





Welcome

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

We start this month with some sad news, and a few words from our friend David Mead - "It is with regret that we announce the passing of railway/transport photographer - Martin Hill, 72yrs., Martin was a regular contributor to Railtalk and covered many areas of UK lines and transport scenes. His speciality was Dorset, where he lived and was a former volunteer guard, TTI and Booking Clerk on the preserved Swanage Railway. The Railtalk team made frequent visits to the area and had enjoyed his escort whilst visiting the Swanage Railway. Martin also ventured abroad on many occasions and had sent many photos to us here at 'Xtra'. He had made holidays and photography a huge chunk in his life and paid work had included 'courier' on coach holidays and production of holiday brochures, guides and tour catalogues."

Some news from Europe this month includes in Spain the national operator RENFE began operating high speed services between Madrid and Castelló de la Plana on January 23. Running over the high speed line from Madrid Atocha to Valencia and then on the 1 668 mm gauge Mediterranean Corridor to Castelló where a third rail has been laid on one track to accommodate 1 435 mm gauge trains, the service is initially limited to three trips a day from Castelló to Madrid and two in the reverse direction.

Content

- Pg 2 - Welcome
- Pg 4 - Pictures
- Pg 77 - World News
- Pg 83 - From the UK
- Pg 86 - 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

NS Sprinters Nos. 2936 and 2140 arrive at Soest with a service to Utrecht on January 3rd. *Erik de Zeeuw*

This Page

Indian Railway Class Wap 5 No. 30094 passes Mahalaxmi Station en route to Mumbai Central on December 12th. *Julian Churchill*

Next Page

SNCF Infra shunter No. 8375 is seen stabled in Trappes yard. *John Sloane*



Castelló has previously had a direct service to Madrid operated by Alvia gauge-changing trainsets, and these continue to run. The fastest AVE timing is 2:32 min by the 09:40 weekday departure from Madrid.

Whilst over in the Netherlands work to adapt Rotterdam Centraal station to accommodate Eurostar's future Amsterdam – London services has begun, with the work is being undertaken by VolkerRail and Arcadis on behalf of infrastructure manager ProRail. During a nine-week possession tracks will be realigned and a platform which currently faces track 1 will be widened by 4 m to face onto track 2, providing an extra 3 000 m2 of space to separate passenger who have passed through security screening. The contract includes changes to signalling and control systems. Completion is planned for March 26.

This months 'From the UK' is the first major event of the 2018 season - the Great Central's Winter Steam Gala.

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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HAD-PRINT
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Vivars Way, Canal Road
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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,

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Rail Cargo Group ramps up Italy transport operations

Number 1 rail logistics from and to Trieste
Port of Monfalcone - hub for automotive and timber shipments

The Rail Cargo Group is the expert in rail transport to and from Trieste. Since their launch in 2012, transport operations to and from Trieste have grown by around 60 percent. And RCG is planning a further increase of 20 percent for 2018. This will not only improve links between Europe and the Mediterranean, but also with the Far East.

Port of Trieste continues to grow

Located in the heart of Europe, between shipping routes and the Baltic-Adriatic and Mediterranean corridors, the Port of Trieste creates international connections between overseas countries and the dynamic markets in Central and Eastern Europe. The Trieste and Monfalcone Port Authority has implemented many successful initiatives in recent years, in close consultation with the Friuli-Venezia Giulia regional government. The growth rates of the port are consequently very impressive. With modernisation and further expansion of the terminal and the rail infrastructure, the course has been set for additional growth in coming years.

Strong partnerships for strong performance

Around 90 percent of goods on the Silk Road between China and Europe are transported by sea. Thanks to its favourable geographic location at the heart of Europe, Trieste is one of the most important freight handling centres for Central Europe and acts as a hub for land and sea transport. An efficient connection to the Maritime Silk Road and the constant expansion of U.N. Ro-Ro transport operations ensure further growth potential. The Rail Cargo Group cooperates successfully in Italy with business partners including AlpeAdria, T.O. Delta and U.N. Ro-Ro, thereby ensuring a smooth service and high-quality management of transport

operations on the rail network.

Expansion of the transport operations to and from Trieste and Monfalcone RCG – already one of the top suppliers of intermodal and conventional rail logistics services to and from the Port of Trieste, with a market share of approximately 50 percent – is expanding connections again in 2018. This will link the port via the rail network with new economic regions in Central Europe. The connection to Monfalcone will also be further enhanced. Above all in the automotive sector, the number of transports will be steadily increased during 2018. “Together with our partners in Trieste, we will develop additional logistics solutions with the customers. Through use of new multi-system locomotives and new wagon equipment, we will consistently strengthen our position in Trieste and Monfalcone,” says Erik Regter, Member of the Board of the Rail Cargo Group.



▶ The Pinzgauer Lokalbahn is a 760mm narrow gauge branch line from Zell am See via Mittersill to Krimml. Operated by Salzburg AG which took over from ÖBB in July 2008. Every Thursday in Winter there is a heritage steam train service No. 3394 called ‘Fairy-tale train to Krimml’. However due to unforeseen maintenance work on the steam locomotive, the train is to be hauled until further notice by vintage diesel locomotive No. 2095.01. On January 25th the train is seen here heading to its next stop at Stuhlfelden Siedlung.
Thomas Niederl















Further modernization of the ČD Cargo fleet

On January 19th, ČD Cargo launched an international tender to supply up to fifty multi-system and up to five diesel locomotives. The conditions of the tender guarantee that ČD Cargo will purchase ten electric and three diesel locomotives. Additional orders will be subject to an option. The locomotives must be new or no more than one year old, with ČD Cargo being their first operator.

