea and Baltic Sea to the Adriatic and Black Sea, and is being continuously expanded: in 2022, Metrans established new connections to Gdańsk, Istanbul and Constanța.

Moreover, the company offers climate-neutral transport on all shipments from Hamburg, Bremerhaven and Koper via the

HHLA Pure product. Nearly one million standard containers were transported completely carbon-free over the past year. This represents more than half of Metrans’ entire transport volume in 2022.

By investing in modern electric locomotives and using green electricity as well as new electric cranes at the inland terminals, Metrans has been working for years to protect the climate.

The company thus supports the HHLA Group’s goal of being climate-neutral by 2040. HHLA Pure will be available for additional connections in the future.



Eco-friendly holidays by train are becoming increasingly popular

This summer, DB is once again offering an expanded range of travel to tourist destinations in all directions. In addition to additional connections to the north, to the East Frisian coast and to Copenhagen, more trains will be running between Berlin and Dresden and the Baltic Sea coast to Rügen as well as to Rostock and Warnemünde from April. From June 11th there will be additional trips to Warsaw and from July 8th there will be a new connection from Frankfurt (Main) to Bordeaux on Saturdays. From the end of May, DB Fernverkehr will be heading south on Saturdays with a Sprinter from Berlin to Garmisch, and in summer it will also go directly to the Black Forest and the Lake Constance region.

Stefanie Berk, Head of Marketing at DB Fernverkehr AG: “Travelling by train is active climate protection. In long-distance transport, our passengers have been traveling in Germany in an environmentally friendly way with 100 percent green electricity since 2018. Sustainable travel is part of our brand essence. I am therefore particularly pleased that more and more holidaymakers are switching to the train and that we were able to convince even more environmentally conscious travelers with bikes of our offer.”

More capacity and comfort for train journeys by bike

The environmentally friendly combination of bike and train is more popular than ever. With a record number of 570,000 bicycles transported in 2022 in long-distance traffic alone, the number of bicycles in ICE, IC and EC trains has increased significantly. Compared to 2019, the number of bicycles transported in long-distance transport increased by 45 percent. Travelling

by train is also still very much in vogue: January 2023 was the January with the highest turnover of all time in long-distance transport. The start of the year even exceeded that of the peak year 2020. At that time, the reduction in value added tax from 19 to seven percent caused a surge in demand.

The demand for bicycle parking spaces in DB long-distance trains rose by around twelve percent in Germany in 2022, and by more than 40 percent in international long-distance traffic. For the first time, DB offers space for more than 1.5 million bicycles in its long-distance trains. In order to meet the increasing demand, DB is expanding the offer: With eight parking spaces per train, the new ICE 3neo has been making it possible to take bicycles on high-speed trains up to 300 km/h since December 2022. Traveling by bike will be even more comfortable with the ICE L. From autumn 2024, this newly designed ICE will give travellers stepless access to long-distance transport. In addition to the Berlin-Amsterdam connection, the ICE L will in future also be used on the tourist connections to Sylt and Oberstdorf.

More tracks for everyone – also at the ITB 2023

More rail for everyone – this is what DB is offering at the world’s largest tourism trade fair, the ITB, from March 7 to 9, 2023. DB is taking a look at the future of travel in Hub27 at Messe Berlin, with topics such as “Travelling in Germany and Europe“, the Interrail offers in the 51st year of their existence and the “Destination Nature”. DB Connect, as a provider of mobility management solutions, presents Call a Bike, one of the largest bike sharing providers in Germany. More than 13,000 bicycles from the Call a Bike family in over 80 cities and municipalities across Germany bring users from A to B, even on

vacation. Modern equipment, bookings via mobile phone app and additional discounts for BahnCard customers are just a few of many advantages when switching from the train to the bicycle.

Tips for traveling by bike

Since the bicycle parking spaces are particularly popular in the summer months, DB recommends reserving a parking space early. If there are free seats, this is possible no later than the scheduled departure time of the train at the departure station. Travellers can find out whether parking spaces are available in the travel information on bahn.de and in the DB Navigator app if they select bicycle transport when searching for a connection. For a relaxed transfer, you can also adjust the transfer time here. The bicycle map can be booked together with the parking space reservation via bahn.de and in the DB Navigator. From the summer of 2023, the bicycle ticket and the associated parking space reservation can also be booked separately and without a personal ticket in the Next DB Navigator and at next.bahn.de. In this way, passengers can also buy bicycle transport at short notice before the start of their journey.

DB now sells the Germany ticket

Deutsche Bahn (DB) starts selling the Germany ticket: From Monday, April 3rd, customers can take out the digital subscription with DB. It costs 49 euros per month and can be cancelled monthly. The ticket is valid from May 1st nationwide in all local and regional transport associations.

Evelyn Palla, DB board member for regional transport: “Bus and train travel has never been so easy and cheap as with the Deutschland-Ticket. The ticket finally puts an end to the tariff jungle in local transport. Above all, our customers save money: We drive them back and forth across the country for a month - and that for the price of half a tank of fuel in a private car. This is an incentive to travel in a climate-friendly and uncomplicated manner.”

The quickest way to get a Germany ticket is via the DB Navigator app. Customers can also take out a subscription on bahn.de and in all DB travel centres.

Anyone who already has a local transport subscription with DB has already received the offer to switch to the Germany ticket. By switching, around three quarters of DB customers can travel more economically than their previous subscription.

BahnCard 100 customers also benefit: the BahnCard 100 is also valid as a Germany ticket from May 1st. The currently more than 46,000 BahnCard 100 customers do not incur any additional costs for this.

For Deutsche Bahn, the Germany ticket offers the opportunity to inspire even more people to use local public transport.

All information about the Germany ticket is available at www.bahn.de/deutschlandticket

About DB Regional

DB Regio is the largest provider of local public transport in Germany. The subsidiary of Deutsche Bahn operates train and bus connections nationwide with around 37,000 employees, including the metropolitan S-Bahn in Berlin, Hamburg, Munich, Frankfurt and Stuttgart. In rural areas, DB Regio, with the help of its companies CleverShuttle and ioki, is supplementing the existing connections with a growing number of on-demand services.

Local transport services in Germany are coordinated by law from the federal states and municipalities.



Customers come back after the pandemic

Back in the black with record sales

The Deutsche Bahn Group (DB) is back in the black. Despite the burden on the railway business from the consequences of the pandemic, the Ukraine war and sharply increased inflation, the DB Group closed the 2022 financial year with a significant operating profit. The operating result (adjusted EBIT) improved by around 2.8 billion euros compared to the Corona year 2021 to almost 1.3 billion euros. Group sales (adjusted) grew by 19.1 percent year-on-year in 2022 to around EUR 56.3 billion – a new record. In 2020 and 2021, DB still made billions of euros in losses due to the pandemic.

In addition to strong demand in passenger transport, the key driver of the Group's positive development was once again the very successful logistics subsidiary DB Schenker. In terms of operating profit, it exceeded the record value of 2021 by almost 50 percent, generated the highest operating profit in the company's history at around 1.8 billion euros and has thus brought the group back into the profit zone.

DB boss Lutz: "The demand is right and is currently growing"

In the core business of DB, revenue and earnings in 2022 also improved significantly compared to the previous year. "Climate-friendly mobility is booming. The demand is right and is currently growing strongly. For 2023, there could be a new record number in long-distance transport with well over 150 million travellers. This spurs us on to become better for our customers as quickly as possible - because Germany deserves a railway that is more efficient and punctual," said Dr. Richard Lutz, DB CEO, in Berlin. The key to this is higher capacities, especially in the densely frequented rail network. That's why DB is working hard with its owner and the industry on a fundamental renewal of the infrastructure.

As the coronavirus pandemic subsided, passengers have returned quickly. Around two billion travellers used DB trains in 2022 - a good 40 percent more than in the previous year. DB long-distance even counted around 61 percent more passengers. Last year, it increased its sales by more than two billion euros compared to 2021 to around 4.8 billion euros. DB Regio achieved an increase in sales of around one billion euros. The transport performance in passenger transport by rail also increased significantly in 2022 compared to the previous year: by around 63 percent to around 82.6 billion passenger kilometres. The €9 ticket, which was sold 52 million times across the industry last summer, had a positive effect.

