





Welcome

Welcome to another edition of Railtalk Xtra, the monthly magazine that predominantly features railways outside the UK.

Well as a new year arrives, I am once again amazed once again by the new loco and DMU/EMU orders that continue to be placed. Either there is to be a large expansion of services or quite a few older generations of stock will start disappearing shortly. I presume that in the society we live in today it is cheaper to build new than to fully refurbish existing, which is a great shame.

Some exciting news from Macedonia this month with further funding for the second phase of a planned rail link between Macedonia and Bulgaria. The latest grant will be used to co-finance the construction of the 34 km Beljakovce – Kriva Palanka section of the line, which will form part of Pan-European Corridor VIII from the Adriatic to the Black Sea. The first phase which is currently underway covers rehabilitation of the 31 km Kumanovo – Beljakovce line, out of use since 1994. Procurement is underway for construction the second phase. The planned third phase would continue the line 23 km to the Bulgarian border at Deve Bair and railhead at Gyueshevo.

Interesting news for the UK and Europe with Beacon Rail Leasing acquiring 67 diesel locomotives from Colas Rail, which will continue to operate them in the UK and France.

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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 to the right or on the next page.

All images ideally should be provided at a resolution of at least 2048px x 1536px at 150dpi.

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Front Cover

Class 800 8-car 25KV AC EMU built by Nippon Sharyo & Taiwan Rolling Stock Company calls at Zhunan with service No. 2204, 12:51 Chiayi – Keelung via the mountain line route. *David Pollock*

This Page

On the ZillertalBahn between Erlach and Zell am Ziller, ZB DMUs Nos. VT4 and VT1 working train No. R147 cross the River Ziller. *Thomas Niederl*

Next Page

A Trenord service to Milano Centrale waits departure time at Domodossola. *Class47*





‘Acquiring this portfolio of diesel locomotives is in line with our strategy, growth ambitions and our continued commitment to being the leader in this segment of the market’, said Beacon Rail CEO Ted Gaffney.

After the sale of its Northern Belle arm, news comes that high-end wine, fashion, cosmetics, hotel and retail group LVMH Moët Hennessy Louis Vuitton has entered into a definitive agreement to acquire Belmond, which owns or manages 46 hotel, restaurant, train and cruise brands including the Venice-Simplon Orient Express, British Pullman, Royal Scotsman, Grand Hibernian, Andean Explorer, Hiram Bingham and Eastern & Oriental Express passenger trains.

And in Slovenia, the Advanced World Transport subsidiary of privatised Polish freight operator PKP Cargo has purchased an 80% stake in Slovenian freight company Primol-Rail on December 6. Primol-Rail was founded in 2016, although it has not yet begun train operations. ‘This purchase creates the opportunity to enter the Slovenian market’, said PKP Cargo CEO Czesław Warsewicz. ‘Now we can operate from the Adriatic Sea to the Baltic Sea.’

As always thanks for all the excellent photos, please keep sending them in, and remember if you are going on holiday, don’t forget to take your camera.

David
Editor

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These issues wouldn’t be possible without: Ray Anslow, Brian Battersby, Mark Bearton, Mark Bennett, Tim Blazey, Keith Chapman, Julian Churchill, Nick Clemson, Derek Elston, Mark Enderby, Tim Farmer, Dave Felton, FrontCompVids, Paul Godding, Richard Hargreaves, Keith Hookham, Colin Irwin, John Johnson, Anton Kendall, Jyrki Lastunen, Ken Livermore, Michael Lynam, Peter Marsden, Phil Martin, Denzil Morgan, Thomas Niederl, Peter Norrell, Chris Perkins,

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 Australia



▶ The 1WB3 steel products service from the steelworks at Pt. Kembla to Brisbane, breaks the silence of the sleepy hamlet of Kundabung hauled by Nos. NR88, NR84 and LDP003 on December 17th. *Mark Bennett*

▶ On December 11th, Pacific National's 4621 cement train to Grafton hauled by Nos. 8172 and 8160, powers through the mainline at Telegraph Point as the 2BS6 Intermodal service from Brisbane to Sydney sits in the loop behind Nos. NR26, NR50 and NR45. *Mark Bennett*

▶ Aurizon's No. P2505 is on the Beela line in south Western Australia and is taking loaded chemical tanks to the Alcoa refinery. *Colin Gildersleve*





CAF CONSORTIUM SECURES PARRAMATTA LIGHT RAIL CONTRACT IN NEW SOUTH WALES (AUSTRALIA)

CAF has been awarded the Supply, Operate and Maintain contract for the Parramatta Light Rail Project (Stage 1), as part of the Great River City Light Rail consortium, including CAF Rail Australia and Transdev Australasia. For the Parramatta Light Rail Supply, Operate, Maintain contract, CAF will supply thirteen 7-module URBOS Light Rail Vehicles, as well as the systems and their integration, which includes the traction system, substations, signalling system, communications and control centre for the project. CAF's scope also includes the design and construction of the Stabling and Maintenance facility and the above ground fit out of 16 light rail stops. This work will be subcontracted to the global engineering company Laing O'Rourke.

CAF has a significant holding in Great River City Light Rail, the consortium which will operate and maintain the Parramatta Light Rail (Stage 1) network for a term of eight years, with the possibility of extension of up to a further 10 years. For the CAF Group, the contract amounts to approximately €300M and services to commence operation in 2023.

Parramatta Light Rail is one of the New South Wales Government's latest major infrastructure project being delivered to serve a growing Sydney and Greater Parramatta and drive economic development. Stage 1 will connect Westmead to Carlingford via the Parramatta CBD and Camellia with a two-way track spanning 12 kilometres and include 16 light rail stops. The route will link Parramatta's Central Business District and Parramatta Interchange to the Westmead Precinct, the new Bankwest Stadium, the new Powerhouse Museum and Riverside Theatres cultural precinct, the private and social housing redevelopment at Telopea, Rosehill

Gardens Racecourse, and three Western Sydney University campuses.

The 13 light rail vehicles supplied by CAF are equipped with the ACR system with lithium batteries that will allow the vehicles to operate without the overhead line in some sections of the route. They will be equipped with state-of-the-art technology, providing a fleet of light, modern and extremely comfortable vehicles, 45 metres in length, with the capacity to transport approximately 300 customers each. They will be fitted with priority seats and support items for the disabled and elderly people. The audio and screen systems installed on the light rail vehicles will provide customers with real-time journey information, making the route more comfortable for customers.

CAF's history in Australia began with the incorporation of a subsidiary CAF Rail Australia in 2010. CAF Rail Australia was awarded its first Australian contract in 2012 to Transport for New South Wales to supply an initial six URBOS light rail vehicles, and then an additional six, as well as their initial maintenance. These 12 URBOS light rail vehicles currently operate on Sydney's Inner West Light Rail. In 2016, CAF was awarded again by Transport for New South Wales to supply six light rail vehicles fitted with the ACR system for Newcastle Light Rail. The Newcastle network will start operating in February 2019 and will be the first completely catenary-free line in Australia. This year, as part of the Canberra Metro Consortium, CAF entered into a contract to supply 14 light rail vehicles and their maintenance for a 20-year term for the first Canberra Metro light rail line.

► Aurizon's ACN4174 is crossing the Collie River bridge in south Western Australia with loaded Alumina wagons to Bunbury dock, for export.
Colin Gildersleve



 **Australia**



▶ In heavy rain, Commonwealth Bulk Handling Motive Power built model MP27CN Nos. CBH001 and CBH010 slow on the approach to Avon Yard, to the east of Perth for a crew change prior to setting off for another load of grain. *Colin Gildersleve*

▶ Aurizon's standard gauge Nos. ACB4402 and Q4002 take a mid-morning mixed freight through Midland from Kalgoorlie to Forrestfield yard and then onto Kwinana. *Colin Gildersleve*

▶ On December 1st, the 7BW2 empty steel train from Brisbane to Pt. Kembla is seen at Telegraph Point hauled by Nos. NR30, AN3, NR85 and LDP008. The LDP's are new to Pacific National services, having recently been hired from Progress Rail. *Mark Bennett*









ZillertalBahn diesel loco No. D14 arrives at the village of Zell am Ziller with train No. R143 on December 14th. This engine carries an advert for the Mayrhofener Funicular. *Thomas Niederl*

Bombardier wins contract to supply and maintain 18 FLEXITY trams for Wiener Lokalbahnen

Contract for the next generation TW500-type FLEXITY trams with the option for an additional 16 vehicles

The contract includes the 24-year FlexCare maintenance management system

Global mobility solution provider Bombardier Transportation and Wiener Lokalbahnen have signed a contract to supply 18 FLEXITY trams to Vienna, including the FlexCare maintenance management system over 24 years. The contract is valued at approximately 94 million euro (\$107 million US). It includes an option for an additional 16 vehicles and an additional eight years of servicing and maintenance.

The trams will be developed at Bombardier's global competence centre for trams and light rail vehicles in Vienna. The first vehicles are to be commissioned successively from 2021 and will replace the old TW100-type vehicles.

"Wiener Lokalbahnen wanted a modern, barrier-free and environmentally friendly vehicle to provide Badner Bahn passengers with the highest possible comfort. We are delighted to have found a very experienced and competent partner in Bombardier", said Monika Unterholzner, Managing Director of Wiener Lokalbahnen.

"We offered a very sustainable mobility solution with clear benefits for passengers, as well as our customer. Passengers of the new FLEXITY vehicles can look forward to more comfort, innovative design and the highest safety standards. With the 24-year FlexCare maintenance package, we guarantee efficient, safe and reliable operation of a durable tram in the future", added Christian Diewald, Managing Director of Bombardier Transportation in Austria. Passengers who depend on the connection between the outskirts of Vienna and the city centre can continue to enjoy Bombardier's customary high quality, comfort, accessibility and modern equipment. Bombardier's FlexCare maintenance system is easy to integrate into existing maintenance processes and allows customers to perform maintenance at their own facilities under the overall maintenance management responsibility of Bombardier. In addition to ensuring high availability and reliability, this maintenance management system also guarantees cost security over the entire term of the contract.





ČD Cargo becomes a member of the Rail Freight Forward initiative

On December 14, 2018, representatives of 18 European Railway Undertakings, including ČD Cargo, signed their participation in a joint initiative of the Rail Freight Forward coalition. On behalf of ČD Cargo, Member of the Board of Directors in charge of the management of the trade section, Mr. Bohumil Rampula, was present at the ceremony.

Rail Freight Forward is a coalition of European rail freight companies committed to drastically reducing the negative impact of freight transport on the planet and mobility through innovation and a more intelligent modal mix.

The coalition has the ambition to double the modal share of rail freight to 30% by 2030 as the macro-economically better solution for European growth. It strives to involve railway companies, infrastructure managers and policymakers across Europe in acting to make this modal shift a reality.

Rail Freight Forward is a broad and continuously expanding coalition of rail freight operators supported by the industry associations CER, UIC, ERFA and VDV.

Members of the Freight Forward Coalition include BLS Cargo, Cargo Cargo, CFL Cargo, DB Cargo, Green Cargo, Lineas, LTE Group, Mercitalia, East Coast Logistics, PKP Cargo, Rail Cargo Group, SBB Cargo, SNCF Logistics and ZSSK Cargo.



ŠKODA TRANSPORTATION PRESENTS THE FIRST TRAM FOR CHEMNITZ

On December 5th, Škoda Transportation presented the first of fourteen new modern ForCity Classic trams in Chemnitz, Germany. This is a bidirectional, 100% low-floor vehicle with the body made of stainless steel. The total value of this contract is close to 950 million CZK.

„The tram we are presenting to our customer today has many significant innovations and is designed in the spirit of the future of tram transportation. This first vehicle initiates several months of challenging type tests directly in Chemnitz. The first passengers will be able to use this tram during a trial run in the spring of next year. The entire fleet will be delivered to Germany by the summer of 2019. This new tram from Škoda Transportation is the great result of the work of our salesmen, technicians, designers and others, to whom we are very grateful,” says Petr Brzezina, Chairman of the Board and Chief Executive Officer of the Škoda Transportation group.