The electric locomotives are required to operate on 3 kV DC, 15 kV 16.7 Hz AC and 25 kV 50 Hz AC systems and must have a output of at least 5 500 kW under AC traction and 5 000 kW in DC mode. The three diesel locomotives are required to have an output of at least 2 400 kW. All locomotives must be operational in the Czech Republic, Slovakia, Germany and Austria. Within three months of their delivery, they must also be equipped for operation in Hungary and, in the case of electric locomotives, also in Poland. All of the locomotives will be equipped with ETCS. The deadline for submission of offers is 22 February 2018.

Photo: © CD Cargo



CD Class 151.012 departs from Bohumin with a service from Praha to Žilina. *Steamsounds*



Dinazzano PO takes over two 741.7s from CZ LOKO

On January 19, CZ LOKO, completed another two 741.7 series for the Italian company Dinazzano PO. The handover took place in Regio Emilia, Emilia Romagna, where both locomotives will also be operated at local terminals of intermodal transport

Photo: Locomotives 741.733 and 741.734 before departure to Italy. © CZ Loko

“The first two locomotives 741.7 we received from CZ LOKO as early as 2014, and long-term satisfaction with the locomotives of this series led us to the decision to buy two more. The locomotive meets all of our operational expectations and its reliability is indeed high,” said General Manager of Dinazzano PO.

For CZ LOKO, as Dinazzano PO is an important business partner. Locomotives 741.7 in a deep orange paint are an important reference for Czech companies engaged in rail transport.

“In Italy we have 7 locomotives already 741.7 and by the end of 2018 we will deliver at least another 3,” said Jan Kutálek, Sales Director of CZ LOKO, as

Four-axle shunting locomotives of the series 741.7 are designed mainly for shunting service and operation of container terminals, harbours, etc. They are also used by industrial companies with own rail transport and construction companies engaged in railway engineering. Its operators mainly bring low operating and maintenance costs and ease of operation. CZ LOKO, as offers these locomotives, including comprehensive maintenance, called fullservice, through its subsidiary CZ LOKO Italia. In Italy, these locomotives are also run by Mercitalia Shunting & Terminal (formerly SERFER), Terminali Italia and Francesco Ventura Construzioni Ferroviarie. Furthermore, these locomotives are operated on Czech and Slovak territory, eg in Arcellor Mittal, Severočeské Doly - Rolling Stock, Agrofert, Strabag Rail and ŽSR. They are also popular in Turkish territory, where they serve the ironworks and the strategic underwater tunnel of Marmaray. The total number of locomotives operated in this successful 741.7 product line in the world is almost 50 units.



▶ The now famous Prague ‘Lubricating tram’ passes the stop at Vltavská. (Famous thanks to the live webcam it carries). *Steamsounds*





Česky Drahy's 'City Elefant' No. 471.061 stands at Praha Masarykovo. *Steamsounds*

Transport of tram sleepers

From 7 to 11 December last year, ČD Cargo carried out another transport for the Prague Transport Company. New concrete sleepers for the reconstruction of the tram line in Kolbenova street in Prague arrived from Uherský Ostroh to Prague by rail. Sleepers from the production of the ŽPSV Uherský Ostroh factory were sent to Prague-Libeň destination in two groups in Eas wagons. At the destination station, they were transhipped to road vehicles that transported them directly to the construction site.

Transportation of 650 tons of concrete products saved 27 truck trips from South Moravia to Prague on the overloaded D1 motorway.

Photo: © CD Cargo









Alstom to supply 10 extra Citadis trams to Bordeaux Metropole

Alstom is to supply 10 additional Citadis trams to Bordeaux Metropole for a total amount of nearly €30 million as part of the optional order for the Bordeaux Phase III project, which was notified on 29 August 2011. 26 trams, representing the firm order, entered circulation in 2013 and 2014. 15 trams are currently being manufactured as part of the optional order at the Alstom site in La Rochelle.

These new 44-metre-long trams are identical to those of the previous orders and are intended to reinforce the multi-line transport offer of the city of Bordeaux from 2019. They will be designed and manufactured in line with the 15 trams currently being produced at the site of La Rochelle. Once this order has been delivered, the tram fleet in circulation on the 77 kilometres of track on the network will consist of 125 Citadis in total. Bordeaux Metropole therefore has one of the largest tram fleets in France, with its first order dating back to 2000.

“This order is excellent news for Alstom and in particular for the La Rochelle site. We are pleased that our historic customer Bordeaux Metropole has once again placed its trust in us. A total of 25 trams will be manufactured at our site in 2018/19 with delivery scheduled for mid-2019,” said François Papin, Alstom site manager in La Rochelle.

All the Citadis trams (33 and 44 metres) of Bordeaux Metropole are equipped with the APS ground-level power supply system, also implemented in the tramway systems of Reims and Dubai. They can accommodate between 218 and 300 passengers each, the equivalent of more than 3 buses. Citadis trams offer optimal on-board travel quality with a fully low floor, air conditioning, a video surveillance system and audio-visual information. Up to 98% recyclable, Citadis helps preserve the environment.



supply solutions, which represent an alternative to conventional catenary power supply. As well as APS, new technological innovations are available to reduce energy consumption and preserve city centres: SRS, an innovative ground-based static charging system, Citadis Ecopack, batteries and super capacitors.

