





# Welcome

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

Well as I have just returned from some glorious weather in mainland Europe, I see that the UK has also been blessed with some sunshine at last. However as I say, I have just been travelling around Europe and it is clear that the onslaught of new locos and units seems not to be slowing down. Whilst this will be seen as wasteful by many, getting rid of locos that are not life expired, I can't help think that the reason behind most of this is the desire to have more modern easier to maintain and most importantly 'eco-friendly' locos hauling trains so that the operators can state that fact to their clients/passengers.

Good news from Germany for DB this month where a group of four transport and local authorities in Germany and the Czech Republic have selected DB Regio subsidiary Start Ostsachsen as the winner of the Ostsachsen II passenger operating contract. Services are currently operated by Netinera subsidiary Länderbahn under the Trilex brand. DB Regio would take over on December 14 2019, with all train crew transferring to the new operator.

Also in Germany, Rheinland Pfalz transport authority SPNV-Nord has selected DB Regio to operate the German section of a new hourly Wittlich – Trier – Luxembourg service RB83

## Content

- Pg 2 - Welcome
- Pg 4 - Pictures
- Pg 68 - World News
- Pg 74 - From the UK
- Pg 77 - From the Archives

## 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.

## Contact Us

### Editor: David

david@railtalkmagazine.co.uk

### Co Editor: Andy

editor@railtalkmagazine.co.uk

### Content Submissions

entries@railtalk.net

### Technical & Subscription Support

admin@railtalk.net



### Front Cover

A Chinese built S12 unit rounds the curve at Nanuoya on February 21st.

*Mark Enderby*

### This Page

Captrain/Raillogix No. 1618 is captured passing Papekop with a Gefco train (Peugeot & Citroën) to Bad Bentheim (Germany) on April 13th. *Erik de Zeeuw*

### Next Page

On March 4th, running into Ōmiya is JR East 1500V DC E233 series EMU built by Kawasaki Heavy Industries & Tokyu Car Corporation. 10-car unit E02 with (DTSOL) KuHa E232-3002 leading the 15 coach formation. *David Pollock*



which is scheduled to be launched in December 2019.

News from Belgium where celebrations were held in Liège on April 19th to mark the opening of SNCB's new rolling stock maintenance workshops at Kinkempois. Intended to maintain locomotives, EMUs and coaches, the facility has been developed on the site of a former freight depot, incorporating a wagon repair shop dating back to 1929. The facility has been developed by SNCB Technics at a total cost of €78m, of which €34m was spent on complete design and engineering by Bureau Greisch and architects Canevas. Infrabel spent €35m on reconfiguring the trackwork and connecting the workshops with the main station at Liège Guillemins.

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

## Terms & Conditions

Railtalk Magazine Xtra is a free monthly online digital magazine (e-mag), provided in PDF and SWF (Flash) interactive format.

Railtalk Magazine Xtra takes no responsibility for any information provided or printed in this magazine. Best efforts are made at the point of going to publish, to effect all information is correct, however no guarantees are given or implied.

All content is © copyright either Railtalk Magazine Xtra or it's respective owners. All items are credited to their respective owners and no parts of the magazine should be reproduced without first obtaining permission. In cases where ownership is unclear, please contact the editorial team and we will be happy to provide details of respective owners once permission has been granted to pass on such information.

Advertising space is limited to a first come first serve basis. Should you wish to place adverts in the magazine please make contact with the editorial team before the 3rd Friday of each month. Railtalk are not responsible for adverts and no guarantees are given to the bona fides of any advertisers.

Railtalk Magazine Xtra is published by HAD-PRINT a trading name of HAD-IT LIMITED.

HAD-PRINT  
Unit 6, France Ind. Complex  
Vivars Way, Canal Road  
Selby, North Yorkshire  
YO8 8BE  
info@had-print.co.uk | 01757 600211



## With Thanks

Once again many thanks to the many people who have contributed, it really makes our task of putting this magazine together a joy when we see so many great photos.

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,

Mark Pichowicz, David Pollock, Andy Pratt, Railwaymedia, Alan Rigby, Bryan Roberts, Neil Scarlett, John Sloane, Stephen Simpson, Laurence Sly, Stewart Smith, Steamsounds, Steve Stepney, Mark Torkington, Andrew Wilson and Erik de Zeeuw.









## The ČD Cargo Group strengthens its position on the European transport market

ČD Cargo, as the largest domestic rail freight operator and the most important subsidiary of České dráhy, as, achieved a profit of CZK 886 million before tax under International Accounting Standards (IFRS) in 2017. The ČD Group Consolidated Income Group, the freight segment, which is formed by ČD Cargo and its shareholdings, contributed net profit after tax of CZK 743 million.

For the year 2017, the ČD Cargo Group carried 66.1 million tons of goods, which is more than in 2016.

“After a long period of time, ČD Cargo shows year-on-year progress in the volume of goods transported and revenues from its core business, one of our most important goals for 2017. We are working on synergies in the ČD Cargo Group, offering complex services to our customers and increasing the transport distance. Examples include new international trains and rising transport of road trailers,” said Ivan Bednárik, Chairman of the Board of Directors of ČD Cargo, adding: “It is necessary to use the current favourable economic conditions and to think about the future of our society. We have a prepared and approved concept for the renewal and sustainability of the railway rolling stock, on the basis of which we plan to invest significant funds in modernizing the locomotives and freight wagons in the medium term. We have already started to implement this concept. In 2017, it could be an example of acquiring additional interoperable locomotives, but also new freight wagons for the transport of interchangeable superstructures and containers. The aim is to promote expansion abroad and to

increase our competitiveness on the European transport market.”

Year-on-year, ČD Cargo gained slightly. This is due both to the increase in the cost of traction energy consumption and to the payment of the rail transport route as a result of higher output, higher investment activity of the company but also higher costs of routine maintenance of the railway rolling stock fleet and real wage growth of employees. Labour market in the Czech Republic. ČD Cargo realizes a significant part of its EUR-denominated sales and therefore had to cope with the negative impact of leaving the CNB’s intervention regime and gradually strengthening the Czech crown.

Ivan Bednárik adds: “I am very positive about the achieved results. We could have achieved a better result, but with the risk of leaving qualified staff or missing hardware this year. However, I see the investment in our employees and the railway rolling stock as key. The task for 2018 I see above all in the area of increasing the efficiency of transport of individual wagons, where we want to compete more with road transport. Last year, though, we have achieved the best result in this product in history, but we want to move it further, as it plays an irreplaceable role in our portfolio of services. Our goal is that the transport of individual wagon loads by rail is perceived by customers and the public as an equivalent substitute for truck transport and that our creed. Everywhere has achieved its fulfilment.”

▶ CD Class 750.708 stands at the temporary station, Praha-Bubny Vltavská with a service for Rakovník. *Steamsounds*



## CZ LOKO is an important supplier of locomotives for CER Cargo Holding

The cooperation of the Czech producer of CZ LOKO locomotives and the international company LAC Holding, which includes, among other things, the Hungarian carrier CER Hungary, Central European Railway Transport and the Slovak-Czech carrier CER Slovakia, is gaining momentum. This is evidenced by the handover of the new modernized locomotive EffiLiner 1600 (753.609-7), which took place on March 28 at the CZ LOKO production plant in České Třebové, a locomotive with LAC Holding management took over by the Hungarian “CER”, which will operate the locomotive predominantly on the territory of Hungary and Slovakia.

