



**Railtalk** Magazine *Xtra*

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## Content

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## Submissions & Contributions

Railtalk Magazine Xtra, a magazine written by the Enthusiast for the Enthusiast. So why not join the team. We are always looking for talented photographers and writers to join us at Railtalk. Be it though pictorial submissions or via 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 196Xtra

Well 2023 has arrived, but here in the UK it looks like more of the same that 2022 had to offer, strikes, disputes and the like with notices at many stations telling passengers not to travel until from January 1st until 8th. I can only hope that things do get resolved as even on a 'normal' working day the number of cancelled trains is really unacceptable. Should we be looking at a timetable where only the bare minimum services are listed but are guaranteed to actually run?

Meanwhile over in the USA, the US Department of Transportation (DOT) has announced the availability of around 2.3 billion USD (2.18bn EUR) in funding via the Federal-State Partnership for Intercity Passenger Rail Grant Program.

This is one of the largest investments in US passenger rail services in the last 50 years, and supports the modernisation and expansion of intercity and high-speed rail services across America.

As well as accepting applications for projects to expand or establish new services, those that improve the safety, reliability and performance of intercity passenger rail services and project planning elements, such as environmental review and final design, are also eligible for funding.

The grant programme, administered by the US Federal Railroad Administration (FRA), has funded the revitalisation of rail assets for many years. However, the passing of President Biden's Bipartisan Infrastructure Law greatly expanded its scope.

And some good news for fans of sleeper trains, as Austrian Federal Railways, ÖBB, has transported the most passengers on NightJet night trains in its history, according to its statement. The night connection awaits further development under this brand.

ÖBB pioneered the re-boom of night routes in Europe at a time when many carriers were still cancelling these

connections. "Never in history have so many people travelled long distances with ÖBB as now. And this boom is also clearly visible in the NightJet trains. In the summer, the trains were almost completely sold out. Climate-friendly and comfortable travel by night train has become an alternative to short-haul flights in recent years," ÖBB said.

Since the new timetable in December, the carrier has further expanded its network with connections to Genoa and La Spezia. Stuttgart was also reconnected to the night train network. From December there is now also a direct train via Munich to Venice. And the EuroNight trains from Budapest, Zagreb and Rijeka are newly extended to Stuttgart.

Austrian railways are preparing a major transformation in 2023 with the deployment of new sets, one is currently being tested in the Czech Republic on a test circuit. It will appear for the first time at the end of summer on connections to Italy. By the end of 2025, all 33 of them are to be on the tracks.

According to ÖBB CEO Andreas Matthä, with the arrival of the new train, "a new age of night travel" also begins. One of the most important innovations is considered by ÖBB to be mini cabins with a module for one passenger, which are supposed to improve privacy on the road. The sets are seven-car, of which two are passenger cars (a driver's car and a multifunctional car). Three wagons are couchettes (four-seater coupes + mini cabins) and two are sleepers (two-seater coupes). All compartments in the sleeper car have their own toilet and shower.

Until next month...

**David**

### This Page

On November 11th, boXpress Class 193.608 passes the 'Nordzucker' sugar factory in Nordstemmen with a Bremerhaven Weddewarder Tief to München-Riem Ubf liner. *Erik de Zeeuw*

### Front Cover

Indiana Railroad Nos. SD9043MAC Nos. 9007 and 9010 with EMD GP38-2 No. 3803 cross the Tulip Trestle bridge whilst working SAHW from Senate Avenue to Hiawatha. *Laurence Sly*







CBH009 and CBH003 are seen passing through Herne Hill with a loaded grain train for the Kwinana Commonwealth Bulk Handling export facility. *Colin Gildersleve*

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## Siemens Mobility to deliver a turnkey metro system for Sydney Metro – Western Sydney Airport

Siemens Mobility is the system integrator and reliable partner for on time delivery of the city-shaping project Sydney Metro – Western Sydney Airport, the new metro railway line that will service between St Marys, the new Western Sydney International Airport and the Western Sydney Aerotropolis. The company has been awarded a contract to deliver 12 automated, driverless 3-car metro trains, a purpose built depot, the digital rail infrastructure including signalling, electrification, telecoms and platform screen doors as well as system integration, testing and commissioning. The company will also complete a 15-year maintenance contract. Siemens Mobility is delivering the turnkey project as a member of the Parklife Metro consortium with its partners Webuild, RATP Dev, Siemens Financial Services

and Plenary Group, all with strong international experience in delivering infrastructure projects. The Siemens Mobility portion of the contract is 900 million Euro.

“We are excited to win and deliver this important project to help connecting communities and travellers with the new Western Sydney International Airport and the growing region. This project will give the people of Sydney sustainable transport with new rail services, offering quick, reliable and CO2-free journeys”, said Michael Peter, CEO Siemens Mobility. “We will provide the full suite of our latest digital technology, platforms and portfolio solutions. Our Railigent X digital asset management applications will ensure highest reliability

and availability of the assets.”

The Sydney Metro – Western Sydney Airport project highlights a significant milestone for Siemens Mobility in Australia, with the first turnkey project and first Public Private Partnership. The new airport is forecast to have 10 million passengers by the early 2030s and will be Sydney's first 24/7 airport. The city-shaping rail link will support access to the new Western Sydney Aerotropolis that will create approximately 200,000 new jobs, providing a major economic stimulus for the Western Sydney, New South Wales and national economies. Siemens Mobility will implement Railigent X – the Mobility Application Suite for digital services – to help gain valuable data insights in operation to enable greater

reliability and availability for the assets. Railigent X will provide an optimized maintenance regime as a result of FRACAS (failure reporting, analysis, and corrective action system) and RCM (Reliability Centred Maintenance) analysis. For over 150 years, Siemens has been helping to transform Australia. In 1893, Siemens completed construction of the Hobart Tramway in Tasmania, the first electric tramway to be established with any success in the Southern Hemisphere. Siemens Mobility Australia has a proven track record in deploying transport infrastructure projects in all Australian states and in New Zealand. The company's core business areas are rolling stock, rail automation and electrification, turnkey systems, intelligent traffic systems, as well as related services.







Austria

On December 8th, OBB Class 2016.003 stands at Wien Hbf working a Wien - Bratislava service. *Mark Enderby*





# Austria

OBB Class 4746.517 and GYSEV Class 4746.808 are seen at Wien Hbf on December 8th. *Mark Enderby*





# Austria

▶ MAV Class 480.011 approaches Wien Hbf on December 8th with a service from Budapest.  
*Mark Enderby*

▶ Class 2050.09 and 2143.032 pass through Wien Hbf of December 8th on a NOVOG Schwechat - Perchtoldsdorf Xmas special.  
*Mark Enderby*

▶ OBB Class 1116.236 arrives at Wien Hbf with a service from Graz on December 8th.  
*Mark Enderby*





## From 2023 onwards, RCG will transport even more waste by rail

On January 1st 2023, the transport clause of the Waste Management Act (AWG) will come into force. It states that waste with a total weight of more than 10 tonnes that must be moved over a distance of 300 km or more must be transported by rail. ÖBB is investing €75 million in new rolling stock so that it will be able to handle the additional waste transports.

ÖBB Rail Cargo Group (RCG) already transports around 8 million tonnes of waste and secondary materials (such as scrap metal, municipal waste and waste from the construction industry) by rail in Austria every year. This saves more than 146,000 t of CO2 annually compared to transporting it by truck. This equates to around 300,000 truck journeys each year. Following the introduction of the AWG and the entry into

force of the transport clause, the number of transports will continue to increase in the coming years. The Act will therefore make a significant contribution to the achievement of Austria's climate targets.

To be more specific, as of 2023, waste transport with a total weight of more than 10 tonnes must be transported by rail if the distance exceeds 300 km. From 2024, such waste transports must be carried out by rail for distances of 200 km or more, and from 2026 for distances of 100 km or more. In total, there is the potential for around 15 million tonnes of waste to be transported by rail.

The Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology (BMK) will provide a digital platform for managing rail transport tenders.

Independently of this, ÖBB Rail Cargo Group is already inviting its clients to work together to develop and implement individual rail logistics solutions.

### Investment in new rolling stock

In order to be able to handle the increased waste transports, RCG is initially investing €75 million in new MOBILER containers and underframes. This will gradually double the current stock of MOBILER containers to a total of 2,500 units by 2026. MOBILER logistical units, consisting of containers, freight wagons (intermodal underframes) and road vehicles, can be used flexibly for transporting a wide variety of goods and are particularly suited for waste disposal and construction material transports. The hydraulic lifting device on the MOBILER semi-trailer makes it possible to transfer the

MOBILER containers between the truck and the underframe without a crane or dedicated industrial siding.



## 5,000 euros for winter aid in Ukraine

In addition to exporting grain, ÖBB Rail Cargo Group (RCG) is also supporting Ukraine with a donation to the Austrian Red Cross for providing winter aid on the ground. Ten euros were donated every time a customer completed this year's customer satisfaction survey. The remainder was rounded up.

Ukraine's critical infrastructure is increasingly being targeted with missile attacks. As a consequence, energy supplies have already been partially cut, which means that thousands of people currently have to endure winter temperatures that sometimes drop as low as minus 15 degrees in their often unheated homes. The days are short and the nights freezing cold.

The Austrian Red Cross has been a partner of the Ukrainian Red Cross for many years and is delivering

humanitarian winter aid in Ukraine. Bombed-out buildings are being repaired as well as possible and made winter-proof, for example by fitting new windows. The Red Cross is also installing generators, distributing financial grants to host families and covering heating costs in emergency shelters. On top of this, they are deploying mobile health teams, distributing food vouchers, providing equipment for emergency shelters and implementing and further developing the mobile care systems.

Relief supplies such as extra warm winter blankets, hygiene packages and cooking utensils are constantly arriving in Ukraine from Austria. Furthermore, the International Committee of the Red Cross is working to restore the destroyed infrastructure with the aim of alleviating the suffering of the local

people.

### 10 euros per questionnaire

The RCG presented the Austrian Red Cross with a donation of €5,000 to support the provision of vital humanitarian aid on the ground. The amount is based on the number of participants in this year's customer satisfaction survey. As in 2020, we are donating €10 to the Austrian Red Cross for every completed questionnaire. The remainder was rounded up. This is our way of helping and doing good jointly with our customers.

## 1 million tonnes of grain transported out of Ukraine

ÖBB Rail Cargo Group (RCG) surpassed the 1-million-tonne mark in grain transports out of Ukraine in November.

The RCG has been intensively supporting Ukraine with transport and logistics services of agricultural products since March of this year. By the end of November 2022, the RCG had transported more than one million tonnes of grain out of Ukraine to Central and Southern Europe.

Information available to the RCG indicates that this makes ÖBB's freight transport subsidiary the European leader. The volume transported per month is between 100,000 and 150,000 tonnes. Most of these transports are cereals and maize, followed by sugar and oilseed rape. The main importing countries are Hungary and Germany, followed by Italy and Austria.

**Freight transport by rail is systemically important and crucial to the supply chain**



Ukraine is the largest agricultural producer in Europe, which means that its agricultural exports are of importance to the entire continent and even further afield. Rail transport has proven to be a reliable alternative even after the resumption of maritime transport, and demand remains high. Rail freight transport has proven its systemic importance for maintaining supply chain stability through several international crises.



# Bangladesh

On November 11th, No. 2322 departs Biman Bandar station with a rather overcrowded train towards Mymensingh following a political rally in Dhaka. *Mark Torkington*

AMLW built YDM4 locomotive No. 2412 rolls into Tarakandi station with a local service towards Jamalpur and Mymensingh on November 9th. *Mark Torkington*

YDM4 No. 2306 enters Rangpur station with its fine array of British built semaphore signals on November 13th. *Mark Torkington*

















Bangladesh

Hyundai built EMD GT18 No. 2902 approaches Mymensingh Road station (confusingly on the outskirts of Mymensingh) with an unknown express service on November 9th. *Mark Torkington*







Between April and September, a daily pair of express trains connects Divača with Pula, making Istria's only railway connection with the rest of the world. The train pair Nos. B1272/73 'Istra' is hauled by the more than 50 year old Slovenian diesel multiple unit Class 711-003/711-004 known as 'Zeleni vlak' (Green Train) seen here at Pazin. Once used in high-quality long-distance traffic, the vehicle is now used on this seasonal express train until it is replaced by the new Stadler GTW units. *Thomas Niederl*







Up to eight pairs of trains run from Pula to Lupoglav or Buzet, with an SEV connection to Slovenia once a day. HZPP uses ex SJ diesel railcars, which are in a bad condition on the outside. Here Nos. 7122-021 and 7122-014 pass each other at Vodnjan station.

*Thomas Niederl*







The over 50 year old Slovenian diesel multiple unit Nos. 711-003/711-004 known as 'Zeleni vlak' passes Kanfanar working train No. B1272/3 the daily pair of express trains that connects Divača with Pula. *Thomas Niederl*











On the Istrian peninsula, at many places along the railway line, time seems to have stood still. Most train stations still exude old Austrian flair, are mostly in a well-kept condition and are staffed. At Rovinj, which could also be reached by rail until 1964, the railway buildings have been preserved and the station building now houses a restaurant. *Thomas Niederl*





Even after 140 years of existence, electric trams are still very popular all over the world and demand for them is increasing due to the trend towards green technologies. Trams are a highly efficient means of urban transport over short and medium distances, both in terms of energy efficiency and the number of passengers they can carry.

## The Škoda brand and trams in history

Although this year we are celebrating the 25th anniversary of the first tram from our company's workshops, the Škoda brand has been speaking to the world of trams for 100 years. Since 1922, many types of trams, whose key components and systems have carried the Škoda brand, have been running through the streets of many Czech and Moravian cities. These were mainly the traction motors that powered the trams and the controllers that were used to control the tram's power. Trams with components manufactured in Škoda factories ran in Brno, Pilsen, Prague, Jihlava and many other cities. The modern history of Škoda began after the end of tram production in ČKD in 1997, when part of the technical capacities was transferred from Prague to Plzeň.