The trams will be manufactured in 7 Alstom sites in France: La Rochelle for the design and assembly, Ormans for the engines, Le Creusot for the bogies, Tarbes for the traction system equipment, Villeurbanne for the on-board electronics, Vitrolles for the APS and Saint-Ouen for the design.

SNCF Bi-Mode unit No. 81755 plus another approach Villeneuve St. Georges on a TER service to Burgundy on November 27th.
John Sloane





Alstom to supply 14 Coradia Polyvalent trains to the regions of Bourgogne-Franche-Comté and Grand Est

Alstom is to supply 14 additional Coradia Polyvalent trains to the Bourgogne-Franche-Comté and Grand Est regions for an amount of approximately €100 million. These options form part of the Regiolis contract signed in 2009 and follow the 285 trains already ordered by the regions and the French State.

The Bourgogne-Franche-Comté region has ordered 8 Regiolis electric trains consisting of 4 cars each, in addition to the 16 trains of the same type already ordered, 9 of which have already been delivered. The Bourgogne-Franche-Comté region's Regiolis fleet will consist of 24 trains by mid-2020, in line with its objective to promote cleaner mobility, and its strategy to invest in more modern, comfortable and cost-effective trains. The Grand Est region, meanwhile, has decided to purchase 6 new trains, including 5 Coradia Liner trains and one Regiolis dual-mode train consisting of 6 cars. The Grand Est region already has a fleet of 34 Regiolis trains and 19 Coradia Liner trains in commercial service.

"These additional orders are excellent news for the French railway industry and for Alstom's sites in France. They reflect the renewed confidence of the Bourgogne-Franche-Comté and Grand Est regions in Alstom and its solution, Coradia Polyvalent," says Jean-Baptiste Eyméoud, President of Alstom France.

Regiolis and Coradia Liner are part of Alstom's Coradia range of trains, which are available in three lengths (56, 72 and 110 metres) and two types of engines (electric or dual-mode thermal-electric). They can accommodate up to 330 passengers and run at speeds of 160 km/h. They provide increased comfort thanks to seats equipped with individual reading lights and power outlets, spaces dedicated to bicycles and luggage, large bay windows and reduced noise levels. The fully low-floor allows accessibility to all; the Coradia range complies with the STI PRM standard. On-board circulation is more fluid with spacious passenger areas. The reduced weight of the trains, as well as their synchronous permanent magnet motors for traction, combined with articulated architecture, enable a reduction in energy consumption of about 30% compared to the diesel locomotives of the Corail trains. In addition, acquisition,

operation and maintenance costs as well as upgrade costs have been taken into account from the design stage to curb expenses incurred during the train's 30-year lifespan.

To date, 299 Coradia Polyvalent trains have been ordered as part of the contract awarded to Alstom by SNCF in October 2009, including 235 trains by 9 French regions and 64 trains by the State, organising authority of the intercity TET trains (trains d'équilibre du territoire). More than 40 million kilometres have already been covered by the fleet in commercial service.

The manufacture of Coradia Polyvalent secures more than 4,000 jobs in France at Alstom and its suppliers. Six of Alstom's sites in France design and manufacture the Coradia trains: Reichshoffen for the design and assembly, Ornans for the engines, Le Creusot for the bogies, Tarbes for the traction, Villeurbanne for the onboard electronics and Saint-Ouen for the design.



▶ SNCF BB No. 26162 sweeps through Villeneuve St. Georges with a Paris bound express on November 27th. *John Sloane*













▶ SNCB Class 186.210 departs north out of Köln Gremberg yard. *John Sloane*



▶ OBB Class 1116.002 hauling a rake of car transporters passes Hannover-Linden/Fischerhof heading eastbound. *John Sloane*

▶ DB Class 151.075 approaches Gremberg yard from the Düsseldorf direction. *John Sloane*







Gew. Lok	62,0t
Br. Gew.	35,0t
Wasser	8,0m³
Kohle	3,0t

Harzschmalspurtalbahnen
99 222

EW 10 0-2 m.2
Dr. Bau. 1937 No. 10.00.13
Dr. 21 Mai 1937



 Germany



Local services between Ilfeld and Nordhausen are shared between HSB railcars and bi-mode Nordhausen trams, both are seen at Ilfeld on December 14th. *Colin Kennington*

One of the new Luxemburg double deck EMUs is seen at Köln Hbf on December 10th, the day before they were due to enter service. *Colin Kennington*

Oops, a locally registered car drove into the side of railcar Class 187.013-8 on the level crossing at Gernrode on December 12th. Fortunately nobody was injured. Damage to the railcar was slight but it had to be taken out of service for several days while it was repaired, its diagram being covered by a steam loco and coaches. *Colin Kennington*

 Germany



▶ HSB 2-10-2T No. 99.7241-5 has an extended wait at Schierke on December 11th as services were terminating there due to the line beyond to the Brocken being closed by snow.
Colin Kennington



▶ DB Class 146.555-8 entered the Christmas spirit, photographed at Hannover on December 15th.
Colin Kennington



▶ The original 2-10-2T No. 99.222 approaches Schierke on December 11th where the service would terminate due to the line beyond being closed by snow.
Colin Kennington





Siemens delivers an additional ten trams for Bremen

The German operator Bremer Straßenbahn AG (BSAG) has ordered an additional ten Avenio trams from Siemens, exercising an option in a contract signed in June 2017, when BSAG ordered 67 Avenio trams. Including the new order, the Hanseatic city's fleet of Siemens trams will grow to a total of 77. Delivery of the newly ordered trams will begin in 2021.