The importance of the strategic partnership was confirmed by CER Slovakia by signing a contract for the supply of another EffiLiner 1600 locomotive, which this dynamically developing carrier intends to operate mainly in the Czech Republic and Slovakia. According to Mr. Jan Kisha, CER Slovakia’s Executive Director, when choosing a suitable powertrain, he decided mainly on operating features, with emphasis on high operating economy and low service and operating costs.

CZ LOKO delivered the CER Cargo holding, among other things, the modern six-axle diesel-electric locomotive EffiShunter 1600 and in the autumn of 2018 a contract was signed for the delivery of the electric two-seater locomotive EffiLiner 3000, which will be transported to trial operation by the end of April 2018.



IDS Cargo’s EffiLiner 3000 No. 385.001 speeds through Breclav with a loaded timber train. This loco was rebuilt by CZ Loko from SNCB Class 12 dual-voltage electric locomotive No. 1203.  
*Class47*





## Metro Warszawskie chose EffiShunter 300

Metro Warszawskie, a company operating the Warsaw Metro, issued a tender in November last year, the winner of which was Czech producer CZ LOKO. The Warsaw transport company will deliver the EffiShunter 300 diesel-electric locomotive from its EffiShunter locomotive family.

The EffiShunter 300 locomotive is the smallest locomotive in the CZ LOKO portfolio. It is designed for shunting service with both passenger and freight wagons in stations, on industrial sidings, terminals, and also for the movement of traction vehicles in railway tracks. Last but not least, it is also suitable for operation on special tracks such as metro.

Twelve of these locomotives have already been ordered by Czech Railways, which will use them for stationary shifting and sorting of passenger train sets. One locomotive of this series is also run by VÚŽ on the test circuit in Velim, where it is used for handling the tested railway vehicles. For use in Warsaw, locomotives must be lightly modified, by using a different type of coupling and installing a fire protection system. Otherwise, the technical design is the same as for the delivery of locomotives for Czech Railways. The trial operation of this series should start in Poland in the first quarter of 2019.

The EffiShunter 300 will be used in the depot at Kabaty Station where it will provide technological service between the maintenance halls. At the same time, it will serve as a backup if a power failure occurs, for example, and the subway unit would be stranded in the tunnel. With the delivery of locomotives for this purpose, CZ LOKO already has experience, two 741.7 series locomotives are deployed as a “rescue backup” in Istanbul under the strategic tunnel of Marmaray under Bospore. Metro Warszawskie currently operates three types of metro-modernized 81-71 Russian production, newly manufactured by Alstom Metropolis and Siemens Inspiro. There is one route in operation, another is being opened.



On a spring morning, CD Cargo's Class 240.014 is seen stabled in the sun at Cheb. *Class47*





## Alstom to supply 32 additional Citadis Dualis tram-trains to Île-de-France Mobilités and SNCF

Alstom has received an order to supply 32 additional Citadis Dualis tram-trains to Île-de-France Mobilités and SNCF Transilien. The order is worth approximately 170 million euros, with Île-de-France Mobilités covering 100% of the investment cost of the trains. In total, 22 trains are intended to run on the T12 Express Massy/Evry line and 10 on the T13 Express Saint-Cyr/Saint-Germain line. These options are part of the tram-train frame contract signed by SNCF in 2007 for the French regions, covering the delivery of up to 200 tram-trains.

Designed to meet the increasing need for mobility between urban and suburban networks, Citadis Dualis seamlessly links the centre of town with the suburbs by combining the advantages of the train with those of the tram. Based on the design of Alstom's Citadis tram, the Dualis version retains the tram's fundamental characteristics: modularity, accessibility and reliability. Dualis can run on a tramway network just as easily as on the national rail network thanks to certain adaptations in power, safety and comfort levels. This configuration makes it a highly versatile means of transport: it has the same dimensions as a tram, meaning it can circulate in town, while its performance, the same as that of a train, enables it to transport passengers at speeds of almost 100 km/h in outlying areas without the need to change transport modes. Citadis Dualis contributes to sustainable mobility by revitalising urban spaces and enhancing the architectural heritage of cities.

"After the inauguration of the T11 Express tram line in July 2017, and the ongoing deliveries for the T4 tram line, I am delighted to see Alstom continue deploying the tram-train solution in Île-de-France. This additional order points to the relevance of this versatile transport solution, while demonstrating the renewed confidence of our customers, Île-de-France Mobilités and

SNCF," says Jean-Baptiste Eyméoud, President of Alstom in France.

To date, 63 Citadis Dualis tram-trains are in circulation in France. A total of 15 other tram-trains have gradually been delivered to Île-de-France since October 2017. These are scheduled for commercial commissioning on the T4 tram line in September 2018, then on its extension on the Clichy-sous-Bois/Montfermeil section at the end of 2019. The deliveries will take place between 2020 and 2022.



► Bombardier built Bi-Mode (Diesel and 1.5kV AC) No. 81864 arrives into Beaune station.  
*John Sloane*





## Alstom to supply its automatic train operation system to line 6 of Paris' metro

Alstom has been selected by the RATP to provide its automatic train operation system I-CBTC to line 6 of the Paris metro. The contract consists of two parts: the on-board system, which carries out the automatic train operation, and the radio system, which transmits data between the train and the ground. Alstom is in charge of the development, validation, industrialisation, installation, testing and commissioning of both batches. In total, 47 MP89 metros and 28 stations on line 6 will be equipped with Alstom solutions.

I-CBTC is an interchangeable CBTC-type automation system that meets the criteria of the RATP for the OCTYS standard. It contributes to improving frequency and increasing the metro availability rate to nearly 100% on line 6. Developed in partnership with the RATP, I-CBTC carries out the functions of remote operation, enabling the metros to circulate in total safety, and operates the traction and braking systems to move the metros automatically from one station to another. Close to 130 MF01 metros in Paris, in operation on lines 5 and 9, are now equipped with Alstom's I-CBTC on-board solution. The MP14 metros due to enter circulation on line 11 will also be equipped.

"We are delighted that the RATP has once again renewed its trust in our teams and our solutions, after asking us last summer to provide the automatic operation for line 11 in two identical lots. These two contracts amount to more than 90 million euros in total. As a result, Alstom is again becoming a significant player in the RATP signalling market. We are proud play a role in the modernisation of the Paris metro," said Patrice Houdu, Vice President of Alstom's signalling activity in France.

This success reinforces Alstom's signalling activity in France, where it is the biggest employer in this particular sector with more than 1500 employees and 71% of purchases made from 450 French suppliers. Proof of the success and vitality of the market, a recruitment plan is underway to expand the teams based in Aix-en-Provence, Saint-Ouen and Villeurbanne. Since April 2017, 155 people have been recruited. More than 100 engineering and managerial positions are still to be filled, mainly in the fields of engineering (software, hardware, validation) and industrialisation.

This contract will be carried out by three of Alstom's sites in France. Experts based in Aix-en-Provence will develop the on-board system and ensure the overall engineering of the project; those based in Saint-Ouen will carry out the engineering for the radio transmission system and ground-based equipment, as well as the testing and commissioning activities, and the experts of Villeurbanne will provide the equipment for the radio system.



▶ SNCF Transilien EMU No. 20548 departs Juvisy with a service to Paris. *John Sloane*



## Alstom to supply 5 Coradia Continental regional trains for Hessische Landesbahn

Alstom has received an order worth over €27 million from Hessische Landesbahn GmbH (HLB), transport operator in the state of Hesse, for the delivery of 5 Coradia Continental regional trains. The vehicles will be produced at Alstom's site in Salzgitter, Germany.