The Chemnitz transportation company (CVAG) will receive modern, low-floor vehicles meeting the latest German requirements for fully barrier-free access. Passengers can therefore look forward to comfortable, spacious vehicles with two large multifunctional spaces inside for up to four wheelchairs or baby prams, or 4 to 6 bicycles.

“Back in 2012 we were able to carry passengers in Chemnitz in a test run in our Prague ForCity Alfa tram. The operation was evaluated as very successful, and it was the basis for our later successful offer. In 2016 we won a tender for the supply of these fourteen trams in tough competition. I am happy now to present to the public a tram full of innovations, which includes a 100% low floor without ramps and a gearless drive with a permanent magnet motor combined with air suspension. The delivery of trams for Chemnitz is the second reference of the Škoda Transportation group in Germany; it consolidates our position in Western Europe and enables us to gather the necessary experience and references for further tenders,” adds Zdeněk Majer, Vice President of Sales of the Škoda Transportation group.

The vehicles have many significant innovations. The tram is equipped with air conditioning in the driver’s compartment as well as in the passenger compartment. The vehicle also has an easy to understand information system and a new sophisticated audio system for the visually impaired. The tram is 31.4 m long and 2.65 m wide. The total passenger capacity is up to 281 people, with 64 seats.

“The maximum speed of the tram is 80 km/h, however, for the operation in Chemnitz, Germany, this speed is limited to 60 km/h. Excellent driving performance even in bad weather is ensured by 100% adhesion (12 wheels = 12 motors without a gearbox). The tram’s body is made of stainless steel and designed as an LRV (suburban vehicles). The vehicles also have a new generation of electric drive also produced in Škoda,” describes the vehicle’s technical parameters Jaroslav Kulhánek, Chief Designer of Škoda Transportation.

Škoda Transportation has been successful in the German market in recent years. This June, the company won a tender for the supply of modern trams for transport company Rhein-Neckar-Verkehr (rnv). A total of eighty trams in the basic delivery will be operated on lines between Mannheim, Ludwigshafen and Heidelberg. The contract also includes an option for another 34 vehicles. The first vehicles will be put into operation in early 2021. The total value of the contract is several billion crowns. Škoda Transportation has also manufactured six modern, high-capacity double-decker trains, including six locomotives, for German operator Deutsche Bahn Regio. These push-pull trains are designed for operation on the most important Bavarian tracks between Nuremberg - Ingolstadt - Munich. The new trains will start replacing the old InterCity trains next year in spring. The full launch of the entire fleet of new trains is expected in June 2019.

CD Class 163.244 and 163.089 stabled between services at Hradec Králové hl.n. *Steamsounds*



▶ ZSSK Class 361.125 passes Ústí nad Orlicí with a Praha hl.n. to Zilina Eurocity service. *Steamsounds*



▶ Prague trams, No. 8426 heading to Nadrazi Branik and No. 8174 on a line No. 22 service, pass at Malostranská. *Steamsounds*



Inauguration of the Nice Côte d'Azur urban area's west-east light-rail extension

On December 14th, the Nice Côte d'Azur urban area's west-east light-rail extension linking the city to its airport was inaugurated with Alstom's new-generation trams and innovative SRS power-charging system. The inauguration—presided over by Christian Estrosi, Mayor of Nice, President of the Nice Côte d'Azur urban area and Vice-President of the Provence-Alpes-Côte d'Azur region—took place in the presence of Georges-François Leclerc, Prefect of the Alpes-Maritimes department, Renaud Muselier, President of the Provence-Alpes-Côte d'Azur region and Member of the European Parliament, Charles-Ange Ginésy, President of the Alpes-Maritimes department, and the Alstom teams. The Citadis X05 new-generation tram provides novel travel comfort: glazing covering forty percent of the tram's surface, LED lighting for soft, harmonious illumination, broad individual passenger seats, information on the tram journey displayed on extra-wide screens, and better access with double doors along the entire tram.

The innovations of Citadis X05 also make operations easier, with passenger capacity up 10%, the station turnaround rate increased by 20%, and preventive maintenance costs down by over 20%. To blend seamlessly into the city, the Citadis trams on Nice's T2 line run entirely autonomously without any overhead contact cables thanks to the SRS ground-based static charging solution, combined with the Citadis Ecopack system of energy storage. It is this system that keeps trams running without overhead contact cables throughout their journey. SRS technology power-charges the tram—automatically and safely—when it is stationary at stops, as passengers enter and exit it (in under 20 seconds). Electricity gets stored in this way, in the on-board Citadis Ecopack systems, ensuring the tram's autonomy from one charging point to the next. The SRS solution is based on the operational and safety-oriented principles of the tried-and-tested APS system of ground-level power supply (used in the light-rail networks of Bordeaux, Reims and Dubai).

'After the Cadam-Magnan portion became operational, the inauguration of the airport section is a major new step. The T2 tram in Nice is a great source of pride for Alstom and a

showcase for the world to see the French rail industry's expertise. Many innovations designed by our experts have been used in this project: new-generation trams, the new SRS recharging system developed in Vitrolles, in the Provence-Alpes-Côte d'Azur region, and the first internet-connected tram as of spring 2019, with a tram-ground WiFi connection,' declared Jean-Baptiste Eyméoud, Chairman of Alstom France.

'I chose an innovative, high-performance tram system to provide the highest level of comfort for people living in Nice and the surrounding urban area, and for all passengers who use this new line. Today, the west-east line runs to the airport so passengers can enjoy quick access to both terminal 1 and 2 as we have designed a tram station in direct contact with the airport and flush with the ground. Throughout the airport, we find public spaces that are as outstanding as they are along the rest of the line. I have also ensured that the price of an airport ticket is the same as for the entire Lignes d'Azur public-transport network. The west-east tram line will therefore take passengers straight to the airport from the city centre in just a few minutes for 1 euro. That is unique in the world!' said Christian Estrosi, Mayor of Nice, President of the Nice Côte d'Azur urban area and Vice-President of the Provence-Alpes-Côte d'Azur region.

Photo: ©ALSTOM Transport



At Leyman, France, two swiss Basel BLT Stadler Tango trams cross at sunset. *Peter Marsden*



Alstom presents the first tram of the Agglomeration Community of Grand Avignon

Alstom delivered the first Citadis X05 tram for Grand Avignon on Thursday December 13th after a three-day journey from La Rochelle, where the design and development of the trams is carried out.

In total, Alstom will supply 14 trams to the agglomeration community of Grand Avignon, scheduled to enter commercial service in summer 2019.

“Alstom and its teams are proud to present this first tram which addresses the major transport issues of the Agglomeration Community of Grand Avignon. We always take great pleasure in showcasing the knowhow and technologies deployed by Alstom’s men and women, for our customers in France and around the world,” said Jean-Baptiste Eyméoud, President of Alstom in France.

24 metres long, equipped with four double doors on each side, the Citadis X05 tram for Grand Avignon will be able to carry more than 140 passengers. It benefits from 100% LED lights with diffusers for soft, homogenous lighting and large glass surfaces covering 40% of the tram.

Citadis X05 has standardised, proven, more accessible components, providing



Photo: Tramway Avignon - © Alstom / Yves Ronzier

residents of the Avignon area with reliable, readily available material. Citadis X05 is particularly energy efficient and up to 98% recyclable.

Seven of Alstom’s twelve sites in France are involved in the design and manufacture of the tram for Grand Avignon: La Rochelle (for the design and assembly of the trams), Ormans (for the engines), Le Creusot (for the bogies), Tarbes (for the traction drives), Valenciennes (for the control system and interior layout), Saint-Ouen (for the design) and Villeurbanne (for the onboard electronic systems).

Alstom offers a wide range of products and services and is also providing the tracks (studies, supply and assembly), the 750 V electrical substation and 6 km of overhead contact lines (studies, supply, installation and testing) in partnership with TSO.

To date, more than 2,600 Citadis trams have been sold to more than 50 cities around the world, including 23 in France. The Citadis X05 trams have already been ordered by Nice (France), Sydney (Australia), Lusail (Qatar) and Caen (France).

SNCF BB No. 515049 is photographed upon arrival at Paris Gare du Nord. *John Sloane*

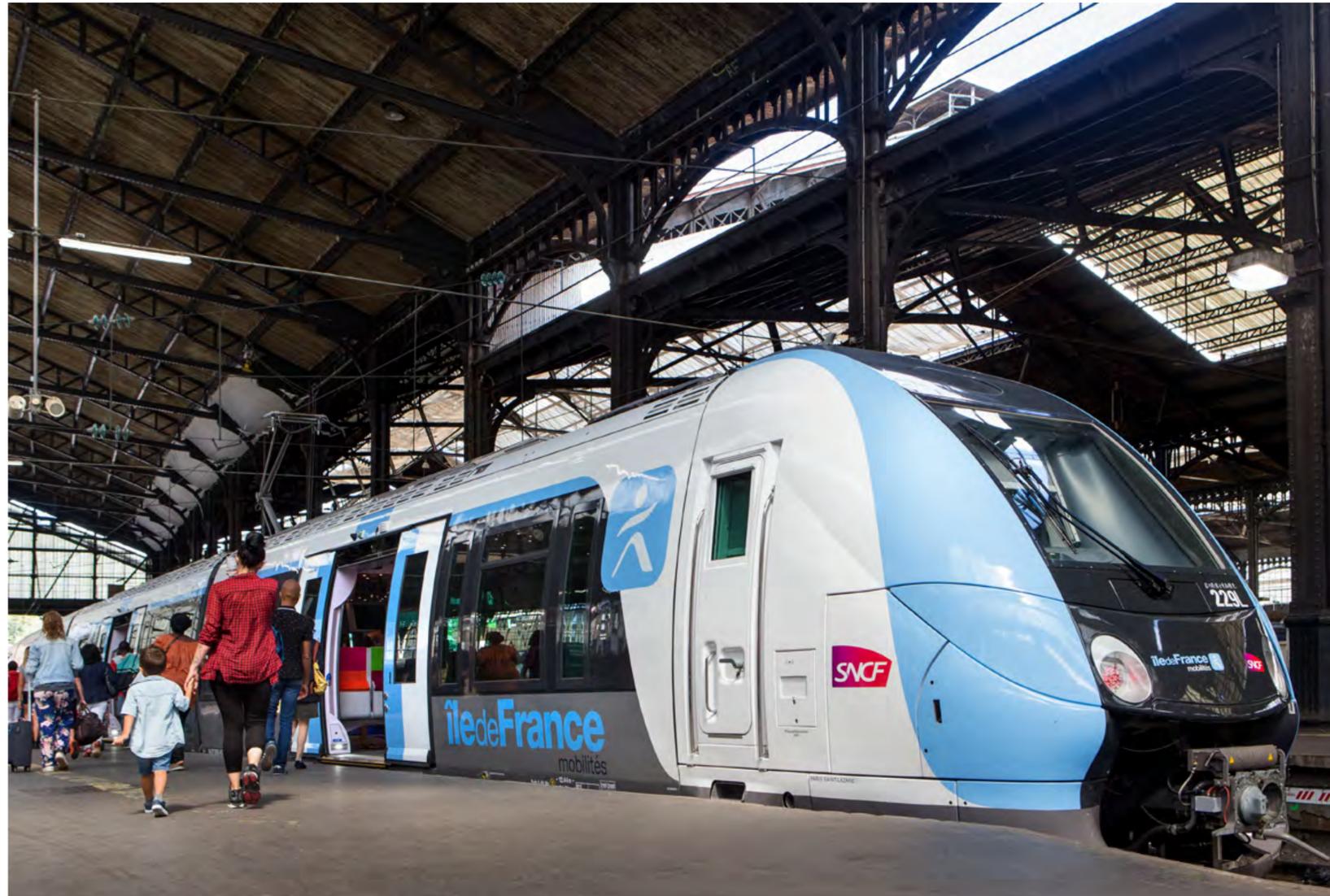
Bombardier to supply 47 additional Francilien trains to Île-de-France Mobilités in Greater Paris

A fleet of 360 Francilien trains: the largest Île-de-France train series

In 2022, these 360 Francilien trains will operate on the SNCF Transilien network serving Gare du Nord (lines H and K), Gare St Lazare (lines J and L), and Gare de l'Est (line P)

Mobility solution provider Bombardier Transportation has received an order for 47 Francilien train sets (334 cars) from the French national railway corporation, Société nationale des chemins de fer français (SNCF) on behalf of the Greater Paris public transport authority, Île-de-France Mobilités.