DBCargo increased its turnover, but is still in the red. The rail freight subsidiary suffered primarily from the tense operating situation and additional costs. The railway business as a whole has greatly improved sales and earnings, but remained in the red at minus 600 million euros.

In 2022, the operating performance on DB's densely used rail infrastructure increased by 2.2 percent compared to the previous year to around 1.13 billion train-path kilometres. The network is therefore more heavily loaded than before the pandemic. It's too old, too prone to failure and doesn't have

enough capacity. Because at the same time modernization and construction is taking place across Germany at a record level, DB trains in 2022 were less punctual than ever before: only 65.2 percent of long-distance trains reached their destination on time (2021: 75.2 percent). Bahn boss Lutz said: "The past year marked a turning point. It has become clear to everyone involved: We have to change course and approach the renovation and modernization of the infrastructure in a completely different way."

DB further increased its net investments in the 2022 financial year by 6.4 percent to around 6.8 billion euros. At around EUR 15.4 billion, gross investments, which also include investment grants from the federal government in particular, reached the record level of the previous year. Net financial debt as of December 31, 2022 was around 28.8 billion euros. This is slightly below the value at the end of the previous year.

In 2022, the DB Group's pre-tax earnings improved by EUR 1.73 billion on the previous year to EUR 932 million. Earnings after tax also improved significantly, but remained negative at minus EUR 227 million (2021: minus EUR 900 million, 2020: minus EUR 5.7 billion) due to a sharp increase in tax expenses on the balance sheet.

CFO Holle: "In 2023, watch out for costs in a difficult environment"

Chief Financial Officer Dr. Levin Holle emphasized DB Schenker's extraordinarily positive contribution to the group result. Despite the current market developments with recently significantly lower freight rates in air and sea freight, the logistics subsidiary has shown itself to be in top form. "DB Schenker is a success story and well positioned in all relevant market areas. With its transformation program launched in 2022, the company is consistently pursuing this path. DB Schenker has the potential to deliver very good results in the years to come," said Holle.

The European local transport subsidiary DB Arriva made good progress in its business and was operationally in the black again in 2022.

In the 2023 financial year, the very high energy costs and the significantly increased purchase prices will weigh heavily on DB. In addition, the extraordinarily high freight rates should continue to normalize throughout the logistics industry. Holle said: "In a difficult environment in 2023, we have to make sure that we bring DB's costs and income into a sustainable relationship. This also includes reasonable wage agreements that are



affordable for the company." The aim is to be able to make the urgently needed investments for more capacity and punctuality in the future. To do this, productivity will have to be increased.

DB is expecting an operating loss of around one billion euros in the current financial year, partly due to high inflation and advance payments worth billions for additional infrastructure improvements. Group sales (adjusted) are expected to exceed EUR 56 billion in 2023. Gross investments are expected to exceed EUR 18 billion and net investments to more than EUR 8.5 billion. Net financial debt is likely to increase to over 33 billion euros. All forecasts are subject to great uncertainty due to volatile market developments.

Photo: Annual Press Conference 2023 - Dr. Richard Lutz (CEO of Deutsche Bahn AG) and Dr. Levin Holle (Head of Finance and Logistics at Deutsche Bahn AG) (l/r) Copyright: Deutsche Bahn AG / Max Lautenschläger



Lineas Class 186.292 passes Baambrugge with the Oriënt-Express from Venezia Santa Lucia via Verona, Innsbruck, Aachen and Brussel-South to Amsterdam CS on March 19th. *Erik de Zeeuw*





At the height of Soest, NS International Class 193.759 heads DB carriage set No. 7705 whilst working train No. IC147 from Amsterdam CS (NL) via Bentheim (D) to Berlin Ostbahnhof (D) on February 27th. *Erik de Zeeuw*





Netherlands

BLS Class 475.406 is seen in Venlo with a rake of tankers from Rail Terminal Chemelot Geleen/Lutterade (NL) to Köln Eifeltor (D) on February 5th. *Erik de Zeeuw*



Netherlands

On March 5th, BLS/Crossrail No. DE6312 arrives in Venlo with intermodal service No. 40110 from Il Terminal Intermodale Mortara (I) to Gent-Kluizendok Zuidzijde (B). *Erik de Zeeuw*



Netherlands

On March 5th, GfF Class 110.459 returns to Germany after bringing the Alps Express from Bludenz to Venlo.

Erik de Zeeuw







On March 12th, LTE Class 193.729 named 'Doris' passes Weesp with a Rotterdam Botlek to Bitterfeld tanker service. *Erik de Zeeuw*





Slovakia

With appropriate weather for the first day of Spring, ZSSK broad gauge (1520mm) electrics Class 125.816 and classmate power up the grade through Kalša station with a train of empty wagons heading for Ukraine. Class 125.827 brings up the rear of the train on March 20th. *Andy Pratt*





ZSSK Class 736.104 is stabled at Topoľčany on March 21st, its next booked working being the 15:49 to Nitra. The class 736 no longer has any booked passenger work in Slovakia, however a couple of examples remain on the books at Nové Zámky depot where they see occasional use for unavailable class 861 units. *Andy Pratt*







ZSSK Cargo double electric Class 131.055 runs a short freight westbound through Velký Horeš station on March 20th. Note the retractable catenary on the left OHLE stanchion allowing the contact wire to be pulled clear giving a greater clearance between the wagons and the overhead wire when loading or unloading in the siding. *Andy Pratt*



Slovakia

Železničná Spoločnosť Slovensko, or ZSSK for short, Class 162.007 departs Streda nad Bodrogom with train No. Os8520 13:05 Čierna nad Tisou to Prešov on March 20th. *Andy Pratt*



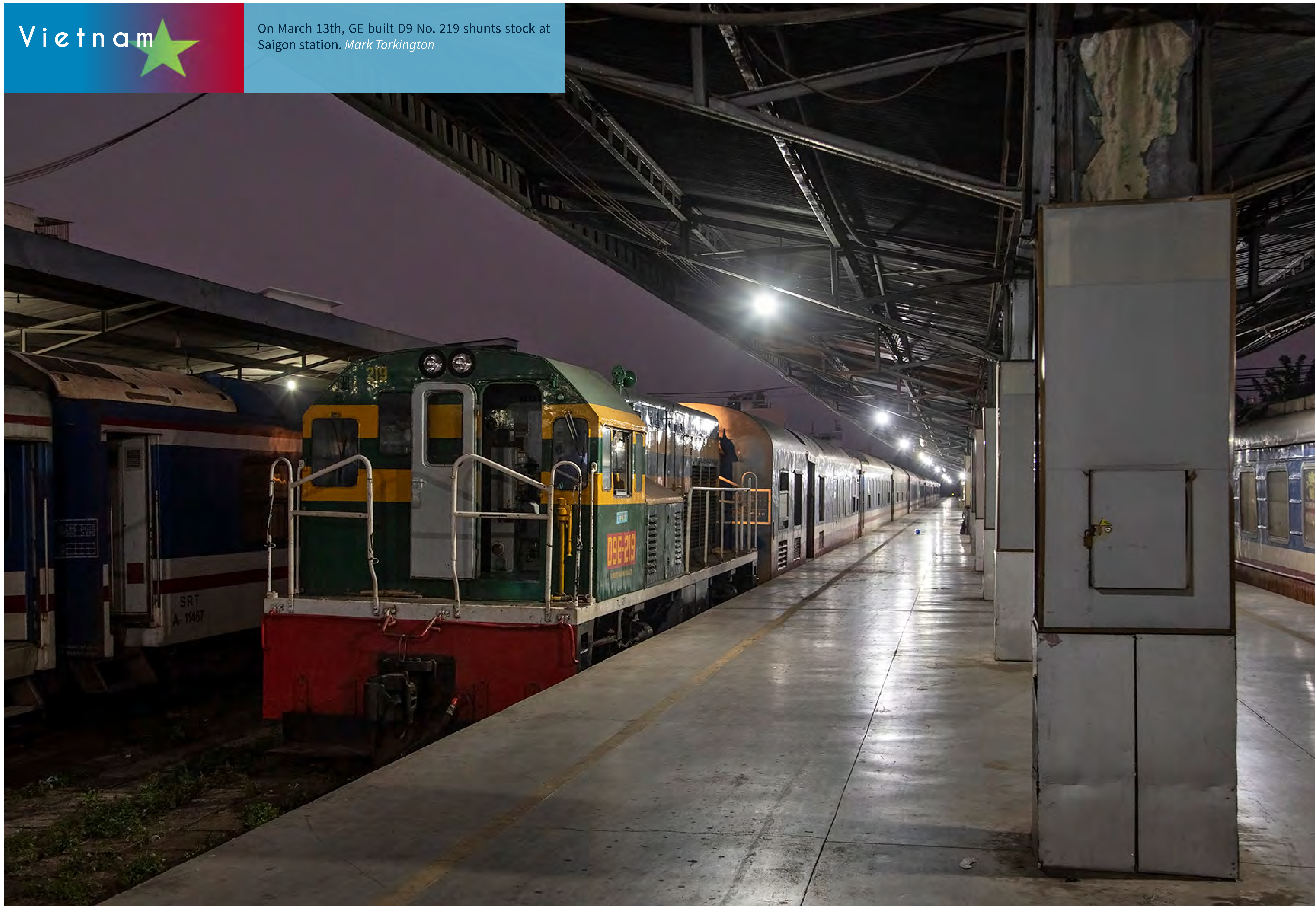
Not really everyone's idea of an international train, but ZSSK railcar Class 813.026 works the cross border service between Slovakia and Ukraine with train No. R962 'Zakarpattia' 11:46 from Košice to Mukačevo. The line from Čierna nad Tisou to Mukačevo via Čop is dual gauge 1435mm/1520mm, permitting the ZSSK railbus to work throughout. Two services per day in each direction maintain the cross border connection. *Andy Pratt*