"With this supplementary order, BSAG will now be able to replace the entire fleet of old and defective 77 trams with just as many new and modern Avenios. We're especially pleased that we can offer our customers a far better quality of rapid transit service with the new trams from Siemens," said BSAG board spokesman Hajo Müller.

"The Avenio is a modern, comfortable, reliable and barrier-free tram that perfectly fulfills all the demands of the Hanseatic city. Bremen has placed the biggest order to date for our latest generation of trams, and this further order from BSAG confirms the trust in our future-oriented product," says Sabrina Soussan, CEO of the Mobility Division at Siemens.

The first four-section trams ordered last year will begin service in Bremen starting in spring 2019. The approximately 37-meter-long tram carries up to 259 passengers and has a top speed of 70 km/h. Large windows and energy-efficient LED lighting provide pleasant lighting conditions. Multifunctional areas at the entrances offer generous space for wheelchairs, baby strollers and bicycles. An air conditioning system ensures a pleasant, draft-free interior

atmosphere throughout the year. On-board wireless Internet and information systems provide additional passenger comfort. The Avenio also reflects the latest advances in sustainability: the tram is up to 90-percent recyclable. The Avenio uses a large part of its recovered braking energy for heating or feeds it back into the power grid. All wheels are equipped with sound absorbers to ensure smooth and low-noise operation.

The Avenio is already in service in Munich, Germany, and Den Haag, the Netherlands. Ulm, Germany, and Doha, Qatar have also ordered Avenio trams from Siemens. The Avenio family is based on a modular design comprised of proven systems and components drawing on over 135 years of company experience: Siemens premiered the world's first electric railway tram in 1881. Siemens' tram business offers customers around the globe reliable, sustainable and cost-efficient mass transit solutions.



Class 243.559 approaches Dedensen-Gümmer with an intermodal working. *John Sloane*



Tuned locomotives for lower fuel consumption

DB Cargo uses a modified engine control system to reduce fuel consumption and CO2 emissions

If tuned engines make you think of lowered black BMWs that roar off when the lights turn yellow, then think again. DB Cargo, the DB freight subsidiary, has tuned the engines of its shunting locomotives to save fuel, thereby lowering CO2 emissions. The engines are tweaked not for power but for efficiency – consuming less fuel while delivering the same performance.

To achieve this, specific engine characteristic maps, such as fuel injection pressure, period and timing have been adjusted. Once the new characteristic maps have been added to the locomotive's electronic engine management, its drive system consumes 2.5% percent less fuel on average.

In recent months, the engine control system has been optimized in all of the nearly 400 shunting locomotives. As a result, 800,000 litres of fuel – enough to drive a car around the world at the equator 333 times (6l/100 km) – and 2.1 million kilograms of CO2 are saved annually. Alongside the company MTO-Engineering, Munich University of Applied Sciences partnered with DB on the project.

The goals DB Cargo has set itself include reducing specific final energy consumption by 30% by 2030 compared with 2006, through measures including sustainable transport solutions (Eco Solutions) and by modernising its fleet. At the same time, it plans to reduce CO2 emissions by around 36%.



▶ Class 187.018, 187.017 and another meet at Eisfelder Talmühle on December 12th.
Colin Kennington

▶ Railcars meet in the snow at Eisfelder Talmühle on December 14th. *Colin Kennington*

▶ This interesting train was seen at Halberstadt Christmas Market on December 14th, note the power cable.. *Colin Kennington*





 Germany

▶ HSB's Dampflokomotive No. 99.7241 is seen climbing towards the Brocken. *Steamsounds*



▶ DB Class 185.237 passes Regensburg with a southbound tank train. *Steamsounds*

▶ DB IC2 Class 146.562 stands at Köln Hbf. *Steamsounds*



▶ Berlin S Bahn S5 with a service to Spandau arrives at Pichelsberg. *Steamsounds*

The New Silk Road

DB Cargo plans expansion of China traffic.

DB Cargo container trains have been operating on the historic Silk Road between Europe and Asia since 2011. Now, the company is increasing its share in Trans-Eurasia Logistics (TEL) – which specialises in this traffic – to 60%, boosting its position in the transcontinental rail freight market.

By joining forces under a single source of leadership and playing a bigger role in TEL, Dr Carsten Hinne, DB Cargo Senior Vice President “Corridor Development China/New Silk Road”, sees good opportunities for a major expansion in traffic to and from Asia. The company currently handles ten to fifteen round trips a week on the land route to Asia. “I believe that doubling traffic in the next two to three years is very much within the realm of possibility,” says DB Cargo head of sales Raimund Stüer, pointing to rising demand from various segments such as the automotive industry.