The order, a call off from a contract signed in 2006 with SNCF for a maximum of 372 trains, is valued at approximately 330 million euro (\$378 million US). These trains, entirely financed by Île-de-France Mobilités, 42 seven-car train sets and five eight-car train sets, will be rolled out on lines L, J and P on the SNCF Transilien network to continue modernizing the fleet. With this order, the 360 Francilien train fleet will be the largest rail series in Île-de-France.



“This train is the pride of the Bombardier Transportation France employees and the Crespin site in the Hauts-de France Region, workplace of around 2000 people. This “Made in France” train illustrates the work excellence of engineers who designed the train in 2006, of operators who produce it since 2009, and of our expert technicians who ensure the train operation every day alongside SNCF. The Francilien, which is tailor-made for the dense Île-de-France urban transportation ecosystem, has a remarkable performance track record and is greatly appreciated by passengers,” said Laurent Bouyer, president of Bombardier Transportation France.

With over 240 trains operating today, the Francilien symbolizes modern transportation in Île-de-France and induces passengers to take public transportation. The Francilien has become a new reference for daily trips, fit for a capital city like Paris, offering high seated capacity, onboard comfort, a unique colorful interior design. Wide doors and large vestibules with level access meet the demands of the dense Île-de-France network and improve the dwell time. Also, performance and respect for the environment are key to its design. Equipped with state-of-the-art technology, the Francilien contributes to improve the punctuality of the lines thanks to the highest level of reliability and availability. For example, Line H, which has a Francilien fleet, reached the highest punctuality score in Île-de-France for the first semester 2018 according to the punctuality bulletin published by Île-de-France Mobilités in September 2018.

To support the renewal of the Île-de-France rolling stock and to contribute to the Mirina scheme, Bombardier will increase the Francilien production pace in Crespin from September 2019.

Renowned as France’s first industrial rail site, about 2,000 people work on Bombardier’s facility in Crespin (Nord), including 500 engineers and managers. The company designs, builds and commissions different types of equipment and is specialized in double deck platforms.

Three emblematic projects are now in production: 1) OMNEO (in the Premium and Regio 2N regional versions) is an extra-capacity, double-deck train for the Regions of France, which ordered 401 train sets in a contract signed in 2010. 2) Francilien is an ultra-modern commuter train for Greater Paris. Île-de-France Mobilités has ordered 360 trains. Operating since December 2009, it is the best performing train of the SNCF Transilien network, servicing the P, L, J, K and H lines 3) RER NG, under a contract signed in 2017 as part of a consortium for Île-de-France Mobilités, will operate on the E and D lines of the RER.

Photo: ©Bombardier



Bayerische Oberlandbahn GmbH orders 25 Coradia Lint from Alstom

Alstom has signed a contract with Bayerische Oberlandbahn GmbH (BOB) for the supply of 25 Coradia Lint regional trains. The trains will operate in the Bavarian Oberland, located in Upper Bavaria, on the lines Munich–Holzkirchen Lenggries/Tegernsee/Bayrischzell, beginning in summer 2020. The Coradia Lint trainsets will be built at Alstom’s production site in Salzgitter, Lower Saxony.

“We are pleased that our proven Coradia Lint will contribute to higher reliability and increased traveling comfort in the Bavarian Oberland. The region’s passengers can look forward to travelling in modern, quiet trains with high accessibility,” says Jörg Nikutta, Managing Director of Alstom in Germany and Austria.

Fabian Amini, Chairman of the Management Board of Bayerische Oberlandbahn GmbH, adds: “The early changeover to new trainsets means a qualitative quantum leap for our passengers and us so that all employees are also full of anticipation for the new vehicles. As a next big step, we hope a decision will soon be taken for the electrification of the Oberland.”

The Coradia Lint can run at a maximum operating speed of 140 km/h. The two-unit trains have an access height of 730 millimetres and seating capacity for a total of 158 passengers and 12 bicycle places. They are characterised by a comfortable, generous seat arrangement and flexible multi-purpose areas. All trains are equipped with laptop sockets, a passenger information system as well as video surveillance to guarantee high

passenger safety.

Coradia Lint trains have operated in more than 30 networks in Germany, Europe and Canada since 2000. Thanks to continuous improvements, they offer the highest standard of safety, noise reduction and low emissions and can boast very high availability. The trains belong to Alstom’s Coradia range of modular trains, which benefits from over 30 years of expertise and proven technical solutions. More than 2,800 Coradia trains have been sold so far and around 2,300 are currently in service.



Three of Rhuralt Bahn’s railbuses wait at Hagen Hbf with the Fridays only service to Hattingen. A bit of weedkiller wouldn’t go amiss. *Steamsounds*





DB Regio DMU Class 620.521 stands at Lüddenscheid with an RB25 service to Köln. *Stearnsounds*



Schwebebahn train No. 02 is seen at Wuppertal Oberbarmen. *Stearnsounds*



Pesa Link DMU Class 632.612 is seen having arrived at Lüddenscheid with a service from Dortmund. *Stearnsounds*



DB Class 111.111 stands at Neuss Hbf with an RE4 service to Aachen. *Stearnsounds*

Alstom to supply 13 additional metros for Hamburg in Germany

Alstom, in consortium with Bombardier Transportation, will supply 13 additional DT5[1] metros to Hamburger Hochbahn AG. As part of this contract, Alstom will provide mechanical elements, including the bogies and braking system, while Bombardier will supply electrical and traction equipment, passenger information system and vehicle control technology. Assembly will take place at Alstom's site in Salzgitter, Germany. Alstom's share of the contract is worth over €40 million. The new trains are scheduled to go into service in December 2020.

"This additional contract clearly demonstrates that our customer and their passengers in Hamburg are highly satisfied with our product. This brings the total number of ordered DT5 metros to 131. Clearly, we are proud to be pursuing such long-standing cooperation with Hochbahn," said Jörg Nikutta, Managing Director of Alstom in Germany & Austria.

The DT5 metro fleet has been in service in Hamburg since 2012. So far, the Alstom-Bombardier consortium has delivered 46 metros out of the 131 units ordered by Hochbahn to respond to steadily increasing ridership in the city. Alstom had previously provided Hamburg metro with the DT2, DT3 and DT4 fleets – a total of 462 trainsets[2].

Hamburg is the second largest city in Germany and the eighth largest city in the European Union. To meet the requirements of such a major city population, the DT5 is a modern and spacious metro, adapted to new passenger needs with large gangways, walk-through interiors and multi-purpose areas. Each of the 40 meter-long three-car sets can welcome 96 seated passengers and up to 240 standing passengers, plus two wheelchair spaces. The DT5 features increased passenger comfort such as air-conditioning, passenger information and CCTV systems as well as automatic door closing. The DT5 metros are designed to be environmentally-friendly. Their lightweight stainless-steel car body and regenerative braking system contribute to improving energy efficiency. The vehicles also feature low noise emissions, making the metro of Hamburg one of the quietest in the world.

[1] DT5 stands for Doppeltriebwagen of the 5th generation (English: Twin railcar 5)

[2] DT2 in consortium with Kiepe, DT3 in consortium with BBC and Kiepe, DT4 in consortium with Bombardier



 Germany

▶ Berlin BVG Stadler IK 1043 operates a U2 service to Pankow up the grade to Nollendorfplatz.
Peter Marsden

▶ A U1 service arrives at Berlin Warschauer Straße.
Stearnsounds

▶ Dresden tram No. 2809 arrives at Anton-/Leipziger Straße working a service to Wilder Mann.
Stearnsounds





▶ A DB Regio Südwest Stadler Flirt EMU heads alongside the Rhine near Bingen with a Koblenz - Frankfurt service. *Class47*

Avenio M tram inaugurates passenger service on new Line 2 in Ulm, Germany

**All twelve trams handed over to SWU Verkehr GmbH
First series service for multi-articulated Avenio M
First Avenio fleet with “Siemens Tram Assistant” collision warning system**

The Avenio M from Siemens Mobility has begun service on the new Line 2 in Ulm, Germany. The approximately ten-kilometre long tram line, which connects Ulm’s Science City with the Kuhberg district, was officially inaugurated by SWU Verkehr GmbH. The new trams from Siemens Mobility will be used on the city’s entire tram network (Lines 1 and 2).

In May 2015, SWU Verkehr GmbH commissioned Siemens Mobility to deliver twelve multi-articulated trams from the Avenio M series. The first tram has been operating on Line 1 in Ulm since the summer of 2018, and Siemens Mobility has in the meantime handed over all twelve trams. With December’s timetable change, the new trams will officially begin scheduled passenger service on the new Line 2.

“The start of passenger service in Ulm is especially important for us in two respects. For one, Ulm is the first city to operate the new multi-articulated variant of the Avenio tram. For another, this is the first time our new “Siemens Tram Assistant” collision warning system is being used. By making trains and infrastructure intelligent, we guarantee availability and increase safety in urban traffic,” said Sabrina Soussan, CEO of Siemens Mobility.

The Siemens Tram Assistant is installed in all of Ulm’s Avenio tram fleet. The system informs the tram driver of critical situations with the help of lidar and radar sensors, helping to avoid accidents.

The Avenio M has been optimized to operate on the Ulm tram routes with their steep grades. Designed as a modular, multi-articulated tram, the Avenio M adapts flexibly to the infrastructure. The tram’s weight-optimized aluminum body and state-of-the-art electrical systems minimize its energy consumption.



Presentation of first Mireo train for the Rhine Valley

Siemens Mobility begins extensive test program

DB Regio to operate the Rhine Valley network as of 2020

Profitable over the entire lifecycle with enhanced passenger comfort



“Collaboration among the regional authorities, Siemens Mobility and us has always been trusting, constructive and marked by a spirit of partnership. This will now be paying off for our passengers: With these state-of-the-art trains, we will jointly set new standards for the comfort of our passengers using the Rhine Valley network,” said David Weltzien, Head of Regional Management, Baden-Württemberg, DB Regio AG.

“Just a year-and-a-half after the order was placed, we are presenting the first Mireo for the Rhine Valley rail network right on schedule. This delivery speed is made possible by the intelligent modular system and standard components we use for the train. This new design offers operators profitability over the train’s entire lifecycle,” said Sabrina Soussan, CEO of Siemens Mobility. The Mireo will be

used for regional service on the Offenburg – Freiburg – Basel/Neuenburg (Switzerland) route during the week and operate in the Kaiserstuhl region from Freiburg to Endingen/Breisach on Sundays. The three-car trains have 220 seats and a maximum speed of 160 km/h. Their interior design combines a generous sense of space with comfort and safety, including large displays for passenger information, on-board Internet access and security surveillance systems (CCTV). Passengers will have spacious seating, CO2 air conditioning, and multi-purpose areas with ample space for up to 27 bicycles. Passengers with restricted mobility will have barrier-free access to the toilets. All car doors are equipped with a sliding platform that automatically bridges the gap between the platform and train to ease passenger access.

The Mireo features an energy-efficient and environmentally friendly design based on a self-supporting, welded lightweight aluminum body shell. The train’s improved aerodynamics, energy-efficient components and intelligent electrical system management help save resources and reduce emissions and noise. Overall, energy consumption can be reduced by around 25 percent compared to older trains. The materials used in the Mireo make it possible to recycle 95 percent of the train at the end of its service life.

The first trainset of the new Mireo regional train platform has been completed. In the coming months, a total of eight pre-production trains will be commissioned at the company’s Test and Validation Center (PCW) in Wegberg-Wildenrath. Before the train is allowed to operate for the first time in Germany’s rail network, an extensive test program must be completed at the PCW. In June 2020, the Mireo is scheduled to begin service in the Rhine Valley network in Southwest Germany that is operated by the DB Regio Regional Business Unit of Deutsche Bahn. DB Regio AG has ordered a total of 24 Mireo trains, the first order Siemens Mobility received for the newly developed platform.

