Railtalk Magazine *Xtra*

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Submissions & Contributions

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

Photographic Contributions

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

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

Welcome to Issue 219Xtra

Some excellent news from Sweden this month, especially if you are a fan of the OBB Class 1144 series locomotives as Railcare's locomotive workshop in Långsele has started a collaboration with Grenland Rail to upgrade eight of the classic 1144 locomotives, formerly in service with the Austrian ÖBB, for use in freight traffic in both Sweden and Norway.....

The powerful four-axle 1144 locomotives were manufactured in Austria from the late 1970s until the mid-1990s, and even then, they were inspired by Swedish railway technology, especially when it came to optimising the relationship between power and reliability, which there was experience in Scandinavia.

'By adapting the locomotives for the Scandinavian market, where winter climate and high demands on reliability are standard, a circle is closed between the history of the 1144 locomotive and its future role on the Nordic tracks,' says Patrik Söderholm, Operations Manager at Railcare Lokverkstad.

The contract awarded to Lokverkstaden in Långsele involves upgrading the eight locomotives in three stages. First, an audit of the main components will be carried out to ensure that the locomotives are in good condition, while the driver's environment will be upgraded with a more ergonomic and modern cabin. The locomotives are then adapted to cope with the harsh Nordic climate, including the overhaul of pantographs and the installation of climate protection. They are also painted in Grenland Rail colours. Finally, modern on-board systems are installed. Four of the locomotives will have ATC (Automatic Train Control), while the other four will be equipped with the European safety system ETCS (European Train Control System). All locomotives will also have radio control. Railcare is responsible for the entire process – from design and integration to handling approval at the ERA (European Railway Authority).

'We take overall responsibility for ensuring that the locomotives meet all the requirements for operating the railway in both Sweden and Norway. It is great that we get to use all our expertise and commitment to extend the life of these reliable and proven locomotives,' says Patrik.

And some more news from Sweden is that Railcare are to develop the workshop in Långsele.....

Railcare has entered into an agreement to acquire Y-ettan AB, the company that owns the property where Railcare currently operates its locomotive workshop in Långsele. The acquisition is part of Railcare's long-term strategy to develop the locomotive workshop in Långsele to meet the high demand in the market.

'The locomotive workshop has experienced strong growth in recent years and we need to review the possibilities for long-term development of the business,' says Mattias Remahl, CEO of Railcare.

Work is now underway to produce a decision basis for a potential future investment in the locomotive workshop. At this stage, the focus is mainly on reviewing the process for detailed planning and building permits, as well as analysing the need and scope of the possible investment.

'The decision-making basis will give us an indication of whether we can get the right conditions to grow in line with our needs and our customers' requirements. We will do everything we can to speed up the further process,' says Mattias.

The locomotive workshop in Långsele which previously served as a traditional locomotive shed, has undergone continuous development to meet the growing demand for maintenance services. In recent years, business has grown, stretching the facility to its maximum capacity. In addition to the increase in volume, the locomotive workshop has also provided and carried out new types of projects, such as engine replacements, which have highlighted the need for a more appropriate and capacity-adapted facility to meet future demands and improve workflows.

Until next month...

David

This Page

Siemens articulated tram No. 503 departs Lisbon's Sodre railway station on route 15E to Figueira. *Michael Lynam*

Front Cover

SBB Class 460.081 propels a Basel to Brig service into Spiez on September 6th. *John Sloane*

The preserved Swiss TEE set No. 1053 had an outing on a tour around Switzerland on September 7th and is seen in Basel SBB station during a lunch break for the tour participants. *John Sloane*

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With Thanks

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These issues wouldn't be possible without contributions from:
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Australia

Transperth EMU No. 241 is seen departing McIver station in Perth on November 4th.
Mark Enderby

Australia

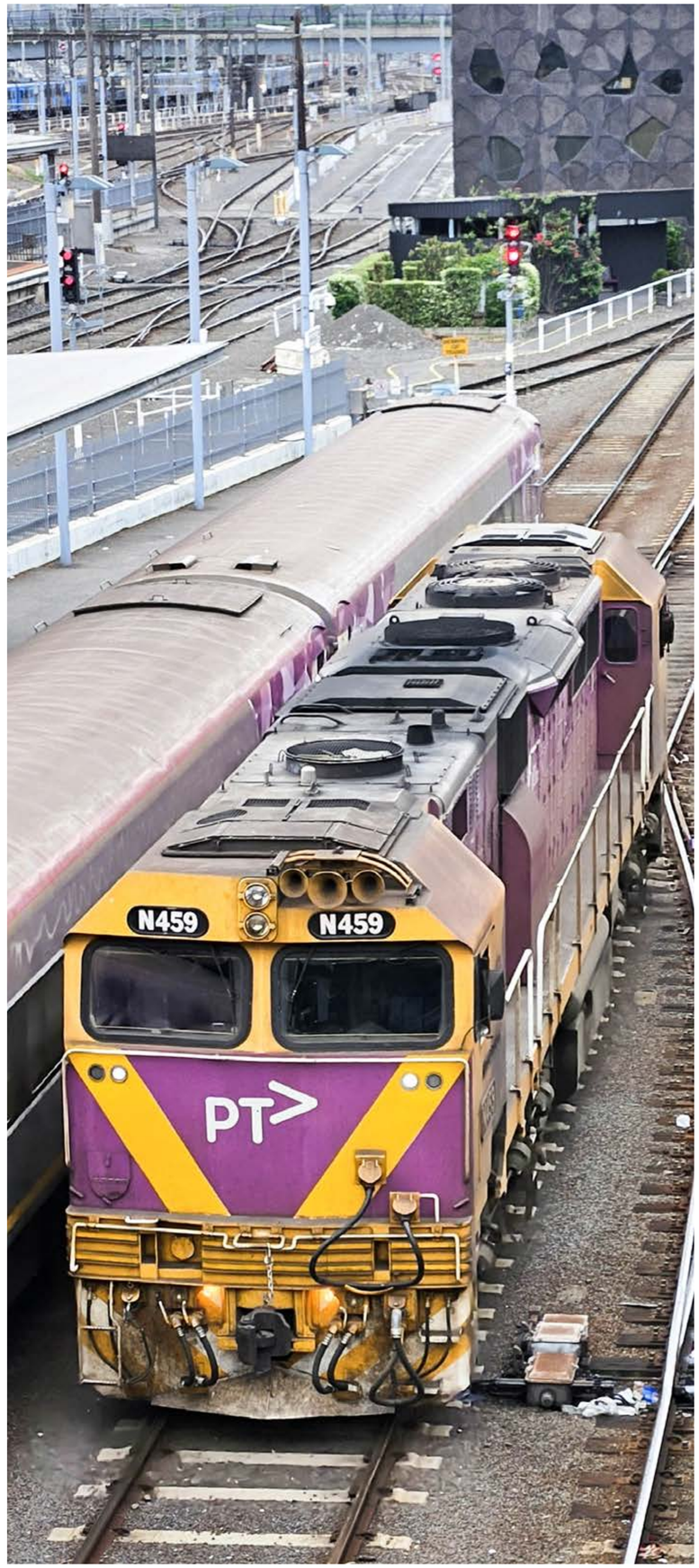
Transperth EMU No. 5097 is seen at McIver station in Perth on November 4th.
Mark Enderby

Australia

An Oliver Hill Railway tramcar is seen on the Rottnest Island railway. *Mark Enderby*

On November 13th, V/Line No. N459 (Clyde) runs round its train at Melbourne Southern Cross. The loco was put into storage at the end of the month. *Mark Enderby*

WatCo Clyde Engineering No. 111.203 arrives at Fremantle Port with a box train on November 7th. *Mark Enderby*



Australia

On November 11th, Adelaide Metro unit No. 3115 arrives at Central station. *Mark Enderby*

Light engines, Railfirst No. CF4430 (United Gonian built in 2024) and No. CSR 007 (Ziyang) pass Mawson Interchange in Adelaide on November 11th. *Mark Enderby*

On November 28th, XPT power cars Nos. 2010 and 2011 depart Sydney Central during a downpour. *Mark Enderby*

Australia

Adelaide Metro EMU No. 4017 passes through Dry Creek in Adelaide on November 11th.
Mark Enderby

Austria

Marmaray Tunnel: seamless transport between continents

The Marmaray Tunnel connects the Asian and European sides of Turkey, enabling seamless intercontinental rail freight transport in the greater Istanbul area. The Rail Cargo Group (RCG) is currently the only railway logistics provider that has a licence to pass through the Marmaray Tunnel.

Opened in 2013, the Marmaray Tunnel connects Halkalı on the European side of Istanbul with Gebze on the Anatolian side. The tunnel connection between Kazlıcesme and Ayrılıkcesmesi stations is particularly interesting, where trains enter the tunnel on the European side and exit on the Anatolian side - and vice versa. There is a section under the Bosporus, where trains can travel directly under the strait between Europe and Asia.

Exclusive goods train crossings for the RCG
At night, when passenger traffic is at a standstill, the Marmaray Tunnel is open to rail freight traffic. This means that transport operations between Europe and Asia can be carried out without interruption, as truck handling and onward carriage on the Asian side of Istanbul are no longer necessary. Strict conditions apply to rail freight transport: the transport of chemicals is prohibited, as is the transport of empty, cleaned wagons that were previously loaded with chemicals. The maximum permissible width of the wagons is 3150 mm. Each goods train requires a separate licence from the Turkish state railway TCDD and will be checked for freight and wagon specifications. RCG is currently the only railway logistics provider that can transport goods trains through the Marmaray Tunnel and has already transported block trains with containers, swap bodies and semi-trailers through the tunnel, for example to the Köseköy freight terminal.

Significance for the Turkish automotive industry
The automotive industry plays an important role in the entire production sector of the Turkish economy. The majority of companies producing for the automotive industry are located in the Marmara region in the west of Turkey - an important reason to reach Turkey's most industrialised region by rail. The Marmaray Tunnel plays an important role for the RCG. In recent years, the group has already transported numerous car trains from Europe to Turkey. This year, a fully loaded car train was transported from Turkey to Europe for the first time - a milestone for the country's up-and-coming automotive industry.

Future potential through third Bosporus bridge
In addition to the Marmaray Tunnel, the planned rail link on the third Bosporus bridge opens up new potential for rail freight transport between the continents. TCDD and the Turkish Ministry of Transport have announced an official tender procedure for the integration of a railway line on the third bridge. This expansion promises decisive advantages for the domestic production economy and international transport flows between Asia and Europe - especially on the important rail corridors through Eurasia.

More than 200,000 tonnes of gypsum on rails

Gypsum transported sustainably by rail: More than 200,000 tonnes of gypsum material are transported efficiently and environmentally friendly by rail every year for the building materials manufacturer Knauf. Knauf, a leading manufacturer of building materials, is represented at 320 locations in 90 countries. In many countries today, the name Knauf is synonymous with gypsum, a raw material with fascinating properties. Gypsum and gypsum-related products and insulation materials are manufactured and sold in almost all Western and Eastern European countries. Knauf has been working closely with the ÖBB Rail Cargo Group (RCG) for more than ten years.

Block trains loaded with synthetic gypsum
The gypsum's journey starts at different locations – block trains are used. In Slovenia, titanium gypsum is transported from Celje to Weißenbach near Liezen and FGD gypsum from Sostanj also to Weißenbach near Liezen. In Lower Austria, citric acid gypsum is also transported from Pernhofen-Wulzeshofen to Weißenbach near Liezen – a total of around 125,000 tonnes of gypsum per year by sustainable rail.

Single wagonload transport from quarry to plant
In March 2024, 80,000 tonnes were added from Tragöß in Styria. These quantities are first transported from the quarry to the loading point in Kapfenberg by electric truck and then loaded onto wagons on the train by a large forklift. These groups of wagons are then transported to their destination in a highly efficient and resource-conserving manner using single wagonload transport. The raw materials are then used to produce plasterboard at the main plant in Weißenbach near Liezen.

Off to the city
Another important part of the partnership is the so-called 'city logistics', which transports the finished gypsum blocks for the Viennese market to the port Vienna Freudenau. This logistics solution, which includes rail transport, handling and storage, demonstrates the potential of innovative logistics strategies that will be rolled out to other federal states in the future.

Commitment to green logistics
Significant CO2 savings have already been achieved by shifting transport from road to rail. In 2023 alone, this amounted to more than 1,300 tonnes of CO2 (EQ). The environment benefits and this underlines the common goal of RCG and Knauf to promote sustainable transport and continuously improve the carbon footprint – for a Europe worth living in.

Austria

Salt on rails: Donau Chemie looks to the future with innovative equipment

When sustainability becomes a decisive driver in logistics: Donau Chemie AG is leading the way and shifting salt transport from road to environmentally friendly rail - made possible by a customised equipment solution from the Rail Cargo Group (RCG) of ÖBB, which was specially developed for the transport of salt. Transporting large quantities of salt from A to B poses very special challenges: salt sticks to the wagon during loading and unloading and its corrosive properties put a strain on the wagon material, both on the inside and on the outer surfaces.

As a result, salt wagons age quickly and have to be repaired or replaced more often than other wagons. To counteract this and increase the longevity of the equipment, RCG, in collaboration with innovative equipment companies and Donau Chemie, has designed a robust TALNS wagon, which is one of the most modern wagons in Europe. Companies such as Donau Chemie benefit from this and are thus driving the shift from road to rail even faster.

Unloading at the touch of a button
The first brand-new TALNS wagons were handed over directly at the Donau Chemie plant in Brückl (Carinthia) in the spring and are already in use. They are extremely robust to cope with the raw material salt and also offer many other advantages: for example, unloading is semi-automatic at the touch of a button using pneumatics, which significantly reduces the workload and strain on employees and also makes a significant contribution to increasing work safety.

Specifically, RCG transports the entire salt requirement, which was previously mainly transported by road, from Koper in Slovenia and Ebensee in Upper Austria to the Donau Chemie plant in Brückl. This contributes to a considerable reduction in CO2 emissions. This exemplary supply concept represents an important step towards a “modal shift” - i.e. the transfer of freight transport from road to rail.

Major player in the chemical industry
The Donau Chemie Group, a family business and leading company in the chemical industry, is active in twelve countries worldwide. The group focuses on the development and production of industrial chemicals, which are used in many industrial processes and applications, as well as the distribution of chemicals in Central and Eastern Europe. In the field of environmental technology, the Donau Chemie Group produces activated carbon as well as precipitants and flocculants for the treatment of water.

For over ten years, Donau Chemie has relied on RCG’s logistics expertise for the reliable supply of its production sites - and in the spring, salt transport was significantly expanded with the new wagons.