The trains will be delivered in December 2019 and will operate in the Frankfurt Rhine Main metropolitan area. With these new trains HLB will be able to meet an increasing number of passengers while continuing to provide optimal service. This latest order adds to HLB's 2015 order of 30 identical Coradia Continental electric multiple units (EMUs), which will enter passenger service on the Südhessen-Untermain network in December 2018.

"We are very pleased by the confidence that HLB is showing in Alstom by topping up the original order with a further five Coradia Continental trains. The order bears witness to a solid, long-lasting relationship with our customer" said Joerg Nikutta, Managing Director of Alstom in Germany & Austria.

Alstom's regional train Coradia Continental is able to circulate at a commercial speed of 160 km/h. It offers excellent acceleration characteristics, reducing travel time. The four-car trainsets will be able to carry up to 460 passengers. Special emphasis has been placed on passenger comfort. Five multi-purpose areas provide space for wheelchairs, bicycles and strollers. The traction equipment is located on the roof, allowing spacious interior design, including a large corridor for easier movement within the train. The trains are equipped with Wi-Fi, outlets for laptops and a real-time passenger information system that displays connection

information.

Coradia Continental belongs to Alstom's Coradia range of modular trains that benefit from a know-how of more than 30 years and from well-proven technical solutions. More than 2,800 Coradia trains have been sold so far and around 2,300 are currently in service in Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and Canada.



▶ Rheincargo Class 185.606 approaches Kaub with a southbound rake of tanks. *John Sloane*









 Germany

▶ DB Class 218.333, 218.387, 218.330 and 218.460 run light engine through Hamburg Hbf.  
*John Sloane*



▶ DB Class 152.139 passes Koblenz Lutzel with a loaded steel train.  
*John Sloane*



▶ Metronom ME 146-18 (Class 146.518) calls at Hamburg Harburg with a Tostedt service.  
*John Sloane*

 Germany



Vias EMU ET 406 calls at St. Goarshausen with a Koblenz Hbf bound service. *John Sloane*



DB Class 111.112 stands at Wuppertal Hbf with an RE4 service to Dortmund Hbf. *Stearnsounds*



DB Class 152.017 approaches Hamburg Harburg with a ballast train. *John Sloane*





## HHLA STRENGTHENS METRANS: HIGH SERVICE QUALITY FOR CUSTOMERS

HHLA has been sole shareholder of Czech-German Metrans Group since 1 April

Peter Kiss appointed as new Chairman of the Metrans Executive Board  
HHLA Chairwoman Angela Titzrath: Investment in new locomotives and modern wagon fleet will strengthen Metrans' position further

Hamburger Hafen und Logistik AG (HHLA) will strengthen and further expand its intermodal activities in the coming years through its rail subsidiary Metrans. The Chairwoman of the Executive Board, Angela Titzrath, confirmed this plan at an event in Dunajská Streda, where Metrans operates one of its five hub terminals.

“The customers of Metrans value high quality, flexibility and close ties. Metrans makes a key contribution to HHLA’s logistical network,” said HHLA Chairwoman Angela Titzrath. In a challenging market environment, HHLA will strengthen Metrans’ competitive position further by investing € 350 million by the year 2022.

On 1 April 2018, HHLA acquired the shares in the Metrans Group which were still held by the management, making it the sole shareholder. As part of this decision, the Supervisory Board of Metrans approved personnel changes at the helm of the Group. Peter Kiss was appointed as the new Chairman of the Executive Board. He has worked at the company since 1999 and has been part of the executive management of several

Metrans companies in this time. Other members of the Executive Board are Martin Horínek (COO) and Pavel Pokorný (CFO). The founder and previous CEO of the Metrans Group, Jiri Samek, will remain connected to Metrans in an advisory role.

Angela Titzrath presides over the Supervisory Board of Metrans and commented on the change in Chairman: “Without the energy and the many ideas put forward by Jiri Samek, without his forward-looking plans and perseverance in implementing them, the successful development of Metrans would not have been possible. The Supervisory Board is certain that Peter Kiss will perform the role of Chairman of the Executive Board as outstandingly as he did in his previous management positions, such as with the establishment of the hub terminal in Budapest, which commenced operations last year.”

HHLA integrated the Polish intermodal subsidiary Polzug and its businesses into the Metrans Group in recent months. Metrans transported over one million standard containers by rail in 2017 and operates 13 high-performance terminals in the European hinterland, five of which are central hub terminals. In order to enhance its value added, the company has been acquiring its own mainline and shunting locomotives for many years as well as innovative container wagons which it has developed itself. This too, contributes to HHLA’s successful intermodal activities strategy.

HSB dampflok No. 99.7241 stands at Drei Annen Hohne. *Steamsounds*



## Alstom wins three new locomotive maintenance contracts with Akiem, Macquarie European Rail and Europorte

Alstom has secured the trust of its three historical customers for maintenance activities, Akiem, Europorte and Macquarie European Rail, by signing extensions to the operational maintenance contracts for their respective locomotive fleets. These contracts cover a total of 41 locomotives, including 10 new locomotives for Alstom's customer Akiem. At the same time, Alstom is extending its maintenance network in Germany with a new partner, mgw Service, a subsidiary of the Akiem Group.

The initial contracts were signed at the end of 2006 and have now been renewed for a period of 5 years. The Belfort Services teams will thus ensure the management, maintenance engineering and execution of the maintenance operations in France and Germany thanks to Alstom's network of subcontractors.

"The renewal of these operational maintenance contracts with our three major customers testifies to the expertise and commitment of Alstom's Services team in Belfort. This good news reinforces our desire to transform the Belfort site into a European centre of excellence for locomotive maintenance," said Jean-Baptiste Eyméoud, president of Alstom in France.

The Services activity of the Belfort site currently employs nearly 75 people and revolves around the following 5 activities: operational/mid-life maintenance of locomotives, accident repair for all types of trains, carrying out modifications under the warranty period and modernising diesel and electric locomotives. The Belfort team draws on the expertise of Alstom's sites in Le Creusot (for the bogies), Ornans (for the traction motors), Tarbes (for the traction chains) and Villeurbanne (for the electronics), as well as a network of external subcontractors.

Through its extensive experience in maintenance, the Belfort Services department has become the leading private French ECM-certified (Entity in Charge of Maintenance, in line with EU regulation 445/2011) locomotive maintenance provider for all four functions (supervision, development, fleet management and execution) for a period of 5 years. This certification was confirmed at the beginning of 2018 in a second follow-up audit and is proof of Alstom's expertise and performance in all maintenance operations. It is a true mark of confidence for Alstom's customers, guaranteeing the excellence, quality and safety of its activities and allowing Alstom to leverage its expertise with its customers.