## Czechoslovakia – the land of trams

Trams have always thrived in the Czech Republic (or indeed Czechoslovakia). Local engineering companies were able to almost completely supply the domestic market while still exporting trams worldwide. From the beginning of the twentieth century until the mid-1990s, Ringhoffer's factories, which were later nationalised and moved under the ČKD Praha ownership, were among the world's most important players in the field of urban rolling stock manufacturing.

Tatra trams (marked with the T designation and serial number) were sold by the company to many countries around the world (namely Eastern Bloc countries due to the political situation at the time). With more than 13,000 cars sold, the T3, produced between 1961

and 1997, is not only their best-selling tram but also the world record holder for number of trams sold. After 1989, the internal structure of ČKD Praha proved unsustainable under the new economic conditions, and despite repeated attempts to restructure, most of the companies and production ceased to exist or were absorbed by competitors. This posed an existential threat to the tradition of tram production in the Czech Republic; the last tram model developed under the Tatra brand, the T6C5, was produced only as a prototype in one single exemplar.

## Škoda from Pilsen takes up the baton

A new chapter in Czech tram history was being written at that time by Škoda Plzeň, now Škoda Group. Since 1995, its subsidiary Škoda Dopravní technika has been modernising older Tatra T3 trams under the type designations 01T and 02T. Through these projects, Škoda Plzeň took up the baton from its successful predecessor.

At the time, Škoda had experience in the production of traction motors, which are the heart of every modern tram, supplying major manufacturers since the early 1990s for use in trams in Lisbon, Kassel, Bonn, Cologne, and Philadelphia.

At the same time, Škoda engineers were working on another project: together with Inekon, they were developing the first prototype of their own tram. This was presented to the public under the name Astra (designation 03T) at the 39th International Engineering Fair in Brno in 1997. This tram was a three-unit tram with two bogies and could run on tracks with a gauge of 1,000 – 1,600 mm, its maximum speed was set at 70 kilometres per hour, and its cars were partly low-floor. With this tram, the history of modern trams in the Škoda production in Pilsen had begun.

Astra trams (later sometimes referred to as Anitra) found their place on the streets of

Brno, Ostrava, and Olomouc, among others. Five of the seven transport companies in the Czech Republic that operate tram transport expressed interest in the new Škoda trams and a total of 48 were produced and delivered between 1997 and 2005. In 2001, modified versions of these trams (designated 10T) also reached the USA, where the licence for their production was transferred. Visitors to the cities of Portland and Tacoma, for example, can see them in operation.

## Public transport for the twenty-first century

The first major step that Škoda Dopravní technika took after 2000 was to change its name. In 2004, the now internationally-renowned Škoda Transportation brand was born. The company's first focus of the new millennium was on developing its export capacities, leading to the successful delivery of nine sets of Elektra 06T bidirectional trams to Italy in 2006-2007. With two Elektra models (the 16T and the bidirectional 19T), Škoda Group also had success in Poland, where 48 tram sets were sold.

Škoda did not forget about domestic passengers at that time, though. In 2005, they could take a ride in the first of the new generation of trams known as Elektra, as the Elektra model 14T, co-designed by the Porsche Design Group, among others, entered into operation in Prague. Only two years later, the derivative model Elektra 13T first appeared on the streets of Brno.

## The contemporary ForCity conquers the world

Although the Elektra trams were a success both at home and abroad, Škoda Group management decided to take a decisive step forward. As a result, a completely new generation called ForCity was launched in 2008. Over a decade's worth of valuable design and engineering experience was clearly reflected in this new generation of trams. A new feature of these models was the partially pivoting bogie, which allowed

the trams to be driven more smoothly in steep lines and tight curves. In addition, ForCity trams are barrier-free and have a passenger-friendly interior layout.

Prague has become the largest customer of these trams. The management of the local transport company ordered 250 sets from Škoda in Pilsen, and the same type 15T (with only partial modifications) was subsequently ordered by Riga, Latvia. Other models of ForCity generation then found their homes in Turkish, Hungarian, Slovak and Finnish cities. So far, Škoda Group has sold nearly 500 trams of this generation and its development continues to this day.

However, tram production is not only based at the Pilsen production site. Over the years, Škoda Group has teamed up with strong partners whose experience in the industry has had a significant impact on the development of the entire group. Thus, new trams are being built under the Škoda Group brand at production sites in Ostrava and Šumperk. Škoda trams are also produced abroad, specifically in Otanmäki, Finland. In the land of a thousand lakes, the Artic model was also manufactured, which combines the concept developed by the Finnish part of Škoda Group and the advantages of the ForCity generation. The ForCity Smart Artic trams have been operating in Finland and Germany, with a total of 73 trams so far, with more trams currently in production.

In total, Škoda is now working on tram deliveries for 13 European cities.

Pilsen (12+10 option), Ostrava (35+5); Bonn (26+12); Bratislava (30+10); rnv – Mannheim, Ludwigshafen, Heidelberg (80+54); Brno (5+35); Helsinki (52+0), Tampere (8+38). Three cities have ordered trams in total: Frankfurt (Oder), Cottbus and Brandenburg an der Havel (35+6).

In total it is up to 475 new Škoda trams!

## Autonomous vehicles as the future of urban transport

In the last decade, the development of digital technologies has begun to make its mark on public transport. In 2013, Škoda Group therefore joined forces with a respected manufacturer of proprietary solutions in the field of rail vehicle control systems, with the establishment of the Škoda Group Digital Centre six years later. The development of advanced digital solutions are now running at full speed. In addition to the production of the latest systems for train guidance, diagnostics and service, the Digital Centre is dedicated to the development of its own anti-collision system for rolling stock, which is one of the most important subsystems for a fully autonomous tram.

In fact, Škoda Group is already working with O2 Czech Republic, INTENS Corporation and the University of West Bohemia on a project to develop an autonomous tram.



## GERMAN COTTBUS HAS ORDERED 15 MORE TRAMS FROM ŠKODA GROUP

Cottbusverkehr GmbH (CV), the public transport company from the city of Cottbus, Germany, which signed a contract with Škoda Group for the delivery of seven trams in 2021, has decided to use the option and has ordered 15 more modern unidirectional three-unit trams. This represents another success of the Group on the German market.

The initial contract for the delivery of new trams for the state of Brandenburg was announced together by three cities – Frankfurt (Oder), Brandenburg and Cottbus. Škoda Group succeeded in the strong European competition, managing to come up with a solution that met the requirements of all three transport companies. These were almost identical vehicles that had to be able to operate in three very different environments at the same time. This was a unique public tender.

“The German market is a big challenge for us, one that we are facing with confidence that we have a lot to offer. In addition to the modern trams, we are currently producing for seven German cities and the push pull trains that are already operating from Munich to Nuremberg, we also have fully emission-

free buses in our portfolio, which are an excellent choice for sustainable transport in the cities of the future. In addition, all our products are backed by our high-quality technology. This year at InnoTrans we presented our own anti-collision system for rolling stock, which transport companies have been calling for for a while. I am therefore convinced that our presence on the German market will continue to strengthen,” added Mike Niebling.

### FEATURES OF THE NEW TRAM

The trams are modern unidirectional three-unit and 70% low-floor vehicles with two swivel and one non-swivel bogies. This will make transport in the city more accessible for its residents. Passengers can look forward to comfortable, air-conditioned, spacious and wheelchair-accessible vehicles with multifunctional interior spaces for wheelchairs, prams or bicycles, and the trams are adapted for easy boarding and disembarking. The information system in the new trams will be clear with several screens and panels. A camera system will also be part of the car’s equipment, for better driver visibility and increased traffic safety.



The operator will appreciate the low operating costs of the product from the Škoda ForCity Plus platform. The new trams will replace the current high-floor trams.

Škoda Group is experiencing success with its products on the German market. In the

past, for example, it has delivered trams to Chemnitz and Schöneiche, but passengers can also ride a push-pull train set on the line between Nuremberg and Munich.

In addition to supplying trams to Brandenburg, the company is currently

working on trams for the city of Bonn and the transport operator Rhein-Neckar-Verkehr, which provides transport in the cities of Mannheim, Ludwigshafen and Heidelberg

## Czechia has its first line with exclusive operation of trains under ETCS system

Správa železnic has completed the modernisation and electrification of the busy regional line Olomouc – Uničov. It is the first line in the Czech Republic where the European Train Control System (ETCS) will monitor all train journeys. The mobile part of this system must therefore be in operation on all trains that run on the line. Travel by train on this section will be reduced from 40 minutes to less than half an hour.

Správa železnic has completed an extensive reconstruction of the Olomouc – Uničov on which the operation of trains under

the supervision of this single European signalling system will be launched from January. This significantly reduces the risk of human factor failure in driving rail vehicles and traffic control.

According to Jiří Svoboda, Director General of Správa železnic, this is a significant milestone: “From 2025, exclusive ETCS operation will be mandatory on a significant part of our network. The launch of this system on the line from Olomouc to Uničov is an important step, because we can test the operation here together with the carriers

and avoid some of the complications that may be associated with the introduction of exclusive operation of the ETCS.”

The maximum speed on the line has increased up to 160 km/h, stations and stops are newly barrier-free, the station buildings in Bohuňovice and Šternberk have been reconstructed and last but not least the section has been electrified. Passengers can also look forward to a new orientation system at stations and stops.

From December, trains will also return to the line between Uničov and Libina, which has also undergone a complete reconstruction and electrification. The speed on the line has been increased to 100 km/h, platforms at stations and stops are now barrier-free and the station building in Libina has been modernised. As part of the modernisation, a new stop Troubelice střed was created, which will be closer to passengers than the existing station.

The reconstruction of the connecting section to Šumperk, which will have similar

parameters, is also being completed in these days. Speed decreases have been removed and a total of nine level crossings have been modernised. Passengers will return to the line at the beginning of next year.

The modernisation and electrification of the line from Olomouc to Šumperk will enable carriers to deploy modern electric train units, increase the capacity of the line and the level of its safety. The traction system is now DC, but future conversion of the traction power supply to AC is envisaged.



At the end of 2022, ČD Cargo, in close cooperation with its subsidiary ČD Cargo Logistics, ensured the transport of six covered wagons with humanitarian aid - power plants and room heaters - to the conflict-affected cities of Kyiv and Mykolaiv.

Loading took place on December 13th and 14th at the Prague-Liben railway station.

The loading of the last wagon was attended by Jana Mlková, CEO of ČD Cargo Logistics, Zdeněk Hřib, mayor of the Capital City of Prague and Vitalij Usatyj, chargé d'affaires of the Embassy of Ukraine in the Czech Republic.

Photo : ©CD Cargo



## Alstom and Air Products sign a Memorandum of Understanding with an objective to introduce hydrogen trains in the Czech Republic

Alstom, a global leader in smart and sustainable mobility, and Air Products, the world's largest hydrogen producer and supplier, have signed a Memorandum of Understanding for the deployment of hydrogen solutions in rail, including the necessary infrastructure in the Czech Republic.

The agreement supports the fulfillment of goals set by the European Green Deal, in particular the 'Fit for 55' package.

"By signing this memorandum, we formally confirm our long-term cooperation with Air Products. Both parties will do everything in their power to accelerate the introduction of hydrogen in rail in the Czech Republic.

Alstom is a pioneer in hydrogen rail mobility solutions and has much to offer in this area, from expertise to the trains themselves.

With Air Products, we can also supply the necessary fuelling stations and build the hydrogen infrastructure in the country. We are in contact with the regions in this matter and we are trying to take action to support the creation of the necessary legislation, which is still missing in the Czech Republic," says Dan Kurucz, Managing Director of Alstom in the Czech Republic and Slovakia.

"We are honoured to be working with Alstom to deliver on our commitment to decarbonise transport in the Czech Republic with low-carbon hydrogen. We will use our expertise

as the world's largest hydrogen producer and are ready to invest in building hydrogen infrastructure to kick-start the use of low-carbon hydrogen in practice.

Together with Alstom, we believe we can build a working network of hydrogen trains that will demonstrate that hydrogen is the ideal propulsion for non-electrified lines. And that the operation of hydrogen trains is absolutely environmentally friendly and safe and, in the medium term, economically viable," commented Vlastimil Pavlíček, Business Development Director New Technologies, CE&CIS subregion Air Products.

Alstom was the first company in the world to put a hydrogen passenger train into service in 2018 in Germany. Since then, it has been tested in Austria, the Netherlands, Sweden and Poland, and purchased by France and Italy. Alstom presented the hydrogen train in the Czech Republic and Slovakia during its Railshow which occurred on May 17th - 25th 2022.

As the world's largest hydrogen producer, Air Products is taking major steps to accelerate the energy transition. In the Czech Republic Air Products operates in the field of production, supply and storage of technical gases and advanced technologies, including hydrogen and hydrogen filling stations.

As part of its activities, Air Products also focuses on new ways of using hydrogen in the field of propulsion of all types of transport vehicles, including rail vehicles. Air Products also participated in the presentation of the Coradia iLint train in the Czech Republic, more specifically refilling the train with hydrogen from a mobile refuelling station.































## Waste paper replaces empty runs: DB Cargo optimises resources

It all started with two different means of conveyance, each plying the Nuremberg (Bavaria) to Rudolstadt (Thuringia) route: empty freight wagons riding the rails to be loaded with paper products in Thuringia, and lorries on the roads carrying waste paper in the same direction. ROWE Recycling, a Nuremberg company, delivers waste paper by lorry to the Adolf Jass paper factory in Rudolstadt. While this is happening, incoming freight wagons needed by the Adolf Jass paper factory are unloaded at the terminal of the Johann Sperber waste disposal and paper logistics company, which is located at the bayernhafen port in Nuremberg. Hubert Müller, account manager at DB Cargo, and the waste disposal and paper logistics company Johann Sperber thought this situation held potential. So they got right to it: DB Cargo and TRANSA Spedition worked together with everyone involved to put the idea into action, moving the transport onto environmentally friendly rail.