Cooperation with a role model function
The long-standing cooperation between Donau Chemie and the Rail Cargo Group impressively demonstrates that economic efficiency and sustainability can harmonise perfectly in logistics. The key to this lies in a customised transport solution with state-of-the-art equipment. Thanks to the innovative TALNS wagon technology, the switch to rail transport made economic sense for both sides despite the erosive properties of salt and is a step towards CO2-reduced logistics solutions that sustainably reduce the burden on the environment.

Because their success shows that they are on the right track, Donau Chemie and RCG have extended their co-operation for a further ten years.

Changeover to NCTS 5 in Austria, from December 2024

All EU member states and all non-EU countries participating in the NCTS procedure (Iceland, Liechtenstein, North Macedonia, Norway, Serbia, Switzerland, Turkey, Ukraine, United Kingdom) will gradually switch from NCTS phase 4 to phase 5 by 2025. In Austria, the changeover date of December 2nd 2024 is imminent. As of this date, it will no longer be possible to use the simplified transit procedure (SPR), in which the rail consignment note (CIM) is the customs document. In future, all consignments leaving Austria that are transported under customs supervision must therefore be processed using the formal NCTS transit procedure.

How it works
In future, Rail Cargo Group (RCG) customers will send an order to open a transit procedure with the “Checklist/order for NCTS procedure (customer)” by e-mail to their responsible Customer Success Manager and at the same time send the necessary documents (e.g. invoice, export accompanying document if applicable, etc.). The information and documents are then checked by RCG and all further steps are initiated.

Less administrative work thanks to MIKE
Customers with access to MIKE, the digital logistics platform, can also apply for the NCTS procedure with just a few additional details, such as the HS code, as part of the transport order. The data is processed automatically and converted directly into a customs declaration, which avoids duplicate entries and reduces effort and costs.

RCG customs experts are available to answer questions
NCTS openings for consignments that are not organised or transported by the RCG and therefore do not have a transport order can still be carried out at any time via the RCG customs service points throughout Austria.

Austria

OBB Class 1144.207 is seen arriving into Linz Hbf with a terminating service. *Class47*

Czech Republic

Pid liveried Class 814.156, formerly in Regionova yellow livery, awaits departure time at Rakovnik. *Class47*

Czech Republic

DB Class 233.521 stands at Cheb with a rake of loaded car transporters. *Class47*

Czech Republic

ČEPRO's fuel terminals will also be served by two EffiShunters 1000

ČEPRO, one of the largest fuel suppliers in the Czech Republic, will add two modern EffiShunter 1000 locomotives (series 744) from the CZ LOKO manufacturer to its locomotive fleet.

The first one will be taken over at the turn of 2024/25 and in the Loukov terminal in the Kroměříž region, it will replace the weaker model 723.7. Part of the delivery in the trailed version is also preparation for fitting the mobile part of the European ETCS security system (Level 2). The second one, which will be deployed to service the fuel terminal in Šlapanov near Havlíčkova Brod, will take over during 2025.

"These are locomotives that will safely operate on the most demanding Čeper sidings. Both sidings are notorious for climbing into an arch, and it is here that the power transfer of the AC/AC independent traction versus the AC/DC concept and its tuning is shown to be key to the smooth movement of rolling stock. And in this, the EffiShunter 1000 is unique even in a European comparison," says Martin Stejskal, Key account manager senior CZ LOKO.

By deploying them, ČEPRO will strengthen the provision of safe and smooth supplies of fuel to the storage system. Locomotives of this series are manufactured according to uniform European TSI standards and run in a number of countries in addition to the Czech Republic, including Sweden, Italy and Slovakia.

At the same time, CZ LOKO will take care of the revisions, service and repairs of the Čepra locomotive park for the next 48 months, when it succeeded in the public contract. "We are following up on previous similar contracts and we appreciate it very much. Service services are one of our development priorities. We see great potential in them, and their level and quality must therefore correspond to that," said Jan Kutálek, sales director and member of the board of directors of CZ LOKO.

So customers can focus only on their business. For ČEPRO, this means ensuring the smooth operation of fuel terminals without other worries related to the operation of locomotives. Among them are four EffiShunters 600 and one EffiShunter 300, which the company purchased in previous years.

Photo: Illustrative colourful livery of the EffiShunter 1000 company ČEPRO. ©CZ Loko

With respect for history: Station building renovation in Pilsen's Jižní Předměstí begins

The reconstruction of the second busiest railway station in the West Bohemian metropolis begins under the watchful eye of conservationists. It will return the historic building of the Plzeň-Jižní Předměstí station to its original splendour and will bring a significant increase in comfort for passengers.

The reconstruction was festively launched by Správa železnic and will be completed at the beginning of 2027.

The platform and track facility at Jižní Předměstí have already been modernised as part of the overall reconstruction of the Pilsen railway junction. Now the Neo-Renaissance building from the beginning of the 1920s is next.

Since 1995 it has been on the list of listed buildings. The restorers will also come to work on the restoration of the facade of the building, the decoration of the gables and the lunette cornices.

"The more than 100-year-old building is a living reminder of Pilsen's industrial development. Its creation was due to the constantly growing number of passengers, especially those who commuted to the nearby Škoda factories for work.

Thanks to the reconstruction, the neo-renaissance building will once again become an unmissable landmark of the entire quarter," said Minister of Transport Martin Kupka.

The main entrance to the building is from the Ivan Magor Jirous Bridge, from which you enter the check-in hall. "The platforms themselves are located one floor below, and it will be possible to use the reconstructed lift to access them.

Passengers will also appreciate the more pleasant environment in the public areas," described Director General of Správa železnic Jiří Svoboda.

The work will be carried out during operation, with an emphasis on minimising the impact on passengers. The builders will repair the roof and facade and replace windows and doors. New public toilets will be built on the platform level. The station will get a modern information and orientation system.

The contractor is the company Chládek a Tintěra, Pardubice. The value of the works amounts to 84,763,361 crowns.

Germany

Groundbreaking ceremony for the new ICE plant in Dortmund

New plant will maintain growing ICE fleet from 2027
Earlier than planned: construction to begin this year
Investment for more stable rail operations as part of the S3 renovation program
DB is investing more than 400 million euros and creating up to 500 new jobs

Deutsche Bahn (DB) is investing more than 400 million euros in a new ICE plant in Dortmund. One of the most modern and climate-friendly railway plants in Europe is being built on the site of the former freight station in Dortmund-Hafen. The new ICE plant will create up to 500 new jobs and numerous apprenticeships. The groundbreaking ceremony took place earlier than planned. DB Board Member for Long-Distance Passenger Transport Dr. Michael Peterson, Hendrik Wüst, Prime Minister of North Rhine-Westphalia, and Norbert Schilff, Mayor of the City of Dortmund, were present.

The ICE fleet will grow from the current 410 to 450 vehicles by the end of the decade. To ensure that the trains remain clean and punctual for passengers in the future, the necessary maintenance capacity is needed. Through the targeted expansion and further digital transformation of the ICE depots, DB is creating the necessary maintenance capacity as part of its S3 renovation program. The new depot will be completed in 2027.

Dr. Michael Peterson, DB Board Member for Long-Distance Passenger Transport: “The new plant is literally being built at ICE speed. This shows once again how, with the cooperation of all those involved, we can quickly get even large projects on track. We have set ourselves ambitious goals at Deutsche Bahn by the end of 2027 to make the railway more reliable again. The new ICE plant is part of this. This is a good day for Dortmund and all our passengers.”

Hendrik Wüst, Prime Minister of North Rhine-Westphalia: “Protecting our climate is one of the greatest challenges of our time. Attractive, climate-neutral long-distance rail transport is crucial for the whole of Germany. As the state with the strongest population and economy, North Rhine-Westphalia is an important hub for both freight and passenger transport. Deutsche Bahn’s investment decision for a new ICE maintenance facility in the Ruhr area not only confirms our excellent location conditions in the heart of Europe, it is also an important signal for people and the economy.”

Norbert Schilff, Mayor of Dortmund:“For me, as a long-time employee of Deutsche Bahn and Mayor of Dortmund, it is a special moment to see this pioneering project in my hometown. The new ICE plant creates jobs, strengthens the economy and represents the innovative strength of our city - a milestone that we can be proud of.”

DB provides economic stimulus in NRW
Construction of the new ICE plant in Dortmund-Hafen will begin this year, earlier than planned. With investments of more than 400 million euros, DB is giving the region a strong economic boost. Up to 500 new jobs and numerous positions for trainees will be created in the Ruhr area. This increases NRW’s importance for DB as a whole: four long-distance transport plants, two of which are DB’s most modern, are located in NRW - more than in any other federal state.

The new ICE plant in Dortmund-Hafen in numbers
The new plant includes a four-track, 480-meter-long workshop hall as well as treatment and storage facilities for the maintenance, repair and cleaning of trains. Once completed, up to 17 ICE trains can be serviced and repaired there every day, with a focus on ICE 4, ICE 3 and ICE 3neo. Thanks to the use of renewable energies and smart technical solutions, this will be 100 percent climate-neutral.

This is achieved in particular by building a geothermal plant with an output of around 5,000 MWh per year - which corresponds to the consumption of around 2,400 households - and installing a photovoltaic system on an area of 8,500 m². The latter covers more than half of the company’s own energy needs. 28,000 m², or 60 percent of the roof area, will be greened.

This corresponds to an area of four football fields.

For stable rail operations and greater efficiency: DB InfraGO strengthens its own machine pool

DB’s infrastructure subsidiary takes over switch grinding machines, workshop and spare parts from Austrian specialist company
Jobs secured for around 30 employees in Brandenburg
Takeover makes maintenance more economically efficient

Deutsche Bahn (DB) is strengthening its machine pool for the maintenance of the rail network. DB InfraGO is taking over two high-performance switch grinding machines from the Austrian specialist company voestalpine Track Solutions Germany GmbH. A maintenance hall of around 900 square meters for the two machines in Brandenburg an der Havel as well as spare parts and stock materials are also part of the takeover. In addition, DB InfraGO is taking over the almost 30 employees at the site as part of a transfer of operations. The DB’s infrastructure subsidiary and voestalpine Track Solutions Germany GmbH signed a corresponding contract at the InnoTrans trade fair in September.

The purchase is part of the overall “S3” program for the structural restructuring of DB’s infrastructure, operations and profitability by 2027. The aim is to restore the efficiency of the rail network, significantly improve the customer experience and secure the financial viability of the group. Strengthening the machine pool with urgently needed large equipment and highly specialized specialists ensures that DB InfraGO will be able to carry out more maintenance work itself in the future and thus also become more economically efficient.

At DB, around 3,300 switches and thousands of kilometres of track are currently processed with grinding machines every year - previously carried out mainly by external contractors. The takeover of the large equipment by DB InfraGO will enable the company to effectively carry out at least 30 percent of this work itself in the coming year.

At the same time, DB InfraGO is increasing its capacity on the large equipment market in Germany and expanding the annual possible construction and maintenance volume.

Germany

By train to the plane: Lufthansa and Deutsche Bahn present record figures

Positive development in booking figures for Lufthansa Express Rail: previous record broken in October with 432,000 customers
By the end of the year: a total of over 500,000 bookings
Expansion of the cooperation by 4 to a total of 28 domestic German destinations
Offer available for more than 240 daily ICE connections with LH flight number

Since the beginning of the year, 432,000 travellers have used Lufthansa Express Rail for their arrival and departure to and from Frankfurt Airport. This means that the previous year's result was already exceeded by 28 percent in October. A total of over 500,000 bookings had been confirmed by the end of the year. Never before in the more than 20-year cooperation between Lufthansa and Deutsche Bahn (DB) have so many travellers opted for the joint offer as in 2024.

Due to the high demand, the range of feeder destinations to Frankfurt Airport - one of the largest airports in Europe - is being steadily expanded: this year it has grown by 4 to a total of 28 cities within Germany. New to this are the cities of Augsburg, Siegburg/Bonn, Wolfsburg and Essen. This means that more than twice as many cities are connected by Lufthansa Express Rail than Lufthansa currently connects by plane. Thanks to the large number of Sprinter connections, passengers can travel extra quickly between the metropolises with shorter journey times. In addition to the domestic German connections, the cooperation is also focusing on an international connection between Munich Central Station and Zurich Airport with a possible boarding point in Bregenz, Austria. This ideally complements the offer to the hub of the Lufthansa Group airline Swiss. The number of feeder trains is also increasing: DB and Lufthansa offer more than 240 daily ICE connections with the Lufthansa flight number (codeshare numbers).

Michael Peterson, DB Board Member for Long-Distance Passenger Transport: "More and more people are using climate-friendly travel to their flights. Together with Lufthansa, we are delighted about the passenger record. The networking of the two modes of transport, rail and air, is very much in vogue. Our intermodal offering is growing continuously - our passengers are particularly benefiting from the ICE Sprinter network with extra-fast connections between the major cities."

Dieter Vranckx, member of the board of Deutsche Lufthansa AG: "We are constantly expanding our cooperation with Deutsche Bahn and thus offer our customers flexible travel options. With additional connections, increased frequency and more comfort, we have made the Lufthansa Express Rail service attractive to more and more guests in recent years. Connecting air and rail even better in the future can only be achieved with an efficient and modern infrastructure. We could offer our customers significantly better travel and transfer options at the Lufthansa hub in Munich if the airport were connected to Deutsche Bahn's long-distance services. That is why Munich urgently needs an ICE connection."

Lufthansa and Deutsche Bahn are continually expanding their joint offers for train and flight. For more than 20 years, the cooperation between the two partners has enabled Lufthansa customers to purchase a combined ticket for train and flight in just one booking step.