▶ Intended for freight services but pressed into passenger service, WAG-7 Class No. 27092 enters Samastipur with a train to Calcutta on March 16th. *Mark Torkington*

▶ Roof riding is often the only option on the Gwalior narrow gauge services due extreme overcrowding. *Mark Torkington*

▶ A different perspective on a 16 cylinder ALCO thanks to the pit road at Kahjurahe on March 24th. *Mark Torkington*







▶ CIE's GM No. 233 heads the 11:20 Dublin Connolly to Belfast Central 'Enterprise' through Lisburn on March 17th. *Mark Bearton*

▶ Two Red Line Luas trams pass at Spencer Dock, Dublin. *Mark Bearton*

▶ Alstom Citadis tram No. 3014 calls at the Museum stop on a Dublin Luas, Red Line service. *Mark Bearton*



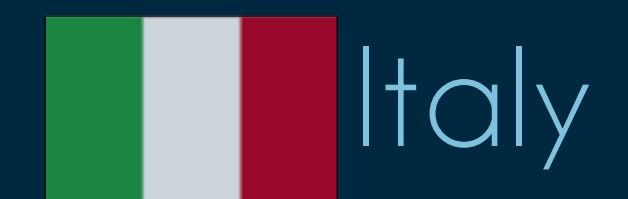












## Museum San Donato

▶ Preserved Class 445.1011 ss seen at the Museum San Donato in Pistoia. The high powered class were built between 1974 and 1988 spanning 150 units divided into three series. *John Sloane*

▶ Built in 1910, 2-6-0 No. 625.100 is one of the steam locos in better condition at Pistoia Shed. *John Sloane*

▶ Built in 1922 by Breda in Milan, Rack Tank No. 981.008 slowly rusts away. *John Sloane*









On March 5th, Hokuriku Shinkansen train Kagayaki-521, 08:12 Tokyu – Kawazawa calls at Nagano. Formed of a 12-car consist of 1435mm gauge 25kV AC JR East E7 series EMU with (DTFOL - Grand class) No. E714-11 leading.  
*David Pollock*

The Toden Arakawa light rail line branded as the Tokyo Sakura Tram, with a track gauge of 1372mm and overhead voltage of 600V DC. Series 8900 car No. 8901 built by Alna Sharyo nears Ōtsuka JR East station whilst bound for Minwabashi.  
*David Pollock*

Arriving at Ōmiya on March 4th is JR East 1500V DC E233-1000 series EMU(set No. 129) built by Kawasaki Heavy Industries & Tokyu Car Corporation, the 10-car unit is led by (DTSO) KuHa No. E233-1029.  
*David Pollock*





 Japan



On March 8th, Series 201 8-car 1500V DC EMU of JR West at Kyōbashi (Osaka), working service 07M. (DTSO) KuHa No. 201-61 of set No. 61 is nearest at the rear. *David Pollock*

Series 201 4-car 1500V DC EMU of JR West is seen at Namba (Osaka) waiting departure with service 73A. (DTSO) KuHa No. 200-136 is leading. *David Pollock*

Waiting departure from Wakura-Onsen on March 7th with Noto Kagaribi N-6, 13:25 to Kanazawa is JR West series 683 Thunderbird 6-car 1500V DC / 20kV AC EMU set No. W33 with (DMSO) KuMoHa No. 683-1503 leading. *David Pollock*





★ Morocco



On March 30th in Casablanca, several Casa Trams are seen operating. The Casa Trams (RATP Group) operate a 31km line, using Alstom - Citadis type 302 low floor trams built by Alstom France. No fleet numbers are visible on the outside of the trams. *Michael Lynam*











▶ NS Traxx E186-006 heads northbound over Moerdijk bridge with an Intercity service.  
*Stephen Simpson*

▶ A NS Flirt - Sprinter unit heads south over Moerdijk bridge with a stopping train to Arnhem.  
*Stephen Simpson*

▶ At Willemsdorp on April 3rd, the photo shows the two rail bridges over the Hollandsche Diep, a very wide waterway south of Dordrecht. The original bridge is used by the majority of trains, but the new bridge for the HSL/Zuid, built a few years ago, deals with the High Speed trains including Thalys and Eurostar services. From April, many of the Inter City services, usually top and tailed with Class 186 locos, are also using the HSL/Zuid line and bridge. *Stephen Simpson*





 Portugal



▶ A view of part of Contumil depot in Porto with rebuilt Allan railcars Nos. 0360 and 0365 and several ex RENFE diesel units present, March 24th. *John Sloane*



▶ Former RENFE 592 DMU No. 206 stands ready to depart Porto Sao Bento on March 26th with a service to Regua. *John Sloane*



▶ Bombardier built Co-Co diesel loco No. 1962 is seen on Cotumil depot on March 24th. *John Sloane*





 Portugal



▶ Former Romanian Electroputere built Co-Co No. 060-DA-005, now in service with contractor Fergrupo as No. L18, stands in Vila do Gaia yard with an infrastructure train on March 31st.  
*John Sloane*



▶ CP Class 14 No. 1415 stands at Contumil station on March 29th. This loco has been repaired and repainted since it fell into the turntable pit at Regua last year.  
*John Sloane*

▶ CP EMUs Nos. 3513 and 3525 stand at Porto Sao Bento on March 26th, both working outer suburban services.  
*John Sloane*



 Portugal

▶ Lisbon classic tram No. 547 on route No. 12 passes Belem on March 27th. *Michael Lynam*



▶ On March 27th, a pair of tourist trams Nos. 6 (ex 585) and 11 (ex 569) load tourists, whilst Siemens articulated tram No. 509 waits to depart on a route No. 15 service to Alges, seen at Praca do Comercio, Lisbon. *Michael Lynam*

▶ Tourist tram No. 7 (ex 546) passes through Martin Moniz, Lisbon on March 27th. *Michael Lynam*







 Sri Lanka



▶ A view of Dematagoda running sheds with Henschel-built M6 No. 791 and M6 No. 794 to left. *Mark Enderby*



▶ GM M2 No. 628 heads a mixed train through Mannampitiya on February 23rd. *Mark Enderby*



▶ Hunslet Y No. 679 is seen on Dematagoda Hydraulic Shed, February 18th. *Mark Enderby*



 Sri Lanka

▶ Hyundai built S8 No. 838 departs Mount Lavinia on February 19th. *Mark Enderby*



▶ A line-up of Indian-made S11 units at Dematagoda depot on February 18th. *Mark Enderby*







 Sri Lanka



▶ Hitachi M5 No. 771 working the 'Viceroy Special' is seen at Derryclare on February 21st. *Mark Enderby*

▶ Chinese-built S9 No. 849 departs Mount Lavinia on February 19th. *Mark Enderby*

▶ Henschel M6 No. 790, with a mixed train, stands at Nanuoya on February 21st. *Mark Enderby*



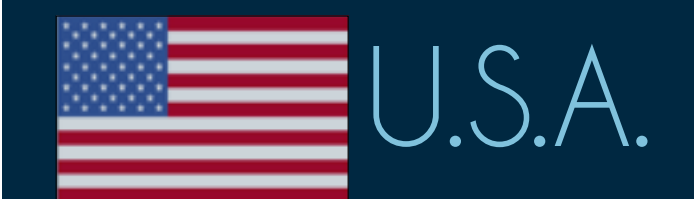












Amtrak No. 67 passes San Marcos whilst hauling train No. 22, 'The Texas Eagle' from San Antonio to Chicago on March 14th. *Laurence Sly*



BNSF No. 6987 (SD40-2) and KCS No. 3912 (SD70MAC) stand in the yard at Beaumont on March 22nd. *Laurence Sly*

Austin Western Railroad's No. 4227 (SD-40) is seen stabled between duties just outside the city of Austin on March 16th. *Laurence Sly*







▶ KCS pair Nos. 2830 and 2852 (both GP40-3) pass Beaumont whilst working local industries train on March 22nd. *Laurence Sly*



▶ UP Nos. 2614, 3024 (SD40-2), 5201 (SD70M) and 7797 (AC45CCTE). pass Dallas Union station whilst hauling a double stack container train on March 19th. *Laurence Sly*



▶ BNSF Nos. 7546 (ES44DC) and 1067 (GE C44-9W) pass Beaumont on March 22nd. *Laurence Sly*





## Alstom to supply 17 additional Metropolis trains for Singapore Circle Line and North East Line

Alstom has signed an agreement with Singapore Land Transport Authority (LTA) to supply six additional Metropolis trains (36 metro cars) and 11 additional Metropolis trains (33 metro cars) for the extensions of Singapore North East Line (NEL) and Circle Line (CCL) respectively. All 69 Metropolis cars will be manufactured in Alstom's Barcelona site. The contract value is about 150 million euros.