### Minimising empty runs means maximising efficiency

The days when the sliding-wall wagons unloaded at Johann Sperber's terminal used to be sent empty to the next place of loading ended as of

September 2022. Instead, the Sperber company manages the tightly synchronised cross-docking procedure with special equipment. In the process, the individual wagons are directly reloaded with waste paper from the ROWE Recycling company. The paper travels by single wagonload transport to the Adolf Jass paper factory in Rudolstadt. There, the waste paper is unloaded and the wagons are reloaded in the outgoing goods department with paper rolls for various recipients.

The synergy here is evident: "This new service on an empty running lane optimises our capacity utilisation and minimises empty freight runs. At the same time, we are putting fewer lorries on the roads", says Müller. Transa FLS, the Adolf Jass paper factory's long-standing logistics provider, is responsible for coordination of the interface with Customer Service at DB Cargo.

### "Resource optimisation at its finest"

Currently, three wagons per week are loaded with waste paper and transported en bloc to Thuringia, meaning six fewer lorry trips every week. The volume could see a substantial rise in future.

"This volume of waste paper, initially 140 tonnes per week, is optimally adapted to fit available routes and train reserves, so it imposes no additional burden to speak of," says Müller, highlighting another advantage.

Especially in this age of thinly stretched transport and energy resources coupled with a rising demand for "green logistics", reloading freight wagons to avoid empty runs is a smart solution. Or as Müller says: "Resource optimisation at its finest."

## Dortmunder Eisenbahn takes delivery of first Vectron Dual Mode locomotive

Dortmunder Eisenbahn GmbH (DE), a company of the Captrain Deutschland Group and Dortmunder Hafen AG, has taken delivery of a new Vectron Dual Mode locomotive from Siemens. This locomotive is leased from the locomotive lessor Alpha Trains. Two more locomotives of this series will be delivered to Dortmund at the beginning of 2023. Thanks to their dual drive, the mainline dual-power locomotives can be used on electrified and non-electrified lines. By using modern rolling stock, Captrain increases rail productivity and continuously reduces CO2 emissions.

In cooperation with Alpha Trains, the Captrain Deutschland Group is investing further in sustainable rail logistics and will thus be able to react even more flexibly to customer requirements in the future. From January 2023, the new dual-mode locomotive will commute five times a week between Mühlheim an der Ruhr to Brake (Unterweser) near Bremen to transport large pipes from Europipe's plant to the inland port in Lower Saxony. The two additional locomotives, which are to be delivered in January, will further strengthen Dortmund Eisenbahn's fleet. With a length of just under 20 metres and a maximum traction power at wheel rim of 2,400 kW in e-mode and 2,000 kW in diesel mode, the 4-axle vehicles can reach a top speed of up to 160 km/h. On electrified lines, they can be operated at a contact

wire voltage of 15kV. Their maximum starting tractive effort is 300 kN. The locomotive was ceremonially handed over by Stephan Wegert, Commercial Manager of Alpha Trains, to the Managing Directors of Dortmund Eisenbahn GmbH, Jan Läzer and Dr. Roland Kitschler, at the Siemens Rail Service Center in Munich-Allach. "With the first dual-power locomotive at Dortmund Eisenbahn, Captrain is strengthening its position as a reliable logistics partner for industrial customers in the Ruhr region who want to make their supply chain even more flexible and lower in emissions," said Jan Läzer, Managing Director of Dortmund Eisenbahn.

The Captrain Deutschland Group has a fleet of more than 200 locomotives. In recent years, in particular innovative dual-power locomotives have been added to the fleet. As of December 2022, the Captrain Deutschland Group operates thirteen dual-power locomotives and is steadily expanding its portfolio. In 2023, additional eight Stadler Eurodual and Siemens Vectron dual mode locomotives will be added. With this strategy, Captrain is making another contribution to further expanding the sustainability of the most environmentally friendly mode of transport.

Photo: Vectron dual mode loco ©Alpha Trains









# Germany

SEL (Martin Schlünß Eisenbahnlogistik) Class 181.213 passes the signalbox in Elze hauling Class 120.102 towards Hanau on October 26th. Erik de Zeeuw











# The new ICE: Delivered at record speed and ready to go

Deutsche Bahn (DB) is putting its latest ICE generation into service around a week earlier than originally planned. The new ICE 3neo has made its inaugural trip with passengers on December 3rd between Frankfurt/Main and Cologne. Partners DB and manufacturer Siemens Mobility succeeded in getting the train up and running in record time. Despite pandemic-related restrictions and disrupted supply chains worldwide, the inaugural passenger trip is taking place just two and a half years after the train was ordered in July 2020.

With this investment, DB is further rejuvenating and expanding its long-distance fleet. By 2029, DB will have invested ten billion euros in new trains, including 73 ICE 3neos. With a top speed of 300 km/h, the ICE 3neo is an important factor in DB's planned nation-wide synchronized timetable. By providing 32,000 additional seats by 2029, the train will help meet the seating capacity needed for expected passenger growth.

Dr. Michael Peterson, DB Board Member for Long Distance Passenger Transport: "DB and Siemens have delivered right on time. Just two and a half years have passed between the contract signing and the train's inaugural passenger service. ICE procurement procedures generally take twice as long. The new ICE will delight our passengers with a new level of comfort and improved technology."

Michael Theurer, Parliamentary State Secretary to the Federal Minister for Digital and Transport: "The new ICE stands for progress on the rails – fast, digital, barrier-free. Initially here between Frankfurt and Cologne, soon throughout Germany. The 73 new trains with their 32,000 additional seats will make a major contribution to implementing the nation-wide synchronized timetable. This will bring us another step closer to our goal of doubling the number of rail passengers over the next eight years."

Michael Peter, CEO Siemens Mobility: "Together with Deutsche Bahn, we are accelerating the transport transition in record time: Siemens Mobility has never delivered a new ICE train so fast. This success was primarily possible thanks to the outstanding cooperation with DB, but also because the ICE 3neo is based on our proven Velaro platform. Even though we built and delivered the train in record time, we were able to incorporate many innovations in the train's interior that will further

enhance passenger comfort."

The new ICE 3neo inaugurated passenger service between Frankfurt/Main and Cologne. When DB's timetable change takes effect on December 11th, passengers will be able to use the train in regular service between Dortmund, Cologne and Frankfurt/Main, and all the way to Munich via the new Wendlingen-Ulm high-speed route. DB will gradually expand the scope of the train's operation with the delivery of further trains. As of 2024, the ICE 3neo will also operate on international routes to Belgium and the Netherlands.

With space for eight bicycles on each train, the new ICE will be the first high-speed train to transport them at speeds up to 300 km/h. New reservation displays with colored LED lights show all reserved and free seats at a glance. In addition, the ICE 3neo has specially developed windowpanes ensuring stable mobile phone reception, lighting that varies according to the time of day, and power sockets and pad holders at every seat.

One completely new development is the train's robust, easy-to-use lift installed at a door reserved exclusively for passengers in wheelchairs.

DB also trained around 5,000 employees to handle on-board service, maintenance, and driving in record time – a prerequisite for the speedy commissioning of the ICE 3neo.



## New high-speed trains for German rail transport



## First TINA tram of the latest generation delivered to Darmstadt

HEAG mobilo was the first local transport company to order a total of 25 TINA trams of the latest generation from Stadler. Less than two years after signing the contract, the first TINA tram has now arrived in Darmstadt. The start of operations is scheduled for autumn 2023 after extensive testing.

This was finally the day: for the first time, a Stadler tram of the latest generation could be seen on the tracks in Darmstadt. HEAG mobilo and manufacturer Stadler presented the TINA model, which will operate in Darmstadt as the new ST15 series, at the international trade fair InnoTrans in September, and the first vehicle has now been delivered to Darmstadt.

“I am delighted to finally be able to take delivery of the first tram in the new series,” explains HEAG mobilo Managing Director Ann-Kristina Natus. The vehicle was pulled by a tram from the ST14 series to the depot in Kranichstein via Bismarckstrasse and Frankfurter Strasse. “Now the commissioning phase will begin: To prepare the tram for homologation by the technical supervisory authority, many test runs and measurements are carried out. We are also holding training courses for our driving staff and employees from the driving school, the workshop and the traffic control centre so that they will be ready to use the TINA trams,” explains Natus.

More vehicles will be delivered in the coming weeks and months. Dirk Schillings, Chief Technical Officer for Light Rail Vehicles at Stadler explains: “We are celebrating an important milestone for our latest generation of trams. We are pleased that following factory acceptance, the first TINA vehicle is now starting the test phase for the first time on Darmstadt’s rail network. We are convinced that the new low-floor vehicles will meet the high demands of passengers as well as of HEAG mobilo.”

Passengers in Darmstadt and the Darmstadt-Dieburg district will be able to experience the new trams for themselves from autumn next year. The new fleet should then be complete in the summer of 2024. “Public transport as a sustainable and ecological means of transport must not only be further

expanded and strengthened, as through our new line concepts, it must also be modern and attractive. I am looking forward to the first journey on TINA,” says Michael Kolmer, Head of Transport in Darmstadt, the city of science.

HEAG mobilo has ordered a total of 25 TINA trams from Stadler. In addition to the vehicles for Darmstadt, Stadler is also supplying 25 TINA trams to Baselland Transport AG, 28 TINA trams to Rostocker Strassenbahn AG and 56 TINA trams to Hallesche Verkehrs AG. In November 2022, the Dutch HTM also announced the award of an order for 50 TINA plus options to Stadler. These consecutive successes within a very short time confirm that the innovative vehicle concept meets the high demands of passengers and customers alike.

### Continuous low floor

Great flexibility combined with a high degree of standardisation set the new TINA tram family apart. The name TINA stands for “Total Integrated Low-Floor Drive” in German. Its newly designed, patent-pending bogie can be used for a wide range of vehicle types and requirements. The TINA platform offers a solution for every tram concept – be it axle drive, independent wheels, rotating or non-rotating bogies, different track gauges or various vehicle widths. In addition to the completely continuous low floor, TINA is characterised in particular by its spaciousness, wide aisles, generous foot and leg room, panoramic windows, multifunctional panels and a new

design specially adapted to the needs of passengers.

The optimised passenger compartment allows unrestricted access to the seats from every vehicle door. At the customer’s request – as with the TINA model for HEAG mobilo GmbH – small steps can be fitted instead of ramps. In terms of energy efficiency, the vehicle scores points for its optimised drive system, a low vehicle weight and the optional use of waste heat from the engine.



## Passenger record at Christmas

### Record number of 3.2 million long-distance travellers 2019 record significantly exceeded

Never before have so many people been on the long-distance trains of Deutsche Bahn (DB) at Christmas as this year. After 1.6 million in 2021, the number of passengers this year will double to around 3.2 million in the booking period December 22nd to 28th.

This also significantly exceeds the previous peak value from 2019 (2.8 million travellers). Around the holidays, rail operations were stable overall and largely ran

smoothly. Even on the days with the highest number of passengers, December 22nd and 23rd, there were no significant restrictions.

Dr Michael Peterson, DB board member for long-distance passenger transport: “With more trains, seats and service staff, our transport concept for the public holidays has proven its worth. Never before have so many ICE trains been available to our passengers. My thanks go to all employees who brought our passengers safely to their loved ones.”

Despite the record numbers, the occupancy rate in DB’s ICE and Intercity trains remained at 52 percent. This is partly due to the increased seating since the December timetable change. Since then, 13,000 more seats have been available every day. In addition, the DB uses 80 special trains between December 22nd and 28th. On these days, these offer a total of 40,000 additional seats on particularly popular connections.

The ICE 3neo has particularly proven itself. This new ICE has been in trouble-free operation since its first journey with passengers on December 5th.

DB currently has four trains of this type, and another 14 are to be added to the fleet in the coming year. Overall, DB will receive an average of three trains per month in the coming year. This means that 2023 will be an absolute record year in terms of fleet modernization.



## More than one billion euros more: the federal government and DB are moving forward with planning for “Digital Rail Germany”.

The Federal Ministry for Digital Affairs and Transport (BMDV) and Deutsche Bahn (DB) are pushing ahead with the planning for the digital rail system in Germany. Federal Transport Minister Dr. Volker Wissing and DB Infrastructure Board Member Berthold Huber have signed the relevant agreements in Berlin. An existing financing agreement will be increased from around 1.7 billion to around 2.7 billion euros. In addition, DB has received approval from the federal government for further financing of the planning of several projects from the so-called starter package.

In the long term, all routes and rail junctions are to be equipped with the European train control system ETCS (European Train Control System) and digital interlockings, and the old technology is to be completely replaced. The aim of the modernization: More space for trains, better punctuality and fewer disruptions - made possible by intelligently networked data from infrastructure and vehicles. In the future, DB will be able to completely reorganize operations on the rail network and create up to 35 percent more capacity.