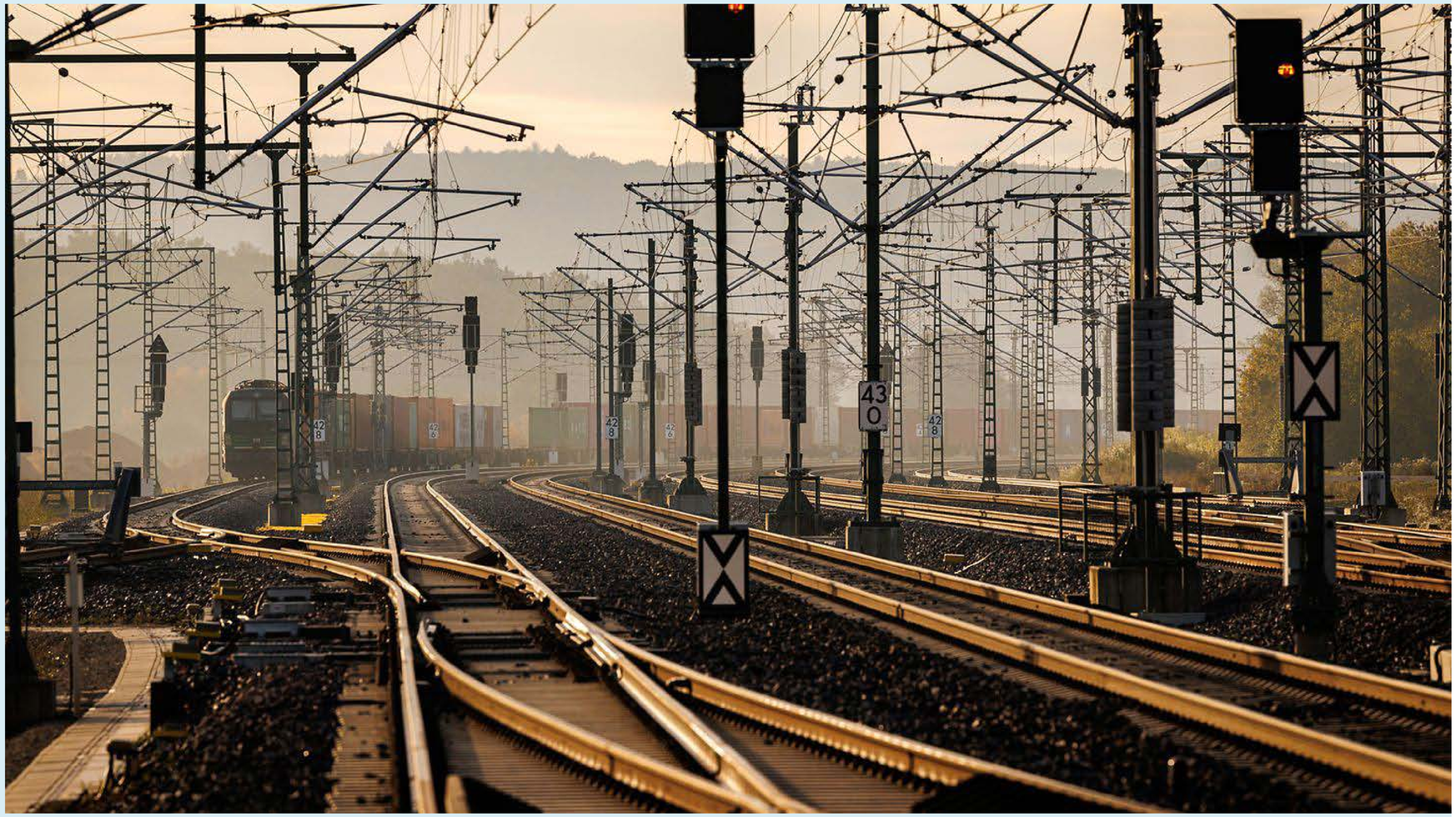
In addition to Lufthansa Group Airlines, other Star Alliance airlines are now also using the Lufthansa Express Rail service. This is made possible by Deutsche Bahn's membership as an intermodal partner of the Star Alliance. And the program is being further strengthened: for example, United Airlines has been using the Lufthansa Express Rail service since the end of last year and other Star Alliance airlines will follow.

Lufthansa Express Rail – advantages at a glance:

- Fast, comfortable and flexible from 28 cities by train to Frankfurt Airport > Overview of all cities see infographic
- Optimal connection with short transfer times from train to flight
- Authorization to use the Fast Lane at Frankfurt Airport
- free rebooking in case of delay
- Large luggage compartments in the latest generation of trains
- Special AiRail Terminal for baggage pick-up and drop-off at Frankfurt Airport
- Priority treatment of Express Rail customers' suitcases at Frankfurt Airport
- One ticket, two boarding passes – for ICE and connecting flight
- Free Wi-Fi on the train
- Mileage credit also for the train journey
- Access to DB lounges for business and first class customers
- Bookable via all Lufthansa sales channels

Germany

Strong railway for Bavaria: Another section of the line between Nuremberg and Bamberg is expanded to four tracks



From two to four: Ultra-modern, four-track rail system and barrier-free stations between Forchheim and Eggolsheim on the network
More stability on central routes in Bavaria
Additional connections for long-distance, regional and freight transport
New S-Bahn station Forchheim Nord in operation from December
Expansion of the Nuremberg-Bamberg line on the home stretch

Deutsche Bahn (DB) has achieved a major milestone in the railway expansion between Nuremberg and Bamberg: The Forchheim-Eggolsheim section of the line has been modernized and expanded to four tracks. From now on, trains will run on all four tracks. This means that the four-track expansion of the Nuremberg-Bamberg line, part of the German Unity Transport Project (VDE 8.1), is on the home stretch: work is now concentrating on the final construction phase between Altendorf and Strullendorf.

The Nuremberg-Bamberg connection is one of the busiest routes in Bavaria and part of the Munich-Berlin high-speed line. DB is creating a state-of-the-art four-track rail infrastructure here over 64 kilometres, thereby significantly improving stability and punctuality in train operations. Thanks to additional tracks, more long-distance, regional and freight trains as well as more sprinter trains can already be offered between Munich and Berlin. Passengers between Forchheim and Eggolsheim also benefit from barrier-free mobility throughout and, from the timetable change in December, from the additional S-Bahn stop in Forchheim Nord. The federal government, the Free State and DB invested around 298 million euros in the Forchheim–Eggolsheim section.

Hartmut Höppner, Federal Ministry for Digital and Transport: “The turnaround in the railways has begun. After years of neglect, we are investing heavily in the renovation of the infrastructure. This project is impressive proof of this. In addition to the urgently needed general renovation of our existing network, we are also pushing ahead with the expansion of the network. We can only transport more people and goods reliably by rail if we comprehensively renovate and modernize the rail infrastructure.

To this end, the federal government is investing around 280 million euros in this section of the route between Forchheim and Eggolsheim alone.”

Christian Bernreiter, Bavarian Transport Minister: “The new section is another important milestone for the transport infrastructure in Bavaria. It enables more attractive and reliable local transport connections in northern Bavaria as well as additional long-distance traffic between Berlin and Munich. This means that the success story of the high-speed line can be continued. If the federal government and the railway remain committed, this does not have to be the end of the story - both in terms of travel times and the service on offer. The Free State of Bavaria is also happy to contribute financially to the additional S-Bahn stop at Forchheim-Nord.”

Ingrid Felipe, InfraGO’s Director of Infrastructure Planning and Projects: “We will not achieve the goal of our corporate strategy Strong Rail for Germany by upgrading the existing network alone. For more trains and a significantly more attractive service for our passengers, Strong Rail also requires projects such as the expansion of the route between Forchheim and Eggolsheim.

By putting these new tracks into operation, we are showing that, by joining forces, we are making progress every day in Germany to build a better railway for people. What makes me particularly happy is that our project team has created impressive inner-city structures between Forchheim and Eggolsheim. The residents pulled together with us and tolerated the stress caused by the construction work. Thank you very much for all your understanding.”

Modern railway infrastructure: What’s new between Forchheim and Eggolsheim
Between the Franconian town of Forchheim and the market town of Eggolsheim, the DB has built a total of eight new bridges over a distance of almost eight kilometres - including the unique twin steel bridges over the A73 motorway. It has also expanded three bridges, laid 27 kilometres of tracks and 38 new switches, and erected eight kilometres of noise barriers.
The stations have been made barrier-free, the Eggolsheim stop has been relocated, and an additional stop has been created in the north of Forchheim. Existing infrastructure has been modernized, and new control and safety technology has been installed.

A six-track overtaking station has been built, which allows more traffic and offers overtaking opportunities in the event of a disruption, so that trains can travel even more punctually and with greater stability on the route and the Munich-Berlin axis.

After the opening of the four-track Forchheim-Eggolsheim route, the DB will now continue to work on the final construction phase between Altendorf and Strullendorf in the coming months. In 2025, the entire four-track Nuremberg–Bamberg line, which stretches from Nuremberg to the southern city limits of Bamberg, will go into operation.

Photo: Daniela Karmann - DB AG

Germany

Hamburg–Berlin: DB awards first construction contracts for general renovation of Germany's busiest direct city connection

Deutsche Bahn (DB) has reached an important milestone for the general renovation of the Hamburg-Berlin route planned for August 1st, 2025. Following a Europe-wide tendering process, the first construction contracts for the nine-month major project have now been awarded. The companies SPITZKE SE, Leonhard Weiss GmbH und Co. KG, STRABAG SE and the group subsidiary DB Bahnbau Gruppe were awarded the contract.

DB will thus continue the general renovation of the heavily used rail network as planned next year. The route between the two largest German metropolises is 278 kilometres long and is considered one of the most important direct city connections. Around 30,000 travellers travel here every day.

The general renovation of the Hamburg-Berlin route contributes to the structural renovation and modernization of the core network. A total of 40 corridors are to be completely renovated and their condition improved by the end of 2030. The pilot project is the Riedbahn between Frankfurt/Main and Mannheim, which has been undergoing renovation and modernization since July 15th, 2024. With the general renovations, DB is creating a stable basis in the infrastructure for the further growth path of the Strong Rail Group strategy and is making its contribution to the federal government's transport and climate policy goals.

Unprecedented construction work for the infrastructure

The construction work on the Hamburg-Berlin railway line is demanding. At almost 280 km, it is about four times as long as the Riedbahn. As part of the general renovation, DB is renewing more than 180 kilometres of tracks and around 200 switches. Six additional so-called transfer points will create more stability and flexibility in operations and ensure that, for example, faster passenger trains can overtake slower freight trains. In a first step, DB is equipping the routes with the highest capacity around the metropolitan regions, ie between Hamburg-Rothenburgsort and Büchen and the section between Nauen and Berlin-Spandau, with the new European train control system ETCS (European Train Control System).

In coordination with the federal government and in view of the current market situation, the equipment of the section of the line between Büchen and Nauen is planned for 2030/31, also in order to avoid the more expensive double equipment with analogue and digital signalling technology, which is not justified on this section of the line.

More attractive train stations and better mobile phone reception

To improve the customer experience, DB is upgrading a total of 28 train stations in five federal states during the general renovation by the end of April 2026. Depending on the station, new toilet facilities and weather shelters, more accessibility and improved wayfinding systems are planned. In addition, the important connection to the innovation route for mobile communications is to be expanded with gigabit data rates on the train so that travellers can make calls and surf the internet between Hamburg and Berlin in the best quality in the future. DB is therefore using the general renovation to build radio masts for the future railway radio FRMCS (Future Rail Mobile Communication System). After the renovation, DB will make the masts and supply containers as well as the power and data lines available to the mobile phone companies for technology-neutral testing and illumination of the route with mobile communications for passengers. Comprehensive transport concept to be presented at the beginning of 2025

During the work from August 1st, 2025 to April 30th, 2026, passengers and goods will reach their destination reliably. In long-distance traffic between Hamburg and Berlin, DB is using diversion routes via Stendal and Uelzen with a replacement stop in Salzwedel and additionally with a change in Hanover, a concept that has already proven itself in previous closures on the Hamburg-Berlin corridor. Depending on the diversion route, the travel time will be extended by at least 45 minutes. There will be comprehensive and high-quality replacement bus services for passengers on regional services and to connect the long-distance stops that have been eliminated in Ludwigslust, Wittenberge and Büchen. The lines will be consolidated as they approach the metropolitan areas of Hamburg and Berlin.

DB is thus transferring the concept that is currently also used in replacement services on the Riedbahn between Frankfurt/Main and Mannheim. Freight trains will travel on diversion routes. Individual solutions have been developed for companies with a rail connection. The hinterland connection of the North German ports is also still secured. DB will provide information on the details of the transport concept at the beginning of next year.

The construction work for the section between Hamburg and Büchen is expected to be awarded in April 2025. This will have no impact on the timetable for the general renovation. After completion of the nine-month construction phase, travellers and freight transport companies along the entire corridor will benefit from more efficient infrastructure, more attractive stations and five years without major construction sites.

25 years together on track!

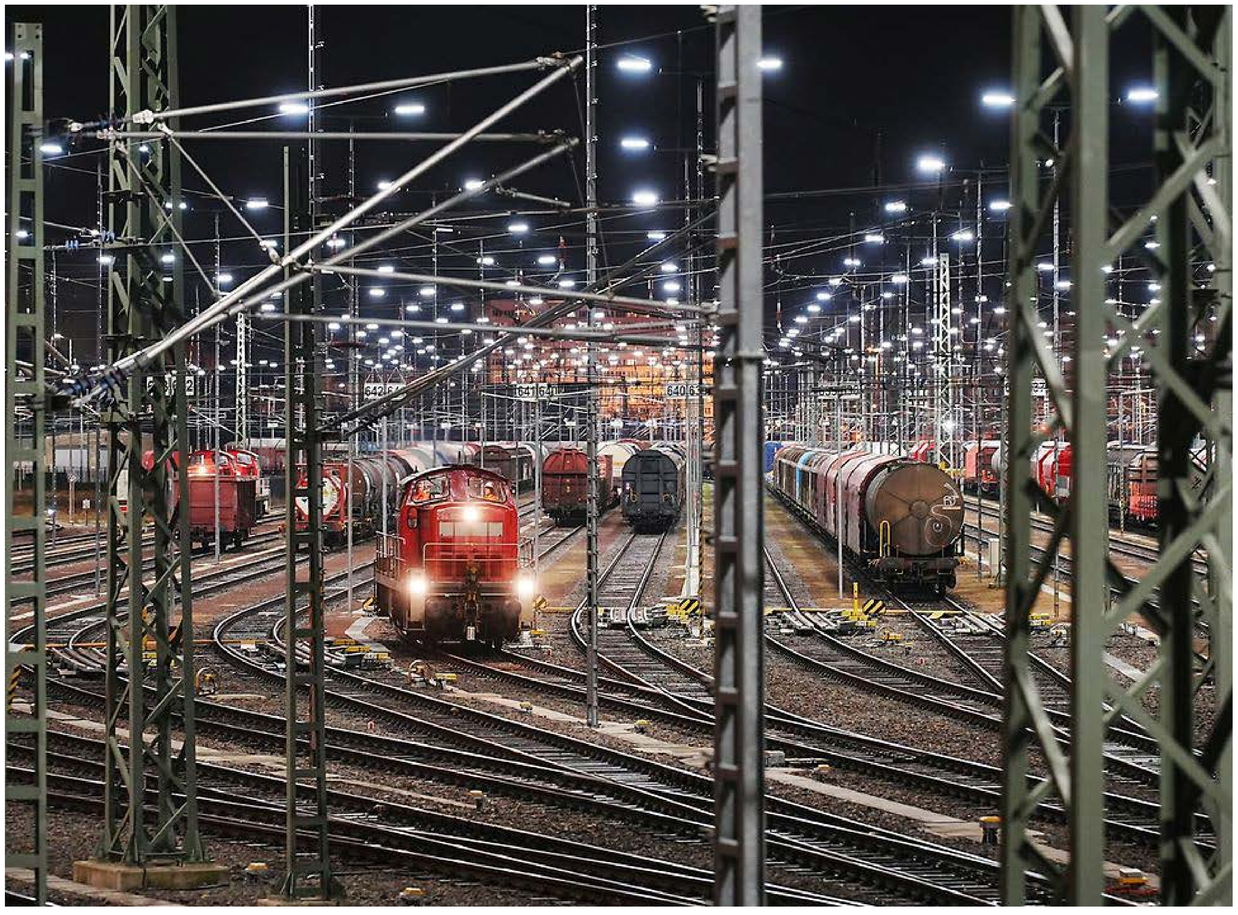
In celebration of 25 years of successful partnership, Alpha Trains Group and RheinCargo GmbH & Co. KG have unveiled a special livery on the first of a total of four Vectron locomotives! This milestone reflects their journey together and the strength of great cooperation.