Alstom has successfully delivered over 100 Metropolis trains (450 metro cars) in operation to Singapore, serving the 35.5km long Circle Line and 20km long North East Line. Additionally, Alstom provides maintenance training to its customers and supplies spare parts for these trains.

"Alstom is delighted to win this contract. By providing additional reliable and energy efficient rolling stock to North East Line and Circle Line, we commit to supporting our customer, LTA, to further increase the capacity and availability of the existing lines. Alstom aims to be the preferred partner of LTA for their transport solutions in Singapore", said Ling Fang, Managing Director of China & East Asia, Alstom.

Metropolis is Alstom's metro train solution. 25 cities in the world have ordered 5,500 Metropolis cars since 1998. It is available in both

driverless mode and driver mode. Alstom has implemented some of the first driverless metros in the world, including Singapore North East Line.

Present in Singapore actively for transport activities for over 20 years, Alstom is a major supplier of integrated metro system, signalling, rolling stock, infrastructures and services for Singapore MRT lines, among which Circle Line MRT system is fully designed and built by Alstom in consortium with local companies. Besides rolling stock, Alstom also supplied Urbalis signalling system to North East Line and Thomson & East Coast Line, which is currently under development.



## Siemens will digitalize the Norwegian Railway infrastructure

Biggest rail infrastructure order in Siemens history  
Order worth around 800 million Euros  
Approximately 4,200 track kilometres and 375 stations  
Scheduled completion by 2034

Siemens is to equip the entire Norwegian railroad network of approximately 4,200 track kilometres with the European Train Control System (ETCS) Level 2 type Trainguard combined with the interlocking type Simis W and IP-based wayside network communication solution type Sinet. The order was placed by Bane NOR SF, the state-owned company responsible for the Norwegian national railway infrastructure responsible for owning, maintaining, operating and developing the Norwegian railway network. The new digital signalling system enhances safety, punctuality and capacity on the rail system and is planned to be completed in 2034. The contract also includes maintenance services for 25 years and is worth around 800 million euros in total.

"This marks the start of modernization of the railway network in Norway. Bane NOR is creating the railway of the future with one of Norway's largest digitalization projects. We are confident, that Siemens, by winning the contract to provide a new digital signal system, will contribute significantly to our network's modernization," says Sverre Kjenne, Bane NOR Executive Vice President.

"This project is a major step in signalling history - a technology step only comparable to the change from relay to electronic interlockings in the 80s. Together with Bane NOR Siemens will renew the complete Norwegian rail network into a full digital IP based system - a real 'Internet of Things' system. This will save much hardware, allow for maximized capacity and provide the basis for data based minimized preventive maintenance. In the end it will allow to give passengers a far more efficient and reliable travel experience with far higher punctuality, increased capacity and throughput. All will be controlled via a central interlocking in Oslo, which gives the trains the authority to proceed via our ETCS Level 2 solution. The contract is not only the largest single delivery for Siemens in Norway, but also for the Siemens rail infrastructure business ever," says Michael Peter, CEO of the Mobility Division.

The investment in ETCS is a major step in a Norwegian railway revolution. Bane NOR will invest more than 2 billion euros in digitalization and automation of its railway network over a ten-year period. This will be done through Bane NOR's ERTMS (European Rail Traffic Management System) initiative, and will make Norway a pacesetter in using digital technology in the rail sector. With the new ETCS technology, the Norwegian rail system's signalling system will be digitalized. The project's scope of delivery includes the complete signalling system with interlockings, ETCS Level 2 system, point machines, train detection systems, level crossings and associated infrastructure along the lines. Implementation will be carried out during ongoing operations. The first line to be equipped with the new signalling system will be the Nordlandsbanen and is scheduled to begin operation in 2022. The introduction of ETCS in the Oslo area is planned for 2026. Completion of the new interlocking and train control system is planned by 2034.

The Sinet distributed smart safety system is based on industry standard communication interfaces and includes functionality for cloud-based services. With the ETCS as a cab-signalling system, main signals are no longer required along the lines since signal aspects are directly transferred to the driver's cab. This will make railway operation more efficient. The system is part of a European standard that will replace today's more than 20 different train management systems. With ETCS train interoperability, routing throughout Europe can be achieved. For example, a freight train can be driven from Italy up to Norway without having to change locomotives at borders. This will make the transportation of goods and passenger both quicker and cheaper than today.



## Eurostar launches new hotel collection

Eurostar, the high-speed rail service linking the UK and mainland Europe, is now offering customers access to an exclusive range of hand-picked hotels with special rates when booked together with travel.

The new hotel collection has been curated by Eurostar to provide travellers with the best selection of high quality city-centre hotels across all price-points, grouped in different themes to make booking the ideal trip quick and easy. From design gems to gastronomic hot-spots, the new platform will help customers identify the perfect, tried and tested hotel.

Designed to offer leisure passengers a more streamlined experience when booking their trip, Eurostar customers will also soon be able to tailor their entire trip by theme. From culture and cuisine to relaxation, celebration, budget and family, travellers will select their preferred options at the point of booking, helping them to choose the ultimate hotel and journey options suited to their specific need.

### Tailored travel

The hotel collection is the first in a series of innovations at Eurostar. With a range of bespoke experiences soon to be launched across music, theatre and entertainment, Eurostar will continue to evolve the offering, providing passengers with more than just travel.

Roberto Abbondio, Eurostar Managing Director of New Digital Business said: "We've created the new platform to engage with our passengers on more than just their journey, bringing our destinations to life with a range of accommodation and experiences that can be selected to suit their individual needs, to create the ideal trip. The first step is by offering quality places to stay, and then we will be forging long term partnerships with the best our cities have to offer, from the top attractions to more bespoke 'bijou' adventures. With the majority of our colleagues living in our key destinations, we know them intimately, and look forward to opening them up in a whole

new way to those that travel with us."

### Ease of travel

With quick and convenient check-in, a seamless city-centre to city-centre journey, and a generous baggage allowance, Eurostar is the ideal way to travel between London and mainland Europe.

For more information or to book visit [www.eurostar.com/uk-en/packages](http://www.eurostar.com/uk-en/packages) or call the Eurostar contact centre on 03432 186 186.



## Stadler wins first major contract in Slovenia – and will be delivering a whole fleet at once

Stadler is designing and building 26 single and double-decker multiple units for the Slovenian state rail operator Slovenske Železnice. The order comprises eleven FLIRT EMU trains, five FLIRT DMU trains and ten KISS EMU trains, plus an option for 26 additional vehicles. These very different types of train are being engineered in a way that allows mixed compositions within the fleet. This is Stadler's first contract from Slovenia – and a hard-fought victory.

Back in the late 1990s, Stadler submitted a bid for a contract to deliver 30 multiple units to Slovenia, but lost out to the competition after a hotly contested tender. "It delights us even more that 20 years later, our second attempt has been successful and we have managed to break into the Slovenian market", explains Peter Spuhler, owner and CEO of Stadler. Spuhler was in Ljubljana with Stadler Sales Director Peter Jenelten to meet with General Manager of Slovenske Železnice, Dusan Mes, and sign the major contract for the supply of 26 single and double-decker multiple units for the Slovenian state rail operator. "The signing of this contract with Stadler is the first step toward modernising rail passenger transport in Slovenia. With new modern trains we are taking a step forward in the renewal of our fleet and as a result in the satisfaction of our customers," comments Dusan Mes.