A competitive alternative

Journey times on the historic route are between 14 and 18 days. “This is turning the land connection into a competitive alternative to slower ocean freight and more expensive air freight,” says Stüer. From the outset, DB Cargo has been handling transports on the 10,000 to 13,000-kilometre-long route (depending on the departure and destination stations) with the specialists at TEL. In 2006, Deutsche Bahn and the Russian state railway RZD laid the groundwork for the new jointly owned company to advance rail freight transport between Europe and Asia. TEL began operation in 2008 and dispatched its first container train in October of that year. The service took 17 days for the journey from Xiangtan to Hamburg.











M61.019 and former DSB locos Nos. 459.022 (MY1156) and 459.021 (MY1125) shunt at Tapolca ready to return to Budapest with a MAV Nostalgia railtour. *Mark Pichowicz*

CAF AWARDED CONTRACT TO SUPPLY 26 TRAMS FOR BUDAPEST

CAF is to supply a further 26 trams for the city of Budapest, in a contract awarded by BKK (Budapesti Közlekedési Központ), the company responsible for the city's transport system. The contract covers the manufacture of 2 tram types: 21 five-module trams and 5 nine-module vehicles, with delivery of the first units expected to start from February 2019 onwards. The contract is worth approximately €55 million. In March 2014, CAF signed its first contract with this same customer, covering the supply of 37 tram units with a future extension option. In fact, months later, an initial extension was awarded for an additional 10 units, all of which are also now operating as part of the city's passenger service, with the sum of both transactions totalling more than 115 million euro.

The capital of Hungary was one of the pioneering cities to use this means of urban transport and currently has an extensive tram network with almost 40 lines, some of which boast the highest passenger carrying capacity in the whole of Europe. It is therefore worthy of mention

that the city has once again placed its trust in the vehicles manufactured by CAF.

The trams proposed for Budapest are based on the Urbos platform. These low-floor, two-way vehicles feature four double doors on each side of the five-module trams and seven double doors on the nine-module trams. These vehicles are designed to run on 1435 mm gauge track with an operating speed of 50 km/h. The 34 metre long five-module trams can carry up to 326 passengers, while the 56 metre long nine-module trams have a carrying capacity of up to 562 passengers, being one of the longest in the world. The entire tram surface is at the same level, providing ease of access for persons with reduced mobility, wheelchair users and passengers with pushchairs (two spaces available per vehicle).

This is CAF's first project in this new year of 2018, adding to the company's extensive order book at the close of the last financial year and serving to confirm that CAF is a major player in the European rail market.





▶ YDM4 No. 6302 stands at Talala Jct. on December 11th, with the morning train from Delvada to Vereval waiting for passengers to connect from the morning Junagadh to Delvada train.
Keith Chapman

▶ No. 13283, a locally built 16 cylinder ALCO powered locomotive reaches the end of the mighty Pambam Bridge and makes landfall on the island of Rameswaram with a passenger train from Madurai on December 19th.
Keith Chapman

▶ Nos. 14030 and 14051 head the weekly Trivandrum to Vereval Express up the Konkan Railway through Goa on Boxing Day, December 26th. *Keith Chapman*









Indian Railways self-propelled accident relief train is seen stabled at Ernakulum Junction on November 25th. *Bryan Roberts*

The impressive combination of Indian Railways diesels Nos. 12081 and 12141, during a light engine movement at Ernakulum Junction on November 12th. *Bryan Roberts*





Indian Railways electric loco No. 27486 stabled at Ernakulum Junction on November 12th.
Bryan Roberts

A smart looking Indian Railways engineers unit passes Pallippuram Station on November 12th.
Bryan Roberts

India Railways workers are seen busy coating the rails with preservative at Ernakulum Junction on a hot and sunny day, November 25th.
Bryan Roberts





▶ A pair of DB Class 6400 locomotives have just left the 'Moerdijk Bridge' near Willemsoord with a rake of tanks heading to Rotterdam on January 2nd. *Erik de Zeeuw*

Alstom to perform automatic train operation test drive with ProRail and RRF on the Betuweroute in the Netherlands

Alstom has signed an agreement with the Dutch infrastructure operator ProRail and Rotterdam Rail Feeding (RRF) to perform Automatic Train Operation (ATO) tests in 2018. The ATO system automates the train driver's operations while he focuses on supervision tasks. The tests should optimise the railway operation, reduce energy consumption and increase ride comfort, providing added value and railway modernization.

These tests will be performed with a GoA level 2 of automation on the ERTMS equipped Betuweroute – a 150-km double-track freight line connecting Rotterdam to Germany, part of the European freight Corridor A. This system has already proven its advantages on metro networks. The trains equipped with ATO operate at closer intervals, which increases the capacity of the railway network and allows for reduced energy consumption, because trains operate more uniformly. Automated operation can therefore be an added value for operators without making expensive changes to the infrastructure and is one of the next logical steps to meet the Paris Climate Agreements.

The test drive on the Betuweroute will focus on ATO application to freight transport.

The purpose of the tests is to perform a live demonstration with a locomotive running in ATO from the Rotterdam Harbour district to CUP Valburg in the eastern part of the Netherlands. The locomotive, provided by RRF, will run approximately 100 km without driver intervention on rail sections equipped with two different ERTMS levels (1 and 2). The Betuweroute was successfully equipped by Alstom with the European standard signalling system ERTMS 10 years ago and ERTMS supports automatic operation better than the classic security systems. Automatic shunting movements on the yard of CUP Valburg will also be tested.