Slovakia

ZSSK Goggle Class 757.003 powers through Kalša station with train No. REX1905 11:01 Košice to Humenné on March 20th. *Andy Pratt*











Spain



THE REGIONAL GOVERNMENT OF ANDALUSIA AWARDS CAF THE CONTRACT TO MANUFACTURE 6 UNITS FOR THE ALCALÁ DE GUADAÍRA TRAM

The Andalusian Regional Department of Public Works has awarded CAF the supply of six units to provide service on the Alcalá de Guadaíra tram network in Seville. The contract also includes two years of maintenance work on the units, as well as the supply of spare parts for the units.

Five of the trains are intended to provide service on the network in this town, with a sixth unit being available at the depot to provide a service in synchronisation with Seville Metro's Line 1, which it will connect up with at the Pablo de Olavide stop, next to the University that gives the station its name.

It should be pointed out that with this project, CAF now supplies various Andalusian towns and cities with units for their transport network, with Alcalá de Guadaíra joining the list of railway lines where its vehicles are already running, which includes Granada, Málaga, Seville and the Bay of Cádiz.

Spain



Alpha Trains wins new customer in Spain

Alpha Trains supports the rail highway Algeciras-Zaragoza

7 Stadler EURO6000 under finance lease and 4 Stadler EURO4001 under operating lease complete the locomotives for this project

Rail & Truck Strait Union (RTSU), the future operator of the "autopista ferroviaria Algeciras-Zaragoza", and Alpha Trains, Europe's largest leasing company for locomotives and trains, have signed a long-term finance lease agreement for 7 Stadler EURO6000 locomotives.

The EURO6000s will be manufactured entirely at the Albuixech plant in Valencia and delivery of the new locomotives is scheduled between 2024 and 2025.

RTSU was established by CMA CGM (through Continental Rail), Eco Rail and Marcotrans specifically for the operation for the operation of the rail highway. This new line will allow the sustainable and intermodal transport of goods from Algeciras in the south of Spain, one of the busiest ports in the Mediterranean, to Zaragoza in the north of the peninsula and later to Europe.

Based on current volumes and forecasts, it is estimated that the "autopista ferroviaria Algeciras-Zaragoza" will reduce emissions by more than 94,000 tonnes of CO2 per year.

The EURO6000 is a member of the Stadler EURODUAL locomotive family and offers the highest hauling capacity on the European market, enabling the transport of longer and heavier trains and leading to greater profitability

for transport services. In 2020, Alpha Trains ordered its first Stadler EURO6000 and since then, the number of the EURO6000 locomotives in the Alpha Trains portfolio has increased over 50 locomotives.

Fernando Pérez, Interim CEO of the Alpha Trains Group: "We are delighted to have concluded this transaction with RTSU with a leasing solution tailored made to RTSU needs and with the financial support of the subsidies

granted to RTSU by the Spanish Ministry of Transport. The agreement demonstrates our commitment to play a key role in the development and growth of the freight railway market in Spain and to maximise the use of the railway infrastructure."

Iñigo Parra, CEO of Stadler Valencia: "In line with our commitment to greener transport, the EURO6000 was designed to improve the profitability and sustainability

of rail freight services. We are very proud of the opportunities that this locomotive offers to the market, such as the operation of new services like the Algeciras - Zaragoza rail motorway and congratulate Alpha Trains for facilitating its use with tailor-made leasing solutions. We are convinced that the EURO6000 will boost the modal shift from road to rail in the Iberian Peninsula".





Contract signature: Stadler is to supply new long-distance trains to Norway

The Norwegian state-owned railway company Norske tog and Stadler have signed a contract for the manufacture and delivery of 17 FLIRT Nordic Express trains. The contract includes an option for up to 83 additional trains. The new FLIRT Nordic Express are intended for long-distance services throughout Norway from 2026.

In February, Norske tog announced that the contract for the manufacture and delivery of 17 single-decker multiple units had been awarded to Stadler. Following the expiry of the objection period, Stadler and Norske tog signed the contract together. The contract, including options, covers in total up to 100 FLIRT Nordic Express trains with an initial order of 17 trains. Thanks to this contract, Stadler will supply the latest generation of long-distance trains for use throughout Norway. The first FLIRT Nordic Express trains are expected to replace parts of the existing fleet on the Bergen line from 2026.

“Our companies are linked by a long-standing and innovative partnership. Recently Stadler delivered the 150th FLIRT train to Norske tog. The FLIRT train has proven itself as a successful modular concept – even in the harsh climatic conditions in Norway. Stadler is extremely proud to supply the next generation of long-distance trains to Norway – the FLIRT Nordic Express. We would like to sincerely thank Norske tog for their trust in us and we look forward to continuing our mutual success story and working together on this project,” says Dr. Ansgar Brockmeyer, Executive Vice President Marketing & Sales and Deputy Group CEO from Stadler.

“We look forward to continuing our successful partnership with Stadler. The FLIRT trains are already the backbone of the Norwegian railway, and we are certain that the new FLIRT Nordic Express will be an important contribution in making train the most desirable way of travel in Norway. The new FLIRT Nordic Express trains will make the journey to an enjoyable experience, not

just a way of transport”, says Øystein Risan, CEO of Norske tog.

High travel comfort
When developing the new trains, Stadler placed great emphasis on travel comfort – for both day and night journeys. The FLIRT

Nordic Express trains offer seats that are adjustable on both sides, flexible sleeping compartments, bistro and family areas, and ample space for luggage. Passengers can choose between reclining sleeper seats and sleeping compartments with two or four beds. During the day, the sleeping

compartments can be converted into private seating areas for families and business travellers alike. The reclining seats can be used both during the day and at night.
The new eight-car trains offer space for up to 542 seats and can reach a maximum speed

of 200 km/h. Depending on the area of use, the trains can run on an electric or a bi-modal drive. The latter allows operation even on non-electrified lines.
Like Norske tog’s existing FLIRT fleet, the new FLIRT Nordic Express will be manufactured in Switzerland.



Netherlands

Alstom's digital rail control enters commercial service on the Hoekse Line from Rotterdam to Hoek van Holland Strand station

Alstom, global leader in smart and sustainable mobility, is contributing to the last mile commercial launch of the metro Hoekse Line to the Hoek van Holland Strand station, with the delivery of the computer-based interlocking and integrated control system, for faster travel and improved connectivity.

In doing so, Alstom is completing the entire signalling system of a major line of the Rotterdam metro network. The Hoek van Holland Strand station is the last station of the metro Hoekse Line, the last mile was inaugurated this morning in the presence of several authorities and the first passengers. This event marks Alstom's complete delivery

for the Hoekse Line, and is one example of how rail control and signalling technology is contributing to RET's ambitious strategy to maximise rail capacity with improved performance and efficiency of the line. More specifically the Hoekse line will provide a new public transport option to the beach – its direct access will reduce travel time and motivate a shift to public transport.