The contract for the fleet capable of mixed traction consists of the engineering, construction and delivery of 11 four-car FLIRT EMU trains, 5 three-car FLIRT DMU trains and 10 three-car double-decker KISS EMU trains, including warranty coverage. It includes an option for 26 additional vehicles. The contract is valued at approx. 170 million euros.

### Over 1,500 FLIRT trains sold

Stadler's best-selling FLIRT vehicle has already sold over 1,500 units in a total of 18 countries. The KISS is also very popular: It has sold nearly 300 units in 11 countries. Stadler trains operate in a total of 41 countries. The single-decker FLIRT trains are intended for cross-border use on standard gauge track between Slovenia, Austria and Croatia. They will also be authorised for use in these countries. The double-decker KISS trains will operate on routes in Slovenia. The first units are expected to be delivered 24 months after the contract signature date. One notable feature of the contract is that the Slovenian state rail operator will be able to operate routes with mixed trains composed of single-decker and double-decker cars as well as using the single-decker vehicles in double traction. Peter Jenelten, Deputy Group CEO and Head of Marketing & Sales, comments, "Stadler is very proud not only to be delivering trains to Slovenia for the first time, but also to be able to construct a complete series of different vehicles that have been coordinated with each other to form a uniform fleet."

### More details about the trains

The 11 four-car electric FLIRT trains with their long car body are designed as regional trains to be operated at a maximum speed of 160 km/h. They are 80.7 metres long, 2.82 metres wide and 4.12 metres high. The comfortable trains can seat 235 passengers, including 12 in first class, and offer standing room for an additional 227 people. 22 seats in 2nd class and 2 seats in 1st class are reserved as priority seats for persons with reduced mobility according to TSI PRM regulations. There is also enough room for two wheelchairs and five bicycles in the vehicle. There is a toilet and a small compartment for the conductor in end car A. One of the middle cars also has a toilet

for persons with reduced mobility according to TSI PRM regulations. Two powered bogies directly under the engine compartment in the end car ensure optimum traction. The 10 three-car electric KISS trains are designed as regional trains to be operated at a maximum speed of 160 km/h. They are 79.84 metres long, 2.80 metres wide and 4.63 metres high. The comfortable trains can seat 292 passengers, including 16 in first class, and offer standing room for an additional 264 people. 18 seats in 2nd class and 4 seats in 1st class are reserved as priority seats for persons with reduced mobility according to TSI PRM regulations. There is also enough room for two wheelchairs and five bicycles in the double-decker vehicle. The middle car has a standard toilet as well as a toilet for persons with reduced mobility according to TSI PRM regulations. The vehicle has two powered bogies in the end car. The 5 three-car diesel-electric FLIRT DMU trains are designed as regional trains to be operated at a maximum speed of 140 km/hour. They are 70.4 metres long, 2.82 metres wide and 4.12 metres high. The comfortable trains can seat 171 passengers, including 12 in first class, and offer standing room for an additional 167 people. 16 seats in 2nd class and 2 seats in 1st class are reserved as priority seats for persons with reduced mobility according to TSI PRM regulations. The FLIRT DMU train also has enough room for two wheelchairs and five bicycles. There is a toilet and a small compartment for the conductor in end car A. The toilet for persons with reduced mobility according to TSI PRM regulations is located in the middle car. The vehicle has an additional car module, the power pack, which houses two Deutz diesel engines as well as part of the drive equipment. Two powered bogies directly under the engine compartment in the end car again ensure optimum traction.



## Alstom wins maintenance contract for Caledonian Sleeper Class 92 locomotives from Wembley depot

Alstom has been chosen to provide maintenance support for the Class 92 locomotives that pull the carriages of the Caledonian Sleeper service. The locomotives will be maintained at the Alstom Wembley Depot for the next twelve years starting this year, in a contract worth around £15 million.

Alstom will provide full maintenance support for 12 Class 92 locomotives securing employment for a production team of 5 plus a number of support roles at their Wembley Depot. This new long-term contract, awarded by GB Railfreight (GBRf), will see Alstom expanding their existing portfolio from coach maintenance to managing the maintenance of both carriages and locomotives for the Caledonian Sleeper services. This will continue once the new Sleeper carriages are introduced later this year, streamlining processes and simplifying logistics by providing Serco and GBRf a one-stop shop for maintenance of the entire train.

“It is important the Caledonian Sleeper services are well maintained so that guests can continue to enjoy a highly reliable service and all the benefits the trains offer. Our new contract with GBRf will mean we are responsible for the entire train, delivering seamless maintenance of both locomotives and coaches. It also secures important jobs at our Wembley depot, which is a key train care centre in Alstom’s UK network.” said Nick Crossfield, Managing Director, Alstom UK & Ireland.

John Smith, Managing Director of GBRf commented: “The new Caledonian Sleeper service will be a world class journey experience, and the performance of the locomotives is clearly of the



highest importance to delivering this service for passengers. We are delighted Alstom will be maintaining the fleet and supporting the delivery of this service.”

David Simpson, Caledonian Sleeper’s Production and Safety Director, said “We welcome this positive news which sees our key partners Alstom and GBRf working even closer together to help us provide a high quality service for our guests. Our service will be transformed later this year with the introduction of a new fleet of sleeper coaches, and this will help to deliver the highest standards of maintenance on our locomotives and coaches.”



## Alstom-led consortium to provide complete driverless light metro system for Montreal

Groupe des Partenaires pour la Mobilité des Montréalais (PMM), the Alstom-led consortium with SNC-Lavalin, has signed a contract with CDPQ Infra to deliver a complete automatic and driverless light metro system, including rolling stock and signalling, as well as operation and maintenance services, for the Réseau express métropolitain (REM) project in Montreal, Canada. The total contract is worth approximately €1.8 billion (CA\$2.8 billion): Alstom’s share is estimated at €1.4 billion (CA\$2.2 billion) and SNC-Lavalin’s share is estimated at €400 million (CA\$600 million).

Upon completion, REM will be one of the world’s largest automated transport networks - 67 km long with 26 stations - connecting downtown Montreal to the South Shore, the North Shore, the West Island and Pierre Elliott Trudeau International Airport. Under the terms of the contract, Groupe PMM will supply 212 Alstom Metropolis metro cars (106 two-car trainsets), Alstom’s Urbalis 400 driverless and automated communications-based train control (CBTC) and Iconis control centre solutions, as well as platform screen doors, Wi-Fi connectivity, and 30 years of operations and maintenance services. Groupe PMM is also responsible for train and system integration tests and depot equipment supply for train maintenance. The start of commercial service on the first segment of REM is expected in summer of 2021.

Groupe PMM’s partners will leverage their long established local Canadian expertise and international experiences in Vancouver, Ottawa, Singapore, Panama, Dubai, and Riyadh to deliver the REM project. During the construction and the 30-year operations and maintenance period, Groupe PMM will create permanent, high quality, new and technology jobs locally, notably in the areas of automated system experts, rolling stock mechanics, control centre regulators, maintenance operators and control system specialists. Groupe PMM will also create jobs for local suppliers that will contribute to the project not only during construction period but also during the 30 years of operations and maintenance. Of the overall economic activity generated by Groupe PMM, 67% of the investments will be in Quebec.

Furthermore, the REM project will lead to the creation of an Alstom global centre of excellence in Montreal for the research and development of integrated systems of control in urban mobility. This centre will bring together approximately 100 professionals who will be tasked to leverage Montreal’s expertise in advanced digital technologies and artificial intelligence to develop solutions that will be used in Alstom projects worldwide.