“Automated trains are on the innovation agenda of several countries and Alstom is leading the development of ATO for rail. Alstom's close collaboration with ProRail and RRF will contribute to support the progress of new technology and create a more attractive, more competitive and more sustainable rail system”, said Gian-Luca Erbacci, Alstom's Senior Vice President in Europe. By being closely involved in these developments, ProRail and RRF show their willingness to bring automated trains in the Netherlands and contribute to the development of a modern railway system.









Slovenia



▶ SŽ Class 363.010 heads a line of stabled locos at Ljubljana. *Brian Battersby*



▶ Diesel hydraulic multiple unit of SŽ Class 713/715, popularly nicknamed as 'kanarček' (a canary), manufactured by MBB Donauwörth (Germany) and completed at TVT Maribor (Slovenia) is seen at Ljubljana. *Brian Battersby*



▶ Slovenske železnice Class 643.013 runs through Ljubljana. *Brian Battersby*





▶ SBB Class 420.133 hurries through MuttENZ.
Paul Godding



▶ BLS 'Flash Fire' liveried Class 465.018 prepares to depart Brig with an intermodal working.
Paul Godding

▶ SBB Class 420.185 hauls a mixed consist through Killwangen Spreitenbach. *Paul Godding*









▶ A MGB Deh 4/4 II arrives at Andermatt with train No. R538 from Visp. *Stearnsounds*



▶ RhB Tm 2/2 No. 120 carries out shunting duties at Davos Platz. *Stearnsounds*

▶ RhB Ge 4/4 II No. 630 stands at Pontresina with train No. R1936 to Scuol-Tarasp. *Stearnsounds*



▶ RhB Ge 4/4 III No. 652 descends towards Bergün/Bravogn with train No. RE1144 from St. Moritz. *Steamsounds*



▶ RhB Ge 4/4 III No. 651 arrives at Filisur with train No. RE1140 from St. Moritz. *Steamsounds*





BLS and Stadler sign contract for the acquisition of 52 new trains

BLS is to purchase 52 latest-generation Flirt trains. The Flirt will replace three older train models, enabling BLS to push ahead with the planned expansion of regional transport in the Bern area.

Peter Spuhler, President of the Board of Directors of Stadler, and the CEO of BLS Bernard Guillelmon signed a supply contract recently for the acquisition of 52 units of the latest-generation Flirt train. The Confederation, the cantons and the Board of Directors of BLS have approved the necessary resources for the purchase. Peter Spuhler is proud to be producing the latest-generation Flirt trains for BLS to follow on from the previous MUTZ double-decker multiple units. “We are particularly pleased to be able to deliver Swiss trains from Thurgau to BLS for this contract.” Spuhler describes the new train as particularly lightweight and energy saving, with extra comfort and security for passengers. “We were convinced by Stadler’s offer for the largest train acquisition in the history of BLS. We are pleased to be developing the new trains with Stadler, and look forward to offering our passengers an even more comfortable and reliable means of transport to their destinations in the future”, commented BLS CEO Bernard Guillelmon on signing the contract.

BLS has taken out options for a standardized fleet

BLS will use the 52 new trains to replace three older models and harmonize its fleet. Operations, planning and maintenance will be greatly simplified as a result. In addition, BLS can now proceed with the planned expansion of regional transport in the canton of Bern. Measures envisaged by the canton include running trains at 15-minute intervals in the main perimeter of the Bern commuter rail network. 28 trains will be put into service on various

commuter rail routes in Bern. BLS is initially only ordering 24 trains rather than 30 for regional express traffic because the Bern-Neuchâtel-La Chaux-de-Fonds line will no longer form part of its regional network in the future. Instead, it will operate as a long-distance route. To make sure that BLS is well equipped for future developments and to guarantee the uniformity of the fleet in the long term, BLS is taking out an option for a further order of trains of the same type.

Customers have their say in the design of the new trains

From mid-2018 Stadler will create a full-scale model – or maquette – in its Bussnang factory. BLS and Stadler will confirm the design of the new trains on the basis of this maquette. The model will help determine elements such as the fittings in the boarding areas, the type and upholstery of the seats, and the size of the tables. To take the needs of passengers into account as much as possible, BLS is involving various customer representatives in the process, such as Pro Bahn, selected passengers, and organisations for disabled travellers. Stadler is expected to start building the first railcar bodies in early 2019. The first trains should be ready to be tested on track by mid-2019. BLS will put the trains into operation gradually between 2021 and 2025.

The new trains are one-storey high and 105 meters long. The trains for commuter rail transport (28 units) and regional express transport (24 units) are technically identical. Both the commuter rail and regional express trains have a low-floor design and spacious boarding areas with standing room, large windows, storage spaces, plug sockets in 1st and 2nd class, and good mobile phone reception. There will also be a catering area on the regional express trains.