“I’m delighted that the innovative and energy-efficient Mireo train concept will be introduced in Baden-Württemberg for the first time in June 2020. This will bring a major improvement in comfort for passengers traveling on the regional Offenburg-Basel route and at the same time be a clear gain for the environment,” said Transportation Minister Winfried Hermann, member of the state parliament.

DB Regio Class 101.100 stands at Hagen Hbf with train No. IC2025 from Hamburg to Frankfurt. *Stearnsounds*



Bombardier receives orders to provide 20 TRAXX locomotives to Railpool

Railpool's fleet of TRAXX locomotives thus expands to 217

Global mobility solution provider Bombardier Transportation has received orders from Railpool, a leading rail vehicle leasing company in Europe, for 20 electric BOMBARDIER TRAXX locomotives. The orders include options of up to 20 additional vehicles. Based on the list price, the orders are valued at a combined total of approximately 74 million euro (\$85 million US). The first locomotives are scheduled for delivery in the second half of 2019.

Torsten Lehnert, CEO, Railpool, said: "This latest order increases Railpool's fleet of TRAXX locomotives to 217. Our first TRAXX locomotive was delivered in 2009 – since then we had very good experiences regarding performance, traction effort, efficiency and reliability with our TRAXX fleet. Based on this experience, we want to operate these additional locomotives on the most important European freight corridors, connecting several main European harbours."

Mike Niebling, Director Sales, Locomotives, Bombardier Transportation, added: "We are pleased that we can continue the very successful collaboration with Railpool, one of our largest locomotive customers in the freight ecosystem. Railpool has contributed significantly to the development of our TRAXX platform over the last decade. This strategic partnership helps Railpool to enter new markets, achieve a broader offering and a higher capacity – based on our mobility solutions."

The BOMBARDIER TRAXX 3 platform is the most modern four-axle locomotive platform in Europe. Its three models, TRAXX AC3, TRAXX MS3 and TRAXX DC3, all offer optional Last Mile function, a support diesel engine which bridges non-electrified sections. The TRAXX locomotive family is the most successful platform in Europe, with more than 2,300 units sold.



DB Regio Class 648.101 departs Hagen Hbf with a service to Dortmund Hbf. *Steamsounds*

RRX regional trains inaugurates service on schedule

Service to begin when timetable changes on December 9, 2018
Federal Railway Authority approves operation of trains
Approval granted punctually
Increased capacity and passenger comfort

The electric multiple unit (EMU) trains built by Siemens Mobility for the Rhine-Ruhr Express (RRX) commenced operating punctually with the change of the rail system's timetable on December 9, 2018. Germany's Federal Railway Authority (EBA) has officially approved the train. The planned deadline was met right on time and commercial operation will begin on Line RE 11 that connects Düsseldorf, Duisburg, Essen, Dortmund, Hamm, Paderborn and Kassel. Up to 43,000 passengers use this route daily. A total of 15 trains have now entered service. The new Desiro HC trains provide 25 percent more capacity than the trains previously used on this line, and offer significantly enhanced passenger comfort and convenience. The digitalized service and maintenance provided by Siemens Mobility guarantees over 99 percent availability of the new EMUs.

"With the commissioning and series approval of our Desiro HC train for the Rhine-Ruhr Express, we've once again demonstrated that we can deliver mega rail projects right on time. This makes us a reliable partner for transport companies worldwide when it comes to handling complex projects throughout their entire lifecycle," said Sabrina Soussan, CEO of Siemens Mobility.

The Rhine-Ruhr Express is the world's first series-produced train to feature a new high-frequency window treatment that vastly improves cellphone reception in trains. Researchers at Siemens Mobility developed this special window coating that allows radio signals to pass through the glass unhindered. The solution is a fine pattern that is lasered into the electrically conductive, transparent coating of the window panes. The installed windows allow radio waves to penetrate the glass up to 500 times better than with conventional thermal insulation glazing. With this special solution, passengers can surf in the Internet and phone for the first time without signal disruptions, and there is no need to install special in-train repeaters in the coaches.

Approval of the Federal Rail Authority was granted following the new procedure in Germany which gives train manufacturers and operators planning security. In this procedure, proof and test certificates can be issued by recognized testing centers beginning with the design phase of the train.

In North Rhine-Westphalia (NRW), around 2.4 million people use the regional rail system on a daily basis, and the numbers are growing. The RRX, which is acclaimed as a project of the century for the metropolitan region, will help meet the continually growing transport demands in the Rhine and Ruhr region. When completed, seven rail lines will connect major cities in NRW with important centers such as Kassel and Koblenz in the neighbouring states of Rhineland-Palatinate and Hesse. On the core route between Cologne and Dortmund, passengers will be able to use rail services every quarter of an hour once the system's infrastructure has been expanded and modernized. The system will benefit eight million people living in cities providing RRX service, or around 45 percent of the NRW population.

Siemens Mobility will be delivering a total of 82 specially developed double-decker trains from the proven Desiro train family. The newest family member, the Desiro HC, is designed for high passenger capacities. Each 105-metre train consists of four cars and has 400 seats. In operation, two train units will be coupled to create an eight-car express with around 800 seats.



In addition, Siemens Mobility will be responsible for the service and maintenance of the trains over a period of 32 years. A state-of-the-art maintenance facility, the most modern in the world, was built specifically for this purpose in Dortmund-Eving. The RRX contract, with a volume of €1.7 billion, marks the biggest order Siemens Mobility has ever received for Germany's regional rail transport sector.



Bombardier to supply a further 20 FLEXITY trams to Karlsruhe

Albtal-Verkehrs-Gesellschaft expands its fleet to 62 trams
The dual-system vehicles operate on both the tram network and regional railway network

Global mobility solution provider Bombardier Transportation received a call-off order from Albtal-Verkehrs-Gesellschaft mbH (AVG), the transport company of the Alb valley region in southwest Germany, for the delivery of 20 further dual-system BOMBARDIER FLEXITY trams. This third order is based on a framework agreement for a total of 75 vehicles from 2009. The order is valued at approximately 87 million euro (\$98 million US). The vehicles will be delivered between May 2020 and March 2021.

“Striving to provide attractive local transport services, we have decided to order 20 additional dual-system vehicles from Bombardier Transportation. This will allow us to purposefully enlarge our vehicle fleet offering high-quality standards to our passengers”, said Dr. Alexander Pischon, CEO of Albtal-Verkehrs-Gesellschaft. Ascan Egerer, Technical Director of AVG, added: “Considering the urgent need to expand our capacity, ordering the 20 additional vehicles is of vital importance for us, as we are continuing to modernize our vehicle fleet. For our passengers, the FLEXITY trams also offer a modern, high level of passenger comfort”.

“We are very pleased about this renewed vote of confidence and look forward to continuing to work successfully with our customer AVG. We are proud that AVG will continue to rely on our dependable and easy-to-maintain FLEXITY trams in order to extend their transport service,” said Alexander Ketterl, Bombardier’s Head of Light Rail Vehicles.

The dual-system vehicles are in use in the tram network as well as the railway network. This means that passengers can travel into the city from the surrounding areas directly, in comfort and without needing to change trains. The vehicles are designed to fulfil

the requirements of the city and region of Karlsruhe. For optimal adaptation to the existing infrastructure, the floor height in all entrance areas allows a faster passenger change and barrier-free access for passengers with reduced mobility as well as passengers with pushchairs or heavy luggage. The conventional bogies with air springs offer increased



suspension-comfort, particularly silent running and low wear on wheel and rail. The vehicles feature comfort-orientated facilities and a modern passenger information system. Passengers can also look forward to Wi-Fi and generous multifunction areas with plenty of space for wheelchairs, pushchairs and bicycles. Each of the vehicles is 37 metres long and offers space for 244 passengers, of which 93 are seated. Up to four FLEXITY trams can be coupled to accommodate an even higher number of passengers at peak times.

DB Class 185.286 and 185.293 bring up the rear of an eight loco light engine move through Koblenz, heading to Koln. *Class47*













▶ A NTV ETR675 approaches Milano Centrale during a brief downpour. *Class47*



▶ Trenord EMU No. Le562-060 is seen stabled between duties at Bresica. *Class47*

▶ FS 0-6-0T No. 851.057 continues to rust away at Tirano. *Steamsounds*





▶ Trenitalia Class E464.300 pushes a service south out of Santa Margherita. *John Sloane*

▶ FS Class E402.152 arrives at Zoagli with a northbound IC service. *John Sloane*

▶ FS Class Ale642-041 stands at Pisa Centrale with a service to Lucca. *John Sloane*









FS Class E402.154 and an ETR470 Freccia Bianca stand at Genova Piazza Principe. *John Sloane*



FGC/AMT Genova diesel loco No. D1 (former DB Class V52.902) stands at Piazza Mann, Genoa. *John Sloane*

FS Class E652.109 hauls a rake of tanks through Santa Margherita. *John Sloane*

Alstom to supply new regional trains to CFL in Luxembourg

Alstom has been awarded a contract to supply 34 regional high-capacity double-deck trains from the Coradia range to CFL[1] for a total of around €360 million. The new fleet will include 80-metre and 160-metre long trains to be delivered from December 2021 onwards. The trains, which will be able to reach a maximum speed of 160 km/h, will run on the national network, as well as in Belgium and France.

“We are pleased to have won CFL’s trust for the supply of a reliable, energy efficient, safe and comfortable transport solution for their passengers. The new train we offer is a concentration of the latest innovations from our proven Coradia platform. With a total capacity of more than 15,000 seats, these trains will allow CFL to safely carry more passengers, improving mobility and accessibility throughout Luxembourg,” said Gian Luca Erbacci, Alstom Senior Vice President Europe.

“Proven technology and at the same time a train that is ready for the future – this is what Alstom is offering us and our travellers. We very much look forward to cooperation in the coming years. The new trains are necessary for the replacement of existing material and to meet the significant expected increase of passengers commuting to Luxembourg.” said Marc Wengler, CEO at CFL.

The trains for CFL boast the latest technologies offering the best possible experience to both passengers and CFL staff. They feature spacious and well-lit areas for reading and resting, areas for bicycles, as well as dedicated restrooms and areas for people with reduced mobility. The trains are equipped with WIFI and LED lighting. They present easy access for rapid passenger flow and are equipped with a dynamic passenger information system. All coaches are fitted with security cameras to increase passenger and crew safety. The trains meet the highest standards for interoperability and will be equipped with ERTMS (ETCS level 2-baseline 3) and TBL1+ signalling systems.

The new trains for CFL belong to Alstom’s Coradia range of modular trains, which boast over 30 years of expertise. Over 2,300 Coradia trains are currently in operation in 9 European countries, as well as Canada. The trains are designed and developed at Alstom’s site in Valenciennes (France) by an international team of experts of six different nationalities. They will be manufactured at Alstom’s site in Barcelona (Spain). Other European sites involved in the project include Charleroi (Belgium), Reichshoffen, Tarbes, Ornans, Villeurbanne (France), Savigliano (Italy) and Salzgitter (Germany).

[1] Société Nationale des Chemins de Fer Luxembourgeois, Luxembourg national operator

Photo: ©Alstom



← Luxembourg CAF Luxtrams Nos. 101 and 105 pass at Coque. *Peter Marsden*

← CAF Luxtram No. 105 approaches the Luxexpo terminus. *Peter Marsden*







 Netherlands

On December 10th, Railexperts No. 9901, with the 'Amnesty International Write for Rights train', takes a short break in Amersfoort. The carriages of the train are former 'Rheingold' stock including a dining car built in 1928.

Erik de Zeeuw

R-Net Flirt No. 2010 (built by Stadler in Bussnang Switzerland) departs Boskoop with a service from Alphen a/d Rijn to Gouda on December 18th.