“We are honoured that CDPQ Infra has chosen Groupe PMM for this major public transit infrastructure project that will not only positively impact mobility in the Greater Montreal area, but will also create 250 direct, long-term jobs in Quebec, with peak local employment reaching 350 jobs”, said Jérôme Wallut, Senior Vice-President of Alstom in North America. “Piloting the project from Montreal, our team understands first-hand the city’s transportation needs and is eager to introduce our latest generation of proven train and signalling solutions that maximize system reliability, performance and capacity, as well as passenger experience.”

“To be selected to work on a project of this magnitude is a testament to the excellence of our Infrastructure sector, more specifically, our global Rail and Transit expertise and our extensive experience in operations and maintenance, said Neil Bruce, President and Chief Executive Officer, SNC-Lavalin Group Inc. In fact, one of the economic and community benefits of this project will be the creation of operations and maintenance jobs in and around the greater Montreal area.”

Present in Canada and headquartered in Montreal, Quebec, Alstom is committed to delivering a wide range of smart mobility solutions to Canada, from Citadis Spirit light rail vehicles for Toronto and Ottawa to Azur metro cars to the Société de transport de Montréal (STM), Coradia Lint regional trains for Ottawa to long-term vehicle maintenance and transit infrastructure solutions. Alstom’s signalling expertise is behind new control centres for the STM and GO Transit, a new signalling system for Union Station Rail Corridor in Toronto, an Urbalis CBTC solution for Toronto Transit Commission’s Line 1 Yonge-University and a greenfield extension area, and a complete signalling solution for Waterloo’s light rail transit.



## Turkish State Railways signed contract for ten high-speed trains

Contract worth around €340 million  
Maintenance contract for three years  
Velaro fleet will grow to 17 trains

Turkish State Railways (TCDD) has signed a contract for ten Velaro high-speed trains with Siemens, which submitted the most favourable bid in the tender. The contract is worth around €340 million and also includes maintenance, repair and cleaning of the trains for a period of three years. With this contract, the Turkish Velaro fleet will grow to 17 trains.

### Velaro Turkey Success Story

10 more high speed trains for the Turkish State Railway (TCDD)



Existing fleet has traveled more than  
**5 million kilometers**  
in the last three years

Turkish Velaro fleet growing to  
**17 trains**

**7** Velaros  
delivered and in operation

7 trains in operation with  
**99%**  
availability



“Our Velaro family is continuing to grow and write new chapters in its unique success story. With its capacity and comfort, the Velaro remains a benchmark for high-speed trains. In Turkey, the train can fully utilize all its strengths and is already proving this in daily operation. Our flagship is running here with 99-percent availability,” said Sabrina Soussan, CEO of the Mobility Division.

When the tender process concluded in May 2013, TCDD procured from Siemens a Velaro D high-speed train-set. For this purpose, a Velaro was taken from the production line and refitted for operation in Turkey. This train entered passenger service between Ankara and Konya in May 2015. At the same time, TCDD signed a second contract with Siemens, again the winning bidder of the tender process, for six eight-car high-speed trains. The seven trains connect Ankara with Konya and Eskişehir and have already covered over five million kilometres in passenger service.

The Siemens Velaro high-speed platform offers an optimized capacity profile and enhanced passenger experience. The Velaro trains were developed for the global market and are currently operating in Spain, France, Germany, the UK, Belgium, Russia, China and Turkey, as well as, most recently, the Netherlands.



## Bombardier Wins Contract to Provide up to 175 FLEXITY Trams to Brussels Transportation Company

FLEXITY trams to boost Brussels Transport Company’s fleet capacity and meet growing passenger numbers

First call off will see Bombardier produce 60 FLEXITY trams for a total of 322 cars

Bombardier Transportation and the Brussels Intercommunal Transportation Company (STIB) have signed a framework agreement to supply up to 175 BOMBARDIER FLEXITY trams. The total amount of the framework contract is valued up to approximately 480 million euro (\$586 million US). The first firm order under this framework contract, also signed on April 24, is for 60 FLEXITY trams and is valued at approximately 169 million euro (\$206 million US). The contract signature follows an announcement made by STIB on February 5, selecting Bombardier Transportation as preferred bidder.

Sébastien Ridremont, Sales Director Benelux, Bombardier Transportation, said, “Our goal is to meet passenger expectations and persuade the people of Brussels to leave their cars behind and choose more efficient and eco-friendly mobility options. These new FLEXITY trams are key to achieving that as they will greatly enhance the passenger experience with low-floor access, a spacious interior, and a sophisticated Art Nouveau inspired design by Axel Enthoven. Over the last 20 years, our engineers have developed an in-depth knowledge of the Brussels

tram network, information which enabled Bombardier to propose the most efficient and network-friendly tram solution.”

The new trams will feature a range of amenities such as a passenger communication network with large high contrast LCD displays and a climatization system managed by intelligent sensors. Full LED lighting will reduce energy consumption while the track-friendly BOMBARDIER FLEXX Urban 3000 bogies will deliver a smooth ride with reduced vibration and noise. The driver’s cab also features Driver’s Assistance System, the latest safety technology that uses an intelligent array of cameras and sensors to detect pedestrians and other vehicles moving near the tram.

Some of the new trams will replace older high floor trams, while the rest will be used to increase STIB’s tram fleet and capacity as they extend the network. For this first call off, 49 of the vehicles will be configured 32-metre, five-car configurations with the remaining 11 being 43 metre-long, seven-car variants. Vehicles are scheduled for delivery starting in March 2020.

To date, Bombardier has delivered over 400 trams to STIB, this includes the older PCC series 7000 high floor trams delivered in the 70s, the T2000s delivered in the 90s and the most recent order for 220 T3000 and T4000 trams delivered between 2005 and 2015.



## PKP CARGO will modernize diesel locomotives in Newag

PKP CARGO S.A. concluded a contract with Newag S.A. on modernisation of 60 diesel locomotives, SM48 series. Estimated value of the contract is approximately PLN 388M net.

Pursuant to the contract signed on 4 April this year, 60 diesel locomotives, SM48 series will be modernized from October 2018 to May 2021, including a series upgrade to ST48; modernisation will consist of constructing a new bodywork in a module technology, replacement of the generator unit, the braking installation, as well as auxiliary machines and devices.

Locomotives will be equipped with a modern steering system and a new ergonomic operator's cabin, and will be adjusted to one-person operation. The contract also includes the supply of software and a licence required to operate the locomotive, and a set of specialist tools for diagnostics and repairs of the diesel engine.

The concluded contract is a part of the Company's strategy aiming at consistent increase of market shares and building competitive advantage. This is also a response to market needs, especially in terms of an increase in aggregate transport that we will be facing in the coming years.

Modern construction solutions applied during the modernisation allow improving traction performance with a simultaneous substantial decrease of fuel consumption and an improvement of the availability rate. The beneficial influence of modernisation of locomotives on the natural environment thanks to the replacement of diesel engines is also important - says Czesław Warsewicz, the President of the Management Board of PKP CARGO S.A.

We are happy that we can continue the process of modernising diesel locomotives SM48 series for PKP CARGO S.A. In the years

2013-2016 we have already modernized 30 units. Experience gained during this period as well as our modern technologies and professional team guarantee full and timely performance of the contract – emphasized Zbigniew Konieczek, the President of the Management Board of Newag S.A.