"A big thank you to our partner RheinCargo GmbH & Co. KG and the Alpha Trains' team members who have made this possible. Here's to many more years of exciting projects and shared successes."

Photo: Sven Rieger, Senior Commercial Manager, Alpha Trains & Daniel Jacobs, Bereichsleiter Fahrzeugmanagement RheinCargo. © Alpha Trains

Germany

Fast and reliable: Rail-Shuttle for BASF Chemicals group continues to rely on successful shuttle concept between Ludwigshafen and Schwarzheide



DB Cargo has been transporting chemical products for the Ludwigshafen-based chemicals group BASF throughout Germany and Europe for many years. Two years ago, an innovative shuttle concept was introduced and successfully established to connect two plant sites. BASF has extended this contract for a further two years.

Sophisticated logistics concept for the chemical industry

The concept involves transports between two of the largest European BASF sites, Ludwigshafen in Rhineland-Palatinate and Schwarzheide in Brandenburg. What may sound like an ordinary transport operation between A and B at first glance reveals a sophisticated logistics concept on closer inspection: “We combine BASF’s large, but not quite block train-capable transport volume with additional single wagonloads and can therefore still offer our customer the desired block train quality,” explains Charlotte Hieronimi, Senior Account Manager at DB Cargo BTT.

And this is how the rail shuttle concept works in detail:
At the Ludwigshafen plant site, various chemical goods are loaded into tank wagons or special containers from BASF and assembled into a block train directly at the plant’s own siding. The sequence and sorting of the wagons is already taken into account there, as not all wagons are transported to Schwarzheide. By forming the train directly at the plant, there is no need for further shunting services at the nearest marshalling yard, which enables fast and reliable transit times – an important advantage of this shuttle.

On the way to Schwarzheide, the train stops at the Halle marshalling yard, where wagons for BASF customers from the region are uncoupled and the main load can continue quickly towards Schwarzheide. Once it arrives at its destination, the remaining wagons are uncoupled, the locomotive turns and takes wagons for Ludwigshafen back with it. On the return journey, there is another stopover in the greater Halle area, where further shipments – this time also industry and customer-independent – are added and transported to Mannheim before the “main train” returns to the BASF plant in Ludwigshafen.

The shuttle services between Ludwigshafen and Schwarzheide have been running since 2022 and transport around 270,000 tonnes of chemical goods for BASF every year. This figure is likely to rise even further in next two years, as since April 2024, six freight trains have been travelling to Schwarzheide every week instead of the previous five – the latest shuttle concept is a full success.

Single wagonload transport in block train quality

With the rail shuttle, a well thought-out concept has been realised in which specific details are optimally interlinked. The advantages speak for themselves:

Rapid start

By forming the train at the plant, the wagons start towards their destination without any further detours and the journey time of the train is reduced immensely.

Positive synergies

The inclusion of additional wagons for BASF’s customers enables the bundling into a fast block train in the direction of Halle. Synergy effects are also created on the return journey by taking along freight wagons from other industries in eastern Germany, which are then uncoupled in Mannheim for further distribution to the south-west and transported onwards. Free capacity is thus optimally utilised and ensures more goods are transported by rail.

Short transport time

The block train transport on the main line in both directions significantly optimises transport times and reduces the risk of longer downtimes. Trains travelling in the Schwarzheide direction only take around twelve hours, while those travelling in the Ludwigshafen direction take around seventeen hours.

Schedulable and transparent

The entire transport process is also managed via the industry-specific product: DBchem hubexpress. This includes round-the-clock monitoring by the control tower and BASF is immediately and proactively informed of any deviations from delivery dates. Further key components of the logistics solutions are transport schedules that are closely coordinated with the customer and a constant monitoring of the transports themselves. In addition to its own reporting system, BASF can also track the status of the wagons at any time via link2rail.

Partnership with a future

DB Cargo and BASF are working hand in hand to further develop the successful shuttle concept in the future. The focus here is on the continuous optimisation of logistics processes. “Our aim is to strengthen the partnership and develop innovative solutions for chemical transports,” says Charlotte Hieronimi. Strong benchmarks have already been set with the rail shuttle.

Photo Above: The Halle marshalling yard is served by the rail shuttle on the outward and return journey.

Germany

On the Lößnitzgrundbahn, dampflok No. 99.747 runs round its service at Radebeul Ost. *Class47*

Portugal

CP Class 1400 Nos. 1436 and 1432 stand at platform 1 at Porto Campanhã with train No. IR877 19:20 Porto São Bento to Regua on November 14th. *Andy Pratt*

CP No. 1461 stands at Mosteirõ station on November 15th, with the slightly delayed train No. IR875 17:25 Porto Campanhã to Pocinho service. *Andy Pratt*

On November 15th, CP No. 1461 departs Pocinho with train No. IR866 11:08 to Porto Campanhã. *Andy Pratt*

Portugal

CP Nos. 1438 and 1454 are seen stabled at Pocinho on November 15th. They had previously worked a crew training run from Contumil (09:00) to Pocinho and were waiting to return at 13:55. *Andy Pratt*

CP No. 1454 arrives at Mosteirõ with train No. IR868, the 13:08 Pocinho to Porto Campanhã on November 17th. *Andy Pratt*

Portugal

A busy moment at Sodre railway station on October 30th, with Remodelado trams Nos, 547, 545 and 552 in operation.
Michael Lynam

Soreframe/Siemens EMU No. 2318 waits to depart Lisbon Santa Apolonia with a service to Azambuja on October 30th. *Michael Lynam*

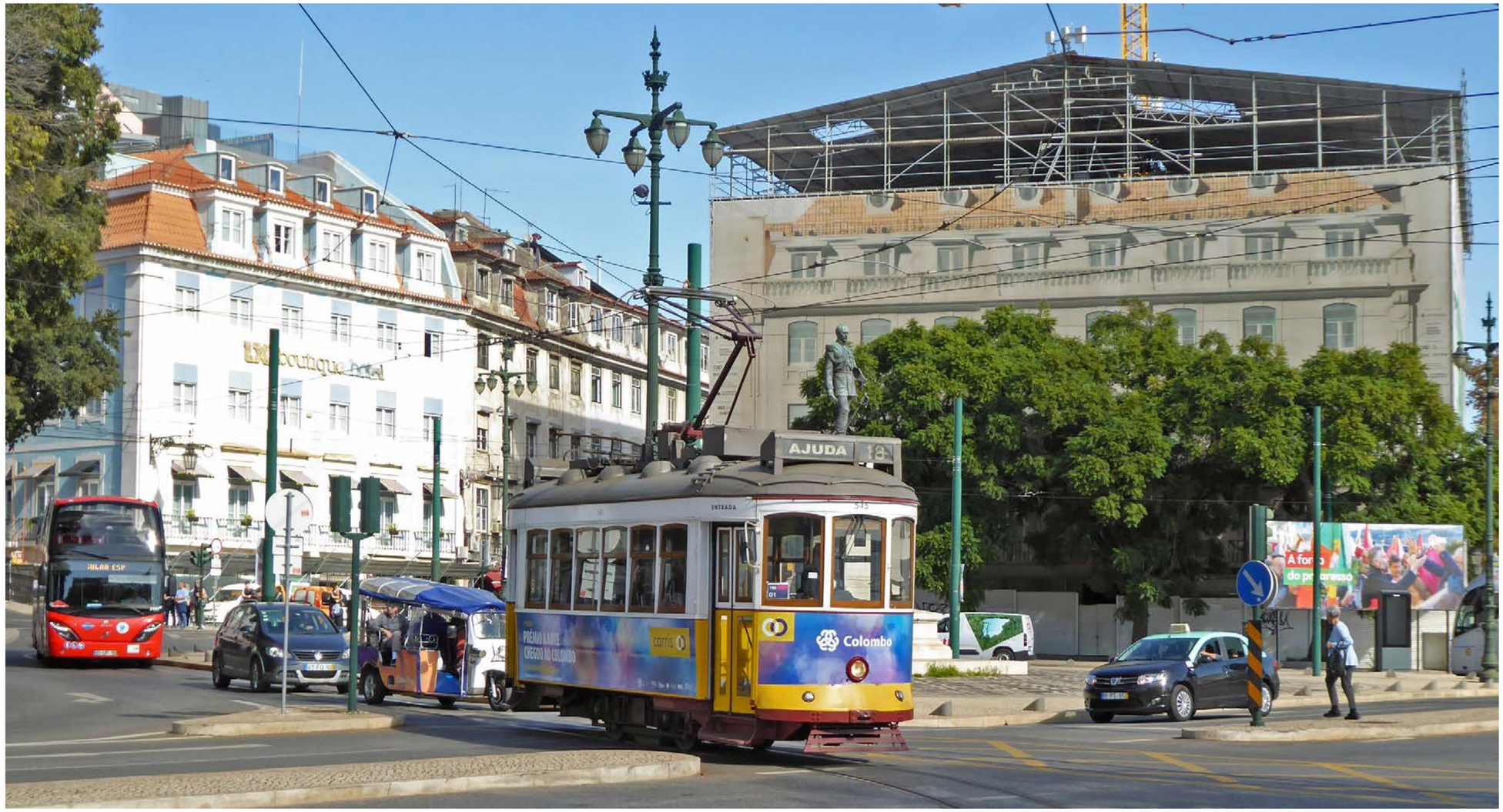
On October 30th, Remodelado Hills Tramcar Tours Nos. 5 and 12 stand at the Praco de Comercio. *Michael Lynam*

Portugal

Lisbon Remodelado tram No. 545 approaches Sodre railway station having turned back to work service 18 to Ajuda. *Michael Lynam*

At Lisbon Cais do Sodre station, EMU No. 3258 waits its next turn of duty on October 30th. *Michael Lynam*

In Lisbon on October 30th, the Gloria Funicular tram No. 2 waits its climb. *Michael Lynam*



On October 30th, Lisbon Remodelado trams No. 559 and 552 are seen at Sodre railway station on route 25 services.
Michael Lynam

Portugal

Siemens Class 56 No. 5620 is seen stabled at the buffers at Lisbon Santa Apolonia station on October 30th.
Michael Lynam

EMEF built DMU No. 0468 is seen departing empty stock to the carriage sidings from Lisbon Santa Apolonia station on October 30th. *Michael Lynam*

A couple of Siemens Class 56 locomotives, Nos. 5619 and 5601 are seen stabled in the centre road between services at Lisbon Santa Apolonia on October 30th. *Michael Lynam*

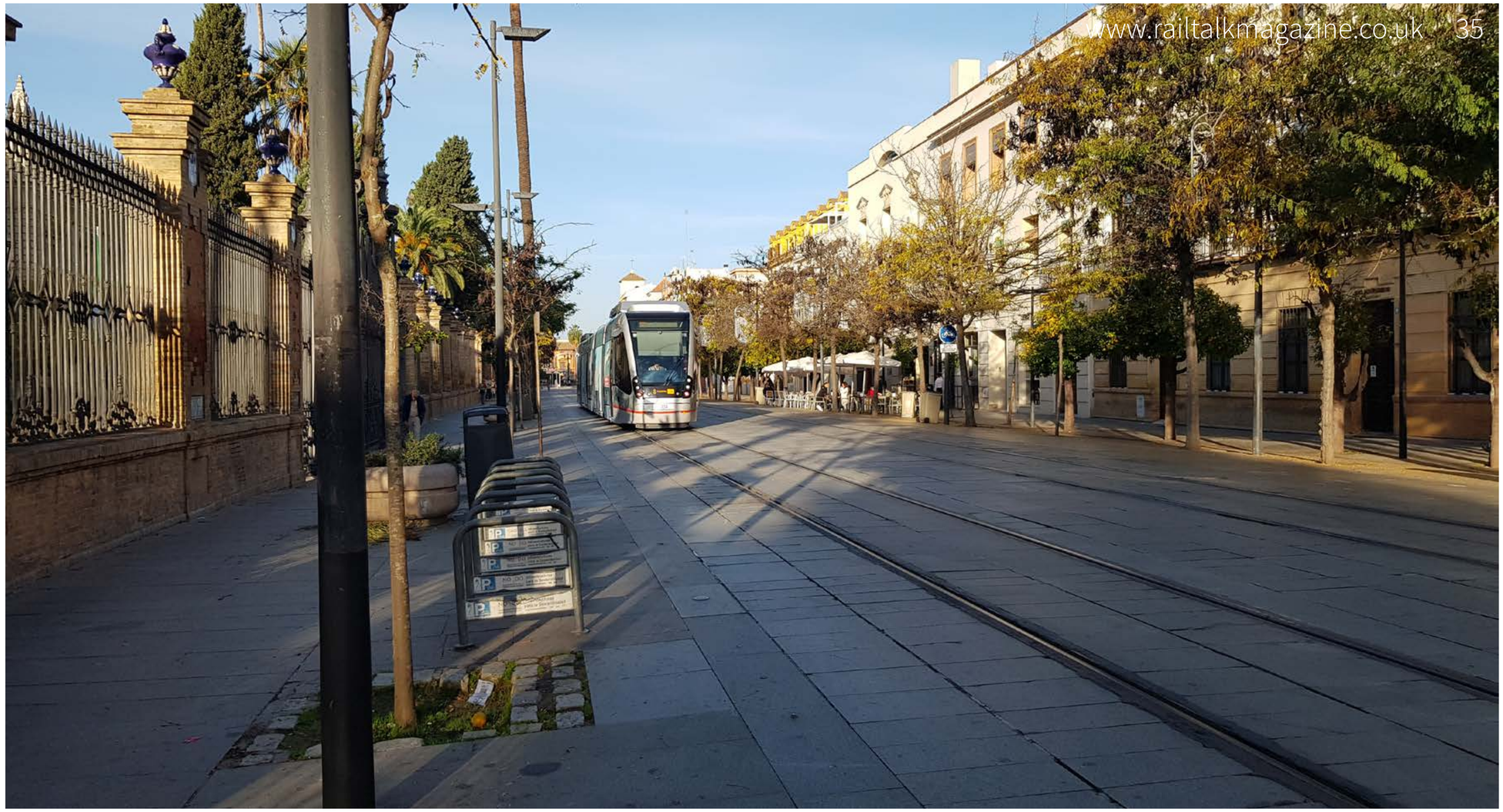
CP EMU No. 2261 in graffiti livery, awaits its next turn at Lisbon Santa Apolonia on October 30th. *Michael Lynam*

Spain

On November 23rd, Seville tram No. 304 is seen heading through the streets of the town whilst on battery power. *Mark Armstrong*

Renfe Class 465.225 is seen at Sevilla Santa Justa station on November 23rd. *Mark Armstrong*

CAF built Seville tram No. 3050 is seen at the Cathedral stop on November 23rd. Note the charging point overhead. *Mark Armstrong*



Spain

CAF built Seville tram No. 3050 is seen recharging on November 24th. *Mark Armstrong*

Spain

Passengers are seen boarding Renfe Class 599.095 at Sevilla Santa Justa station on November 23rd. *Mark Armstrong*

Renfe Class 121.006 arrives into Sevilla Santa Justa station on November 23rd.
Mark Armstrong

On November 23rd, Renfe AVE set Nos. 3 and 21 are seen at Sevilla Santa Justa station.
Mark Armstrong

Spain

Alstom's APS catenary-free technology makes Spanish debut on Barcelona's tramway

Alstom introduces a dynamic ground-based feeding system (APS) – the first time in Spain – removing the need for catenary while ensuring the tram can run as normal

The new extension of Barcelona's tram network can transport up to 24,000 passengers per day, thus helping to remove around 2,000 cars from the city centre

On November 11th, the Barcelona Metropolitan Transport Authority (ATM) put into commercial service the new extension of Barcelona's tramway, an extension of approximately two kilometres – that incorporates Alstom's innovative catenary-free technology, known as APS.