Erik de Zeeuw

Loco No. 20 from Rail Feeding (part of Genesee & Wyoming Inc.) passes the Rail Service Center in Rotterdam on December 18th.

Erik de Zeeuw









Railexperts Nos. 9901 and 1832 are seen stabled at Amersfoort. *Steamsounds*

CAF SECURES CONTRACT EXTENSION FOR THE DUTCH OPERATOR NS

The contract extension signed by CAF and NS (Nederlandse Spoorwegen) comprises the supply of 302 additional CIVITY platform passenger cars, (50x 3-car trains and 38x 4-car trains), for a total of circa €400m.

CAF is currently delivering identical trains under the same contract, signed in 2014 with NS, which comprises the supply of 68x 3-car trains and 50x 4-car trains, for approximately €500m. The first trains produced for the aforementioned contract are currently providing revenue service in The Netherlands.

In 2020 the 118 trains of the first order will all be in The Netherlands, and the trains of the additional order will enter service from that moment. Beginning 2023 all 206 trains will be in service.

NS is the Dutch state-owned Operator and one of the leading railway companies in Europe. This project emphasizes the success of the CIVITY platform developed by CAF, comprising of low floor trains for Commuter, Intercity and Regional services in Europe, with a number of projects also having been executed in the United Kingdom and Italy.

The trains will run across the whole of The Netherlands providing the so-called “Sprinter” services. With a top speed of 160 km/h, the trains are configured to transport passengers swiftly and comfortably over relatively short distances, and are also fitted out with first class areas next to the driver cab.

The new Sprinters will be a transparent, open, attractive and energy-friendly train, fitted with WIFI, a toilet accessible for wheelchairs, sockets, USB-charging points, leather upholstery, a place for bicycles and level entry.

Given the total number of trains and the amount involved, the overall volume of this contract is one of the largest CAF has secured internationally and one of the most significant in the history of the company. This is an excellent way for the company to round out the year in terms of contracts as secured contracts in hand exceed €2,5bn. Highlights of the year include tram projects for the cities of Oslo, Lund, Liège and Sidney, metro units for Amsterdam and Barcelona, the supply of diesel units for Translink (Northern Ireland) and the Wales & Borders franchise in the United Kingdom, and last but not least various extensions of previously secured contracts for the cities of Naples, Luxembourg, Freiburg and the operator Arriva UK, as well as contracts in the area of services and other businesses.

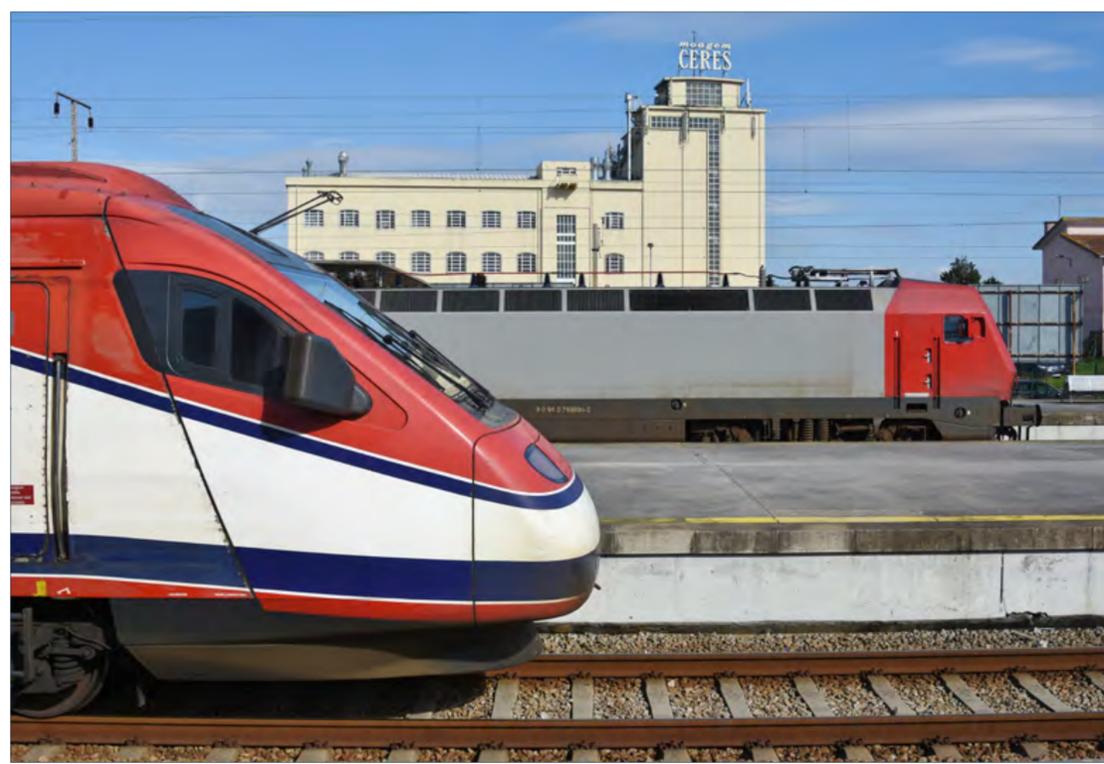




Portugal



▶ Siemens built No. 4720 passes through Contumil with a container service to Leixoes Docks.
John Sloane



▶ Pendo No. 4005 and No. 5604 are seen at Porto Campanha both working trains to Lisbon.
John Sloane

▶ A Porto Metro train is seen emerging from the original narrow gauge steam tunnel leading from the Boa Vista direction and entering new Trindade station. *John Sloane*

 Russia



▶ The ESh2 'Eurasia' is the Russian gauge version of the 'Stadler KISS' double-deck EMU, seen here departing Moscow Paveletski with an 'Aeroexpress' service. *Mark Enderby*



▶ Skoda built Class ChS7 consists of two sections and was produced between 1983 to 1999 at their V.I. Lenin plant in Plzen, Czech Republic. Here No. ChS7-084 passes Komsomolskaya Square in Moscow. *Mark Enderby*



 Russia

CKD built No. ChME3-6998 stands at Tikhoretsk depot. *Mark Enderby*



The 2TE116 is a broad gauge double diesel locomotive manufactured by Luhanskteplovoy, used extensively to haul heavy freight trains in the Soviet Union and its successor states, particularly by RŽD. No. 2TE116-635 is seen at Tikhoretsk depot. *Mark Enderby*

The 'Lastochka' is a Russian commuter and intercity electric multiple unit train, based on Siemens Desiro design. No. ES1-006 calls at the Winter Olympic resort of Kransnaya. *Mark Enderby*







 Russia

▶ Built by the Riga Wagon Building Factory (RVR) DC EMU No. ER2K-913 stands at Ozherle, south of Moscow. *Mark Enderby*



▶ The EP20 is a type of 6 axle Bo-Bo-Bo electric passenger locomotive built for Russian Railways by Transmashholding's Novocherkassk Electric Locomotive Plant. Here No. EP20-025 passes Voskresensk with a passenger service. *Mark Enderby*

▶ CKD built ChME3 Class No. ChME3-2737 is seen in the yard at Astrakhan. *Mark Enderby*



Modern traction inverters to be used in future at Forchbahn AG in Switzerland

Voith supplies traction inverters to Stadler Rail for the first time. The inverters are part of the modernization project for 13 Forchbahn AG narrow gauge trains. In future, 13 narrow gauge trains type Be 4/6 with traction inverters from Voith will be in operation at Forchbahn AG.

Swiss rail company Forchbahn AG engaged Stadler Rail to upgrade its 13 narrow gauge trains type Be 4/6. And Voith is contributing to the project by supplying new traction inverters to Switzerland. The purpose of the modernization is to ensure that the trains can operate until 2037.

Stadler supplied the Be 4/6 type trains to Forchbahn AG in 2004. They run east of Lake Zurich from Zurich Stadelhofen station to Esslingen via Forch. Alongside improvements to the passenger space, the overhaul also included replacing the two existing traction inverters. Voith supplied modern inverters based on type EmCon I1000-9AR. In the Zurich public transport network, they will be operated at 600 V DC, on cross-country routes at 1200 V DC.

The upgrading of the trains will start in September 2019 and will be completed in mid-2024.

This is the first order for traction inverters that Voith has received from Stadler Rail. In

addition, the use of the components at Forchbahn AG is also the first time that

Voith inverters have been deployed in Switzerland.

About the Voith Group

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, the company today has more than 19,000 employees, sales of € 4.2 billion and locations in over 60 countries worldwide and is thus one of the large family-owned companies in Europe. The Group Division Voith Turbo is part of the Voith Group and a specialist for intelligent drive solutions, systems as well as comprehensive services. Customers from highly diverse industries such as oil and gas, energy, rail and commercial vehicles, ship technology, mining and mechanical engineering rely on the advanced technologies and solutions-driven expertise of Voith.



Ge 4/4 I No. 603 has arrived at Preda with a supply train for the Albula Tunnel worksite while classmate No. 610 propels the empty spoil train back through the tunnel to Spinas.
Steamsounds



▶ Returning from Filisur, Ge 6/6 I No. 415 arrives at Davos-Wiesen. *Steamsounds*



▶ Ge 4/4 II No. 631 arrives at Filisur with a service for St. Moritz. *Steamsounds*

▶ Ge 6/6 I No. 415 arrives at Filisur with the twice daily 'Nostalgiezug' returning to Davos. *Steamsounds*



▶ Descending Walchestrass in Zurich is VBZ works tram No. 1905 towing 687. *Peter Marsden*

▶ VBZ Cobra Tram No. 3085 pauses at Stampfenbachplatz on route 14 to Triemli, Zurich. *Peter Marsden*



SBB Stadler DOSTO Class 511.108 enters Zurich Hauptbahnhof with a Regional Express service to Schaffhausen. *Peter Marsden*

Stadler FLIRT trains soon to run hourly from Chur to Berne

SOB and Stadler have signed a contract in St. Gallen for the delivery of twelve additional FLIRT trains. These vehicles consist of 7 eight-car, copper-coloured FLIRT multiple units, called «Traverso», and 5 four-car, silver-coloured FLIRT trains. The trains are characterized by innovation and comfort. The high-quality, eight-car long-distance «Traverso» trains have 359 seats, 68 of which are in first class (2+1 seating). All seats are equipped with power outlets. Travellers can eat in the two bistro areas and a designated family area is also available.

The trains meet the most recent European legislation regarding equal access for disabled persons, and have an information system with at least four and up to seven screens per car. SOB will operate the uniform long-distance «Traverso» trains on the Voralpen-Express route between St. Gallen and Lucerne from 15 December 2019, on the Gotthard mountain route from 13 December 2020, and between Chur and Berne from mid- December 2021.