Basel trams Nos. 492 and 5015 are seen at Aeschengraben. *Paul Godding*





Florida East Coast's GE ES44AC Nos. 814 and 813 cross the Saint Lucie River at Stuart whilst working train No. FEC202-21 12:30 Miami Hialeah - Jacksonville Bowden. *Laurence Sly*

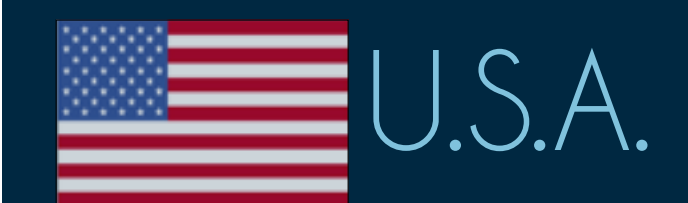


Amtrak California EMD F59PHI No. 2009 switches tracks at Muir Point, Hercules with train No. 537 12:10 Sacramento - San Jose. *Nick Clemson*



USSC EMD GP11 No. 308 passes South Bay with a laden sugarcane train, heading for Clewiston. *Laurence Sly*





Amtrak's GE P42DC 'Genesis' No. 155 and Caltrans' Siemen's SC-44 'Charger' No. 2106 are seen on a test train meeting a westbound manifest behind BNSF GE C44-9W No. 4731 at San Joaquin St., Stockton, California.

Nick Clemson

Amtrak's Nos. 160 and 72 head north with the California Zephyr, train No. 6 09:10 Emeryville - Chicago. Passing Hercules it is already 3hrs late 7 miles into a journey of 2438 miles and expecting to take nearly 2½ days. *Nick Clemson*

Amtrak California's No. 2012 leads Caltrans SC-44 'Charger' No. 2103 with train No. 711 04:25 Bakersfield - Oakland in the murk caused by forest fires 40 kms away, passing Muir Point, Hercules, California. *Nick Clemson*



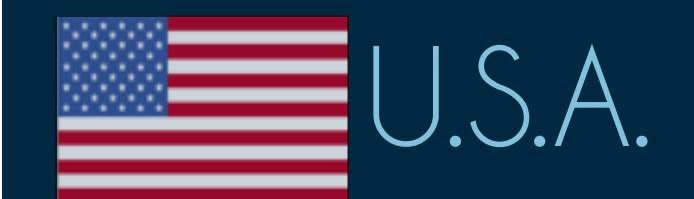




Florida East Coast GE ES44AC Nos. 818 and 820 cross Cypress Creek whilst hauling train No. FEC121-20 from Jacksonville Bowden Yard to Miami Hialeah. *Laurence Sly*







CSX Nos. 2339 (EMD Road Slug) and 6455 (GP40-2) cross the interlocking at Waycross. *Laurence Sly*

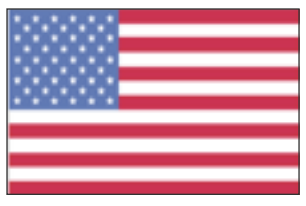


After picking up more loaded cars from the loading point at Belle Glade, USSC No. 506 (GP38) continues its journey from Bryant to the sugar mill in Clewiston. *Laurence Sly*



USSC No. 308 (GP11) heads between Moore Haven and Clewiston with a train of laden sugarcane. *Laurence Sly*





Bombardier's New Rail Cars Enter Service at San Francisco's BART

The Bay Area's new Fleet of the Future equipped with improved seats, passenger information displays, additional doors and bike racks

Eco-friendly cars feature a revamped interior designed using customer feedback

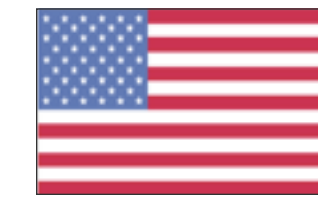
Rail technology leader Bombardier Transportation has announced that the first rail cars of its order for the San Francisco Bay Area Rapid Transit District (BART) are entering passenger service after successfully completing comprehensive testing on the BART system and receiving certification from the California Public Utilities Commission. Bombardier is supplying 775 new rail cars for BART's 'Fleet of the Future'. Twenty cars have been delivered from Bombardier's U.S. manufacturing site in Plattsburgh, New York. The remaining cars are scheduled to be delivered by Fall 2021.

"Our customers are going to love these cars," said BART General Manager Grace Crunican. "Some of the great new features that we are most excited for, and we know our customers will be too, are the three doors on either side for easier boarding, next stop information displays, comfortable seats, air conditioning, and most importantly the spaciousness. These cars are more energy efficient and quieter than the old fleet. We are thrilled." Benoit Brossoit, President, Americas Region, Bombardier Transportation, said, "We are pleased to reach this important milestone in the "Fleet of the Future" program and we are proud to be contributing to the rejuvenation of

the fleet running on one of the busiest rail systems in the United States. We look forward to continuing to work with BART to provide its customers with rail cars that set new standards for safety, reliability and comfort."

The new cars will replace BART's entire existing fleet and better serve its record ridership and expected growth. The cars incorporate state-of-the-art, environmentally-friendly technologies and include input from Bay Area citizens who had the opportunity to provide feedback on the car's design through an extensive public outreach program. Changes include a reconfigured interior layout designed to maximize seating, openness, and comfort with more priority seating for seniors and people with limited mobility. Other new features designed to enhance the passenger experience include comfortable, easy-to-clean seats with lumbar support, interior and exterior digital displays showing passenger information, an automated public address system, more doors to make boarding faster and easier, energy-saving lighting, onboard security cameras, and bicycle racks.

The cars are powered by highly reliable BOMBARDIER MITRAC propulsion equipment with energy-efficient inverters and regenerative braking. The cars' onboard systems will be integrated by the MITRAC train control and management system with internet protocol technology. Other transit systems in the Americas for which Bombardier is also manufacturing and delivering next generation rail cars include New York City Transit (300 metro cars), the Société de transport de Montréal (468 metro cars as part of a consortium with Alstom), and the Toronto Transit Commission (204 streetcars).