This extension can transport an additional 24,000 passengers per day, thus helping to eliminate around 2,000 cars from the city centre. Barcelona's tramway is in the backbone of the city's plan to encourage more sustainable mobility, with a commitment to eco-friendly, accessible, equitable and healthy urban development.

Alstom has been responsible for the design and supply of the new ground-based dynamic feeding system (APS) which eliminates the use of catenary while maintaining equivalent performance. Alstom's teams in Madrid and Barcelona have been responsible for both the APS elements – required in the infrastructure and the adaptation of the current fleet of 18 Citadis trams – to make them compatible with the new electrical power supply system.

Thanks to the use of APS technology, the first time adopted in Spain, it has not been necessary to install catenary on the new section of the tram network, thus improving the integration of the system in specific areas of the urban environment.

The APS system consists of the installation of a third conductor rail on the track, which serves as a power supply system. This third conductor rail is divided into sections that are automatically activated and deactivated as the tram travels over them, eradicating any risk to pedestrians and road users. Moreover, compared to other solutions, this technology does not compromise the autonomy of the trams in increasingly extreme weather conditions or in the event of traffic cuts or, for that matter, any other incident that interrupts the movement of the convoys.

Today, Alstom's APS technology is already installed and in operation in 11 cities on four continents (Bordeaux, Tours, Rio de Janeiro, Istanbul, Dubai, Lusail and Sydney, among others). Every day, more than 370 trams use this solution on more than 150 km of track in commercial service, representing 58 million kilometres travelled with APS (as of July 2022).

The extension of the Barcelona tramway

This inauguration is the first phase of the project to connect Barcelona's two tram networks, Trambaix and Trambesos. This connection – 3.9 kilometres long and with six new stops added to the tram network – will improve mobility in the city and will enhance intramodality by connecting the tram with the suburban and Metro networks.
Furthermore, once the connection is completed, it will contribute to reducing the carbon footprint by transferring users from private vehicles to the tram. The project has also entailed a major urban transformation, with new cycle lanes, more green areas and ample space for pedestrians.

Barcelona's tramway, inaugurated in 2004, is made up of two independent systems: Trambaix (connecting Barcelona with the towns of Baix Llobregat) and Trambesòs (connecting Barcelona with Sant Adrià de Besòs and Badalona). The network has a total of six lines and 56 stops in a 29.22 kilometres-long system that moves more than 30 million passengers annually, being the public transport service best rated by users (EMEF 2023).

The network is operated by 41 Citadis trams, manufactured and maintained by Alstom in Barcelona.

Alstom Spain

Alstom has a long history of innovation and commitment to Spain's economic and industrial development with local industrial and technological presence for all activities related to rail transport and sustainable mobility. With more than 3,200 people in the country Alstom has an industrial plant in Barcelona dedicated to the manufacture of all types of rolling stock, a propulsion systems factory in the Basque Country and, in Madrid, different technological innovation centres for the development of projects in the fields of railway safety, signalling, maintenance and digital mobility.

One out of every three trains running in Spain has been manufactured by Alstom.

Spain

Looking into the yard at Sevilla station on November 23rd, locos seen stabled include Class 319.311, 319.249 and 319.253. *Mark Armstrong*

A service from Lauterbrunnen headed by WAB unit No. 145 arrives at Kleine Scheidegg (2061m or 6762ft) on September 5th. *John Sloane*

BLS loco No. 191 waits for the road to Interlaken at Spiez on September 5th with a single lightweight coach due to be scraped. *John Sloane*

Stadler Euro 9000 No. 2019-322 approaches Spiez with a Brig to Olten COOP refrigerated train on September 5th.
John Sloane

SBB Cargo International Class 193.472 and SBB Cargo 474.013 depart Spiez on September 5th with a heavy intermodal service bound for the Simplon route and northern Italy. *John Sloane*

BLS Cargo Class 486.505 pauses at Spiez with a Freiburg im Breisgau to Novara 'Ralpin' RoLa train of lorries and their drivers on September 5th. *John Sloane*

Switzerland

BLM electric railcar No. 31 arrives at Murren on the isolated BLM line at over 5,300 ft on September 6th. *John Sloane*

SBB Class 460.043 arrives at Spiez with a Basel to Brig service on September 6th. *John Sloane*

Lotschberg base tunnel rescue locos Nos. 843.501 and 843.505 await a call to duty outside Spiez station on September 6th. *John Sloane*

SBB Class 460.017 departs Spiez with an Interlaken to Romanshorn service on September 6th. *John Sloane*

BLS Class 485.013 and 465.008 creep into one of the loops at Spiez on September 6th with a northbound intermodal from Italy. *John Sloane*

BLS Cargo Class 486 504 sets off from Spiez on September 6th with a Freiburg im Breisgau to Novara 'Ralpin' RoLa service. *John Sloane*

On September 6th, BLS Cargo Class 485.016 arrives light engine from Spiez depot and runs through the station.
John Sloane

On September 7th, the Niesen mountain provides the impressive backdrop for BLS Class 465.010 and No. 170 as they await their next duties at Spiez. *John Sloane*

Switzerland

New trains for the RegioExpress line: RBS awards contract to Stadler

Regionalverkehr Bern-Solothurn (RBS) has awarded the contract for the upcoming vehicle procurement to Stadler. Between 2028 and 2030, a total of 20 new multiple-unit trains will enter service on the Solothurn-Bern RegioExpress line (RE5). This will enable significantly more travellers to reach their destinations in future and increase passenger comfort.

In December 2023, RBS launched a tender for the procurement of 20 new three-car multiple units to replace the oldest RBS fleet and to increase capacity on the Solothurn-Bern line (RE5). The contract was signed in Worblaufen in mid-November. The order is worth around CHF 190 million and the trains will be built in Bussnang, Thurgau / Switzerland.

“Stadler impressed us with their high-quality realisation of our requirements, their well thought-out and efficient project planning, as well as the standard and high reliability rates of the vehicles they have already delivered to us,” explains Fabian Schmid, Director of RBS. “This partnership gives us the opportunity to heighten passenger comfort and make public transport in the region more appealing in the long term.”

At the signing of the contract, Peter Spuhler, Chairman of the Board of Directors of Stadler Rail, said: “I am delighted that RBS has placed their trust in us and that for the third time, we are able to build trains for them. This latest order is testament to many years of good cooperation between the two organisations. Once again, we have been able to impress our client with a customised vehicle and demonstrate that comfort, reliability and design can go hand in hand. I hope that RBS and its passengers will enjoy these new trains.”

More comfort and modern features for passengers
In order to meet the needs of both passengers and the region, RBS is focusing on proven concepts, comfort and future-proof technologies. Like the existing RBS trains, the new multiple- unit trains are 60 metres long and can be used in triple formation, making a train 180 metres long.

This means that it can carry 50 per cent more passengers at peak times. The vehicle concept is partially based on suggestions from passengers, which were already factored in at the development of the RBS “Worbla” trains.

Features of the new trains:
- Barrier-free entrances with extendable sliding steps
- Mixed use passenger areas: generous multifunctional spaces for pushchairs, bicycles,
luggage and wheelchairs are available in every second class carriage
- Seating capacity: 21 seats in first class; 103 seats and 15 folding seats in second class
- Modern features: environmentally friendly air conditioning and power sockets at seats

Expansion of services to strengthen regional transport
The first three new vehicles will be manufactured from 2026 and put into operation on the RBS network between mid-2027 and mid-2028. Following the successful completion of the test phase and once driver training has taken place, vehicles will be delivered from 2029.

The new trains will be able to operate with three carriages from around 2030/31. This will help meet the increasing demand for services on the Solothurn-Bern route.

Background to fleet renewal: ‘Secondas’ reach end of life
The “Seconda” S-Bahn trains currently used on the S8 line between Bätterkinden and Bern are now over 30 years old and increasingly prone to breakdowns. They were extensively modernised between 2010 and 2013 and are now reaching the end of their service life. Their age means that maintenance costs are going up and spare parts are difficult to get hold of.

The order of new trains will see the ‘Secondas’ replaced by the current RE trains “NExT” on the S8 line.

A BLT tram working a line 10 service to Ettingon passes Basel SBB station on September 7th. *John Sloane*

On November 30th, preserved Davenport No. 518 is seen at Bangkok Hualamphonger. *Mark Enderby*

Thailand

On November 30th, the Royal Blossom tourist train (launched in August) is seen stabled Bangkok Hualamphong. The train was converted from a Japanese DMU. *Mark Enderby*

Thailand

A former Japanese Railways Fuji KiHa Class 180 awaits departure from Bangkok Hulamphong on an excursion.
Mark Enderby

At the end of the morning peak hours on October 4th, Long Island Rail Road loco No. 405 pushes its empty set out of Jamaica station in New York, for stabling until the afternoon peak. *Mark Torkington*

New Jersey Transit still runs plenty of 55 year old GP40 locomotives (aka Geeps) and the Philadelphia to Atlantic City branch is exclusively worked by them these days. Here No. 4213 pushes its train out of Hammonton heading toward Atlantic City on October 6th. *Mark Torkington*

U.S.A.

New Jersey Transit No. 4541 crosses the imposing Newark Dock Bridge that is right at the end of the platforms at Newark Penn station on October 14th. *Mark Torkington*

Two of New Jersey Transit's dwindling fleet of F40 locomotives pose side by side at Hoboken station at the start of the evening peak on October 8th. *Mark Torkington*

Painted in the heritage New Haven livery to denote the ownership by CDOT (Connecticut state transport) but at work on Metro North services on New York states Hudson line, No. 229 pushes its train past Marble Hill on the outskirts of the city on October 4th. *Mark Torkington*

U.S.A.

On October 12th, Metro Norths GE locomotive No. 226 pulls into New Haven Union Station with a weekends only hauled additional train into New York's Grand Central Terminal. *Mark Torkington*

U.S.A.

On October 11th, Amtrak locomotives Nos. 103 and 123 pause at Springfield, Massachusetts with the 'Lake Shore Limited' train from Chicago to Boston, whilst No. 122 waits to the left with a connecting shuttle service to New Haven. *Mark Torkington*

Saudi Arabia

Alstom celebrates the launch of the Riyadh Metro network

Alstom, global leader in smart and sustainable mobility, proudly celebrates the launch of the Riyadh Metro network, a key milestone of the ambitious plans outlined by the Royal Commission for Riyadh City (RCRC) to improve mobility and enhance quality of life in the capital city. This 176km network, encompassing six lines, 85 state-of-the-art stations, and seven depots, sets a new global standard for urban mobility.

The Riyadh Metro is poised to transform public transportation, easing congestion, and improving air quality. It directly supports the Kingdom's goals for sustainable urban development and economic diversification. Projected to serve a maximum capacity of 3.6 million daily passengers, the Riyadh Metro network will in its whole significantly reduce reliance on private vehicles, cutting internal fuel consumption by up to ~1Mn gallons annually and reducing greenhouse gas emission by up to 3105 tons of VOC, 217 tons of PM, 3990 tons of NOx, 12.5 Mn tons of CO2.

Andrew DeLeone, Region President for Africa, the Middle East, and Central Asia at Alstom, stated, "The opening of the Riyadh Metro by the Royal Commission for Riyadh City (RCRC) marks a significant milestone in advancing Saudi Arabia's Vision 2030. By leveraging innovative technology and sustainable practices, we are reshaping urban mobility together with RCRC and empowering communities while fostering economic growth. Alstom is humbled to play a major role in this transformation, contributing to a brighter and more interconnected future for the Kingdom and beyond."

The metro will operate in phases, with the Yellow line (Line 4), and the Purple line (Line 6) – commencing passenger operations on December 1st, followed by the Green line (Line 5) on December 15th and the Orange line (Line 3) on January 5th.

Alstom's contribution includes 47 Innovia metro trains for the Orange line and 69 Metropolis metro trains for the Yellow, Green, and Purple lines custom-designed for Riyadh's specific needs, offering superior performance and efficiency. The metro utilises Alstom's advanced Urbalis CBTC signalling system for safe and efficient operations. HESOP regenerative braking technology recovers braking energy, reducing operational costs and lowering power consumption.

The milestone marks Alstom's 100th line launch into commercial service with a comprehensive turnkey scope, showcasing its global expertise. This integrated system represents the largest single-phase, turnkey urban metro project ever undertaken in the rail industry, and Alstom's most extensive turnkey urban project to date.

"The Riyadh Metro is not just a transportation system; it is a symbol of Saudi Arabia's forward-thinking vision and its commitment to sustainable growth," said Mohamed Khalil, Managing Director of Middle East Regional Headquarters. "Alstom is immensely proud to have partnered in this groundbreaking journey, delivering a world-class metro that will reshape urban mobility and contribute to a brighter future for Riyadh."