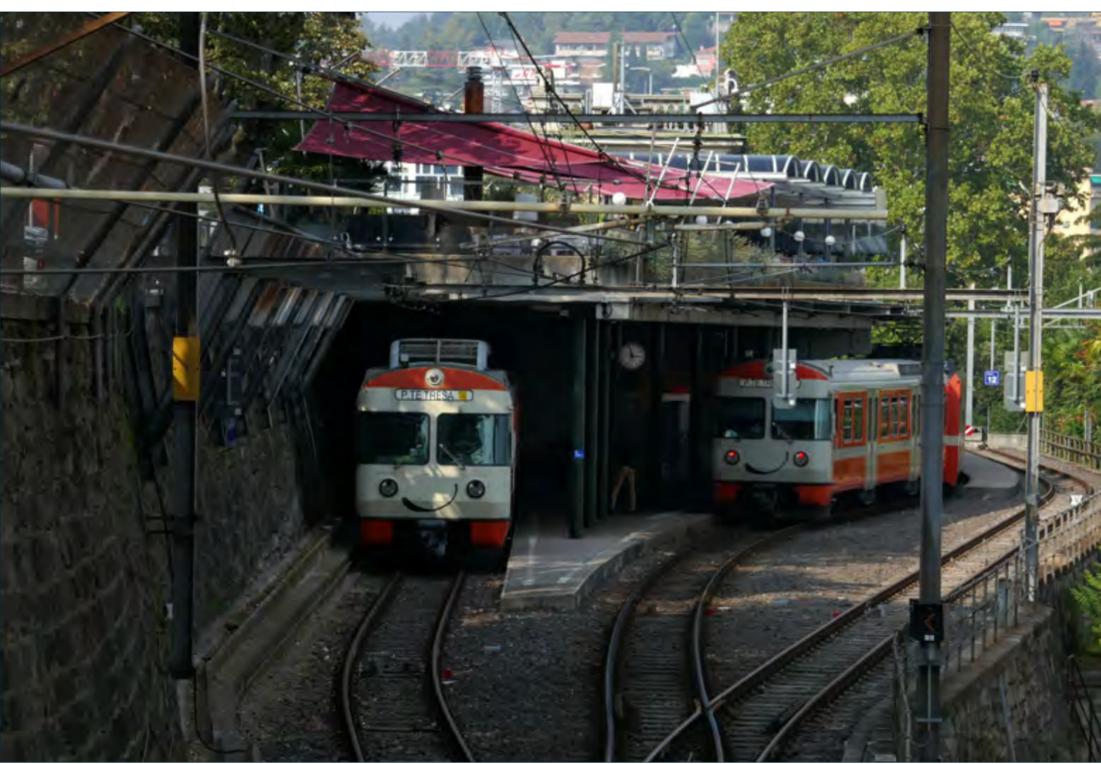
A total of 34 new trains for SOB

SOB ordered six eight-car and five four-car electric low-floor multiple units from Stadler at the end of June 2016 in order to be able to replace its older compositions, some of which had been in operation for 40 years, when the timetable changes for 2019. The eight-car trains will run on the Voralpen-Express route between St. Gallen and Lucerne, adding to the quality and comfort of the journey through the Pre-Alps. The four-car multiple units can carry 197 passengers, including 22 in first class, reinforcing the existing FLIRT fleet used in regional transport. From 13 December 2020, SOB will also operate the new «Traverso» in cooperation with SBB on the long-distance line from Basel or Zurich over the Gotthard mountain route to Locarno. In December 2017, SOB exercised an option to order eleven additional eight-car «Traverso» long-distance trains for the route.

Chur-Zurich-Berne is the second line that SOB will operate on behalf of SBB. SOB is exercising a second option with the delivery contract signed today for seven additional eight-car «Traverso» long-distance trains and five four-car FLIRT trains.



 Switzerland



▶ SBB Bombardier Twindexx Class 502.006 with a Regional Express service to Chur, stands at Zurich Hauptbahnhof. *Peter Marsden*

▶ ZB HGe 4/4 II No. 101.962 stands at Luzern with an Engleberg service. *Stearnsounds*

▶ Two EMUs are seen at the FLP station in Lugano. *Stearnsounds*





Ge 4/4 III No. 642 arrives at Davos-Wiesen with a service for Filisur. *Steamsounds*



SBB Class 620.024 passes through Aarau with a westbound freight. *Steamsounds*

SNCF BB No. 522269 stands at Genève with a service to Lyon. *Steamsounds*





General Motors / Electro Motive Division diesel-electric locomotives on display in the roundhouse section of Changhua Depot. Class R20 No. R49 A1A-A1A type G12 equipped with GM12-567C engine on the left and a pair of Class R150 Co-Co type G22CU equipped with GM12-645E engine on the right. *David Pollock*

Class R20 A1A-A1A type G12 rebuilt with GM12-645E engine sits in the roundhouse shed at Changhua. *David Pollock*

Taiwan High Speed Rail Corporation high speed line electrified at 25KV AC with 1435mm track gauge. Type THSR 700T 12-car EMU set No. TR02 built by Kawasaki Heavy Industries, Hitachi Rail & Nippon Sharyo with DTSOL 102-01 leading waits departure from Nangang, Taiwan with service No. 1237 15:40 to Zuoying, Taiwan. *David Pollock*









Chu-Kuang Express service No. 1 06:10 Taipei – Taipei anti-clockwise round the Island working headed by General Motors Electro Motive Division diesel-electric locomotive R136, a class R100 A1A-A1A type G22A equipped with GM12-645E engine calls at Pingtung. *David Pollock*

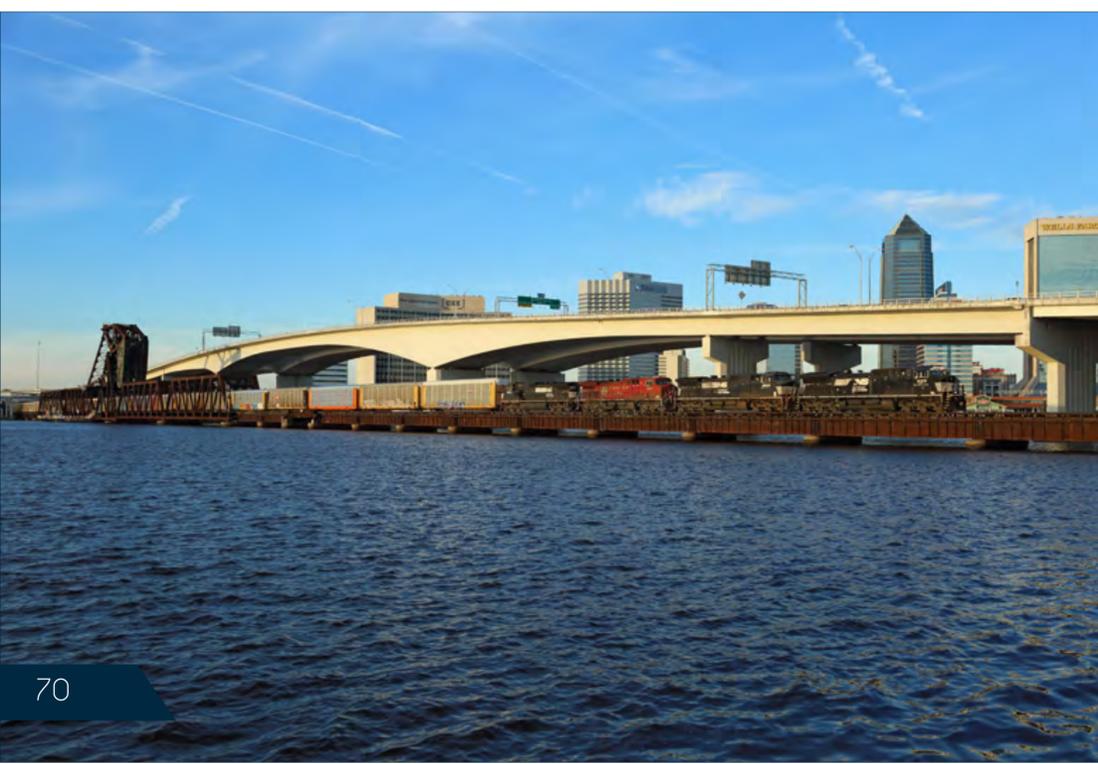
Less than a month after closure of the surface railway through Kaohsiung, track is starting to be lifted and removed in the former station area. The new replacement sub-surface alignment is to right. *David Pollock*

Service No. 138 15:15 Pingtung – Qidu via Mountain Line Tze-Chiang Limited Express calls at Jiuqtang. Formed of Ziqiang Express E1000 consist; Hyundai / Rotem built coaching stock sandwiched by a pair of Class E1000 25KV AC Bo-Bo single ended streamlined power cars built by Union Carriage & Wagon Company. Power car No. E1044 is leading with No. E1053 nearest at the rear on departure. *David Pollock*









▶ Orlando Northwestern Railway TVRM No. 1912 passes Lakeshore Drive whilst working the 11:40 'Polar Express' from Mount Dora to Tavares. *Laurence Sly*

▶ U.S.S.C. EMD GP11 No. 304 approaches Clewiston with a train of loaded sugar cane from Moore Haven on November 25th. *Laurence Sly*

▶ Norfolk Southern's AC44C6M No. 4120, C40-9W No. 9502, GE AC4400CW No. 8501 and C40-9W No. 9150 cross the St John's River in Jacksonville with a transfer train from Norfolk Southern to FEC's Bowden Yard on November 28th. *Laurence Sly*



Siemens Mobility secures €744M order from Amtrak in the United States

75 Charger diesel-electric locomotives
Includes a 20-year Technical Support Spares Supply Agreement
Locomotives are expected to begin passenger service in the fall of 2021

Siemens Mobility has been awarded a €744 million contract to design and manufacture 75 Charger diesel-electric locomotives for Amtrak, the United States' National Railroad Passenger Corporation. These 75 locomotives will replace and supplement Amtrak's aging national network diesel locomotive fleet used on long-distance and state-supported routes. It also includes a multi-year Technical Support Spares Supply Agreement (TSSSA). Delivery of the new locomotives will begin in summer, 2021, with passenger service starting in fall, 2021.

These locomotives will power trains used on lines that span the United States, both from north-to-south and east-to-west: Auto Train (Washington, DC to Orlando, FL), California Zephyr (Chicago, IL to San Francisco, CA), Capitol Limited (Washington, DC to Chicago, Illinois), Cardinal (New York, New York to Chicago, Illinois), City of New Orleans (Chicago, Illinois to New Orleans, Louisiana), Coast Starlight (Seattle, Washington to Los Angeles, California), Crescent (New York, New York to New Orleans, Louisiana), Empire Builder (Chicago, Illinois to Seattle, Washington), Lake Shore Limited (Boston, Massachusetts to Chicago, Illinois), Palmetto (New York, New York to Savannah, Georgia) Silver Star/Silver Meteor (New York, New York to Miami, Florida), Southwest Chief (Chicago, Illinois to Los Angeles, California), Sunset Limited (New Orleans, Louisiana to Los Angeles, California) and Texas Eagle (Chicago, Illinois to San Antonio, Texas). All locomotives are expected to be in service by 2024.

"We're proud and grateful to expand our relationship with Amtrak, a leader in the

U.S. passenger rail transportation, which started nearly a decade ago with locomotives for the Northeast Corridor, connecting two of the U.S.'s largest cities, Washington, DC and New York, NY. We're confident that the new locomotives will assist Amtrak in its mission to provide safe, world-class, environmentally-responsible technology for its passengers," said Sabrina Soussan, CEO of Siemens Mobility. "The Chargers will provide enhanced passenger experience, greater availability and increased sustainability over the course of their lifecycle, improving Amtrak's long-distance services and operating efficiencies."

The Charger locomotive is one of the most popular passenger locomotives in North America today with more than 70 Chargers successfully transporting passengers throughout North America, traveling almost 5 million kilometers a year. They offer the latest safety systems including Crash Energy Management and U.S.-mandated Positive Train Control (PTC), which is a communication-based train control that results in greater efficiency. Capable of speeds up to 125 MPH, the new locomotives feature the QSK95 Cummins 4,400 horsepower-capable 16-cylinder engine, which increase capacity and result in greater availability. The Charger is lower-noise than the diesel engines it will be replacing and offers a streamlined design with smoother traction control. The quieter, smoother ride results in an improved experience for both operators and passengers. The new locomotives are also more environmentally-responsible than their predecessors, providing the latest Tier 4 emissions technology, reducing nitrogen oxide by over 89 percent and particulate matter by 95 percent, compared to Tier 0 standard. The locomotives are "Buy American-compliant," and will be manufactured at Siemens Mobility's North American rail manufacturing plant in Sacramento, CA. The plant is powered by up to 80 percent renewable solar energy. The engines are manufactured by Cummins in its Seymour, Indiana plant.