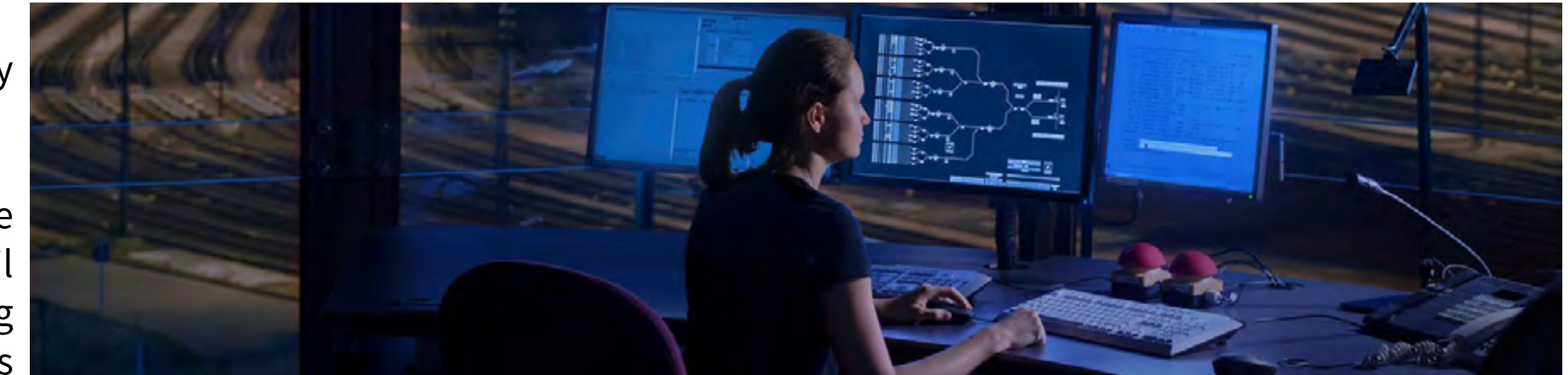
Federal Minister Dr. Volker Wissing: “In order to achieve our climate goals, we need more capacity on the rails quickly. We want to make rail the climate-neutral backbone of our transport system. In addition to renovation and new construction and expansion, digitization is a crucial component. With the agreements concluded today, we are creating the financial basis for introducing the ETCS train control system and at the same time modernizing and digitizing the interlocking landscape in Germany. This immediately

ensures more capacity in the existing system and thus quickly more rail services.”

DB Infrastructure Board Member Berthold Huber: “In view of the growing volume of traffic, we need more speed to make our rail network more powerful and efficient. In the medium and long term, we focus on expansion and new construction projects as well as the general renovation of important corridors. However, the digitalization of the infrastructure is a decisive key. Because with the digital rail operations of the future, we can get more trains on the climate-friendly rails without the expensive and time-consuming construction of new tracks. The agreements made with the federal government will therefore decisively advance the digital rail system in Germany.”

### Digitization push for freight corridors

The funds that have now been made available are being used, among other things, to modernize and digitize the infrastructure on the Rhine-Alps freight corridor. This main line from the Dutch North Sea ports to Italy is to be equipped with the European rail traffic control system ERTMS (European Rail Traffic Management System). The system makes a significant contribution to facilitating cross-border train traffic in Europe. So far, locomotives and multiple units have had to be equipped with a wide variety of national safety systems. With ERTMS, this will no longer be necessary in the future. In addition, DB can initiate further planning for the Scandinavia-Mediterranean corridor with around 307 million euros. The European corridor between



Denmark and Austria, which is also important for freight traffic, is to be fully equipped with ETCS by the end of 2030. It's about a total of 4,500 kilometres of track.

### Digital node Stuttgart: metropolitan region as a global pioneer

A further 83 million euros are available for planning the third building block for the digital node in Stuttgart. By 2030, train operations in the Stuttgart area will also be controlled by digital technology, extending beyond the end points of the S-Bahn lines. The core of the node will go into operation together with Stuttgart 21 in 2025 with ETCS without signals - the metropolitan region will thus assume a pioneering role worldwide.

Around eleven million euros in planning funds are earmarked for the Cologne-Frankfurt/Main high-speed route. By 2028, DB intends to equip around 200 kilometers of track with ETCS and digital interlockings. This step ensures more quality and efficiency in train operations. At the same time, failure-prone systems and older interlockings can be completely replaced.

## DB offers porcelain and glass as an alternative to disposable packaging on ICE and Intercity trains

Deutsche Bahn (DB) consistently focuses on sustainability and resource conservation: From January 1st, 2023, guests can choose high-quality porcelain and glass as a reusable option for food and drinks in the on-board bistro and in the to-go area of long-distance trains. The reusable variant is free of charge, does not require a deposit and is available on request for all gastronomic orders in the on-board bistro. Food and drinks have always been served in reusable crockery in the on-board restaurant and at seat service in 1st class.

Michael Peterson, Board Member for Long-Distance Passenger Transport at DB: “Deutsche Bahn is also driving forward its green transformation in on-board catering. With the introduction of porcelain and glasses in the on-board bistro as a reusable variant, we not only offer our guests a long-lasting and sustainable alternative to

disposable packaging, but also create quality enjoyment just like at home.”

Hot drink mugs, plates and bowls for main courses and snacks as well as glasses for beer, wine or soft drinks are available in porcelain. The current one-way packaging remains on offer and can be issued at the customer's request. The careful use of resources in on-board catering already plays an important role: Since June 2021, only FSC-certified wooden cutlery has been used, and the range of dishes has been expanded to include vegan, vegetarian and organic dishes. In addition, DB continuously donates food to the Tafel, the station missions and other non-profit organizations in Germany.

### Sustainability in on-board catering

- Since March, DB has offered more than 50 percent of

the dishes on offer as vegetarian or vegan. In addition, there are always three seasonal special offers in 100 percent organic quality on the menu.

- Since January, Oatly's oat drink can be ordered with coffee as an alternative to cow's milk.
- Deutsche Bahn (DB) has been offering share mineral water on long-distance trains for almost four years. By purchasing the sustainable share water, passengers finance well construction projects.
- Disposable/to-go products: Deutsche Bahn invests extensively in the use of renewable raw materials from sustainable forestry. In June 2021, DB replaced the



previous plastic cutlery for to-go products with FSC-certified wooden cutlery.

- For many years, DB has been donating food to the Tafel, the station missions and other non-profit organizations in Germany.
- Since April 2017, DB has only served Fairtrade-certified coffee on its ICE and IC trains. The other hot drinks such as tea and cocoa have also been converted to fairly traded raw materials.
- Through various group-wide campaigns, a total of over 385,000 trees were planted by the end of 2021 and 154 hectares of near-natural forest area were restored.



## More space for better trains: inaugurated the extension of the hall in the Rummelsburg ICE plant

DB long-distance passenger transport board member Dr. Michael Peterson and Berlin's Governing Mayor Franziska Giffey have officially opened the extended vehicle hall in the ICE plant in Berlin-Rummelsburg. Deutsche Bahn (DB) invested around 200 million euros in the expansion and extended the five-track hall by 200 meters. Trains up to 400 meters long, such as the XXL ICE 4, or two shorter trains in a row on one track can now be maintained here.

DB board member for long-distance passenger transport Dr. Michael Peterson: "We are investing in new trains at a record level. In the next year alone we will receive an average of three new ICE trains - every month. With the extended vehicle hall in the ICE plant in Berlin, we are creating urgently needed workshop capacities for our growing long-distance transport fleet. After all, fast and efficient maintenance is essential if our passengers are to travel more reliably and comfortably on climate-friendly rail."

Berlin's Governing Mayor Franziska Giffey: "The expansion of the Rummelsburg ICE plant shows that Berlin is also a railway metropolis. We are delighted that Deutsche Bahn has made the decision to invest here in Berlin. This brings the Rummelsburg plant up to the technical level of the 21st century. From now on, more and longer trains with more seats can be serviced in Berlin. The state of Berlin relies on the train as a future-oriented, climate and environmentally friendly and fast means of transport. Rail is at the heart of the transport turnaround we need."

In addition to extending the vehicle hall, DB has created larger material stores and additional treatment facilities for ICE and Intercity trains. This increases the maintenance capacity at the Rummelsburg site by around 30 percent. 75 trains are cleaned, checked and repaired here every day for their next journey.



The planners also took climate protection and biodiversity into account when expanding. A photovoltaic system was installed on the new roof, nesting aids for birds and bats were installed and wildflower meadows were laid out.

More than 850 employees currently work at the Rummelsburg plant. By 2025, the team will grow by around 120 additional specialists. DB is already looking for electricians, mechatronics technicians and mechanics for this. Berlin is one of the largest locations for the provision of long-distance trains in Germany. All series from ICE 1 to ICE 4 can be maintained here. The new ICE L will also find its home in the Rummelsburg plant in the future. To this end, DB will continue to expand the Rummelsburg location in the coming years.

Over the next few years, more than 200 million euros will flow into new parking facilities and the renewal of another vehicle hall for even more capacity.

In long-distance traffic, DB operates maintenance workshops at nine locations, most of which are being expanded. By 2030, the group will be investing more than two billion euros nationwide in the construction and expansion of plants and parking facilities, and thus in better punctuality and quality of the ICE and Intercity trains. Larger halls, expanded workshops and storage facilities as well as new treatment and sidings ensure that trains can be maintained faster and better in the future. Digitization and automation are also being pushed ahead. In addition, DB is creating 1,000 additional jobs in the plants nationwide.

## Deutsche Bahn employees receive a €150 energy saving bonus in December

**Tax- and duty-free as part of the inflation compensation premium**  
**Recognition for the commitment of employees to save energy**  
**The initiative launched in the summer is having an effect**

In December, Deutsche Bahn (DB) employees received a €150 energy saving bonus from the company. The payment is tax and duty-free as part of the inflation compensation premium. "Just in time for Christmas, we are rewarding the many suggestions and effective measures from our employees to save energy in these challenging times," says HR Director Martin Seiler. The

DB initiative launched in the summer was "a complete success". That's why the bonus, which goes to all collective and non-tariff employees, has been increased from 100 to 150 euros.

Employees were called upon to use creative ideas to save energy at work. Around 1,500 suggestions from the workforce have been received so far. They go through all areas, whether in the workshop, in the construction container or in the office. Some reduce the number of active screens and video calls and share printers and scanners across departments. Others switch off superfluous lighting, for example when trains run empty and in areas of factory buildings where no work

is currently being done, or install lights with motion detectors in changing rooms and corridors. The optimization of heating and ventilation also plays a major role.

Martin Seiler: "All of the measures taken together not only make the railways, as the greenest of all means of transport, a little greener, but they also relieve the company in the face of skyrocketing energy prices." Not every single measure can be measured, but the bottom line is that the success in saving energy is visible. A large number of the top ideas submitted have a high to very high potential for savings. In the selected reference objects, energy savings of over 10 percent have been

achieved in recent months.

DB has also temporarily closed the first office space that is rarely or only rarely used, and heating there is reduced to a minimum. An additional savings lever is the reduction of the room temperature to 19 degrees Celsius as part of a federal government regulation for public buildings.

The large hands-on energy saving campaign, which was intended to raise awareness among employees of the topic of environmental protection and resource conservation, spread via DB's internal social intranet. In this way, the creativity and commitment of colleagues at hundreds of locations in Germany were brought together.



# New Wendlingen-Ulm line: Pacemaker for rail traffic throughout Germany goes into operation

Deutsche Bahn (DB) has completed a new high-capacity main line for rail traffic throughout Germany. The new Wendlingen-Ulm line has officially gone into operation. Together with Stuttgart 21, it is part of the Stuttgart-Ulm railway project and is located on the so-called “Magistrale for Europe”, which connects cities and regions with a total of 34 million inhabitants in five countries. With the new line, DB has speeded up long-distance traffic nationwide with the timetable change on December 11th, making an important contribution to more traffic on the climate-friendly railways. In the future, trains will be able to cross the Swabian Jura at high speed. This not only shortens the travel time between Stuttgart and Munich. The direct city connections between Munich and Frankfurt/Main or Cologne are also becoming more attractive.

DB CEO Dr. Richard Lutz: “The radiance of the new Wendlingen-Ulm line extends far beyond the region. It is the new pacemaker for the railways and a mainstay in our rail network. The benefits for people and the economy are already enormous today. And it will be even bigger when Stuttgart 21 opens in three years. My special thanks go to everyone who has worked on this impressive project over many years.”

Michael Theurer, Federal Government Commissioner for Rail Transport: “The Wendlingen-Ulm route is a project of the century, a milestone for the implementation of the Germany cycle and the international transversal from Paris via Karlsruhe, Stuttgart, Ulm, Munich and on to Vienna and Bratislava. The new construction will relieve the Filstal route, which will then have more capacity for local but above all for freight traffic. I thank everyone involved for that. The positive effects for travellers and the economy show once again how important it is to push ahead with infrastructure expansion now. We only have a chance of achieving our climate goals if we get faster here.”

Winfried Kretschmann, Prime Minister of the State of Baden-Württemberg:

“The new line is a benefit in several ways: it shortens travel times and creates more connections. Stuttgart and Ulm are moving closer together. But also Paris and Budapest. For us as an export country in the heart of Europe, this is an important aspect. The connection also makes an important contribution to climate-friendly mobility for everyone. Only with state-of-the-art, well-developed train connections can we get traffic away from the road and from the air onto the rails. The state was therefore happy to support the project with almost one billion euros. To build 60 kilometres of track with eleven tunnels and 37 bridges in just ten years is a great achievement! I would like to thank everyone involved who did an excellent job here.”

Dr. Walter Götz, Head of the Cabinet of the Commissioner for Transport of the European Commission: “The new line from Wendlingen to Ulm is a great addition to the railway network in southern Germany. At the same time, it is also a central project for the Rhine-Danube corridor of our trans-European transport network policy. In the future, the new line will also better connect regions and cities in Western Europe with regions and cities in Central and Eastern Europe and make cross-border rail traffic on long-distance routes more attractive. The new line is therefore a key step towards achieving the EU climate targets in the transport sector.”

Gunter Czisch, mayor of the city of Ulm: “When the Ulm railway connection via the Geislinger Steige was completed in 1850, the line was considered a ‘masterpiece of engineering architecture’. The new line also deserves this attribute. Deutsche Bahn shows what mobility of the future can and must look like: climate-friendly, fast and comfortable - and on rails. Ulm and the region have always campaigned for this route. Now our commitment is bearing fruit.”

**More long-distance and regional trains make rail transport more attractive**  
In long-distance traffic, the daily service between Stuttgart and Munich will increase by around 20 to 90 trips a day thanks to the new high-speed route. At the same time, the region also benefits from many new and attractive

offers. This also includes the fastest regional train in Germany, which is operated by DB Regio. In the future, it will be able to travel here at a speed of up to 200 km/h. In addition, the DB, the state of Baden-Württemberg and the Verband Region Schwäbische Alb are opening up an entire region for rail with the new Merklingen railway station. This area of the Swabian Alb can now be reached directly by train and offers commuters and tourists an environmentally friendly travel alternative.