Bernard Belvaux, Managing Director Benelux says: "We thank RET's engineering and management teams for the strong collaboration in making this project a success. The inauguration of the last mile shows the reliability of Alstom's signalling

solutions and the know-how of our teams to deliver safety systems for urban mobility."

Johan Taal, Manager Strategische Programma's & Projecten of RET stresses: "This last mile is central in our strategy for our passengers ensuring their transport to an emblematic place like the beach. Signalling is an important component of this mobility project."

Alstom has delivered software that manages 30 safety sections and one technical room. The system has been installed by a project team of over 25 engineers and technicians from Utrecht and Katowice (Poland), in

close coordination with the RET project management team in Rotterdam.

In addition to the signalling system installed, Alstom is managing the maintenance of the total Hoekse Line, providing 24-hour assistance to RET, including preventive and corrective activities.



Eire

Alstom and Irish Rail reveal full-size model of DART+ carriage in Dublin

Alstom, global leader in smart and sustainable mobility and Irish Rail have together unveiled a 1:1 scale mock-up carriage for DART+ to the Irish public in the presence of Irish Minister for Transport Eamon Ryan TD, Jim Meade (Irish Rail's Chief Executive), Nick Crossfield (Alstom UK & Ireland Managing Director) and Piers Wood (Alstom Ireland Managing Director). The event was held at Irish Rail's Inchicore works in Dublin, where this mock-up carriage, based on Alstom's X'trapolis commuter train platform, gave the assembled audience a firm indication of what Greater Dublin's new DART+ trains would deliver for its passengers.

Alstom has a ten-year framework agreement with Irish Rail for up to 750 new X'trapolis commuter rail cars for Ireland's DART network, with firm orders for 37 five-car X'trapolis trains including a 15-year support services contract. 31 of the ordered trains are battery-electric multiple units (BEMUs) while six are electric multiple units. The new trains will deliver more capacity and decarbonisation benefits to the local community of Greater Dublin. Nick Crossfield, Managing Director Alstom UK and Ireland said: "We are delighted to be able to show Irish Rail and the Irish public their new DART+ train in the flesh. The trains demonstrate Irish Rail's intention to move quickly to decarbonise the commuter

network in Greater Dublin, Ireland's most populous suburban area. As a global leader in innovation and provider of green mobility solutions, Alstom is there to help Ireland bring transformative change to its citizens through sustainable rail transport."

Chief Executive of Irish Rail Jim Meade said: "Thanks to input from our customers and drivers, and the work of the Irish Rail and Alstom teams, we can now experience what the future of DART+ transport will be like. The sample carriage we see on display is modern, comfortable and customer centred and we look forward to having these carriages in use on our network serving new and existing communities for generations to come."

DART+ is the transformative programme that will ensure train travel is at the heart of Ireland's sustainable transport network. Funded under the National Development Plan by the National Transport Authority, DART+ is an investment that will double the capacity and treble the electrification of the Greater Dublin Area network, facilitating sustainable mobility and development to enhance quality of life in the capital and its surrounding counties.

What X'trapolis offers DART+ passengers

Alstom's modular X'trapolis commuter train is highly successful, with over 6,000 railcars sold worldwide. The trains for Dublin are specially tailored for the DART+ programme. Each 82-metre DART+ train will have space for 550 passengers with wide, walk-through gangways, low-level floor, and an automatic retractable step to maximise accessibility for all passengers. Other features include dedicated cycle and family areas, enhanced passenger features such as charging facilities for mobile phones helpfully placed at shoulder level as well as for e-bikes and e-scooters; and advanced CCTV systems throughout the train, to enhance safety and security for customers and employees.

The ten-year framework agreement allows for up to 750 electric and battery-electric rail cars to be procured for the DART+ network. In addition to the fleet, Alstom will provide a range of services solutions, including a Technical Support and Spares Supply agreement for the first 15 years of the fleet's operation, deploying its HealthHub and TrainScanner technologies for predictive maintenance, and providing three train simulators to support driver training. The expansion of the DART fleet as part of the DART+ Programme is funded by the National Transport Authority under the National Development

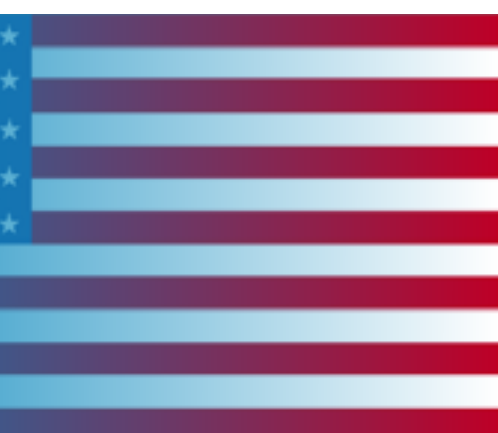
Plan 2021-2030.

The 37 trains with 31 five-car battery-electric multiple units (BEMUs) ordered will be capable of journeys of more than 80 kilometres outside the electrified DART network under pure battery power, thereby taking older diesel rolling stock off those non-electrified lines. These X'trapolis trains will comprise the first modern battery fleet in Ireland, contributing to the widening of Ireland's carbon reduction efforts through public transport.

Energy stored in the battery system will be replenished via fast charging stations at chosen terminus locations and by recovering braking energy while the new battery-electric trainsets are on the move.

Alstom is the pioneer of sustainable and smart mobility with a full portfolio of green mobility solutions, including the world's first hydrogen train, the Coradia iLint, which is already in passenger service in Germany as well as battery electric trains already sold in Germany (Coradia Continental BEMU).

U.S.A.



Alstom signs a seven-year operations and maintenance services contract with Newark Liberty International Airport

Alstom, global leader in smart and sustainable mobility, has signed a contract with the Port Authority of New York and New Jersey and Newark Liberty International Airport to provide operations and maintenance services for its Innovia monorail system, known as AirTrain Newark, for the next 7 years, until January 2030. The contract is valued at approximately €250 million and includes an option for one additional year.

Under the agreement, Alstom will be responsible for 24-hour train operations and dispatching, maintenance of the vehicle fleet, station doors, guideways, power distribution systems, car wash, signalling system and facilities. The fleet is composed of 15 Innovia monorail trains, of six cars each, serving six stations, including the new Terminal A, along the nearly three miles of elevated guideway. The system not only operates between the airport's terminals but also connects the airport with rental car facilities, hotel shuttles and central parking lots, as well as with other transit systems and services such as New Jersey Transit and Amtrak. Last year, nearly 10 million passengers rode the AirTrain, with an average daily ridership of around 26,000 travellers and airport employees. To accommodate the high passenger volumes, the system operates 24/7, 365 days a year. Full automation of the system provides improved safety,

high reliability, higher capacity with shorter headways between trains, and lower maintenance costs.

“We are proud of our continued partnerships with the Port Authority of New York and New Jersey and with Newark Liberty International Airport,” said Michael Keroullé, President of Alstom Americas. “Our industry-leading Innovia airport system has been moving travellers and employees between terminals at Newark Airport safely and reliably since 1996. Building upon the knowledge gathered over more than 25 years and our worldwide leadership of operation and maintenance of automated transit systems, our service delivery team will continue to focus on maintaining the AirTrain Newark’s high-performance levels and supporting the best possible passenger mobility experience at the airport.”

Alstom Services

With over 50-years of experience and a global system availability of 99.5%, Alstom offers best-in-class system maintenance solutions, covering trains, signalling and railway infrastructure, (track, catenary, power supply and telecommunications), allowing for greater system availability and continuous safe operation of all assets. As the number one private operator in North America, Alstom offers a wide range of state-of-the-art scalable

train operation solutions for both passengers and asset owners: from driver support to ticketing, scheduling, and timetable optimisation. The Group operates all types of fleets for Alstom and non-Alstom rolling stock, and offers both fully automated and manual train operations, with train crew and station staff optimisation.