Union Pacific's SD9043MAC No. 3603 and SD70M No. 4759 head north across the St John's River on November 28th, the Jacksonville skyline provides the back drop. *Laurence Sly*













▶ Florida East Coast's EMD GP40-2 No. 435 crosses the St John's River in Jacksonville with an intermodal train for Bowden Yard on November 28th. *Laurence Sly*

▶ Brightline's `Bright Pink` approaches Miami whilst working the 08:00 from West Palm Beach on November 24th. The Charger locomotives are Nos. 106 and 107. *Laurence Sly*

▶ Florida East Coast's GE ES44C4 Nos. 819 and 817 pass Saint Augustine whilst hauling train No. FEC101 from Bowden to Hialeah on November 26th. *Laurence Sly*



Alstom signs a contract to rebuild two more Rocky Mountaineer luxury rail cars

Alstom has been awarded a contract to rebuild two additional SilverLeaf cars for Canadian customer Rocky Mountaineer. The project requires the cars to be stripped to their frame and trucks and entirely re-engineered; producing newly refurbished train cars for the Rocky Mountaineer fleet. These will be the 11th and 12th SilverLeaf cars Alstom rebuilds for Rocky Mountaineer, with cars 9 and 10 to be delivered in March 2019.

“We are thrilled to continue our relationship with the iconic Canadian Rocky Mountaineer. Alstom has rebuilt eight cars thus far which are in service as part of the fleet, with two others currently being rebuilt and modernized at our facility in Mare Island, California,” said Angelo Guercioni, Managing Director, Alstom Transport Canada.

The modernization work includes installation of oversized dome windows, spacious seats, and a new interior, which extends the car’s lifetime by at least 10 years. The work also includes a thorough engineering design and review to deliver a quality product that assures a vastly improved customer experience thanks to new systems (heating, ventilation, air conditioning) to increase guest comfort, as well as new flat and curved windows that give guests a 167% larger viewing



area than before.

Alstom began working on overhauling the Rocky Mountaineer SilverLeaf cars in 2014. It has since converted eight cars, which also includes mechanical, electrical, and rail testing, as well as commissioning.

With its long-standing experience as a system integrator, rolling stock designer and manufacturer, Alstom is a preferred

partner for modernisation projects to extend the lifespan of rolling stock. The company is currently working on several overhaul projects in North America, including the Port Authority Transit Corporation, the Massachusetts Bay Transportation Authority and the Maryland Transit Authority.

Alstom’s Mare Island facility in Vallejo, California, boasts 100,000 sq. ft. of production and warehouse space and a team of more than 100 employees. In addition to overhauling the coaches for the Rocky Mountaineer, the site also supports the San Francisco Municipal Transportation Agency (SFMTA), for Vendor Management Inventory. The Mare Island team is also modifying bi-level coaches for Caltrans, modernizing light rail vehicles for Los Angeles (LACMTA) and repairing damaged trains for other customers.

Photo: ©Rocky Mountaineer



Alstom and San Francisco extend train services partnership

Alstom has been awarded a three-year contract by the San Francisco Municipal Transportation Agency (SFMTA) for Vendor Managed Inventory (VMI) services to manage and supply parts for the SFMTA rail fleet, including two exercisable two-year options. The contract is worth over €50 million. This new contract follows an original contract in 2013 and two subsequently exercised options.

Within the scope of the contract, Alstom will continue to provide SFMTA with parts, inventory planning and automated part replenishment via an integrated IT system, obsolescence management, and management and oversight of the VMI program. Alstom will also provide as-needed technical and engineering services.

“We take immense pride in supporting San Francisco and their focus on transporting passengers safely, efficiently and reliably, and we thank San Francisco Municipal Transportation Agency for the continued trust they have placed in us and this partnership,” said Jerome Wallut, Senior Vice-President of Alstom North America.

VMI allows operators to focus on operations, passenger service and satisfaction by streamlining the parts procurement process through forecasting, anticipation and automation. VMI has allowed SFMTA to carry out regular and predictive maintenance of its fleet and add maintenance technicians to staff. VMI has translated into 99% material

availability, decreased inventory management costs, as well as increased daily average car availability and mean distance between failures, by 20% and 74%, respectively. This means that more rail vehicles are available for passenger revenue service each day. SFMTA’s fleet, composed of 149 light rail vehicles, 39 historic streetcars and 31 cable cars, needs a continuous supply of spare parts from a variety of vendors.

Alstom manages more than 1,100 new parts for SFMTA’s maintenance operations and reverse-engineers obsolescent parts for both Alstom and non-Alstom vehicles.

Alstom provides the VMI service to SFMTA out of its Mare Island facility in Vallejo, California, which boasts 100,000 sq. ft. of production and warehouse space and a team of more than 50 employees. In addition to supporting SFMTA, the Mare Island

team is modifying bi-level coaches for Caltrans, overhauling private Canadian operator Rocky Mountaineer coaches, modernizing light rail vehicles for Los Angeles and repairing damaged trains for various other customers.

Photo: ©SFMTA





Alstom delivers the first freight locomotive to Azerbaijan

Alstom has delivered the first of the 40 Prima T8 “AZ8A” freight locomotives that will run on Baku-Tbilisi-Kars regional railway link to the Azerbaijan Railways (ADY).

The locomotive, produced at EKZ JV in Kazakhstan, arrived to Bilajary, Azerbaijan after being shipped from Astana on 7 December. Alstom will now conduct validation tests on the Azerbaijani railways infrastructure during a few months.

“We are delighted to continue being a strategic partner of ADY and to deliver the first freight locomotive to Azerbaijan that will help satisfy the increasing need for freight transportation in the country”, said Bernard Peille, Alstom Managing Director for Western and Central Asia.

Alstom’s Prima range is covering all market segments of locomotives from heavy-haul, freight and passenger operation and shunting or trackwork operation. The AZ8A is a Prima T8 heavy freight locomotive developed for Azerbaijan. It is based on the KZ8A locomotives currently in service in Kazakhstan and ADY’s specific technical requirements and is compliant with GOST[1] standards and specifications. To date, more than 3,000 Prima locomotives (more than 4,200 sections) sold worldwide since 90s.

With its eight axles, Prima T8 is one of the most powerful electric locomotives in the world. This model is a two-section freight locomotive capable of towing up to 9,000 tons and running at 120 km/h, with installed continuous power of 8.8 Megawatts. The AZ8A is designed to operate in temperatures ranging from -25°C to 50°C. It requires minimum maintenance and provides high reliability levels and low lifecycle costs thanks to its modular design. EKZ, a joint venture between Alstom and Transmashholding (TMH)[2], employs 440 people and is

working on supplying and maintaining the Prima electric locomotives ordered by KTZ, Kazakhstan’s national railway company and also export markets, like Azerbaijan. Today, 50 KZ8A freight locomotives and 20 KZ4AT passenger locomotives are already in commercial operation on Kazakhstan’s rail lines.

[1] GOST: Commonwealth of Independent States (CIS) technical certification organisation
[2] EKZ: Alstom 75%, TMH 25%

Photo: ©Alstom



Alstom-POSE Consortium to renew signalling system on the General Roca Railway in Buenos Aires, Argentina

The Alstom-led consortium[1] with POSE signed a contract with a total value of around €90 million[2] to modernise the current signalling system on the General Roca Railway. The contract, awarded by the Argentinian Ministry of Transport is part of the Metropolitan Railways recovery programme.

Alstom will provide its Smartlock proven electronic interlocking technology, the Iconis centralised traffic management system and the installation of the ATS (Automatic Train Stop) system. Alstom’s scope also includes design, engineering, factory and field testing, technical integration, commissioning and the guarantee of the systems; supervision systems through the Local Traffic Centre, Centralized Traffic Control and Central Operations Post; pedestrian and automatic level crossings barriers; copper and fibre optic cables network and signalling room’s detection and fire protection system. POSE will also be in charge of the installation of pedestrian and automatic barriers for level crossings, as well as the copper and fibre-optic cable network.

Both companies will jointly carry out field tests, commissioning and warranty.

POSE will be responsible for the execution and integration of civil and electrical works, the construction of the control and operations centres, for the engineering of the power line and optical fibre laying project, the installation of the equipment and the fire detection and protection system of the signalling room, jointly carrying out the field tests, the commissioning and the guarantee.

“We celebrate with great enthusiasm this new contract in Argentina. It is our first work on the General Roca Railway, one of the most important lines for passengers in Buenos Aires. This project will guarantee high safety for the thousands of users that uses this line each day, optimizing their trips with first-class technology”, said Ernesto Garberoglio, Managing Director of Alstom Argentina.

“This contract implies a great innovation and pride for our company, which continues to venture into railway projects of such magnitude,” said Francisco Di Lisio, General Manager of POSE.

The General Roca Railway is the most extensive of the seven suburban train lines of the Metropolitan Area of Buenos Aires. It includes 237 km of track and transports 600,000 passengers per day. The works will be carried out in the Avellaneda-La Plata, Temperley-Bosques-Berazategui and Bosques-Villa Elisa branches.

[1] Alstom, leader of the consortium with 58%, and Pose with 42%.
[2] Alstom’s share of the contract is worth approximately €50 million.



Alstom awarded contract to provide ETCS Level 2 onboard system in Israel

Alstom has been awarded a contract to equip Israel Railways' (ISR) rolling stock fleet with ETCS (European Train Control System) Level 2 onboard equipment. The contract, worth €45 million, is for the design, supply, installation, testing and commissioning of the system. Alstom will supply its Atlas solution. The design of the project is expected to begin in January 2019. Project management will be conducted by Alstom, with installation taking about two years. The ETCS Level 2 signalling equipment will be installed on ISR's entire existing rolling stock fleet, composed of 192 vehicles, with an option for another 34 vehicles.

"We are delighted that ISR has placed its confidence in Alstom. Passengers can be sure that they will be travelling safely with a state-of-the-art technical solution. Alstom has long contributed and wishes to continue contributing to the development of the railway industry in Israel. We are confident that our Atlas system will benefit ISR's services and increase the satisfaction of its customers," said Didier Pflieger, Alstom Senior Vice-President for the Middle East and Africa.

Atlas is a complete system for optimal efficiency and complete safety, delivering several benefits: improved line capacity (high-density, higher speed) and service reliability; "go-anywhere", with flexible and upgradeable design; and compatibility with energy-saving driving profiles.

ETCS Level 2 optimises line capacity in complete safety by anticipating and adapting the speed of the trains through continuous train control and supervision via a radio-based signalling system.

Alstom offers a proven package of 100% interoperable equipment, backed up by over ten years of commercial operation in ERTMS (European Rail Traffic Management System) Level 2. With projects in 29 countries, the company boasts expertise in track/train and train/track interoperability, as well as being a leader in ETCS onboard systems.

Alstom has been an active and reliable partner in Israel for more than 25 years in significant railway projects. Throughout this time, Alstom has a solid and continuous presence in Israel, engaging with local companies and employing hundreds of workers.



Alstom successfully delivers last train for Sydney Metro

On December 6th, Alstom achieved a significant milestone by completing the last of the 22 Metropolis trains for Sydney Metro, currently being delivered on schedule from its Alstom's Sricity facility in Andhra Pradesh. The flag-off ceremony at Sricity took place in the presence of Ling Fang, Alstom Senior Vice President Asia Pacific, Alain Spohr, Managing Director India and South Asia, and Mark Coxon, Managing Director Australia and New Zealand.

In 2014, Alstom won a contract to deliver 22 six-car trainsets, as well as the CBTC signalling system, for North West Rail Link, Australia's largest public transport project and first fully-automated metro network. Alstom's engineering hub in Bengaluru adapted the Metropolis and Urbalis[1] solutions to the specific needs of Sydney Metro to ensure fast, safe and reliable services to the residents of Sydney.

"We are immensely proud to have completed the last train for Sydney Metro in this landmark project for the Asia Pacific region. We are also proud to see Sricity concluding its first export order on time, delivering on expectations and winning our customer's trust. We firmly believe in India's role as a manufacturing and engineering hub for international markets, and this milestone bears witness to that," said Ling Fang.

Having begun production in 2014, Sricity has already set high standards for quality and operational safety through excellence in innovation and sustainable manufacturing practices. With an annual production capacity of 240 cars, the site has delivered metros for the cities of Chennai, Kochi and Lucknow. It will begin work on its second export order for the light metro project in Montreal from early 2019 while production for Mumbai Metro Line 3 will also begin next year. The on-time delivery of the trainsets for Sydney establishes Alstom's Sricity site as the one of the group's global manufacturing centres of excellence for rolling stock.