## New tunnels and Germany’s third highest railway bridge

Since the ground-breaking ceremony in 2012, DB has completed an extensive construction program on the new Wendlingen-Ulm line, which also includes several tunnels: the nearly nine-kilometre-long Boßler Tunnel, the eight-kilometre-long Albvorland Tunnel between Wendlingen am Neckar and Kirchheim unter Teck, the Albstieg Tunnel with a length of almost six kilometers between Dornstadt and Ulm and the almost five kilometer long Steinbühl Tunnel on the Alaufstieg. In addition, the 485 meter long and 85 meter high Filstal Bridge was the third highest railway bridge in Germany. It not only crosses the Filstal valley, but also the A8 motorway. In order to connect the new line with Ulm Central Station, DB extensively rebuilt the track field. A new signal box is also being built.

## More improvements for travellers coming in 2025

The new Wendlingen-Ulm line is listed in the federal requirements plan as a project with the highest classification, the so-called urgent need. The construction costs of almost four billion euros were financed by the federal government, the state of Baden-Württemberg and the European Union. With the commissioning of Stuttgart 21 in 2025, there will be further improvements for travelers in regional and long-distance traffic. The travel time between Stuttgart and Ulm will then be halved to around half an hour. In addition, the airport, state exhibition center and the Filder area will have a direct and fast rail connection to and from Ulm in 2027.





Travel relaxed on holiday overnight: Deutsche Bahn (DB) and the Austrian Federal Railways (ÖBB) have integrated Baden-Württemberg even more closely into the European night train network. In the future, a Nightjet (NJ) will travel daily from the state capital of Stuttgart to Venice via Göppingen and Ulm, and will also carry cars to Vienna, Budapest, Zagreb, Ljubljana and, seasonally, to Rijeka.

The DB Group Representative for Baden-Württemberg, Thorsten Krenz, together with Winfried Hermann, Minister of Transport of the State of Baden-Württemberg, Michael Theurer, Federal Government Commissioner for Rail Transport, Anna Deparnay-Grunenberg, Member of the European Parliament, Dr. Frank Nopper, Lord Mayor of the state capital Stuttgart and the board members of ÖBB and DB, Dr. Sabine Stock and Stefanie Berk presented the new offer and said goodbye to the first Nightjet to Venice.

Minister Hermann said: "One of the strengths of the railway in earlier decades was that it connected important metropolises overnight. Unfortunately, this type of travel has been sidelined for a long time. I am all the more pleased that with the Nightjet, Stuttgart is once again connected to a real night train with the dream destination of Venice. This is an important contribution to climate-friendly travel, which will hopefully be followed by many more night train offers." Michael Theurer: "Night trains are a great, climate-friendly alternative to flying for travellers in Europe. So it's all the nicer that with the timetable change this weekend we also have the Venice connection here from Stuttgart. The route is part of our 'TransEuropExpress 2.0' initiative, with which we want to create more cross-border connections together with our European neighbours and also expand the night train offer."

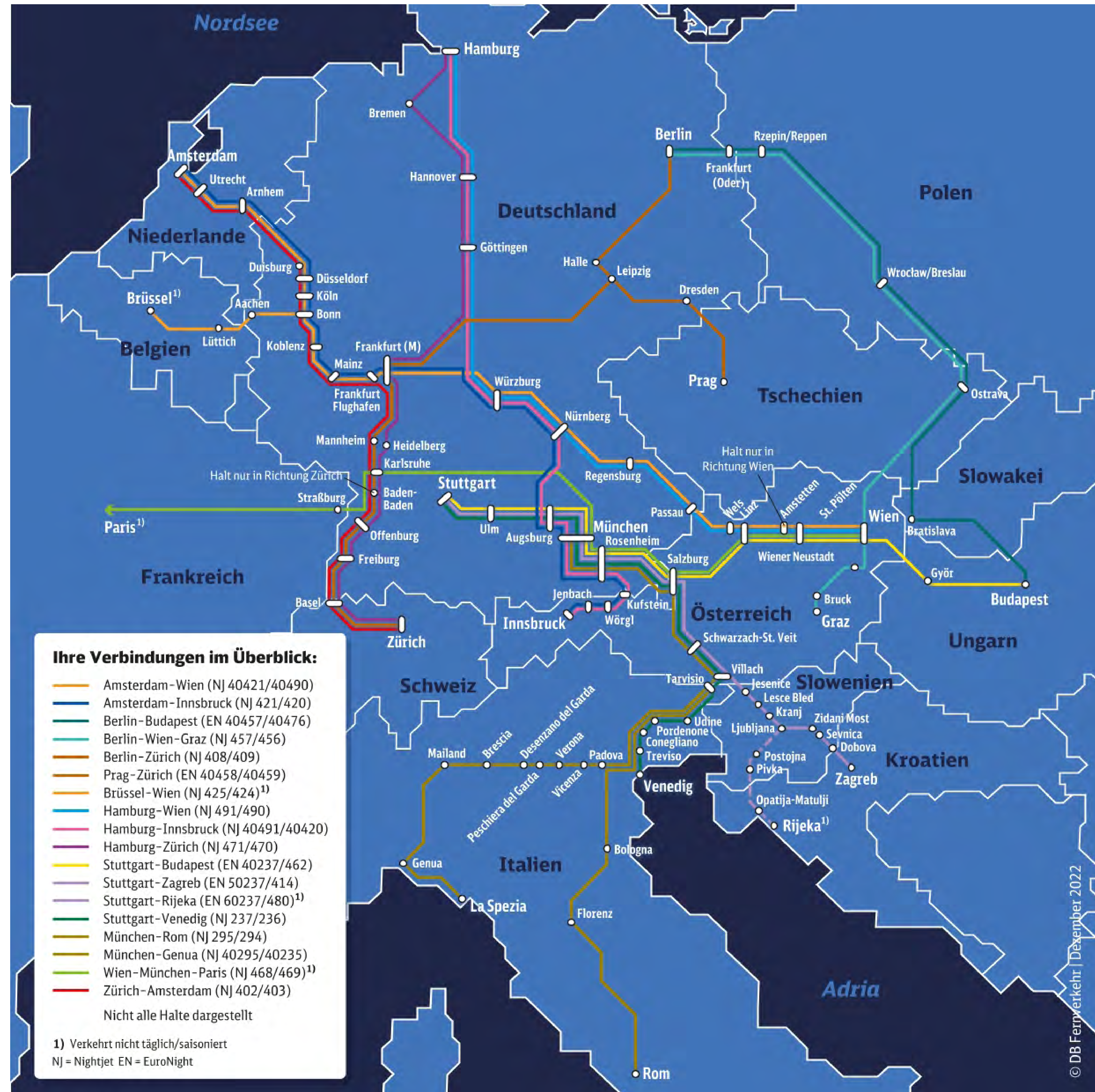
Dr Frank Nopper: "With this premiere trip of the Nightjet to Venice, Stuttgart will finally become a permanent start and destination station in the European night train system. This means that our city is more conveniently connected than ever to the Italian north for anyone who likes to travel at night, but also to destinations in Austria, Hungary and Croatia."

Dr Sabine Stock, ÖBB board member: "Our motto is: We connect Europe! With the resumption and expansion of the European night train network, we have not only become the largest provider of night trains in Europe, but the night train has now become the alternative to the plane. We are pleased that with Stuttgart, Göppingen and Ulm we can connect three more cities to our Nightjet network."

Stefanie Berk, Head of Marketing at DB Fernverkehr: "The night train is not only a strong symbol of climate-friendly travel, but also of a networked, borderless Europe. As of today, 41 cities in Germany are connected to the European night train network. This allows our customers from 10 cities to reach more regions across Europe in their sleep than before."

The new NJ line to Venice and the EuroNight (EN) to Hungary and Southeast Europe connect a total of six German cities with the European night train network. Tickets for Nightjet connections are available from EUR 49.90 per person and direction in a seated car, from EUR 79.90 in a couchette car and from EUR 99.90 in a sleeping car. Nightjet and EuroNight tickets are available from all DB travel centres and agencies, as well as from bahn.de and the DB Navigator app. Further information on the ÖBB Nightjet is available at nightjet.com.

## From the Nightjet to the gondola: Attractive new night train connections from Stuttgart









# Netherlands

On December 8th, TCS Class 193.283 speeds through Weesp with a Münster (Germany) to Amsterdam empty stock movement on behalf of the GreenCityTrip. Erik de Zeeuw





Netherlands

NS trainset No.9512 is seen at the height of Loenersloot working a service from Schiphol Airport to Nijmegen on December 8th.

*Erik de Zeeuw*









On November 25th, MEDWAY Class 186.224 approaches Deurne with a Neuss (D) to Antwerp (B) MSC liner. *Erik de Zeeuw*





Netherlands

Rurtalbahn Cargo Class 193.793 leads a Rotterdam to Weil am Rhein liner, past Griendtsveen on November 25th. *Erik de Zeeuw*





# Netherlands

## Stadler is to deliver trams to the Netherlands for the first time

The Dutch public transport company HTM in The Hague and Stadler have signed a contract for the delivery of 56 TINA trams. The contract also includes an option for additional vehicles. This is the first time Stadler has received a tram order from the Netherlands. The new TINA trams are intended for use on the public transport network in The Hague from 2026.

Following the tender award decision in October, HTM and Stadler signed the contract for 56 new TINA trams with an option for further vehicles. Stadler has therefore once again emerged as the winner of an international public tender and has already received the fifth order for its latest-generation tram. The innovative vehicle concept will now be used outside the German-speaking region for the first time. The commissioning of the first TINA trams for The Hague is scheduled for 2026.

The abbreviation TINA stands for “Total Integrated Low-Floor Drive” in German and describes the vehicle’s consistent focus on passenger comfort. The rotating bogie ensures a pleasantly smooth ride, for example. At the same time, the entire vehicle is completely accessible and has a low floor throughout. The spacious multifunctional compartments offer plenty of room for passengers in wheelchairs.

“We are proud to be able to supply trams to the Netherlands for the first time following the order from HTM. This is the fifth time we have successfully sold our innovative and particularly passenger-friendly latest-generation tram within a short time since its market launch. Our TINA trams will enable passengers in the government city on the North Sea to experience a new dimension in comfort and sustainable transport,” says Dr. Ansgar Brockmeyer, Executive Vice President Sales & Marketing and Deputy Group CEO of Stadler.

“HTM is very pleased with the purchase of the new, wider and modern trams of Stadler. With these trams HTM offers our passengers accessible and comfortable public transportation, and is well equipped for the future of modern mobility”, said Jaap Bierman, CEO of HTM

Stadler makes optimum use of the interior dimensions with its clever arrangement and design of seats and handrails. This creates an open feeling of space inside the vehicle thanks to its generous aisle width. The high interior and large panoramic windows add to the feeling of comfort. With their energy-efficient drive, the TINA trams also help to improve the environmental footprint of local public transport even further.

The digital and intuitive Uni-Board in the driver’s cab makes it easier for the drivers to operate the tram, so that they can concentrate fully on the road traffic. In addition to comfort, passengers and road users in The Hague will therefore benefit from a high standard of safety. The three-part compositions are each 36.5 metres long and offer space for 237 passengers. As HTM can operate the vehicles in double traction if required, capacity will be doubled on busy lines and at peak times. With a top speed of 70 km/h, the vehicle moves quickly, ensuring an attractive and competitive local public transport service.



## THE DUTCH NATIONAL OPERATOR NS RENEWS ITS TRUST IN CAF AND AWARDS 60 DOUBLE-DECKER TRAINS CONTRACT

The Dutch national operator NS (Nederlandse Spoorwegen), which operates commuter and intercity trains on the Dutch Main Rail Network, has placed its trust in CAF once again, by ordering a new fleet of double-deck trains for intercity services. This new contract follows the successful SNG-Civity train sets for commuter services, of which the last of in total 206 train sets are currently being delivered. The new contract consists of the supply of 30x 4-car units and 30x 6-car units, as well as technical support for maintenance, with NS carrying out the maintenance itself.

The value of the newly signed contract amounts to more than €600M and includes

additional options for further units which would increase this amount.

NS is the state-owned operator in The Netherlands and one of the leading companies in the European railway sector. Once again, this project provides evidence of the success of the Civity platform developed by CAF for Suburban, Intercity and Regional services on the European market, as it has been used for various projects performed in countries such as Holland, the United Kingdom, Sweden or Italy.

This new project is in line with the business strategy the Company announced on December 1st during the presentation of its

2026 Strategic Plan, when it stressed how one of CAF’s priorities was the company’s commitment to the European market, given its significant business volume and recurring activity in that market, as well as its strong market position and appropriateness of its range of solutions.

The main features of the units to be supplied by CAF combine high capacity and easy vehicle accessibility. Each train set therefore consists of a combination of single deck and double deck cars, the single deck cars offering level access for persons with reduced mobility. The trains will have a maximum speed of 160 km/h.

This contract marks a milestone as this is the first customer to receive double-decker Civity platform units.

The project is part of NS’ ongoing plans to renew its current double-decker fleet, whilst also increasing its service capacity for the next few years. The first units are scheduled for operation on the Intercity routes that cross the entire country by 2028, with the possibility to exercise some of the extension options for additional units, or the implementation of train versions that can run on cross-border routes to other countries such as Germany and Belgium.

It should be stressed that CAF’s relationship with the Dutch operator dates back many years as CAF entered into its first contract with NS in 2014. That contract consisted in the production of 118 Civity platform suburban trains.

Subsequently, in late 2018, this contract was extended with an additional 88 units, which, given the significance of the customer and the value of the contract (close to €1 billion) was one of the most significant contracts concluded by CAF in Europe.