Alstom has more than five decades of experience designing, building, operating and maintaining automated transit systems for airports and cities in North America, Europe, the Middle East, and Asia. In the United States, Alstom supports automated transit systems in Atlanta, Chicago, Dallas/Fort Worth, Denver, Las Vegas, New York, Newark, Orlando, Phoenix, Pittsburgh, Sacramento, San Francisco, Seattle, Miami, Tampa, and Houston. Alstom is also part of the LAX



Integrated Express Solutions (LINXS), system under construction at Los Angeles International Airport. As a mobility technology leader in the U.S., Alstom is committed to not only delivering safe and reliable mobility solutions but to increasing social equity and inclusion within the industry, and as such, works diligently with and develops local supply chains to develop regional economies.

Spain



Malaga Metro reaches the city centre thanks to Alstom’s CBTC signalling technology

Alstom in Spain signalling teams have equipped the entire Malaga Metro network with CBTC technology, including the recently inaugurated extension to the city centre.

With this new section’s entry into service, Malaga Metro will double its capacity, from around 7 million passengers to 14 million passengers per year.

The operator Metro de Málaga has inaugurated the new extension of the Malaga Metro network, which now arrives to the city centre. Alstom was the chosen partner to develop the CBTC signalling technology which, like the rest of the network, equips this new section.

With two new stations (Guadalmedina and Atarazanas) and 1.7 kilometres of lines, this is a strategic extension

for the city’s mobility. It connects the most populated districts with the historic centre, and facilitates intramodality with other modes of transport (intercity buses, commuter trains and AVE). It is expected that, with the entry into service of this new section, the current user demand will double, from around 7 million passengers to 14 million passengers per year. Metro de Málaga currently has two lines, with a total length of 13 km and 19 stations.

Since its inauguration in 2014, Metro de Málaga has been equipped with Alstom’s CBTC Urbalis 400 signalling technology, an advanced train control signalling system. Thanks to a radio communication system, it enables the location of trains to be shared in real time, improving the operability and capacity of the network.

This solution has been successfully implemented in more than 30 cities around the world. The system, which is constantly updated, offers a considerable range of functions that improve interval performance and average speed.



India



Alstom commences production of rolling stock for Bhopal & Indore metro project at Savli

Alstom, global leader in smart and sustainable mobility, has started production of the ultramodern, light-weight Movia metro passenger trains for the Bhopal and Indore metro projects. As per the contract awarded by Madhya Pradesh Metro Rail Corporation Limited (MPMRCL) in July 2022, Alstom will design, manufacture, supply, instal, test, and commission 156 Movia metro cars with 15 years of comprehensive maintenance. This project will benefit over 5.7 million people in both these cities.

Shri Bhupendra Singh, Hon'ble Minister, Urban Development & Housing, Government of Madhya Pradesh and Shri Neeraj Mandloi (IAS), Principal Secretary, Urban Development & Housing Department

virtually joined the commencement ceremony that took place in the presence of Shri Manish Singh (IAS), Managing Director, MPMRCL and other senior officials from MPMRCL and Olivier Loison, Managing Director Alstom India, at Alstom's state-of-the-art rolling stock manufacturing facility in Savli (Gujarat).

Speaking at the occasion, Shri Bhupendra Singh, Hon'ble Minister, Urban Development & Housing, Government of Madhya Pradesh said, "I congratulate both Alstom and MPMRCL teams on this milestone. We trust the expertise that Alstom brings in and look forward to having the trains with world-class technology run in the cities of Indore and Bhopal soon."

Of the 52 trainsets of 3-car configurations each, 27 trainsets will be for Bhopal and 25 trainsets for Indore. These trains are capable of operating at a top speed of 80 km/h, across the 31 km line in Bhopal with 30 stations and the 31.5 km line in Indore with 29 stations. This is the second such combined order in India for Alstom, after the Agra-Kanpur metro projects.

"Alstom is committed to providing a world-class efficient and sustainable mass transport system that caters to the special needs of the residents of the cities of Bhopal & Indore. We have designed these trains in record time and are commencing 100% indigenous manufacturing at Savli. Alstom is a proud partner in India's transition towards

green and clean public mobility and we are honoured to collaborate with MPMRCL for this prestigious project," said Oliver Loison, Managing Director, Alstom India.

Valued at €387 million (over INR 3200 crores), the order includes installation of the latest generation of Communications Based Train Control (CBTC) signalling system as well as train control and telecommunication systems; each with seven years of comprehensive maintenance.

Alstom India has a history of successfully delivering world-class metro trains for major cities, including Delhi, Chennai, Mumbai, Lucknow, Kochi in India and internationally for Sydney, Queensland, and Montreal. With

six industrial sites, four engineering centres, and over 10,000 employees, Alstom has a strong footprint in India to cater to domestic as well as several international projects. The company is currently manufacturing metro trains for Agra-Kanpur, and Mumbai Metro Line 3, and modern trainsets for India's first semi high-speed Delhi-Meerut RRTS project.

Philippines

Alstom-led consortium to provide integrated railway system for the Philippines' North-South Commuter Railway Extension Project

Alstom, global leader in smart and sustainable mobility, has been awarded by Mitsubishi Corporation a contract to provide an integrated railway system for the extension of the North-South Commuter Railway project (NSCR) in the Philippines. The iconic project executed by an Alstom-led consortium with Colas Rail will transform mobility between Metropolitan Manila and the suburban areas in Luzon, making it faster, more reliable and more sustainable.

Alstom will be responsible for the system integration, signalling and telecommunication, power supply, automated fare collection system, platform doors, maintenance systems and depot equipment, as well as control centre and training. It will in particular deploy a European Rail Traffic Management System (ERTMS) level 2 signalling system for the first time in Southeast Asia, using its proven Atlas™ 200 European Train Control System (ETCS). Colas Rail will lead for the track work and overhead contact line system.

"We are excited to be partnering with the Philippines, Mitsubishi Corporation and Colas Rail to pioneer the



implementation of Southeast Asia's first ETCS level 2 system for the NSCR Extension. This project not only solidifies our market leadership in the region but is also a bold step in the country in achieving an integrated rail network that applies advances in mainline signalling for more efficient and sustainable mobility," said Ling Fang, President of Asia Pacific at Alstom.

This project is one of the several major "Build, Better, More" infrastructure under way in the Philippines to

boldly extend the reach of its railway network. Financed by the Japan International Cooperation Agency, the extension involves 27 new stations spanning 110 kilometres, comprising a 55-kilometre southern section from Tutuban to Calamba, the Province of Laguna, as well as a 51-kilometre northern section from Malolos to Clark International Airport, the Province of Pampanga. Upon completion by 2029, the NSCR Extension will greatly improve the connectivity of the neighbouring communities, facilitating residents to travel safely

between Metro Manila and the suburban areas by railway direct. The project will also see Alstom contributing deeply to the local economy by sharing its technology know-how and skills in the design, manufacturing, installation, testing, commissioning and integration of various railway systems.

With over 50 years' experience and 80 systems in commercial service globally, Alstom is a trusted partner for delivering integrated turnkey rail systems customised for every mobility need. Alstom is the worldwide number one in on-board ETCS equipment via its Atlas solution, representing 70% of the on-board systems in service in ETCS level 2. This ETCS technology brings significant benefits in terms of interoperability, safety, system capacity, service reliability and energy efficiency. Today, across 30 countries, trains under Atlas supervision have covered over 250 million kilometres, including Deutsche Bahn's high-speed ICE3 fleet recently equipped in Germany.

[1] Alstom's contract share is worth approximately €1.1 billion and booking is expected during FY 2023/24.

India



Alstom delivers 300th WAG 12B electric locomotive to Indian Railways from Nagpur Depot

Alstom, global leader in smart and sustainable mobility, has successfully delivered 300 electric locomotives to the Indian Railways. This marks a significant milestone in increasing the Indian Railways' capabilities to haul heavy freight trains at high speed, to meet its ambitious freight targets. As part of its contract worth €3.5 billion, Alstom is supplying 800 high-powered double-section locomotives of 12,000 HP (9 MW) for freight service. Designated by Indian Railways as WAG-12B, these locos are capable of hauling ~6,000 tonne rakes at a top speed of 120 km/hr. Marking the milestone delivery, the 300th e-loco was flagged off from Alstom's state of the art locomotive maintenance depot in Nagpur, which was inaugurated by the Hon'ble PM Shri Narendra Modi in December of last year. This milestone was celebrated in the presence of Shri Naresh Lalwani, General Manager, Central Railway, and senior officials from Alstom, along with other key dignitaries from Indian Railways.