The Metropolis train for Sydney offers maximum comfort and safety to passengers. A fully-automated train, it features the latest in passenger information systems, as well as areas for prams, luggage, bicycles, wheelchair spaces and separate priority seating for those with reduced

mobility. One inside, passengers can circulate freely throughout the train. The Metropolis destined for Sydney is based on the internationally proven Metropolis train platform. Metropolis trains currently operate in more than 25 cities around the world, including Singapore, Barcelona and Amsterdam.

[1] Urbalis is Alstom's trademark CBTC Signalling system





Arriva wins major rail tender

Arriva wins rail contract for the third consecutive time

Significantly, it is the only rail network in Denmark put out to competitive tender

Market share set to increase as Arriva takes on the operation of two additional railway lines from the Danish state-owned railway company - DSB



Arriva has retained its contract to operate the only rail network put out to tender in Denmark and will take on the responsibility for the operation of two additional lines, increasing its Danish rail operations by a third. The new contract will begin in 2020 and last until 2028, with the option of a two-year extension.

The re-award of the contract means Arriva will run eight railway lines in total, including six lines it already operates in Mid and Western Jutland in mainland Denmark, as well as two additional lines currently operated by DSB - the Danish state-owned railway company.

Operating two new railway lines - the Svendborg-Odense and Struer-Vejle lines - means that Arriva will increase the number of trains it operates from 43 to 63 and increase the number of passenger kilometres it operates on by a third.

Arriva has been operating rail services in Denmark for 15 years, with the Jutland contract currently

constituting 13% of the Danish rail network. The contract re-award marks the third consecutive time the Danish Ministry of Transport has chosen Arriva to run rail services in Jutland. Arriva is building on a strong track record of success. The punctuality record for 2018 has been at consistently high levels, averaging 99.2% across the year. Customer satisfaction is higher than it has ever been before. Earlier this year, the Danish Consumer Council awarded Arriva the 'Passenger Pulse' prize for its record in delivering first-class telephone customer service operations.

Contracting out to Arriva has also led to

considerable savings for the Danish government. During the first contract period (2003-2010), it is estimated that Arriva saved the government €40.2 million, constituting 18% of savings. The second contract period (2010-2020) is expected to result in further savings. Commenting on the contract re-award, Arriva Group CEO, Manfred Rudhart, said: "It's a fantastic achievement for Arriva to retain this contract and is testament to the focus and dedication of our team in delivering improvements to the quality of service we provide to our passengers, while delivering savings for our client."

Arriva Denmark CEO, Nikolaj Wendelboe, added: "A key ingredient for our success has been our ability to offer a value for money solution for our client. Throughout the current contract, Arriva has consistently delivered good punctuality, high customer satisfaction and excellent customer service. I'm delighted our strong track record in contract delivery has been recognised with the re-award of this contract."



Alstom to provide CBTC signalling system for Mumbai Metro Line 3



Alstom has been awarded a contract by Mumbai Metro Rail Corporation Limited (MMRCL) to supply a CBTC[1] signalling system for Line 3 of the Mumbai Metro. The contract, which builds on rolling stock and power supply contracts won earlier this year for the same line, is worth over €100 million.

Alstom will equip Line 3 with Urbalis 400, its latest generation of CBTC signalling technology. The scope of the contract includes unmanned train operation (UTO), computer-based interlocking and centralised train supervision, platform screen doors, as well as the electrical and mechanical supervisory control and data acquisition system (E&M SCADA).

"Alstom is extremely proud to have won three big contracts for Line 3 of Mumbai Metro, emerging as the partner of choice for this prestigious project. This major signalling contract confirms the trust our customer MMRCL has in us. This is an excellent opportunity for Alstom to showcase its breadth of expertise and reinforce our goal of being the preferred partner of cities, countries and operators as they face the rapidly evolving challenges of urban mobility," said Alain Spohr, Alstom Managing Director India and South Asia.

Urbalis 400 is an advanced communication-based train control signalling system that will help ease Mumbai's commuter congestion. Urbalis 400 boasts a proven service record in over 30 cities across the world. Constantly upgraded, the solution aids urban operators in maximizing their performance and capacity while requiring standard interlocking for their operational needs. Designed specifically for heavy ridership metros, the system offers a considerable range of functions that improve headway and average speed performance. Alstom's Urbalis radio CBTC track record spans more than 15 years, 96 urban rail lines (over 55 are in service), 1900 track miles, 1100 stations, 1800 trains and 24 countries worldwide. Over 25% of the world's radio CBTC systems are operated with Alstom's Urbalis solutions. In India, Alstom has pioneered the introduction of CBTC by deploying Urbalis in the Kochi and Lucknow metros. Earlier this year, Alstom won two contracts for power supply and the provision of 248 metro cars for Mumbai Metro Line 3.

[1] CBTC - Communications Based Train Control system



Arriva begins new rail contract in Southern Sweden

€550 million rail contract commences in Skåne, Sweden

The contract will see Arriva continue to run the Pågatågen rail network until 2026

Passengers will benefit from new trains, better connections and improved service information

and Trelleborg. Through the new contract passengers will benefit from new trains, better connections and improved service information.” Johan Åhlander, Managing Director for Arriva Sweden, said: “This new contract means we can continue to deliver a programme of service improvements for our passengers. As part of this new contract we’ve been given additional responsibility for fleet maintenance and station management, as well as managing rail replacement transport services. What this will mean for passengers is even better connectivity to places, friends and family.”



Arriva, a leading European passenger transport provider, has announced that its business in Sweden has started a new contract to operate the Pågatågen rail network in Skåne, Southern Sweden, for a further eight years.

The contract, valued at €550 million, will mean Arriva will provide services to passengers across the Pågatågen rail network until December 2026. Arriva was re-awarded the contract in June 2017 following a competitive tendering process.

Commenting on the start of the new contract, Arriva Group CEO, Manfred Rudhart, said: “Mainland Europe is an important growth engine for Arriva and so we are very pleased to have been re-awarded the Pågatågen rail network contract earlier this year. Approximately 23 million passenger journeys a year are made across this rail network helping to connect people to some of Sweden’s major cities, including Malmö, Helsingborg



Siemens Mobility awarded €650 million contract from VIA Rail Canada

32 bi-directional trainsets offering more than 9,100 seats

Passenger service expected to begin in 2022

Enhanced passenger experience

Siemens Mobility has been awarded a €650 million contract in Canada to design and build the next generation of VIA Rail Canada’s trainsets. This includes 32 bidirectional trainsets, with a supplemental 15-year service agreement for VIA Rail, Canada’s government-owned intercity transportation operator. The new trainsets will service passengers on VIA’s busiest route, the Quebec City – Windsor Corridor, which connects Canada’s two largest cities, Toronto and Montreal, and spans more than 2,200 kilometres in a northeast-southwest direction. The line carried more than 4.5 million passengers in 2018, representing an increase of more than 30 percent over the past four years. The trainsets will ensure the highest level of safety while also significantly enhancing the passenger experience, with excellent ride quality including more comfortable seats, quieter cars, modern climate control and a high-performance passenger Wi-Fi and digital information system. Delivery of the trainsets will begin in 2021 and passenger service in 2022.

“As we are initiating the gradual withdrawal of the current fleet, the timely delivery of the new fleet will allow VIA Rail to maintain the current levels of service in the Québec-City Windsor Corridor, while significantly improving the quality of its passenger experience. We thank the Government of Canada for their trust in VIA Rail and for this historic investment in its sustainable future,” said Yves-Desjardins-Siciliano, President and CEO, VIA Rail Canada.

“We’re proud to provide VIA Rail’s next generation of trainsets, which will deliver the best travel experience for its riders. Siemens Mobility is committed to delivering intelligent trains that enhance passenger experience, increase value sustainably over their lifecycle and improve availability,” said Sabrina Soussan CEO, Siemens Mobility.

The 32 trainsets will be powered by the popular Charger locomotives, one of the most fuel-efficient diesel-electric locomotives in the market today. The passenger cars come with a high level of comfort, air-suspension, state of the art interior design, a full range of modern passenger amenities, the latest in food service equipment and will feature Enhanced Universal Accessibility, offering multiple accommodations for wheelchairs and other mobility devices.

The trainsets will be manufactured in Siemens Mobility’s North American Manufacturing Headquarters for Rolling Stock located in Sacramento, California. Siemens Mobility aims to include Canadian content of more than 20 percent of supplies and service. More than 70 Siemens Mobility Charger locomotives are successfully operating across North America transporting passengers and travelling nearly 5 million kilometers per year. VIA Rail operates on a 12,500 kilometre rail network with 121 stations, 73 locomotives and 428 train cars. It transports more than 4.8 million passengers annually, covering 1.5 billion kilometres.



Bombardier's wayside rail system started operating on latest Bangkok Skytrain extension

Adding connectivity to new parts of the Thai capital, a new extension will add up to 100,000 passengers a day to the total BTS Skytrain ridership

Bombardier's system integration, advanced rail control and wayside system project delivery contributed to a seamless start to passenger service

Bombardier Transportation, as leader in a consortium, has delivered the turnkey wayside rail system that is operating on the latest extension to Bangkok's rapid transit Skytrain.



The new 13-km Bearing-Samut Prakam section of the Sukhumvit Line, which started service on 6 December, is expected to enable up to 100,000 more journeys on the Skytrain, which regularly carries over 750,000 passengers per day.

Gregory Enjalbert, Managing Director Thailand, Bombardier Transportation commented: "It is exciting to witness the opening of a new rail link that is extending connectivity to new parts of the Thai capital and will significantly improve the travel experience for commuters. As a long-term partner to Bangkok Mass Transit System Public Company Limited (BTSC), we continue to positively impact the life of Bangkokians and are proud that our project was delivered by our large local team in Bangkok."

As consortium lead, Bombardier was responsible for system integration, co-ordinating delivery from all partners and engineering the wayside subsystem interfaces, as well as delivery of its advanced BOMBARDIER CITYFLO 450 rail control solution and the main power supply works.

Partner ST Electronics (Thailand) Ltd. provided the telecommunications, automatic

fare collection and platform screen door systems and AMR Asia Company Ltd. provided the depot workshop facilities, supervisory control and data acquisition, building management, back-up power supply and fire-fighting systems as well as installation.

Reflecting the importance of mass transit for Bangkok, the line was inaugurated by Thailand's Prime Minister, Prayut Chan-o-cha, at a special event attended by many senior officials and dignitaries. Canada's Ambassador to Thailand, Donica Pottie, and Chairman of the Board of BTSC, Keeree Kanjanapas, and Chief Executive Officer BTSC, Surapong Laoha-Unya, were also in attendance.

Bombardier is an expert in providing integrated rail transportation solutions, with over 70 turnkey systems in operation worldwide. As one of the few mobility solution providers to deliver projects from Thailand for Thailand, Bombardier has over 20 years' experience in providing high-technology, urban and mainline rail solutions for the market. Its portfolio includes delivery of turnkey systems for the two new monorail lines under construction in the Thai capital. Since 1997, Bombardier has grown its Bangkok team to over 620 highly-skilled engineers and employees, providing life-cycle rail system support across Asia Pacific.

From the UK

Keighley and Worth Valley Railway

With limited services at many preserved lines during the winter, one benefit to them has been the upsurge in demand for 'Santa Trains', providing much needed revenue during the winter months.

▶ On December 8th, the popular 'Santa Special' services were being worked by a mixture of steam and diesel traction; Ivatt 41241 was at the Oxenhope end, with Railfreight-liveried 37075 in charge of the opposite end of the train. The loco is seen bringing up the rear of an afternoon train from Keighley, alongside the River Worth at Damems. *Ben Bucki*

▶ Ivatt tank loco No. 41241 is seen bringing up the rear of an afternoon train to Keighley, alongside the River Worth at Damems. *Ben Bucki*

▶ On December 15th, BR Class 4F No. 43924 waits for the off from Haworth with an Oxenhope-bound 'Santa Special'. A sudden rain shower, falling onto very cold ground at lunchtime, had produced extremely icy conditions and the 4F, with Class 20031 on the rear, were working hard to help move the heavy train. *Ben Bucki*