▶ Standing outside at the North South Railway Workshops at Al Nariyah, EMD SD70ACS No. 4022 is ready for the road. *Vernon Goodey*

▶ Outside the North South Railway Workshops at Al Nariyah, are seen several EMD GPL38S which are used for readying freight consists. *Vernon Goodey*

▶ Inside the North South Railway Workshops at Al Nariyah EMD SD70ACS No. 4055 is seen undergoing servicing. *Vernon Goodey*





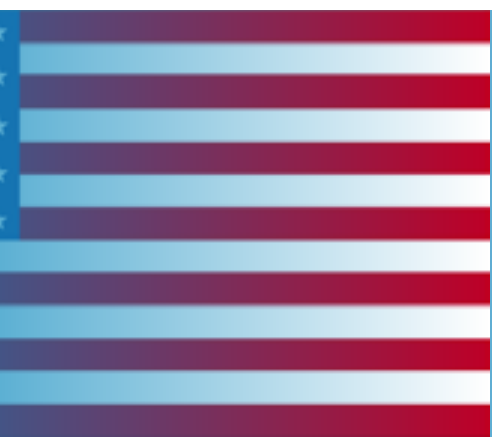


At Hadiyah, on the old disused Hedjaz Railway, about 30km North of Medina, 0-6-0T No. 17 rests, having allegedly been mined by T E Lawrence, but more likely toppled over by scrap merchants for the track and other parts! *Vernon Goodey*





U.S.A.



Decatur & Eastern Illinois Railroad EMD SD40 Nos. 4236 and 4240  
pass Newman. *Laurence Sly*





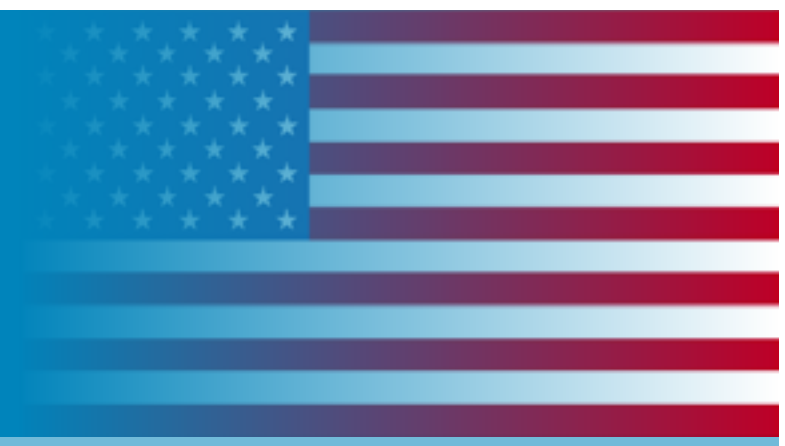
U.S.A.

Kansas City Southern Railroad ET44AC Nos. 5001 and 5021 and AC44CW No. 4586 pass Rich Mountain whilst hauling a southbound manifest train. *Laurence Sly*





U.S.A.



▶ Kansas City Southern Railroad ET44AC Nos. 5001 and 5021 and AC44CW No. 4586 pass Page whilst hauling a southbound manifest train. *Laurence Sly*

▶ Kansas City Southern Railroad Railroad ET44AC Nos. 5001 and 5021 and AC44CW No. 4586 approach Mena whilst hauling a southbound freight train. *Laurence Sly*

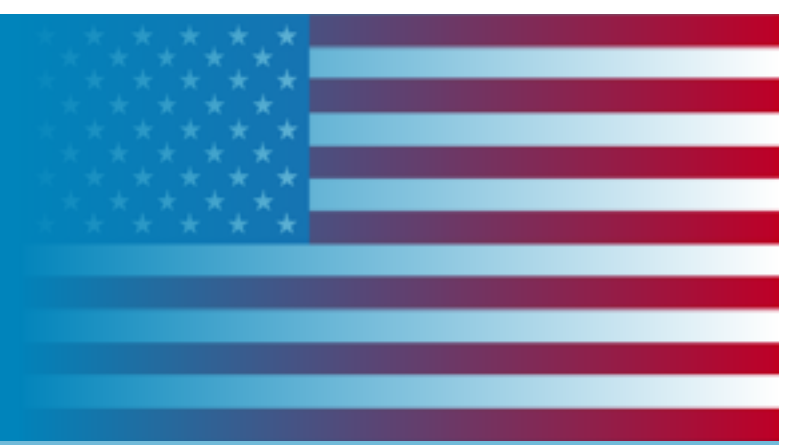
▶ Kansas City Southern Railroad ET44AC Nos. 5001 and 5021 and AC44CW No. 4586 are seen shunting in the yard at Heavener. *Laurence Sly*











▶ Decatur & Eastern Illinois EMD SD40 Nos. 4236 and 4240 pass Atwood whilst hauling train No. 101 from Decatur to Chrisman. *Laurence Sly*

▶ Decatur & Eastern Illinois Railroad EMD SD40 Nos. 4235 and 4244 pass Atwood whilst hauling train 101 from Decatur to Chrisman. *Laurence Sly*

▶ Decatur & Eastern Illinois Railroad EMD SD40 Nos. 4235 and 4244 pass Camargo whilst hauling train No. 101 from Decatur to Chrisman. *Laurence Sly*



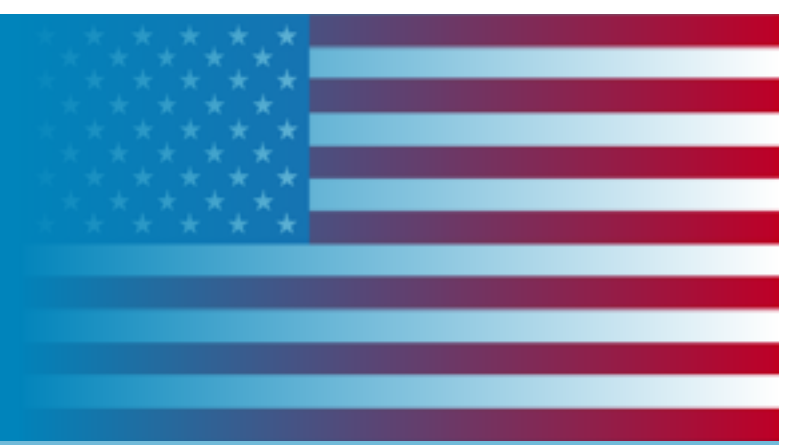


U.S.A.

An aerial photograph of Kankakee Beaverville & Southern Railroad  
Nos. 701 & 702 passing Fowler whilst hauling a train to Templeton.  
*Laurence Sly*







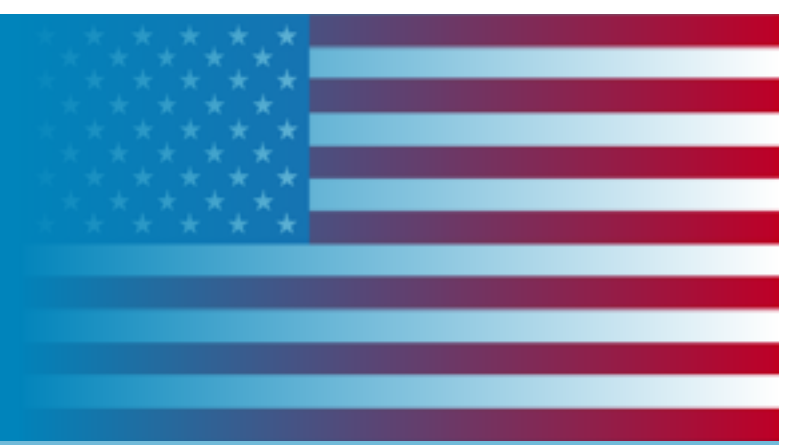
▶ Kankakee Beaverville & Southern Railroad Nos. 701 and 702 pass Swannington. *Laurence Sly*

▶ Kankakee Beaverville & Southern Railroad Nos. 701 and 702 pass the silos at Fowler whilst hauling a train to Templeton. *Laurence Sly*

▶ Kankakee Beaverville & Southern Railroad Nos. 701 and 702 cross the diamond at Shelton whilst hauling a freight train from Iroquoise Jct. to Templeton. *Laurence Sly*







▶ Arkansas & Missouri Railroad Alco C420 Nos. 56 and 57 depart Springdale. *Laurence Sly*

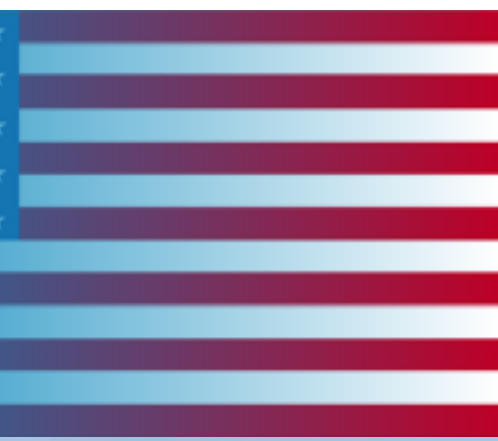
▶ Arkansas & Missouri Railroad SD70ACe Nos. 70, 71 and 72 approach Monett. *Laurence Sly*

▶ Arkansas & Missouri Railroad SD70ACe Nos. 73, 71 and 70 pass Rogers whilst hauling the Monett Turn to Springdale. *Laurence Sly*





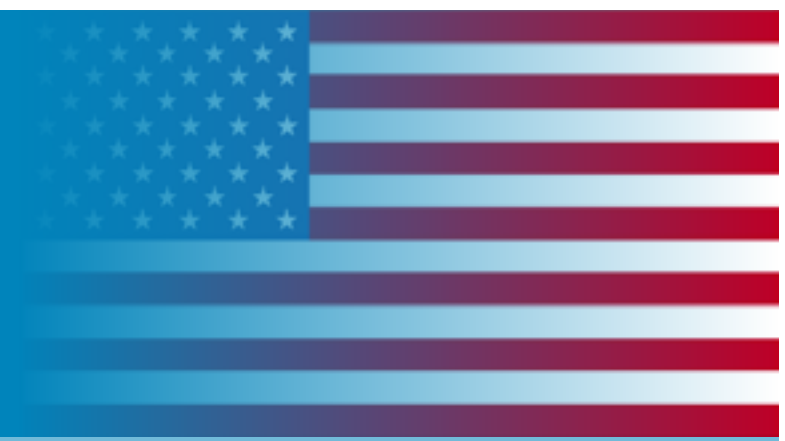
U.S.A.



Arkansas & Missouri Railroad No. 42 passes Rogers whilst making its way back to Springdale. *Laurence Sly*







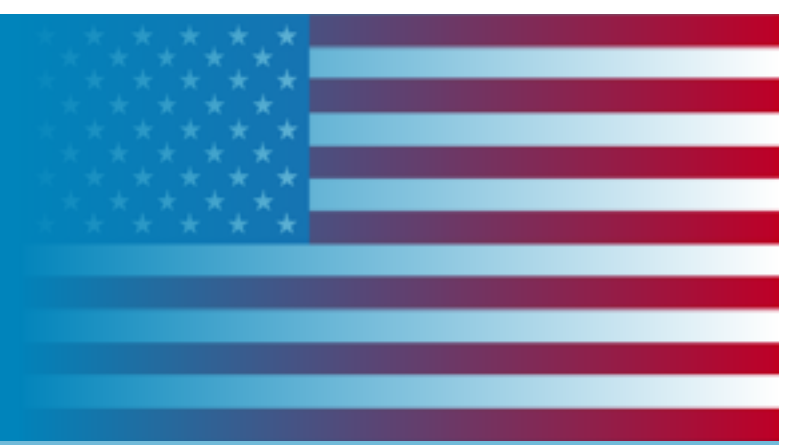
▶ Indiana Railroad Nos. 9009 and 9004 cross the diamond at Linton whilst hauling SAHW from Senate Avenue to Hiawatha. *Laurence Sly*

▶ Indiana Railroad Nos. 9007, 9010 and 3808 pass Bargersville whilst working SAHW. *Laurence Sly*

▶ Indiana Railroad Nos. 9005 and 9013 pass Morgantown whilst working SAHW from Senate Avenue to Hiawatha. *Laurence Sly*







▶ Indiana Eastern Railroad EMD GP38-2 No. 5255 approaches Bath with the twice weekly working to Fernald. *Laurence Sly*

▶ Indiana Eastern Railroad EMD GP38-2 No. 5255 departs Cottage Grove with the twice weekly working to Fernald. *Laurence Sly*

▶ Indiana Eastern Railroad EMD GP38-2 No. 5255 crosses the trestle bridge at Okeana whilst hauling tank cars to Fernald. *Laurence Sly*





# Kazakhstan

## Federal Railways of Kazakhstan (KTZ) and Stadler sign a large contract for sleeper and couchette coaches

KTZ and Stadler have signed three long-term contracts for the supply of 537 sleeper and couchette coaches, including a 20-year full service contract. These contracts follow an agreement for a strategic partnership, signed at the end of 2021, presided over by the President of Kazakhstan Kassym-Jomart Tokayev and the then President of the Swiss Confederation Guy Parmelin.

The total contract covers the manufacturing and service of the sleeper and couchette coaches, totalling EUR 2.3 billion. The contract also includes the transfer of technology from Switzerland to Kazakhstan and the acquisition of a local production facility in Astana.

KTZ and Stadler announced the next step in their partnership, signing three contracts for the supply of sleeper and couchette coaches, full-service maintenance

and the acquisition of a local production facility in Astana with around 100 employees.

The gradual transfer of technology, the training of local personnel at other Stadler plants, as well as the cooperation with local suppliers and technical universities provide the foundation of this international collaboration. The delivery of all sleeping and couchette coaches will take place by 2030 and there is an option of additional orders to continue the modernisation of the KTZ fleet.