Addressing the audience, Shri Naresh Lalwani, General Manager, Central Railway, said, "Indian Railways is undergoing a massive transformation in its freight operations and Alstom's contribution in powering this revolution is commendable. The Joint Venture formed between Indian Railways and Alstom, to build India's most powerful electric locomotives for freight service is a stellar example of a successful Public Private Partnership model, it will play a key role in accelerating the growth of the freight sector. The world-class facility built here, and the quality of products and services delivered by Alstom, are well aligned with the Government's 'Make in India', 'Skill India', and green mobility initiatives. This combined with the workplace culture nurtured by Alstom, will

definitely set new benchmarks for our industry".

Commenting on the milestone, Olivier Loison, Managing Director - Alstom India said, "The Government of India is prioritizing reducing logistics costs in its efforts to boost the economy towards the USD 5 trillion economy target. Indian Railways will play an important role in achieving this goal, and for that it needs to strengthen its haulage capacity. The Alstom WAG12B electric locomotive has proven to be a capability multiplier, with its ability to haul greater loads at faster speeds. The 300th loco delivery is a proud milestone for us, and as we continue to deliver more locomotives, this partnership will continue to boost the nation's logistic capabilities."

As part of the contract, Alstom's Nagpur Depot will be maintaining 250 WAG12B e-loco starting from series 60251. This depot is equipped with the latest technologies and features to anticipate breakdowns thereby enabling proactive maintenance of India's most advanced freight locomotives at significantly lower costs. The depot has 12 tracks for maintenance with hi-tech equipment. The depot is equipped with Centred Fleet monitoring (CFM) system to remotely monitor the fleet via Health hub and Train Tracer system. The Prompt Response Team (PRT) is deployed for 24 x 7 loco attention. Green features like rainwater harvesting, zero discharge using effluent treatment plant and sewerage treatment plant, 100% LED lights, daylight panels, occupancy sensors, greenery and provisioned for 1 MW rooftop solar plant. This is the second such facility set up by Alstom, after the depot at Saharanpur, Uttar Pradesh, which houses the first 250 locomotives delivered to Indian Railways.

Nagpur Depot completes 7 months+ of operations and records 1.6+ Million service defect free kilometres for the Nagpur Fleet. The site is a success story for the Public Private Partnership (PPP) model, where supervisors are from Alstom and technicians from Indian Railways. The WAG-12B locos are being built at one of India's largest integrated greenfield manufacturing facilities at Madhepura (Bihar), under a Joint Venture between Alstom and Indian Railways.

This is the largest Foreign Direct Investment project in the Indian Railway sector. The facility has an installed production capacity of 120 locomotives per annum and Alstom has progressively achieved near 90% indigenization. With these powerful e-Locos being manufactured within the country, India has become the 6th in the world to join the club of countries producing high horsepower locomotives indigenously. The WAG-12B locomotives made its inaugural run on the first fully operational sections of the Dedicated Freight Corridors two years ago. Some of the key commodities moved by these e-Locos include - coal, cement, food grains, fertilisers, petrochemical products, minerals, and posts/ parcels, across 17 States & 2 Union Territories. Equipped with Insulated Gate Bipolar Transistors (IGBT) based propulsion technology, these e-Locos will have considerable savings in energy consumption with the



use of regenerative braking. The technology is also helpful towards making the acceleration process more efficient by reducing the heat generation and traction noise. Additionally, it will not only bring down operational costs, but also reduce the congestion faced by Indian Railways. Alstom has been associated with India's progress for over 100 years. As the leading multinational sustainable mobility provider in India, Alstom offers a comprehensive portfolio of offerings to meet customer specific needs, from cost-efficient mass-market platforms to high-end technological innovations. Synonymous with the country's 'Rail Revolution', Alstom continues to be a strategic partner in supporting India's freight revolution and passenger movement. Alstom™ and Prima T8™ WAG-12B are protected trademarks of the Alstom Group.

Spain

RENFE RENEWS TRUST IN CAF AND AWARDS CONTRACT TO SUPPLY 29 COMMUTER TRAINS

RENFE has reported that its Board of Directors has placed an order with CAF for the supply of 29 commuter trains. The contract, which also includes the supply of the relevant spare parts, is worth almost €200 million and includes eventual options to extend its scope in the future, including the manufacture of an additional 9 complete trains, and additional cars that can be used to extend the units in the base contract. This new project stems from the major investment plan pursued by

RENFE in recent years, the main goal of which has been to update a significant portion of its train fleet, with a clear commitment to incorporating more efficient and sustainable units. It is also the third contract awarded to CAF within this modernization plan, which after this new agreement raises the company's turnover with the operator above 750 million euros.

The trains to be manufactured by CAF will have a 4-car

basic configuration, boasting a capacity for over 500 passengers. They will also be fitted out with state-of-the-art technology and on-board passenger accessibility and comfort features, designed to facilitate access for people with reduced mobility and systems that make journeys more comfortable for visually or hearing impaired passengers.

This is an important awarding for CAF this year, since

2022 when the company secured an unprecedented amount of contracts worth in excess of €6 billion, which resulted in a year-end order backlog of over €13 billion, the highest figure ever achieved in CAF's long history. Accordingly, the Group is commencing this newly launched strategic period with an optimistic outlook; a period that includes a series of ambitious goals in terms of both growth and profitability for 2026.

Brazil



VLI Signs Contract for Nine Wabtec Locomotives

Locomotives will join the company's premium fleet to transport cargo on the Ferrovia Centro-Atlântica

VLI – a logistics solutions company that operates ports, railways and terminals – have signed a contract for nine Wabtec Evolution Series locomotives (ES43BBI model), which will join the company's premium fleet for the transport of cargo on the Ferrovia Centro-Atlântica (FCA). The order, valued at approximately R\$200 million, represents another investment by VLI in the national rolling stock industry. The first locomotives are expected to be delivered in about 18 months.

The new locomotives meet the increased demand for cargo transport in the company's Central-East corridor, through which freight from the steel industry, agribusiness, coal, fertilizers, fuel, and cellulose are shipped towards the port system of Espírito Santo. Those shipments include a recently signed 30-year contract with LD Cellulose to transport dissolving pulp. VLI will move 500,000 tons of material produced in the Triângulo Mineiro to the port of Barra do Riacho (ES) each year.

“The signing of this contract reinforces our commitment to customers who transport

their cargo with VLI on the Ferrovia Centro-Atlântica and our team's ability to co-create solutions to generate efficiency. It is also important to remember that the early renewal of the Ferrovia Centro-Atlântica concession contract will bring new increases in cargo volumes and, consequently, more incentives for national wagon and locomotive manufacturers”, says Fábio Marchiori, interim CEO of VLI and director of Finance, Supply Chain and Company Services.

For the LD Cellulose contract, the company invested R\$400 million in wagons specially designed to transport dissolving pulp.

Expansion of load in Espírito Santo

In addition to the flows recently started by the company, such as LD Celulose, VLI is studying new investments and opportunities to increase the volumes transported to the ports of Espírito Santo. An example of this is the recent announcement of a memorandum of understanding with Vports (formerly Codesa) for expansion works at the new Port of Vitória, with the aim of increasing the volume of cargo transported through the site. The document assumes that the studies to be carried out jointly may conclude that there is an opportunity for investments in railroads, ports, and terminals of up to R\$200 million.

The study estimates an increase of about 5 million tons of mineral and vegetable solid bulks to the current cargo matrix in the State's import and export flows. To handle this increase in transported volumes, VLI also will analyze the need to acquire new wagons and locomotives. Now, VLI moves about 25 million tons per year in the ports and railroads of Espírito Santo, with cargo that travels along the Centro-Atlântica Railway, in Minas Gerais, and the Vitória-Minas Railway, where VLI operates by right-of-way, to access the ports of Espírito Santo. The current port operation is concentrated in the Praia Mole, Granéis Líquidos and Produtos Diversos, installed in the Complexo Portuário de Tubarão. However, the company believes in the growth of this corridor and is studying new public and private port opportunities in Espírito Santo.