Alstom is also providing comprehensive maintenance services for the Orange, Yellow, Green and Purple lines. This includes the maintenance of trains, fixed installations such as tracks and signalling systems, communication networks, passenger information systems, and power supply, ensuring long-term system reliability. From the 2014 groundbreaking to today's full network launch, Alstom is proud to have consistently delivered world-class expertise.

Alstom in Saudi Arabia

Alstom has served as a dedicated partner in advancing mobility in Saudi Arabia for many years. Our presence in the Kingdom began in 1951 when we installed our first gas turbine in the energy sector.

Since that initial involvement, we have become a vital contributor to the region's transport infrastructure, playing a crucial role in shaping the future of transportation systems and projects.

The inauguration of our new Middle East headquarters in Riyadh represents a significant step forward in our mission. This facility enhances our ability to support the Kingdom's ambitious objectives, allowing us to quickly adapt to market demands while bolstering our local expertise. By merging global perspectives with a comprehensive understanding of local conditions, we are well-prepared to provide customized solutions that meet the specific needs of Saudi Arabia's transportation sector.

Netherlands

CAF secures two new contract extensions in the Netherlands and Italy

Italy

CAF has once again secured its customers' confidence by securing two new agreements to expand the number of units in its current projects. On the one hand, it will supply the Dutch operator GVB with 13 additional trains for the Amsterdam metro. Additionally, it will increase the number of units for the new Palermo city tram network. The combined value of both operations amounts to approximately €130m.

CAF to supply 13 additional units for the Amsterdam Metro

GVB, the public transit operator serving the Amsterdam region, has entered into an agreement with CAF for the supply of an additional 13 M7 model metro units. This option was included in the contract entered with CAF in 2018, which initially envisaged the supply of 30 trains.

The new vehicles will be identical to the units that have already been delivered. Each comprises 3 cars and can be coupled to form 6-car vehicles. They will also be equipped with the CBTC (Communications-Based Train Control) system, and capable of fully unattended train operation (GoA 4).

These new metro units will replace the oldest units in the fleet, which CAF also originally supplied in the 1990s and are now at the end of their service life. The fleet replacement will provide GVB with modern vehicles capable of transporting large numbers of passengers comfortably and efficiently.

This latest order brings the total number of CAF rail vehicles acquired by Dutch customers over the last 10 years to 445 units, comprising both delivered vehicles and those currently held in the order book. These include notable contracts such as the 72 trams also recently delivered to GVB, and contracts for customers such as NS, the Province of Utrecht or the operator Qbuzz. In addition to this, Solaris recently won contracts to supply electric and hydrogen buses for Dutch operators such as TransDev and Arriva. All of these have established the CAF Group as one of the leading suppliers of sustainable vehicles in the Dutch public transport sector.

The Italian city of Palermo increases its order for trams

A year after entering into the initial contract, the Comune di Palermo has chosen to extend the agreement, purchasing 14 more trams. In this case, the new units are for the new sections D, E2, F and G of the tram network, the construction of which will soon be put out to tender. It should be noted that halfway through last year, the joint venture between the Italian construction company Sis Scpa and CAF won the contract to construct the new tram lines A, B and C in Palermo and to supply the units for these lines. The scope of the part of the contract that corresponded to CAF consisted of the design and manufacture of 9 trams to operate on the above-mentioned sections of the city's network, with an option to increase this supply by up to 35 additional units.

The tram extension is an extremely significant project for the future of the historic city of Palermo, whose main objective is to provide the city with a broader and more modern public transport service, with a means of transport such as the tram, which the inhabitants regard as the safest, fastest and most sustainable means of transport.

Taiwan

Alstom successfully delivers the first trainset for Taipei Wanda Line

Alstom, a global leader in smart and sustainable mobility has announced the successful delivery of the first fully automated, four-car Metropolis train to the Department of Rapid Transit Systems, Taipei City Government, for the Wanda-Zhonghe-Shulin Line.

The 22.8-kilometre medium-capacity metro line will enable seamless connections between Taipei and New Taipei City, reducing travel time by 30 minutes once fully operational. Passengers will benefit from more convenient travel between districts in New Taipei City, including Zhonghe, Shulin, Tucheng, and Xinzhuang.

The handover ceremony was held at Jin-Cheng Depot and jointly hosted by Chiang Wan-an, Mayor of Taipei City, and Hou Yu-ih, Mayor of New Taipei City. Representatives from the Bureau Français de Taipei, the Alstom-led consortium, and Taiwanese engineering and contracting services company CTCI were also in attendance.

Ling Fang, President, Alstom Asia Pacific said, "With the Wanda-Zhonghe-Shulin Line, we are not just building a metro line; we are enhancing connectivity, reducing travel times, and promoting sustainable urban living. This project is a significant step forward in our commitment to improving public transport and fostering economic growth for the communities we serve."

"We are delighted to deliver the first fully automated Metropolis train for the Wanda Zhonghe Shulin Line," said Toby Tiberghien, Managing Director of Alstom East Asia. "This milestone reflects our ongoing commitment to enhancing Taiwan's urban mobility. Our state-of-the-art trains will significantly improve connectivity between Taipei and New Taipei City, providing passengers a more efficient and seamless travel experience."

In partnership with CTCI, the Alstom-led consortium was awarded a contract to provide an integrated metro system by the Systemwide E&M Project Office, Department of Rapid Transit Systems of Taipei City Government (SEMPO). Phase One, signed in 2018, is 9.5 km long with 9 stations and Phase Two, signed in 2020, covers an additional 13.3km with 13 stations.

As part of the contract, Alstom will supply 35 Metropolis metro trains, the Urbalis Communications Based Train Control (CBTC) driverless signalling system, the Supervisory Control and Data Acquisition (SCADA) system, and platform screen doors. Alstom and CTCI will collaborate on project management and system integration. CTCI will provide the track work, power supply, depot equipment, telecommunication, and ticketing systems. The Metropolis metro trainset is manufactured at Alstom's industrial unit in Taubaté, Brazil.

The Wanda Zhonghe Shulin Line, which interchanges with four other lines, will be a game-changer for commuters in Taipei and further cements Alstom's commitment to Taiwan, where it has maintained an active presence for over 40 years.

With over 50 years' experience and over 90 systems in commercial service worldwide, Alstom is the global leader and a trusted partner to deliver integrated turnkey rail systems customised for every mobility need.

Alstom's Metropolis metro solutions

The new metros for Taiwan are part of Alstom's market-leading Metropolis metro solutions, designed to keep cities breathing for over 60 years. More than 80 customers worldwide operate metros made by Alstom.

Alstom in Taiwan

Today, the entire Metro Taipei network is equipped with Alstom's signalling solutions. Most recently, Alstom delivered the first driverless metro systems for Taichung City and successfully introduced its world-proven Citadis Tramway to Kaohsiung City. The Wanda Zhonghe Shulin Line, which interchanges with four other lines, will be a game-changer for commuters in Taipei and further cements Alstom's commitment to Taiwan, where it has maintained an active presence for over 40 years.

Saudi Arabia

Transforming Public Transportation in Saudi Arabia - BACS consortium with Siemens Mobility successfully completes Riyadh's Blue and Red metro lines

One of the world's largest urban transport infrastructure projects
67 metro trains and the high-performance CBTC system delivered, operating fully automated with highest grade of automation
Efficient, safe, and comfortable mass transit system capable to move up to 3.6 million people daily, at full capacity

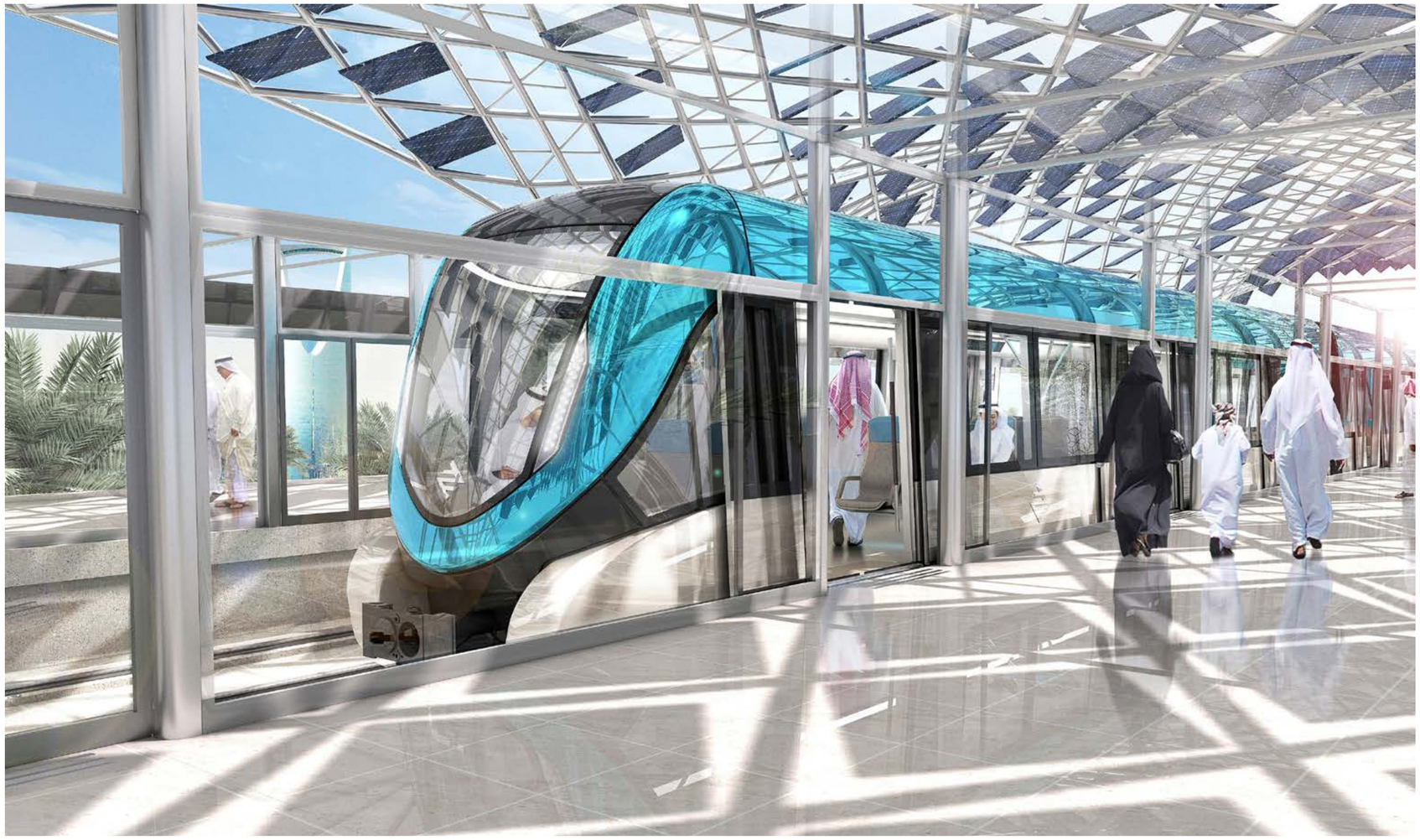
The BACS consortium led by Bechtel, along with local construction companies Almabani and Consolidated Contractors Company, and in collaboration with Siemens Mobility, successfully delivered Riyadh Metro's 64-kilometre Blue Line (line 1) and Red Line (line 2), equipped with 67 Siemens Mobility Inspiro trains for fully automated, driverless operations. This marks a significant achievement in the development of public transportation in the capital city, providing residents and visitors with a fast, safe, and eco-friendly mass transit system. The passenger operations on the network's Blue Line starts December 1st with Red Line officially commence passenger operations on December 15th.

This state-of-the-art transportation system not only meets Riyadh's present transportation needs but also supports the increasing mobility demands as Saudi Arabia prepares to co-host the 2027 AFC Asian Cup, welcome the World Expo 2030, host the 2034 Asian Games, and bid for the FIFA World Cup 2034. Construction for the project started in 2013.

Michael Peter, CEO of Siemens Mobility, stated: "Riyadh is rapidly growing and thriving economically. To support a growing population, the Saudi Arabian Government is implementing one of the world's largest public transport systems. This investment creates an efficient, safe, and sustainable transportation network, generates thousands of jobs, and boosts the economy. The Blue and Red lines include fully automated operations, enabling shorter headways between trains to significantly increase passenger capacity. They offer digital and sustainable travel options for Riyadh's citizens and represent a flagship project for Siemens Mobility's Turnkey business."

Riyadh's impressive mass transit project consists of six metro lines spanning a total of 176 kilometres, alongside a fleet of 842 buses covering 1,900 kilometres of route length. Siemens Mobility has played a crucial role in this development not only by delivering 67 Inspiro trains but also by equipping the Blue Line and Red Line with the latest version of the Communications-based Train Control System [CBTC]. In addition to its involvement in the metro project, Siemens Mobility has secured a separate service contract from the Capital Metro Company [CAMCO], a joint venture between RATP Dev and SAPTCO, the operator of the Blue Line and the Red Line. This contract encompasses a mobilization phase, followed by the maintenance of all components and systems provided by Siemens Mobility, as well as the track infrastructure for an additional three years.

To support a growing population by 2030, the Saudi Arabian Government is implementing one of the world's largest public transport systems.



Metro Riyadh: Automated, driverless metro trains
The 41 four-car and 26 two-car driverless trains of the 'Riyadh Metro' type, based on the Siemens Mobility Inspiro platform, are engineered for the region's specific climatic conditions. A larger and more powerful air conditioning system ensures pleasant climate conditions in the passenger compartment. Additionally, filters and sealing systems reduce the ingress of sand into the areas such as air conditioning, traction systems, brakes, and bogies. Another notable technical feature is the ability to couple and decouple trains automatically. This allows the operator to remotely choose which trains need to be coupled or decoupled from the operations control center, enabling flexible train lengths based on demand. The Inspiro trains offer comprehensive passenger information for announcements and multimedia information to enhance travel experiences. The metros in Riyadh ensure optimized energy consumption, low maintenance costs, and high recyclability. The delivery of the driverless metro trains to Riyadh began in 2018, marking a significant milestone in implementing the Riyadh Public Transit System.

Siemens Mobility: Pioneering Saudi Arabia's Transportation Infrastructure
Siemens Mobility has significantly impacted the Kingdom's transportation infrastructure since 2006, marking 18 years of transformative contributions. The company implemented the first European Train Control System in the GCC (Gulf Cooperation Council) for the East-West Rail Line, enhancing both passenger and freight transport between Riyadh and Dammam. Its involvement in the Haramain High-Speed Rail project underscores its commitment to pioneering high-speed rail solutions. Additionally, Siemens Mobility has played a pivotal role in the electrification of the Al Mashaaer Al Mugaddassah Metro line, enhancing its operational efficiency.