“We are looking forward to this long-term cooperation with KTZ and delivering our state-of-the-art technologies and competences to the Kazakhstan railway. This project will see Stadler enter a new market and expand our geographical presence in the CIS states.

Thanks to our innovative products and expertise, we believe that we can help take public transport in Kazakhstan to the next level”, commented Peter Spuhler, Executive Chairman of the Board of Directors of Stadler.

### High levels of passenger comfort

The delivery contract includes modern sleeping and couchette coaches of four different types: 234 sleeper passenger carriages with 40 seats each; 233 couchette sleeper passenger carriages with 58 seats each; 35 passenger carriages, each with 18 seats, for staff and for people with limited mobility; and 35 generator passenger carriages. The new rolling stock is designed to operate day and night on electrified and non-electrified parts of domestic and international passenger lines in the Republic of Kazakhstan and CIS states.

The gauge is 1,520 mm and trains can reach a maximum speed of 160 km/h.

The standard composition consists of at least fifteen carriages. Trains can operate in the temperature range of -50 to 45°C. The train itself, as well as the maintenance schedule, have been designed to keep environmental impact to a minimum throughout the lifespan of the fleet.

# Romania

## Alstom and Arcada company to modernise 66 km of Romanian Cluj-Oradea railway line

**Alstom will provide state-of-the-art digital train control, traffic management solutions and electrification infrastructure for this project**

**Alstom will provide ERTMS Level 2, digital traffic control solutions and electrification in two lots covering 66 km of double railway line, enabling speed of 160 km/h for passenger trains and 120 km/h for freight**

**Alstom’s digital control centre installed in Cluj will manage the traffic on the entire railway line totalling 166 km**

**Arcada will oversee the civil works**

**The modernisation projects are financed through Romania’s National Recovery and Resilience Plan (PNRR)**

Alstom, global leader in smart and sustainable mobility, has been awarded two new signalling and electrification contracts in Romania, as part of modernisation works on the first two sub-sections of the Cluj Napoca-Oradea line.

The two contracts were signed by Asocierea RailWorks consortium, consisting of Alstom and Romanian civil works company Arcada, with CFR SA, the Romanian state rail infrastructure operator.

Alstom will provide state-of-the-art digital train control, traffic management solutions and electrification infrastructure and Arcada will carry out all the civil works. The implementation period for each contract is 42 months.

“These new contracts consolidate Alstom’s leading position on the Romanian railway market, for both digital train control and electrification. In the recent years, Bucharest has become a strategic centre for Alstom’s signalling expertise employing over 200 highly qualified engineers, whose expertise serves local projects, and international ones,” says Gabriel Stanciu, Alstom Managing Director for Romania, Bulgaria and the Republic of Moldova.

The two contracts cover the modernisation of 66 km of double railway line between Cluj Napoca and Poieni (30 km for Cluj Napoca – Aghireş and 36 km for Aghireş-Poieni). It includes electrification, infrastructure and superstructure modernisation, signalling and telecommunications systems, as well as civil works. Alstom will directly oversee the ERTMS Level 2 deployment, implementation of the traffic control solution, the digital interlocking and passenger information systems, as well

as electrification works including power supply and overhead contact line. The modernisation will enable the speed of 160 km/h for passenger trains and 120 km/h for freight.

For the electrification works, Alstom will supply two Traction Power Stations and its OCS3 catenary solution for main lines, leveraging its in-house capabilities at the manufacturing facility in Lecco, Italy, and its worldwide experience of OCS3 in commercial operation.

Alstom is a global pioneer in its development and implementation and a worldwide leader in on-board digital train control equipment. ATLAS 200 is Alstom’s ERTMS Level 2 solution allowing trains to run at higher speeds without physical lineside signals. In Europe, more than 30% of ERTMS Level 2 lines in service are provided by Alstom.

Alstom has been active in Romania for almost 30 years and is a market leader in railway electrification and signalling solutions. The company is responsible for implementing signalling or electrification solutions on more than 75% of the Northern branch of the Rhine-Danube railway corridor in Romania.

The first CBTC urban signalling solution in the country is under implementation by Alstom on Bucharest’s metro Line 5. The company has also been the provider of maintenance services for the Bucharest metro fleet for the last 18 years and a new long-term contract is in place, valid until 2036.



# Alstom will supply an additional 49 Coradia Stream trains to Renfe in Spain

Order worth nearly €370 million brings total number of trains ordered by Renfe to 201, totalling €1.8 billion to date

Coradia Stream high-capacity trains will answer demands for sustainability, capacity, availability and comfort

Order is accompanied by an ambitious development and digitalisation plan at Alstom's Santa Perpetua site

Alstom, global leader in smart and sustainable mobility, has been awarded a contract worth nearly €370 million to supply 49 additional Coradia Stream high-capacity trains to Renfe in Spain. These trains will supplement the 152 trains already ordered in March 2021. The two orders are totalling a value of €1.8 billion for 201 trains (including supply of spare parts and the maintenance of 56 of the trains for 15 years).

All the trains will be manufactured at Alstom's manufacturing site in Santa Perpetua, Barcelona. To carry out this project, the site is undergoing an unprecedented investment and digitalisation plan, which includes the creation of the biggest automatised workshop within the Alstom Group.

"This is a historic project for Alstom in Spain, not only because of its scale, but also because it is a project built on a global sustainability concept – beginning at the tendering and design phase. The trains are fully accessible, designed with all passengers in mind, sustainably developed according to eco-design criteria, and replete with innovative features both in the design and the manufacturing process. In a few short years, we will see these trains running in our cities, but their social, environmental and economic impact is already a reality," says Leopoldo Maestu, Managing Director of Alstom Spain and Portugal.

The trains, part of Alstom's Coradia proven platform, will allow Renfe to transport at least 20% more passengers per hour through the country's busiest railway hubs, including Madrid and Barcelona. They will each be 100 metres long and have a total capacity of 900 passengers. They boast an innovative mixed-configuration design, with both single and double-deck cars, designed specifically to meet the evolving mobility needs of major urban centres.



## Designed to optimise capacity, availability and sustainability

The design of the new trains enables maximum capacity for passengers, thanks to innovative interior configuration and flexible spaces. Numerous access doors and large distribution halls facilitate the entry and exit of passengers, allowing a decrease in station stop times. The trains offer universal accessibility, Wi-Fi connectivity and dedicated areas for bicycles and pushchairs. Alstom's proven technology also expands availability and line usage via more efficient traction systems and the latest generation of train control technology.

Fully developed in line with eco-design criteria, from the raw materials selection to traction systems, all the new trains for Renfe will be a benchmark in sustainable operations, thanks to optimal energy efficiency during

operation and a recyclability rate of over 98% at the end of its service life.

With more than 3,000 employees, Alstom in Spain has a long industrial and technological history, including four industrial centres, four technology sites and a presence in more than twenty maintenance workshops. Among others, Alstom has an industrial plant in Barcelona dedicated to the manufacture of all types of rolling stock, a propulsion system factory in Bizkaia, and in Madrid, different technological innovation centres for the development of programmes and projects in the fields of railway safety, signalling, maintenance and digital mobility.

Alstom's Coradia series of modular trains benefit from more than 30 years of continuous development and proven technical solutions. Around 3,900 Coradia

regional trains have been sold to date and more than 3,000 are currently operating in Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and Canada. The platform offers a full range of emission-free solutions, including battery or hydrogen versions for non-electrified lines.

Image: Alstom's initial proposal - The final design of the trains may vary from this render. ©ALSTOM SA | Advanced & Creative Design



# Poland

## PESA has completed tests of the hydrogen locomotive

PESA has completed the tests of its hydrogen locomotive with a special presentation with the refueling process and test drives on the experimental track in Żmigród!

Pesa has completed the final stage of approval tests for the SM42-6Dn hydrogen shunting locomotive. It was the first hydrogen-powered vehicle in the history of the Railway Research Institute, whose homologation tests were carried out in Żmigród. A special station for refueling hydrogen from a mobile station was prepared on the test track, thanks to which all dynamic tests could be efficiently carried out.

“We completed all tests as planned. Now it’s time to prepare documentation for certification, then the homologation procedure. We assume that the locomotive will start operating in April at the premises of Petrochemia in Płock,” summed up Dr. Lech Lipiński, PESA Bydgoszcz hydrogen vehicles contract manager.

At the end of the tests in Żmigród, Pesa invited over a dozen Polish and foreign freight carriers to a special presentation of the SM42-6Dn locomotive with a demonstration of hydrogen refueling from a mobile station and test drives.

“The presence of several dozen representatives of cargo and intermodal carriers confirms the interest in the project of our hydrogen shunting locomotive. In addition to the modernization of the SM42-6Dn, we will offer customers on the Polish and European market new hydrogen locomotives. Work on these projects as part of the zero-emission locomotive and passenger vehicle platform is already underway,” announced Krzysztof Zdziarski, President of the Management Board of Pesa. The seminar part of the meeting was also attended by representatives of PKN Orlen, CUPT, PFR and TUV Sud.

“We are ready to commercialize the hydrogen shunting locomotive project. We wanted to present our customers not only with the vehicle and the hydrogen refueling process, but also give them a chance to familiarize themselves with various financial instruments to support investments in hydrogen rolling stock and its refueling infrastructure.” – added Maciej Grześkowiak, Director of Strategic Projects and Communication at Pesa.

The “Green Pesa” is one of the key elements of the Pesa2026+ strategy implemented by the company. It assumes not only the production of zero-emission, battery and hydrogen rail vehicles, but also the reduction of CO2 emissions both in production and in the entire operation of the company.

# Ireland

## Alstom to supply 18 additional X'trapolis battery-electric trains for Irish Rail

Alstom, global leader in smart and sustainable mobility, has announced that it has signed a further order with Irish Rail (IE) for 18 more five-car X'trapolis trains and an extension to the 15-year Technical Support and Spares Supply agreement under the ten-year framework agreement announced in December 2021. This further order, valued at around €160 million, will see 18 battery-electric multiple units (BEMUs) added to the initial firm order of 19 five-car X'trapolis trains – thirteen of which were battery-electric and six electrics – made in 2021. In total, Irish Rail has now ordered 37 five-car X'trapolis trains which will deliver more capacity and decarbonisation benefits in advance of electrification of the extended DART+ network.

“As the world’s leading innovator and supplier of green mobility solutions, Alstom is here for the long-term to support Ireland in delivering transformative change to its citizens through sustainable rail travel,” said Nick Crossfield, Alstom’s Managing Director UK and Ireland. “This further order of X'trapolis trains signals Irish Rail’s intent to move quickly in greening the Greater Dublin commuter network, Ireland’s most populated commuter belt as a first step in that national transformation.”

Chief Executive of Irish Rail Jim Meade said: “As this welcome acceleration of funding for our DART+ Fleet is

confirmed, the benefits of the framework agreement with Alstom become ever more apparent. We can respond swiftly, with this further major order of units under the agreement, to deliver transformative change for our services and for our customers. These further 90 BEMU carriages, coupled with last year’s order of 95 units, will help us in Irish Rail to achieve our ambition of being the backbone of Ireland’s sustainable transport network. We’re excited to continue to work with Alstom to deliver expanded services in the Greater Dublin Area, enhanced facilities for our customers, and a cleaner environment for our country.”

The ten-year framework agreement allows for up to 750 electric and battery-electric rail cars to be procured for the DART+ network which is planned to open in 2025. 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. Due to enter service in 2025, the 37 trains with 31 five-car battery-electric multiple units (BEMUs) and 6

five-car electric multiple units (EMUs) now 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.

According to Irish Rail, this 18 battery-electric multiple units (BEMUs) order will benefit Maynooth/M3 Parkway and Kildare line services, delivering more capacity for commuters in advance of electrification. 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. This will enable, for example, the new battery-electric fleet to deliver Dublin to Drogheda return services, with fast charging at Drogheda Station.

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.

### Alstom X'trapolis for Ireland

Alstom’s highly successful, modular X'trapolis commuter train platform, with over 6000 railcars sold worldwide is manufactured as well in the European Union and will be 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, e-bikes and e-scooters; and advanced CCTV systems throughout the train, to enhance safety and security for customers and employees.

Alstom will also continue to support the DART+ fleet for a period of 15 years, providing technical support and spares, and deploying its HealthHub and TrainScanner technologies for predictive maintenance.



# Egypt



**The first train services connect Cairo and Alexandria starting this week**  
**The lightness of Talgo technology, key to maximizing energy efficiency**  
**It involves the first of two contracts awarded to Talgo in Egypt**

Egypt's national railway company ENR has started the commercial operation of the Intercity trains built by Talgo in Spain. The first services connect the Egyptian capital, Cairo, and the city of Alexandria. This milestone confirms the satisfactory progress of the project for the supply of six units and their maintenance for eight years, for c. 160 million euros, which has also involved the construction of new Talgo facilities in Egypt.

The Talgo trains, which belong to the Intercity platform with which the company has recently been awarded contracts in countries such as Germany and Denmark, are a very relevant part of the modernization process of the railway system undertaken by the Egyptian government as part of a broader and more ambitious agenda aimed at decarbonizing key sectors of the economy.

Thanks to the lightness of Talgo's exclusive rolling stock technology and aluminum construction, the Intercity trains supplied to Egypt for daytime services increase capacity and service quality and reduce energy consumption per passenger, thus maximizing efficiency and minimizing environmental impact.

#### **State-of-the-art trains**

The contract included the supply of six train units with a maximum commercial speed of 160 km/h and 490 seats. Each unit is made up of a locomotive and fifteen towed cars, five of them for first class, eight for second class, one mixed with cafeteria and seats for people with reduced mobility, and a technical car.

Manufactured in Talgo's factory in Alava (Spain) and designed based on Talgo's experience on the Mecca-Medina line (Saudi Arabia), these Intercity trains have high-power redundant air conditioning systems, and have been certified to operate at temperatures of up to 50°C. They also feature an onboard WIFI platform throughout the train, and infotainment systems in the first-class cars.