About the Locomotives

The ES43BBI is a heavy-haul locomotive specifically designed for 1,000-mm gauge railways in Brazil. It is equipped with a powerful 12-cylinder, 4500-horsepower Evolution Series engine and eight powered axles designed to operate in Brazil's extreme environments. Along with the service-proven Evolution Series engine, the ES43BBI boasts a technologically advanced AC-traction system with individual axle control and

robust articulated trucks. The locomotive also is equipped with a redesigned air-to-air system and extra blowers directly integrated onto the traction motors. It also provides lower lifecycle costs due to improved fuel efficiency, lower emissions, and reduced parts wear. The locomotive also features the RailConnect™ 360 software solutions, including Trip Optimizer, LOCOTROL® Distributed Power System, PTC, and PTC 2.0, which further increases efficiency, safety, and optimizes train driving.

“The Wabtec ES43BBI was developed in Brazil, by Brazilian engineers to focus on increasing productivity, efficiency, reducing fuels, and emissions for railroads that operate in metric gauge,” said Danilo Miyasato, President and Leader of Wabtec LatAm. “Given the challenges posed by the metric gauge and national logistics, Wabtec combined VLI's needs with the most innovative AC locomotive technology. Today, there are more than 50 locomotives of this model in operation in the country with high levels of reliability and availability.”

Central-Atlantic Railroad

The Centro-Atlântica Railroad runs through seven Brazilian states, transporting wealth from different segments, such as agribusiness, steel, and civil construction to supply the domestic and foreign markets.

The early renewal of the FCA concession, currently under way by the regulatory bodies, could mark a new cycle of growth, investments, and contribution to the national railway industry, due to the acquisition of new wagons and locomotives to transport the expected increase in load, providing an even broader and more efficient service to customers.

About VLI

VLI is committed to supporting the transformation of logistics in the country, through the integration of services in ports, railways and terminals. The company encompasses the Norte Sul (FNS) and Centro-Atlântica (FCA) railroads, in addition to intermodal terminals, which link the loading and unloading of products to rail transport, and port terminals located in strategic axes along the Brazilian coast, such as in Santos (SP), São Luís (MA) and Vitória (ES).

For three consecutive years in the 100 Open Corps ranking – which recognizes the stimulus to open innovation –, VLI transports the riches of Brazil through routes that pass through the North, Northeast, Southeast and Midwest regions.

Hungary

CAF SECURES NEW ROLLING STOCK EXTENSION FOR THE BUDAPEST TRAM

Through BKK, the company in charge of transport management in the Hungarian capital city, Budapest has enforced a new option provided for in the initial contract to extend the number of units supplied. In this case an additional 31 trams will be supplied, 26 of them consisting of 5 modules and another 5 of 9 modules. These will include the supply of additional equipment and services.

CAF secured its first contract with BKK in 2014. This

consisted of the supply of 37 units with the option to increase the number of units in possible future extensions. Since then, the customer has already implemented some of these options, having already received an additional 36 units, all of which are currently in revenue service. In addition to these, a further 20 units, which were awarded at the end of last year and currently being designed and manufactured, will be supplied.

These are low-floor vehicles, which facilitate access

for people with reduced mobility, wheelchairs and pushchairs, and are designed to operate at a service speed of 50 km/h. The five-module trams span a total length of 34 metres and have a capacity for up to 326 passengers, whilst the nine-module units, which span a total length of 56 metres, can carry up to 562 passengers, making it one of the longest in the world.

It should be pointed out that the capital city of Hungary was one of the first cities to implement this means of

urban transport, and currently boasts an extensive network consisting of almost 40 tram lines, some of which transport the highest annual volume of passengers in Europe. This lends weight to the fact that the city is once again placing its trust in the CAF Group, and it must also be noted that besides from the aforementioned trams, a significant amount of Solaris trolleybuses are currently operating in the Magyar capital. Specifically, this client has placed orders for a total of more than 108 Solaris Trollino vehicles since 2014.

Italy

Stadler and Trenitalia sign a framework agreement for the supply of up to 50 bi-mode locomotives

Stadler and Trenitalia have signed a framework agreement for the supply of up to 50 EUROLIGHT Dual locomotives with a first call-off order for 13 units. The agreement also includes the full service maintenance of the locomotives for a period of 10 years, extendable to a further 5 + 5 years.

The Italian national rail operator Trenitalia awarded Stadler the tender launched in 2022 for a 4-year framework agreement for the supply and maintenance of bi-mode (3kV DC + diesel) locomotives. The new

locomotives will be deployed all over the Italian railway network for train rescue and passenger push-pull operations. They reach a maximum speed of 160 km/h and are based on EUROLIGHT 4-axle locomotive platform.

As the newest member of the Stadler's EUROLIGHT family, the new locomotives share with the rest of the platform the compact design and lightweight monocoque structure, as well as the latest bogie technology. They are characterized by high performance, low weight, and reduced axle-

load that will not exceed 20 tonnes/axle, making them suitable for running on both main lines and secondary lines.

They incorporate the ETCS B3R2/ SCMT / SCC safety systems and combine diesel and electric traction, allowing Trenitalia to use them throughout the entire Italian network - RFI. The locomotives will be able to rescue up to two coupled ETR1000 trains on a 21 ‰ stretch, which represents the most unfavorable condition in Italy for this kind of operation.

Innovative design features include regenerative braking with energy recovery, an efficient AC traction system with one inverter per axle providing a high level of redundancy and increased reliability, the HEP system to supply energy to the train, as well as the possibility to install either a UIC or an automatic coupler.

Trenitalia's new EUROLIGHT Dual locomotives also offer excellent comfort, safety and visibility for train drivers.

Iñigo Parra, CEO of Stadler Valencia said: "We are very proud of this contract with Trenitalia. The EUROLIGHT family of universal locomotives have a multitude of applications and can run on all types of lines. The innovative and cost-effective solution will provide environmentally friendly rail transport services and meet the demands of Trenitalia reliably, efficiently and productively".

Spain

Stadler to supply the new trams in Alicante and Valencia

Stadler and FGV have signed a contract for the supply of 16 modern TRAMLINK low floor trams with the possibility of extending the order by a further 12 vehicles, in two batches of six units. The contract value amounts to 84.3 million euros. The lead time for the production of the 16 units has been set at 32 months. The new 4500 series trams for FGV will be designed and manufactured by the Stadler plant in Albuixech. The units will be incorporated into the fleet of Metrovalencia and TRAM d'Alacant, to cover the needs arising from the expansion projects planned in the coming years.

Iñigo Parra, CEO at Stadler Valencia, said: "We are very proud that FGV, strongly committed to green and sustainable mobility, has chosen our TRAMLINKs for its expansion projects planned in Alicante and Valencia. The highly innovative tram family set trends in terms of performance, universal accessibility, comfort and safety".

TRAMLINK is a versatile and accessible light rail vehicle family, customizable to fit any network requirements and mobility demands. The multi-articulated 100% low-floor vehicle features innovative steering bogies with real axles, and very low unsprung masses, which provide a quiet and smooth ride, with low ground vibration and noise emissions and a maximum seating capacity above the bogies, without the need for ramps or steps. Its barrier-free, bright, pleasant and custom-

designed interior ensures safe and comfortable travel. Recently, local operators in Lausanne and Geneva also chose vehicles from the TRAMLINK family to expand and improve the mobility offer in their respective cities.

FGV's new metre-gauge trams are above 45m long and 2.4m wide. They will be fully accessible and will have spacious multipurpose areas next to the doors, with

places reserved for people with reduced mobility. They will provide greater capacity and fast and efficient passenger transit when boarding and alighting the vehicle. The TRAMLINKs have been designed in accordance with the latest standards for passive safety, crash safety and pedestrian safety, such as compliance with the CIII scenario of the crash regulations, whereas the normal scenario for trams is the less demanding C-IV

scenario.

They will also incorporate modern passenger information and video surveillance systems, an efficient air conditioning system and other innovations that optimize the travel experience and thus, contribute to increasing the use of public transport.



First new Barcelona Metro trains enter into commercial service

Alstom's new trains for the Barcelona Metro operator TMB (Transportes Metropolitanos de Barcelona) have entered commercial service on line 3. The 50 new metro trains will replace the Barcelona Metro lines 1 and 3 fleet. Following the commissioning of this first train on line 3, the plan is to gradually replace the current fleet over the coming months. All the trains are being manufactured at Alstom's industrial site in Santa Perpètua, Barcelona.