Photo: Metro Riyadh: Automated, driverless metro trains. © Siemens Mobility

Ireland

First train from Alstom's new X'trapolis fleet for Dublin unveiled

Iarnród Éireann (Irish Rail) has unveiled the first five-carriage Alstom-built X'trapolis train for Ireland's new DART+ fleet at Inchicore Works in Dublin.

Invited guests boarded the new train in its commissioning facility to get a glimpse of a new DART fleet which will enable Irish Rail to improve the customer experience across the Greater Dublin Area, including capacity, accessibility and customer information.

The train is the first of 185 carriages already on order from Alstom, and entering service from 2026 onwards. The trains were purchased in two orders as part of a framework agreement which provides for up to 750 electric and battery-electric carriages over a ten-year period.

The fleet orders, funded by the National Transport Authority (NTA) under Project Ireland 2040, are part of the wider DART+ Programme. This involves a series of infrastructure projects which, together with train orders from Alstom, will double the capacity and treble the electrification of the Greater Dublin Area's rail network. The first trains will operate on the Drogheda to Dublin Commuter route, with recharging facilities – also being provided by Alstom – at Drogheda railway station.

"The arrival of the first DART+ train in the new depot at Inchicore marks a significant moment not only for Alstom but for Ireland's exemplary journey towards a more sustainable future. Furthermore, it is a testament to our commitment in supporting Ireland's ambitious carbon reduction targets by delivering cleaner, smarter and more efficient trains to serve passengers across Greater Dublin and beyond," said Gian Luca Erbacci, Europe Region President at Alstom.

He added: "This train embodies cutting-edge technology and innovation, as a total of 155 out of the 185 carriages on order are battery-electric. We are really proud to be taking part in the transition to greener mobility in Ireland."

The arrival of the new fleet, manufactured at Alstom's Chorzów facility near Katowice in Poland, marks a significant milestone in Irish Rail's journey to become the backbone of the sustainable transport network in Ireland.

Largest order in Irish history

The carriages are the first part of the largest and most sustainable public transport fleet order in Irish history and, once operational, will further improve network accessibility and customer experience by offering:

- Independent access with low-floor height doorway being equipped with an automatic retractable step, offering the potential for unassisted level access from suitable platforms, aligned with platform enhancements.
- Wide gangways between carriages creating an open and spacious environment.
- Improved facilities for wheelchair users, families and cyclists, with dedicated wheelchair and family spaces.
- Transformed customer information systems on-board including large, high-resolution onboard displays with real-time updates, door illumination and additional features designed for the needs of sensory impaired customers including inductive hearing loops.
- An advanced on-board CCTV system with cameras throughout every carriage, to enhance safety and security for customers and employees.

As the first train in a brand new fleet on the Irish Rail network, the carriages will now begin a rigorous regulatory approval, and testing and commissioning process, at Inchicore Works and on the Greater Dublin Area rail network, before entering service in 2026.

"We are thrilled to unveil the first of the new DART+ fleet today, a critical step in our vision to see a decarbonised rail network. Our vision at Iarnród Éireann is for rail to be the backbone of a sustainable transport system, integrating with all modes to create ease of connection between people and places. It is about quality of life, delivering a fully accessible transport system for all, one that is flexible, frequent, faster, friendly, fairly priced, feasible to deliver, fully accessible and freer of carbon," said Jim Meade, CEO at Iarnród Éireann.

Each ten-carriage train, made up of two of these five car train sets joined, will be the longest train size operable by the new fleet on current infrastructure, and will have capacity for at least 1,100 customers. More carriages will arrive steadily over the coming months, with each set undergoing the testing and commissioning process.

The DART+ fleet

The new DART+ fleet will be able to deliver off-wire operation through the incorporation of battery-electric

technology, enabling new services and new capacity to be provided in the Greater Dublin Area 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, made possible by Alstom's fast charging infrastructure at Drogheda railway station.

"The DART+ Programme represents a transformative investment in the Greater Dublin Area's rail network. With the unveiling of the first five-carriage train in the new DART+ fleet today, we are taking a significant step towards a more sustainable, accessible and comfortable public transport for our passengers. I look forward to seeing the fleet rolled out across the network, further transforming public transport services for communities in the region," said Anne Graham, CEO of the National Transport Authority.

The initial 185-carriage orders will benefit a number of routes:

- Sixty-five new battery-electric carriages will be deployed first on Drogheda to Dublin Northern Commuter services.
- New electric carriages will be deployed on existing Malahide/Howth to Bray/Greystones DART services, allowing all services to be operated at maximum length.
- The further 90 battery-electric carriages ordered in December 2022 will facilitate the overall DART+ network, with potential to use them on other parts of the rail network in advance of wider electrification, subject to available funding for necessary infrastructure.
- Introduction of the new fleet will also free up existing carriages to increase capacity on other Commuter and Intercity services.

In addition to the fleet, Alstom will provide a technical support and spares supply agreement (TSSSA) for the first 15 years of the fleet's operation, and supply three train simulators to aid driver training. The X'trapolis trains for DART+ are part of Alstom's Adessia commuter rail portfolio, designed to support urban ecosystems all over the world to grow sustainably. The wide range of solutions also includes Adessia Stream B and Steam H trains for non-electrified lines, using battery energy supply and hydrogen power respectively for electrical traction.

Spain

Successful completion of the FCH2Rail project: the first hydrogen powered train has been tested on the Spanish and Portuguese railway network

The success of the project confirms the commitment to the development of innovative and emission-free fuel cell and battery hybrid technology to provide a competitive alternative to diesel trains in the current decarbonisation process.

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

The final event of the FCH2Rail project was held together with RailLive! 2024 congress, which took place in the city of Zaragoza. Over the past four years, the project has developed a bi-mode demonstrator train with hydrogen fuel cells and tested it on the Spanish and Portuguese railway networks. The event began with a presentation on the development of the project and a detailed overview of the main highlights and achievements. Renfe's director of Global Strategy, Paloma Baena, Jose Conrado and Iosu Ibarbia, CTOs of Adif and CAF and Emilio Nieto, director of CNH2, discussed in a panel session the results and the strategic conclusions of the FCH2RAIL project. This was followed by a tour of the hydrogen train. Visitors were able to experience a live ride on the hydrogen train on a journey between the CAF site in Zaragoza and the railway station in Villanueva de Gallego. The event was attended by Valerie Bouillon-Delporte, Director of the Clean Hydrogen Partnership, as well as key executives from the companies involved in the project and other companies that have actively supported the project.

The FCH2RAIL project had a planned duration of 4 years and a budget of over 14 million euros, of which around 70% was financed by European funds. It began in January 2021, when the FCH JU (now superseded by the Clean Hydrogen Partnership), the European Commission's agency to promote the development of hydrogen and fuel cells, selected the FCH2RAIL proposal. The project objective of developing an innovative hydrogen-powered prototype train was achieved with flying colours by the project partners CAF, DLR, RENFE, TOYOTA MOTOR EUROPE, ADIF, IP, CNH2 and FAIVELEY Stemmann Technik.

The so-called Fuel Cell Hybrid PowerPack was developed and manufactured for an existing commuter train provided by Renfe. This innovative zero-emission power generation system uses electrical energy from hydrogen fuel cells and LTO batteries to power the train on nonelectrified lines, and the overhead line where available. This is the first demonstrator train with hydrogen fuel cells on the Iberian Peninsula.

The first phase of the project, which began in 2021, consisted of developing the new power generation solution and integrating it into the vehicle's existing traction system. To this end, the Fuel Cell Hybrid PowerPack was tested outside the vehicle and the function of the energy management system was validated and optimised. Once the demonstrator train was completed, the static tests began in 2022 at the CAF plant in Zaragoza, where the correct installation and integration of the new system was tested by checking all interfaces and their correct functioning, as well as carrying out the hydrogen tightness tests and the first hydrogen refuelling of the train to supply the fuel cells.
In mid-2022, the dynamic tests of the unit began, initially on closed tracks, which served to optimise the new system and equipment, to later begin these tests on external tracks.
This involved optimising the hybridisation of fuel cells and batteries on the routes defined as representative in the project, simulating commercial operation on all routes and thus testing the new system in a wide range of power demand conditions.

One of the most important milestones of the project was the granting of authorisation for tests on the Spanish national network and the departure of the vehicle for the first test run on the Zaragoza-Canfranc route in the Aragonese Pyrenees. This marked Adif's first authorisation for the test operation of a hydrogen train in the RFIG, with all the risk analysis and safety validation processes associated with the testing of new technologies being carried out. The arrival of the train at Canfranc station in the Aragonese Pyrenees demonstrated the reliability of the technology used. The route from Zaragoza to Canfranc is particularly demanding due to its steep and high ramps, which poses a major challenge for the new on-board power generation systems.

To test the new technology in a wide range of power and energy demand conditions, the train then travelled for several months on different routes, mainly in Aragon, Madrid and Galicia. The scenarios demonstrated included operation under different climatic and operational conditions. In total the prototype has travelled more than 10,000 km in hydrogen mode.

During the train's stay in Galicia, another important milestone of the project was reached when the train crossed the border and was tested on a Portuguese route. This allowed a more comprehensive characterisation of the new technology for a later assessment of the competitiveness of the new bi-mode hybrid propulsion solution with hydrogen fuel cells as a sustainable alternative to the currently used diesel traction.

Furthermore, the FCH2RAIL Consortium has fulfilled another fundamental objective, namely, to participate in European standardisation committees for rail transport to promote the development of new standards or the updating of existing ones that provide the necessary conditions for the inclusion of hydrogen and fuel cell technology in the European rail network.

All in all, the success of the project confirms and reinforces the commitment of the companies that make up the FCH2Rail consortium to the development of environmentally friendly mobility solutions. In this context, the growing interest of numerous public and private transport authorities within and outside the EU in hydrogen fuel cell technology in rail transport in recent years should be emphasised.

Romania

Alstom and ARF present the first Coradia Stream regional train in commercial service for the first time

Alstom, global leader in smart and sustainable mobility, and the Romanian Railway Reform Authority (ARF) are proud to present – in a special journey between Bucharest and Brasov - the first Coradia Stream regional train delivered in Romania, for commercial service. This is the first train of a fleet of 37 trains ordered by ARF.

Additionally, it represents the arrival of the first new electric train in 30 years. “I am delighted that the 37 modern regional electric trains from Alstom are going to make a difference in the quality of railway transport towards popular destinations such as Brasov and Constanta. These modern trains will play a significant role in the country’s shift towards sustainable mobility, aligned with our aspiration to promote greener and more intelligent mobility solutions on a global scale.”

“Furthermore, the investment in a new Alstom maintenance depot for the ARF trains represents a new chapter for our presence in Romania. As we celebrate Alstom’s 30th anniversary in the country this year, this achievement becomes even more meaningful,” said Gabriel Stanciu, Managing Director Alstom Romania, Bulgaria and Moldova.

Each electric train designed for ARF consists of six cars, accommodating a total of 351 seats and offering a 100% low-floor design, ensuring convenient access for all passengers. To facilitate smoother passenger movement, there are two entry doors on each side of the middle-cars and one door on each side of the end-cars. The train also includes four eco-friendly toilets evenly distributed throughout its length, with one specifically tailored for passengers with reduced mobility. For passenger comfort, the trains feature generously sized luggage racks. The passenger information system integrates a sound system and a dynamic display system. Notably, these Coradia Stream trains are equipped with a digital passenger counting system that utilises high-precision sensors to provide operators with precise data on passenger traffic for effective planning and optimisation. The contract between ARF and Alstom also includes the maintenance services for 15 years, with the option of 15 additional years.

Alstom has initiated a €50 million investment in a state-of-the-art maintenance depot located in the central area of Bucharest to cater to the maintenance needs of this fleet. This facility is fitted with advanced machinery and technology commonly employed in rolling stock maintenance depots throughout Europe. It includes specialised equipment such as an underfloor wheel lathe and a digital diagnostic facility. The initial phase of the investment – a depot equipped for testing and maintenance operations – was completed in April 2024. The 30,000 square metres project will continue with a second phase, to establish a modern and fully equipped maintenance site. Alstom has been active in Romania for 30 years and is a market leader in railway electrification, rolling stock and signalling solutions.

The company is responsible for implementing signalling or electrification solutions on the Rhine-Danube railway corridor as well as in the Cluj area, where Alstom is part of the consortium building the second metro system in the country, in the city of Cluj Napoca. The first CBTC urban signalling solution in the country is under implementation by Alstom on Bucharest’s metro Line 5, where the first new Metropolis trains have already been delivered. The company has also been the provider of maintenance services for the Bucharest metro fleet for the last 20 years, with an ongoing contract valid until 2036.

Alstom developed the Coradia Stream regional train specifically for the European market. These units come equipped with the ERTMS Level 2 traffic control system and adhere to European standards (EN) and Technical Interoperability Specifications (TSIs). They are designed to operate seamlessly across all major European power supply systems. Currently there are over 700 single-deck Coradia Stream trains (EMU and Hydrogen) already sold in several countries in Europe including Denmark, Netherlands, Germany and Italy.

Eurostar

Eurostar Celebrates 30 Years of Transforming Cross-Channel Travel

Eurostar, the European high-speed rail service, was proud to celebrate its 30th anniversary in November. Eurostar is celebrating by offering 30% off all bookings and travel classes. Since its inaugural journey on November 14th, 1994, Eurostar has revolutionised the world of transport, making it quick and easy for millions of passengers to travel from city centre to city centre in Europe.

Over the past three decades, Eurostar has seen remarkable growth:

- The number of passengers has multiplied by 6, from 3 million in 1994/95 to 18.6 million in 2023
- More than 380 million passengers have travelled on Eurostar’s routes since 1994
- 61 million dishes have been served in Eurostar’s Business Premier, Standard Premier, and Premium services, with 3 million served in 2023 alone
- 5 million glasses of Champagne have been served to Business Premier travellers since 1994, with 230,000 served in 2023

“For the past 30 years, Eurostar has been at the forefront of high-speed rail, revolutionising the way people travel between the UK and the continent,” said Gwendoline Cazenave, CEO of Eurostar.

“As we celebrate this milestone anniversary, we reflect on our Merger with Thalys that we’re now connecting customers to France, The Netherlands, Brussels and Germany. Our success is a testament to the hard work and dedication of our team across Europe. “

Eurostar has pioneered several rail industry firsts, including:

- The first to offer Wi-Fi on board Thalys trains in 2007
- The first to provide fast-track check-in in London, Paris, and Brussels
- The first to open exclusive lounges with cocktail bars in London and Paris
- The first to elevate train travel into a fine dining experience with a collective of chefs and a sommelier on board

And what a chapter it promises to be. Eurostar has set its sights on increasing passenger numbers from 19 million to 30 million by 2030 with plans to expand its fleet and network to reach new heights.