#### **Second contract: night services**

In August 2022, Talgo was awarded a second contract for the manufacture of another seven passenger trains, in this case for night services, for an approximate amount of 280 million euros.

This new night trains project will include the construction of the new units in the plants of Alava and Madrid, in Spain, as well as their maintenance in the facilities that Talgo already has in Egypt, for a period of 15 years. According to the schedule that has been established, the new trains will start to be delivered from 2024 onwards.

## Talgo starts operating its Intercity trains in Egypt





## VR FleetCare wins contract for the refurbishment of 81 Flirt electric train bogies in Finland

The Finnish rolling stock maintenance company VR FleetCare has won the tender organised by Helsinki Metropolitan Area Rolling Stock Ltd for the refurbishment of Flirt electric train bogies. The contract concerns the periodic refurbishments of the bogies of 81 trains according to the kilometres travelled. The basic repairs are to be carried out between 2024 and 2030. The contract also includes a 4-year option. VR FleetCare is also responsible for the daily operational maintenance of the rolling stock. The Flirt trains operate as commuter trains in Helsinki.

“We are very happy to have been able to submit the best bid in this tough competition. The contract is strategically important to us, as we as a company seek growth in

the future, especially in our component services. I also believe that we will be able to meet the rolling stock owner’s goals, according to which maintaining the value and quality of the components together with optimising the life-cycle costs are the most important factors,” says Peter Guldbrand, Vice President, Commercial, VR FleetCare.

“Successful bogie refurbishments are very important to the goals of the rolling stock company, and we are pleased to have completed the bidding process successfully. As a rolling stock owner, high quality and delivery reliability of component services are of paramount importance to us. Now, the work together with VR FleetCare to start the maintenance operations with high quality and on

schedule will begin,” says Veli-Pekka Hakatie, Managing Director of Metropolitan Area Rolling Stock Ltd.

Bogie maintenance will be carried out by VR FleetCare’s Pieksämäki unit, who are specialised in the maintenance of rolling stock bogies. The component workshop, opened in 2021, has new production lines and extensive knowledge of different types of bogies. They repair the bogies of electric and diesel locomotives, electric trains and passenger cars under one roof.

“The prospects of the international component refurbishment market are good, as responsibility and the circular economy are becoming popular also in the railway industry. At VR FleetCare, we have been looking

for solutions that can help us extend the lifecycle of components for decades. We have cost-effective working methods and effective processes to provide high-quality and competitive maintenance services to rolling stock components. The Estonian operator Elron also relies on our services, as the bogies of the Flirt trains at their disposal have been refurbished by us for years,” says Anders Karlsson, Vice President, Component services, VR FleetCare.

Bogies are the most significant components of the rolling stock in terms of lifecycle costs and traffic safety. They account for approximately one fifth of the rolling stock’s lifecycle costs.





# From the Archives

SNCB Class 1200 No. 1211 stands at Ghent station on June 11th 1994.

*John Sloane*

Belgium

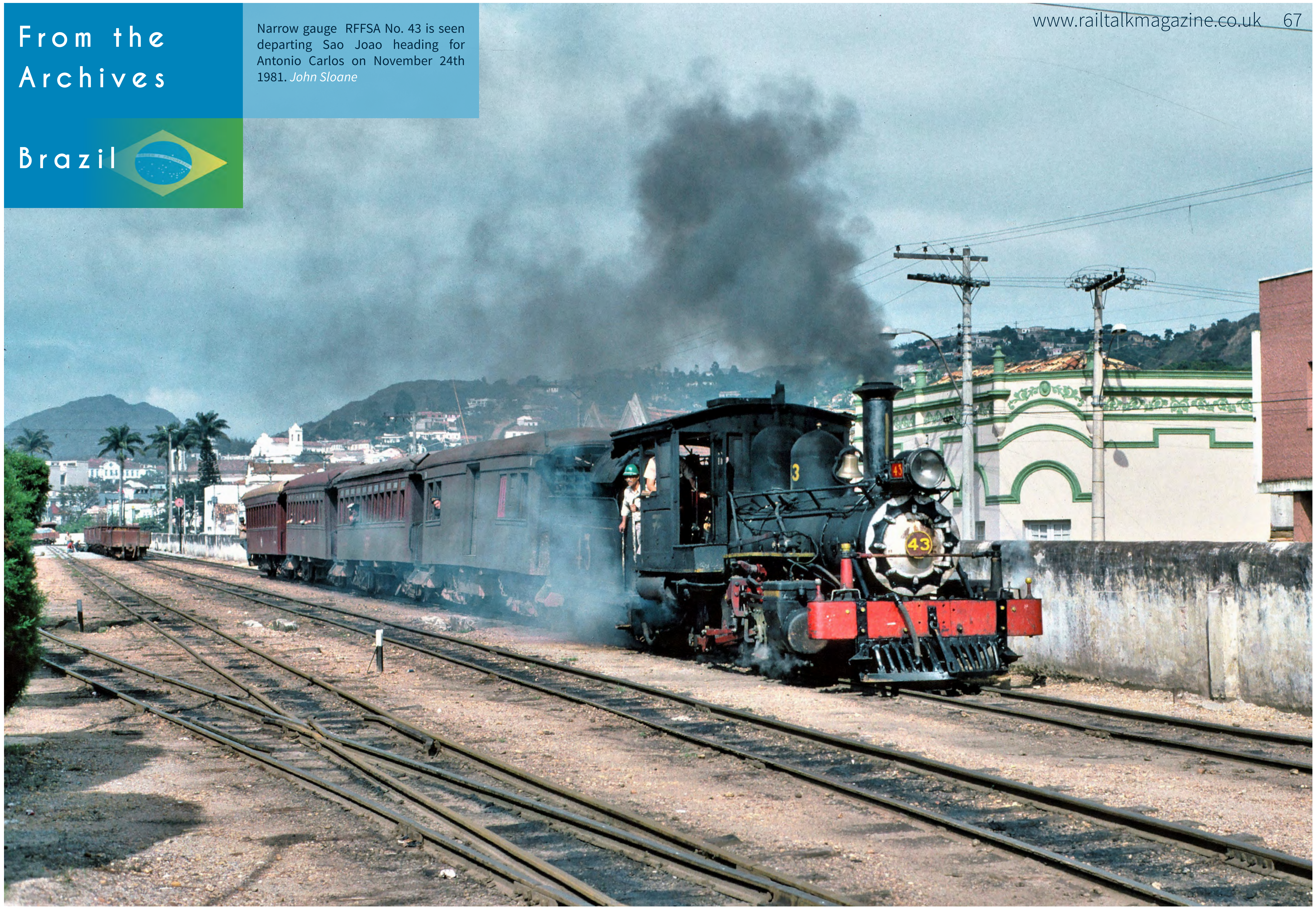
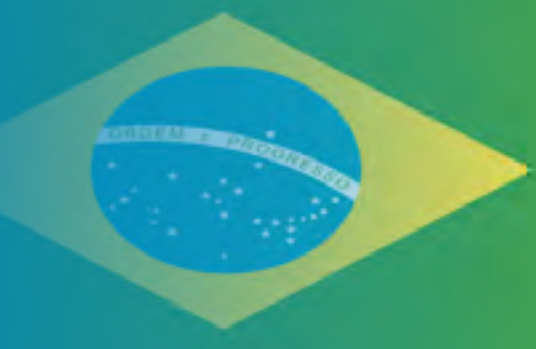




# From the Archives

Narrow gauge RFFSA No. 43 is seen departing Sao Joao heading for Antonio Carlos on November 24th 1981. *John Sloane*

Brazil





# From the Archives

QJ steam locos Nos. 7030 and 6882 are seen at Reshui on the Ji-Tong line on January 20th 2005. *Mark Enderby*

China 





# From the Archives

China 

On September 15th 2009, No. DF7.0009 is seen with a rake of tanks at Nangang, Guangdong.  
*Mark Enderby*





# From the Archives

Minaz No. 1342 (BLW/11) stands at Marcelo Salada mill on February 18th 1985. *John Sloane*

Cuba





From the  
Archives

An SNCF push-pull driving trailer is  
seen at Grenoble on February 9th  
1998. *Mark Enderby*

France





# From the Archives

## Germany

Class 216.032 operated by W F Wiebe runs light through Bremen Hbf on July 4th 2016. *John Sloane*





# From the Archives

## Germany

HGK Class 66 No. DE674 is seen on the depot at Bruel-Vorchem on May 5th 2005. *Mark Enderby*





# From the Archives

## Germany

PKP No. SU46-037 arrives on a train from Poland at Cottbus on April 30th 2012. *Mark Enderby*





# From the Archives

## Hungary

A very clean MAV No. V43-3278 stands at Budapest Deli on November 11th 2008. *Mark Enderby*





# From the Archives

Former DB Class 220.045, operated By Dinnazo Po, stands at Ravenna Yard on May 3th 2016. *John Sloane*

Italy



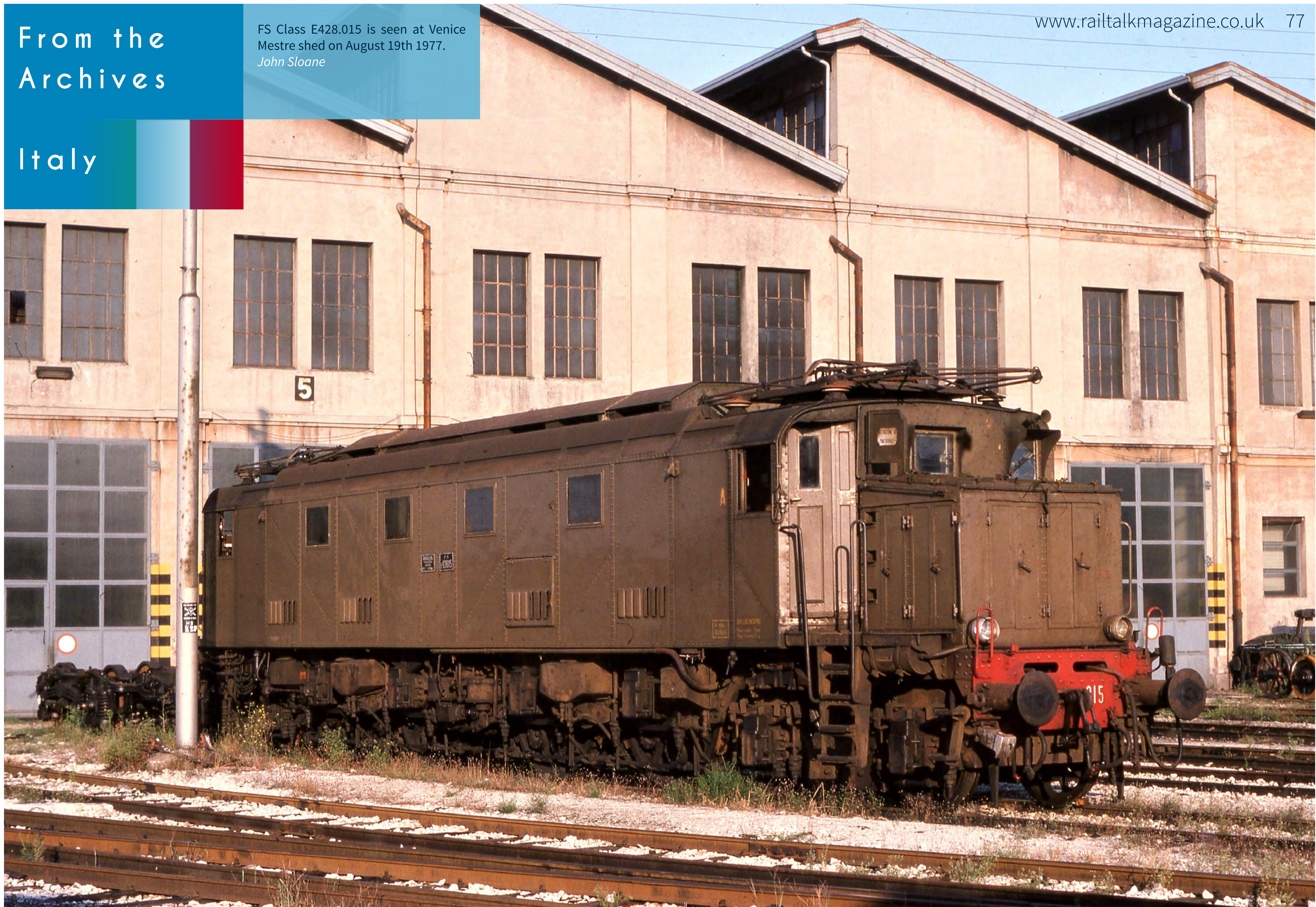


# From the Archives

Italy

FS Class E428.015 is seen at Venice Mestre shed on August 19th 1977.

*John Sloane*





# From the Archives

## Netherlands

NS loco No. 1501 (ex BR EM2) stands at Rotterdam CS with a train from Köln, sometime in January 1974. *Gerard van Vliet*





# From the Archives

North Korean No. 221 (ex China Rail DF4B) stands at Pyongyang with a train to Beijing on September 14th 2009.  
*Mark Enderby*

## North Korea





# From the Archives

Former USATC GE Bo-Bo No. 6501 in the yard at Moghalpura Works in Lahore on February 13th 1980.  
*John Sloane*

Pakistan





# From the Archives

RENFE Class 276.059 sweeps through Martorell station with a freight on October 23rd 1978. *John Sloane*

Spain





# From the Archives

SBB No. 10034 is seen at Basel on October 21st 2004. *Mark Enderby*

## Switzerland





# From the Archives

## Thailand

RSR Japanese built 2-8-2 No. 962 is seen at  
Haad Yai with a freight on April 16th 1981.

*John Sloane*





From the  
Archives

Amtrak No. 949 arrives at  
Baltimore on April 9th 1994.  
*Mark Enderby*

U.S.A.