These new, more sustainable, efficient and accessible trains are part of a contract awarded to Alstom in October 2019 to supply 50 new metro trains, from the Metropolis family, for nearly €320 million.

During the commissioning of this first train, TMB President Laia Bonet said, "With these new trains, we are improving the service by offering more comfort and accessibility, and we are also moving towards a more sustainable mobility thanks to their lower energy consumption. They are also more accessible with wider doors and corridors, and we are very aware that this is a good solution for the mobility of everyone in our society, in our city."

"It is an honour that TMB has once again trust in Alstom and our site in Catalonia to develop its latest generation of metro trains, that are at the forefront in terms of safety, sustainability, technology, accessibility and comfort. We share with TMB its commitment to social responsibility, for a sustainable future in the economic, social and environmental fields," emphasises Leopoldo Maestu, President of Alstom Spain.

More sustainable and accessible trains

The new trains are based on the experience and reliability of Alstom's Metropolis range, while incorporating new innovations and technological solutions, with special emphasis on sustainability and accessibility. Thus, the trains feature a lightweight structure, low energy consumption,

technical reliability, ease of maintenance and improved air filtration. Accessibility conditions are also included to comply not only with current Spanish and Catalan regulations, but also with the guidelines of neighbouring countries. The five-car trains are equipped with remote control and sensors to manage rolling stock maintenance.

Compared to the current trains, the new rolling stock also stands out in terms of digitalisation, with new information systems, more digital screens and real-time video surveillance cameras, low noise levels and the availability of USB ports for charging mobile devices. Other innovations of the new trains are the ease of access, the

lighting (100% LEDs), as well as the interior design ergonomics.

Metropolis is Alstom's metro solution, available with driverless systems. Metropolis trains feature low noise levels, high recyclability and optimised energy efficiency to minimise environmental

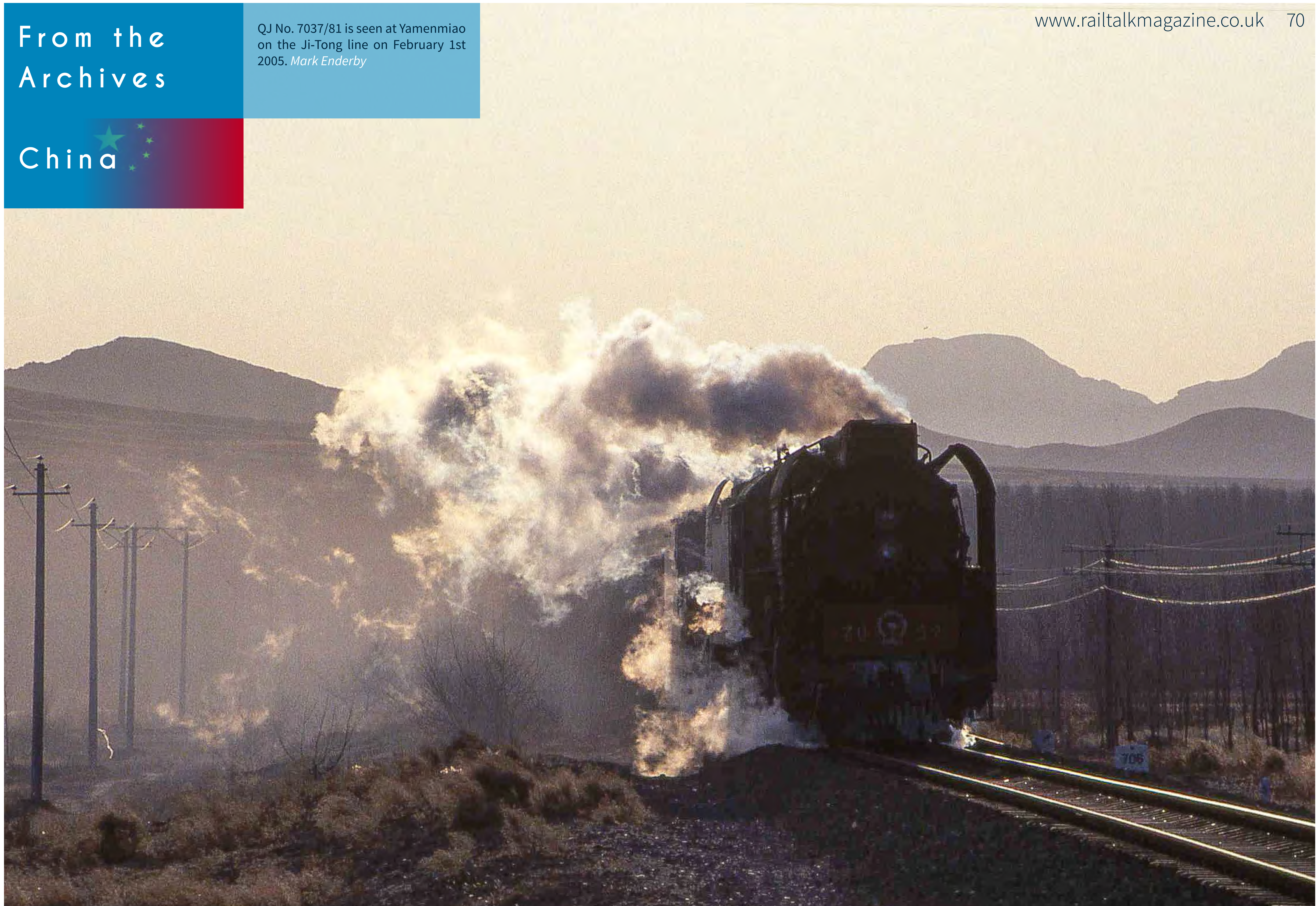
impact.

More than 30 cities worldwide have ordered or operated Metropolis trains, including Amsterdam, Singapore, Panama City, Barcelona, Paris, Riyadh, Dubai, Sydney and Montreal.



From the Archives

QJ No. 7037/81 is seen at Yamenmiao on the Ji-Tong line on February 1st 2005. *Mark Enderby*



From the Archives

SNCF 'Vespa' No. 9509 from Avignon has reached Paris and is seen at Villeneuve St. Georges depot on November 2nd 1991. *John Sloane*

France



From the
Archives

Germany

DB Class 202.269 approaches Bad
Nonigem on May 8th 2005.
Mark Enderby



From the
Archives

Germany

Railion's former DR Class 155.223 is seen passing Oberhausen West on July 9th 2013. *John Sloane*



From the Archives

Germany

SBB Cargo Class 482.017 passes Dresden Freiberger Strasse on April 23rd 2008. *Mark Enderby*



From the Archives

Germany

OBB Class 2016.076 with a Muldorf to Munich service is seen at Weidenbach on April 11th 2011. *Mark Enderby*



From the Archives

Germany

DB steam loco No. 41.018 is seen hauling a log train at Breba on May 1st 2010. *Mark Enderby*



From the
Archives

A battered MAV V63.143 is seen at
Budapest Keleti on September 11th
2008. *Mark Enderby*

Hungary



From the Archives

FS Rack fitted railcar No. Aln 64.1003 and vintage Fiat railcar Aln 56.1902 are photographed after arriving at Cosenza from Paola on April 10th 1974. *John Sloane*

Italy



From the Archives

FS Class E655.173 passes through Padua on October 18th 2011.
Mark Enderby

Italy



From the Archives

The daily FCC service from Lima arrives at Huancayo behind No. 434 on December 11th 1981. *John Sloane*

Peru



From the
Archives

Philippines

At La Carlota sugar mill 0-4-0 STT No. 5 shuffles past with train of waste tubs on January 28th 1980. *John Sloane*



From the Archives

Thailand

General Electric 'shovel nose' Co-Co No. 4028 stands amongst the many locos at Bang Sue depot, Bangkok on March 21st 1989. *John Sloane*



From the Archives

Furka Oberalp electric No. 95 'Andermatt' departs Brig with an east bound Glacier Express service on August 21st 1990. *John Sloane*

Switzerland



From the Archives

Fibreglass bodied Chs 4 No. 191
stands at Zmerinka on April 29th
1993. *John Sloane*

Ukraine