## Bombardier Wins Contract to Provide 40 High Speed Regional Trains to Västtrafik

### Electric multiple unit high-speed trains to boost transport capacity in Sweden's Västra Götaland region

Industry's leading mobility solution provider, Bombardier Transportation has announced that it has signed a contract with Västtrafik to supply 40 high-speed electric multiple unit trains to cater to growing regional traffic in Sweden's region of Västra Götaland. The estimated revenue for this contract is about 3.8 billion SEK (\$452 million US, 368 million euro) and includes an option for 60 additional trains. Delivery is planned to begin in 2021.

Lars Holmin, (M) Chairman of the Board at Västtrafik, said, "Since Västtrafik was formed in 1999 the ridership by train has more than doubled. We are continuously challenged to meet the target of 135,000 journeys per day provided by the county. We see a steady increase in train passengers and we are on the right track. The new trains will contribute to even more attractive journeys for our customers."

Marina Sundman, Sales Director, Bombardier Transportation said, "We are proud to support Västtrafik's efforts to meet a higher demand for public transport. Our longstanding partnership with Västtrafik, supported by our teams in the Sävenäs and Falköping depots in Västra Götaland have laid the foundation for designing the new train. We want to support regional growth by providing the ideal mobility solution that will ensure the comfort and ease of every passenger's journey. This important order is an endorsement of the quality of the products Bombardier designs, engineers, manufactures, and services for the Nordic market."

The three-car trains are designed for high capacity, premium passenger comfort, low operational cost, and the ability to operate under the harsh weather conditions prevalent in Nordics. With a focus on the unique needs of Västra Götaland, Bombardier offers a solution that's highly reliable, safe for all those inside or



around the vehicle and with a diagnostic capability to increase availability, ensuring a high degree of schedule effectiveness. The trains will operate at speeds of up to 200 km/h, offer seating for 270 passengers and includes features such as wi-fi, low-floor and multi-purpose areas.

Bombardier's experience in delivering and maintaining high-speed trains in the region for the last 15 years offers an advantage as the new trains are optimised to meet the needs of drivers, onboard staff and maintenance personnel. The appealing Nordic design and low energy consumption will support a smart and sustainable lifestyle in the region for decades.







## Bombardier's INNOVIA APM 300 Automated People Mover System Starts Passenger Service in Shanghai



Latest generation of INNOVIA APM 300 system offers high performance, passenger safety, comfort, and convenience

Bombardier's automated people mover system has been chosen by five Chinese megacities: Beijing, Shanghai, Guangzhou, Hong Kong and Shenzhen

Bombardier Transportation recently announced that its BOMBARDIER INNOVIA APM 300 system has entered service on Shanghai Metro's Line 8 Phase 3 project, also known as Pujiang Line. The system was produced by Bombardier's Chinese joint venture CRRC Puzhen Bombardier Transportation Systems Limited (PBTS) and is the result of an order placed by Shanghai Shentong Metro Co. Ltd. in June 2015 for a turnkey automated people mover (APM) system with

44 vehicles.

Jianwei Zhang, President of Bombardier China, said, "We are very excited to see our world leading fully automatic driverless system enter revenue service in this great city. I'm confident that we will see more Bombardier APM systems in other Chinese cities in the near future." Zhang continued, "Our metro cars equipped with the BOMBARDIER MITRAC propulsion on Lines 1, 2, 7, 9 & 12 are already moving Shanghai passengers daily, and we also provide maintenance and overhaul service for these cars to ensure passengers' safety. We will continue to provide state of the art solutions to strengthen our long term strategic partnership with Shanghai Shentong." Shanghai's Pujiang Line is a new 6.6 km, dual-lane elevated, driverless APM system that solves Pujiangzhen's first-and-last-kilometre challenge by connecting this large residential district to the Line 8 interchange at the Shendu Highway Station. The INNOVIA APM 300 system, Bombardier's latest generation of highly-reliable APM technology, offers an eco-friendly passenger experience with a focus on efficiency and safety. Its rubber tires boast low noise and vibration while its 1.9-metre wide doors facilitate boarding and exit, reducing the time required at each stop. Paired with the BOMBARDIER CITYFLO 650 CBTC system – an innovative communications-based train control technology – the INNOVIA APM 300 system also increases line's capacity by safely reducing the time and distance needed between each vehicle travelling on the line. In addition, the absence of a driver's cabin means passengers sitting in the front have a 270° view angle to enjoy the spectacular landscape along the Pujiang Line.

Bombardier Transportation in China is the full solution provider across the entire value chain. From vehicles and propulsion to services and design, Bombardier Transportation in China has six joint ventures, seven wholly foreign-owned enterprises, and more than 7,000 employees. Together, the joint ventures have delivered more than 3,500 high speed railway passenger cars, 580 electric locomotives and over 2,000 metro cars to China's growing urban mass transit markets. Bombardier also provides propulsion equipment to third party metro car builders for use in 24 Chinese cities.



## Bombardier Signs Long-Term Maintenance Contract for Melbourne's First High-Capacity Signalling System

Victoria's largest ever public transport initiative will see Bombardier provide ten years of rail control services for the Metro Tunnel Project in Melbourne

Order marks Bombardier's first long-term signalling maintenance contract in Australia comprising its full package OPTIFLO rail control services solution

Bombardier Transportation has announced that it has signed a contract with Metro Trains Melbourne (MTM) to provide ten years of maintenance services for its rail control solution being delivered for Melbourne's new Metro Tunnel Project. The contract is valued at approximately 77 million AUD (\$60 million US, 48 million euro) and includes an option for five additional years of maintenance services.

Commenting on the contract award, Andrew Dudgeon, Managing Director of Bombardier Transportation Australia, said, "This order reflects our ongoing commitment to improving urban mobility across Melbourne. Bombardier's range of signalling services will enhance rail network performance and greatly improve the passenger experience. We are excited to be delivering this project to Victorians."

Bombardier will provide its full-service package from its OPTIFLO rail control services solution including the advanced EBI Tool Maintenance and Diagnostics Centre (MDC) which

provides intelligent data analysis and predictive functionalities to prevent failures. In December 2017, Bombardier, as part of the Rail Systems Alliance (RSA), won the contract to install its high-capacity rail control solution for the 11 billion AUD Metro Tunnel Project in Melbourne, Victoria's largest ever investment in public transport.

Bombardier has been active in Australia for more than 60 years as a complete rail solution provider, delivering its extensive portfolio of winning mobility solutions from train and tram fleets to signalling, propulsion and control technology, mining solutions, asset management and through-life support on rail projects across the country. Its strong services portfolio complements its innovative products delivered, including 264 Vlocity commuter rail cars and 80 iconic E-Class trams for the Victoria region.





From the UK

## East Lancashire Railway

During April the line held an event to celebrate the 60th anniversary of the English Electric Class 40 entering service. Many of the preserved examples were operating services and the event drew huge crowds. As an added bonus there were also other English Electric built locos operating.

▶ Pioneer of the class, No. D200 is seen on display at Bury. *Brian Battersby*

▶ Class 40 012 runs round its train at Rawtwnstall on April 14th during the event. *Brian Battersby*

▶ Class 40 No. D213 stands in the spring sunshine at Bury Bolton Street waiting departure time with a service to Heywood. *Brian Battersby*







From the UK

## East Lancashire Railway



▶ Class 40 145 stands at Bury on April 14th, on the rear of a service to Rawtenstall. *Brian Battersby*

▶ Another English Electric loco operating at the gala was Class 55 009 'Alycidon' seen here upon arrival at Ramsbottom. *Brian Battersby*

▶ Unique preserved 'split-box' example Class 40 135 arrives into Ramsbottom with a service from Rawtenstall. In the distance can just be made out another EE product, Class 50 015. *Brian Battersby*