“Our raison d’être has always been to connect Europeans beyond borders,” added Cazenave. “As we look to the future, we remain dedicated to growth, developing new connections with our open hubs, enhancing our services, and leading the way in sustainable transportation.”

Sweden

Northrail acquires low-emission DE 18 locomotives for use in Sweden and Norway

Norway

Northrail GmbH (Northrail) announces the conclusion of a purchase agreement for ten ETCS-equipped DE 18 Stage V locomotives with the manufacturer Vossloh Rolling Stock GmbH (Vossloh Rolling Stock). In addition to the locomotives on firm order, the purchase agreement includes an option for further ten identical locomotives. The first DE 18 locomotives are to be delivered in the second half of 2025. Northrail arranged and structured the investment together with its parent company, RIVE Tangible Assets Income Fund, managed by RIVE Private Investment, an independent European investment firm specialized in transportation assets and energy transition. Northrail is responsible for the commercial and technical management of the locomotives.

The four-axle DE 18 locomotives, which are approved for both Sweden and Norway, are equipped with the ETCS L2 (BL3 R2) and STM ATC-2 signaling systems. With an engine output of 1,800 kW, they are suitable for heavy shunting and mainline service and have a low-emission Stage V engine with numerous additional functions such as the start-stop function, which contribute to significant fuel savings. In addition, the engines are already prepared and approved for the use of synthetic HVO fuel (Hydrogenated Vegetable Oils), a fuel that provides up to 50 % savings of greenhouse gases (GHG) emissions. Additionally, the locomotives' energy-efficient engines, allow for improved operational and maintenance economics. Operators replacing their overaged shunting assets by these factory new DE 18 locomotives will be able to reduce by up to 40 % their GHG emissions.

"This acquisition represents another milestone in our internationalization strategy and opens up new opportunities for us in the very attractive Scandinavian market," says Michael Trentzsch, Chief Investment Officer and Chief Commercial Officer of Northrail AG. "We are convinced that this is the ideal time to invest in this market and see a great need for modern, low-emission locomotives in Sweden and Norway. With the DE 18 locomotives, we can meet this demand and sustainably expand our service offering in both countries."

Northrail will thus be the first supplier of DE 18 locomotives in the Swedish and Norwegian markets. Henrik Egeter, Managing Director of Vossloh Rolling Stock GmbH, is pleased about the joint commitment in this important focus market. "Northrail's move underlines not only their confidence in our technology, but also the importance of sustainable and efficient solutions for the rail industry in Scandinavia. That is why we are equipping the DE 18 locomotive with a climate-focused performance package that impresses with its strong traction performance and reliable ease of use."

Camille Brunel, Partner of RIVE Private Investment, adds "Bringing such innovative locomotives as the DE 18 to the Swedish and Norwegian markets supports decarbonization of land transportation and improves rail efficiency. We are delighted to be contributing to these efforts by providing financing via RIVE Tangible Assets Income Fund".

About Northrail

Northrail is one of Europe's leading rolling stock leasing providers and asset managers and a developer of innovative rolling stock investments. Northrail manages a portfolio of approximately 430 vehicles, including around 250 locomotives and around 180 multiple units and passenger coaches, for freight and passenger transport in Europe, with an investment volume of close to 1.5 billion euros. Northrail's managed fleet includes state- of-the-art electric, dual-mode and hybrid locomotives, battery-powered regional trains, as well as traditional shunting and universal locomotives. Northrail also develops tailor- made leasing services for its clients and organizes the maintenance of leased vehicles based on its ECM 1 to 3 licence.

Northrail, headquartered in Hamburg (Germany), currently employs around 45 people and is a subsidiary of RIVE Private Investment, an independent European investment firm with offices in Paris, Luxembourg, and Geneva, specializing in transportation assets and energy transition.

Kazakhstan

Alstom and Kazakhstan Railways partner to boost container cargo growth

Alstom, global leader in smart and sustainable mobility, and Kazakhstan Railways (KTZ) signed a partnership agreement during the visit of His Excellency Kassym-Jomart Tokayev, President of the Republic of Kazakhstan. The agreement was signed by Nurlan Sauranbayev, CEO of KTZ, and Henri Poupart Lafarge, CEO of Alstom.

The agreement aims to implement innovative solutions that will support the development and growth of container cargo along the Middle Corridor. It builds on the successful 15-year collaboration between Alstom and KTZ by establishing a shared vision for the future of rail transport in Kazakhstan supported by strong localisation of production.

"The successful cooperation between KTZ and Alstom has lasted for approximately 15 years. The continuation of this collaboration opens new opportunities for the implementation of modern technologies and the digital development of Kazakhstan's railway sector," stated Nurlan Sauranbayev, CEO of KTZ.

"This agreement with KTZ, reinforces our collaboration and commitment to advancing the railway sector in Kazakhstan. With over 1,200 employees in the country, we are dedicated to localizing our products and services to support the national economy. Kazakhstan's strategic position as a key regional hub with important transit corridors enables us to enhance our investment and partnership with the government and local stakeholders, further solidifying its role in the regional economy." stated Henri Poupart Lafarge, CEO of Alstom.

In addition to this milestone, Alstom is actively implementing the investment agreement established in 2023 with the Government of Kazakhstan, which includes a commitment of over €50 million into new industrial and infrastructure projects in the railway sector. This initiative involves the construction of service depots in four regions—Astana, Almaty, Arys, and Shu—to ensure continuous maintenance services for electric locomotives. The investment is expected to generate an additional 700 jobs, significantly contributing to local economic development. This agreement played a crucial role in Kazakhstan's transition to a diversified and high-tech-driven economy.

*The Middle Corridor, known also as the Trans-Caspian International Transport Route (TITR), is the shortest multimodal trade route that utilizes a combination of rail, road, and sea transportation to connect China and Europe by running through Kazakhstan, Azerbaijan, and Georgia.

About Alstom in Kazakhstan

Alstom has been a key player in Kazakhstan's rail industry since 2010, employing over 1,200 people and contributing significantly to transportation and infrastructure. As the sole manufacturer of electric locomotives in Central Asia and the Caucasus, Alstom operates 10 sites across six cities, including an Electric Locomotive Manufacturing Plant in Astana and multiple service depots. The company has delivered about 400 locomotives sections to Kazakhstan Temir Zholy JSC, providing comprehensive maintenance services, including repairs and overhauls. Prioritizing a diverse and inclusive workplace, Alstom champions gender and cultural diversity, earning recognition as a Global Top Employer in 2022, Kazakhstan Top Employer and Best Investor Award in 2024. Alstom is committed to advancing Kazakhstan's railway infrastructure through innovation, safety, and community engagement.

Germany

100 days of Riedbahn renovation: No ballast without DB Cargo

The refurbishment of the Riedbahn is in full swing and DB Cargo is also playing its part in its punctual completion.

The general refurbishment of the Riedbahn has now been underway for around 100 days, and Deutsche Bahn and the construction companies involved have now reached an important milestone.

Work on the rails, sleepers and ballast is progressing according to plan and is nearing completion. In the next construction phase, the technicians will concentrate on installing the new control and safety technology and connecting the modern electronic interlocking.

The line between Frankfurt/Main and Mannheim should be fully accessible again from December 15th once the renovation work is complete.

Until then, freight trains will continue to be routed via detour routes. The importance of the corridor for freight traffic is demonstrated by the fact that 4,826 trains have been diverted so far.

DB Cargo plays an important role in the refurbishment
DB Cargo itself is providing top logistical services for the general refurbishment of the Riedbahn in order to continuously supply the major construction site with building materials. Within the first 100 days, a total of 42,936 tons of ballast were delivered to the construction site - an essential basis for the progress of the work on the tracks and sleepers. DB Cargo carried out a total of 253 material runs for this purpose, demonstrating its important role in the extensive renovation of the 70-kilometre section.

Finland

VR invests 10 million euros in Oulu depot: new paint shop and improvements to facilities

VR FleetCare, a rail fleet maintenance company and wagon manufacturer, has invested nearly 10 million euros in improvements to the Oulu depot and project centre and a new paint shop. Operations have started with a modernisation project for a Swedish customer's rolling stock and a facelift for VR's Sm6 fleet. The paint shop's surface treatment line will bring new expertise and jobs to Oulu.

The new paint shop responds to the growing need for surface treatment of rolling stock, which has increased with VR FleetCare's international projects. The paint shop is mainly used for the surface treatment of rolling stock, but the modern facilities and technology can also be used for other large and demanding components.

The most modern rolling stock surface treatment line in Finland will be able to serve both rolling stock projects and subcontract painting

"With international rolling stock projects and new wagon production, we need more capacity alongside the Pieksämäki machine workshop. The project centre in Oulu is logistically well located, and the most modern rolling stock surface treatment line in Finland, now in operation, will be able to serve customers for both rolling stock projects and subcontract painting. We have also introduced new technology in the paint shop, such as intelligent temperature, humidity and air exchange control to ensure internationally high-quality standards in surface treatment. The new line will also bring new expertise and jobs to Oulu," says Otso Ikonen, Senior Vice President of Maintenance, VR.

Oulu is home to VR FleetCare's newest and most modern depot and project centre. The hall is used flexibly for international fleet projects and maintenance work. The two painting chambers have a combined length of 64 metres, a width of 7 metres and a height of almost 8 metres. It is one of the largest industrial painting chambers in Finland.

The construction of the paint shop took about a year and involved many local contractors. The Oulu depot was completed in 2014, and its washing hall was commissioned in 2016.

Investments create excellent conditions for carrying out fleet projects in a cost-effective and high-quality manner.

"The recent investments in the Oulu depot create excellent conditions for carrying out fleet projects in a cost-effective and high-quality manner. Painting activities have started at a fast pace in Oulu – we are currently painting the Sm6 train known as Allegro," says Ikonen.

Sm6 trains are being updated in Oulu to reflect VR's new appearance. VR will take the trains into service in Finland during 2025.

Spain

Alstom unveils the design of the new Coradia Stream train for FGC for the Barcelona airport connection

Alstom, a global leader in smart and sustainable mobility, unveiled the design of new Coradia Stream single-deck trains for Ferrocarrils de la Generalitat de Catalunya (FGC) at the "Tomorrow Mobility World Congress" in Barcelona recently. The new trains, developed and manufactured at Alstom's industrial site in Santa Perpètua de Mogoda (Barcelona), are set to provide rapid connection services between Barcelona and Josep Tarradellas Barcelona-El Prat Airport, starting in 2026. As a result, they have been designed for the specific needs of this type of journey, with lots of space for luggage and wider corridors to facilitate accessibility. They will also include the most advanced signalling solutions, as well as safety and passenger information systems to ensure the highest safety levels and best on-board experience.

Comfort, accessibility and passenger information

Each of these 5-cars Coradia Stream trains will feature 10 doors on each side (20 in total), with 209 seats (202 fixed and 7 folding), accommodating a total of 656 passengers.

In addition to audible signals for door operations, a lighting system — green for opening and red for closing — will assist hearing-impaired passengers in identifying these actions. Each train will feature 20 panoramic screens dedicated to displaying train information (four per car) and nine panoramic screens for airport information, providing real-time data on flight departures and arrivals. Additionally, all cars will include multiple luggage storage spaces. For passengers on the platforms, the trains will be equipped with 12 exterior LED screens: two front screens (located at the top of each car) and 10 side screens.

The trains will be fully accessible, with no access steps from the platform and an automatic ramp at the doors near the reduced mobility area. Each train will include two reserved spaces for people with reduced mobility, adapted toilets, and two multifunctional spaces for bicycles, trolleys, etc. For the train's design, which was done in collaboration with the ONCE Foundation, Alstom followed the universal design criteria, with the aim of offering the best travel experience for all FGC users, including those with reduced mobility. In line with Alstom's strategy and FGC's commitment to promoting sustainable mobility, the new trains will be developed using an eco-design criterion: choosing raw materials, traction systems, energy efficiency, and recycling at the end of their life. Ergonomic design, accessibility, low life-cycle costs and fleet reliability will contribute to making these trains an attractive and sustainable option for promoting public transportation, thereby significantly reducing road congestion and CO_2 emissions.

Manufacturing and maintenance in Barcelona

FGC awarded Alstom a €177 million contract for the supply of 10 new Coradia Stream trains and their maintenance for 15 years. Trains are designed and manufactured at Alstom's industrial centre in Barcelona.

Alstom will also construct a new depot in Barcelona to support the fleet maintenance for 15 years.

Employing over 1,000 people, the site is a major employer and technology hub in Catalonia.

The new FGC service will connect the centre of Barcelona with both terminals of Barcelona-El Prat Airport. Trains will run every 15 minutes, with a journey time of slightly over 20 minutes between Passeig de Gràcia station and Terminal 1. The line, which is currently under construction, will span 22.7 kilometres and feature nine stations in total: Sant Andreu, Sagrera, El Clot, Passeig de Gràcia, Sants, Bellvitge, El Prat, Airport Terminal 1 and Airport Terminal 2. Alstom's Coradia series of modular trains benefit from more than 30 years of continuous development and proven technical solutions. More than 4,000 Coradia trains have been sold in 12 countries and are currently operating in Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and Canada. The platform offers a full range of green traction solutions, including battery or hydrogen propulsion for non-electrified lines.

Image: ©Alstom SA 2024

From the Archives

France

SNCF No. 141 R 1145 simmers at the open roundhouse at Narbonne shed on March 31st 1972. *John Sloane*

From the Archives

Germany

Former DR Class 243.559 heads west through Dedenden Gummer on July 7th 2017. *John Sloane*

From the Archives

Hungary

MAV No. V43-2300 runs through Kobanya Felso on the outskirts of Budapest with an eastbound train on September 16th 2007. *John Sloane*

From the Archives

India

H Class 4-6-0 No. 24295 and WG's 9105 and 10403 are seen being prepared for duty at Vadodara shed on March 14th 1976. *John Sloane*

From the Archives

Italy

FS Class 444.026 runs through Viareggio at the head of an express bound for Turin on August 30th 1991.
John Sloane

From the Archives

Poland

Steam loco No. Pt47.113 rides the turntable at Klodzko shed on a freezing February 27th 1986. *John Sloane*

From the Archives

Spain

On the Alicante - Denia Railway, the 'Limon Express' from Benidorm to Gatos de Gorges is hauled by 0-6-0D No. 1203 as it approaches Altea on April 21st 1976.
John Sloane