Bombardier to Supply 17 Additional Locomotives to New Jersey

New Jersey Transit Corporation exercises option for 17 additional ALP-45 dual-power locomotives

Flexible power system enables passengers to take a single train between New Jersey and New York Penn Station without transferring

Bombardier Transportation has announced that New Jersey Transit Corporation (NJ TRANSIT) has exercised an option for 17 additional BOMBARDIER ALP-45 dual-power locomotives. This second call off is valued at approximately \$160 million US (133 million euro) and is based on a contract for 26 locomotives signed in 2008. NJ TRANSIT exercised a first option for nine units in 2011 and the contract includes options for up to 37 more units.



"This option order is confirmation of the confidence NJ TRANSIT has in our highly innovative, energy efficient, reliable, and safe equipment," said Benoit Brossoit, President, Americas Region, Bombardier Transportation. "The new locomotives will comply with the EPA's Tier 4 Exhaust Limits, making them environmentally friendly which is especially important in a metropolitan area like New York."

The dual-power locomotives are capable of operating under both diesel power and alternating current electric power from overhead sources. Their flexible power system enables the locomotives to operate across the entire NJ TRANSIT rail system, which includes both electrified and non-electrified lines, thus allowing passengers to ride a single train between New Jersey and New York Penn Station without having to change trains. Their introduction in 2011-2012 at NJ TRANSIT and the then Agence Métropolitaine de Transport in Montreal (now named Réseau de transport métropolitain) marked a first for this technology in North America. The locomotives will be manufactured at Bombardier sites in Germany and Poland. Delivery is scheduled to start in November 2019. NJ TRANSIT is the largest statewide public transportation system in the United States and an established customer of Bombardier. Over the years, Bombardier has provided 100 electric and dual-power locomotives, hundreds of push-pull commuter coaches, and 429 Multilevel vehicles to NJ TRANSIT. In addition, Bombardier was a member of the consortium that designed and built NJ TRANSIT's turnkey RiverLINE light rail system between Camden and Trenton, New Jersey and now operates and maintains the system under a contract with NJ TRANSIT.



Alstom will adapt the signalling system of the future extension of Line 9 of Sao Paulo metro

Alstom will ensure the modification of the signalling and control system in Line 9 - Emerald, of CPTM - Companhia Paulista de Trens Metropolitanos in Sao Paulo. As part of this contract, worth about €11 million, Alstom will adjust the SCT - Grajaú Domain Traffic Control System, and SCC - Brás Centralized Control System, allowing for the extension of the Line to Varginha.

The project includes system engineering, equipment supply, software change, commissioning and technical assistance, all to modernize and bring more safety and operational control to this CPTM line. The systems should be updated in up to 12 months, integrating Line 9 Emerald to the two future stations of Vila Natal Mendes and Varginha, south zone of São Paulo.

Developed by Alstom in Brazil, the system that will be implemented in this adaptation is also used in lines 7 (Ruby), 10 (Turquoise), 11 (Coral) and 12 (Sapphire) of CPTM. The 4.5 km extension of the line between Grajaú and Varginha, is contributing to the mobility of about 110,000 people living in the extreme south neighbourhoods of the city of São Paulo.



Bombardier to Provide 54 Additional TWINDEXX Vario Double-Deck Coaches to Israel Railways

Rail technology leader Bombardier Transportation signed a contract on December 31 to provide 54 additional BOMBARDIER TWINDEXX Vario double-deck coaches to Israel Railways (ISR). This call-off is part of a framework agreement signed in October 2010 and is valued at approximately 104 million euro (\$126 million US). Delivery of the new coaches is scheduled to be completed by August 2020.

“The new coaches will be fully compatible for revenue operation on ISR’s first electrified line, the A1, which connects Tel-Aviv and Jerusalem. Together, ISR and Bombardier teams collaborated closely to develop the necessary technical adjustments required to enable the trains to operate in tunnels and on electrified lines. We also considered local and international standards to ensure and further increase safety for both operator and passengers, while keeping comfort in mind”, said Mr. Avi Zalman, Head of Development and Engineering Rolling Stock Division, Israel Railways.”

“We look forward to Bombardier continuing the on-time and on-quality delivery of our double-deck coaches so we can provide the expected reliability and availability for this important new A1 line”, he added.

Yossi Daskal, Chief Country Representative Israel, Bombardier Transportation, said, “Israel Railways’ vision of an electrified network is becoming a reality. We are proud to continue playing such a major role in their ongoing modernization by providing our modern double-deck coaches. Together with ISR we will continue transforming this growing market and meeting its increasing need for public transport.”

The new order consists of eleven control cars, eleven intermediate coaches with dedicated space for people with reduced mobility and 32 trailer cars. The control cars will no longer use diesel generators to feed auxiliary systems like air conditioning as the BOMBARDIER TRAXX locomotives that ISR has recently ordered will provide more than enough power for both traction and auxiliaries. Additionally, the driver’s desk in the control car will be re-designed to be identical to the TRAXX electric locomotives’ desk, scheduled to be delivered in 2018

This single-car concept enables ISR to configure the loco-hauled trainsets according to the required

capacity. Each of the eight-car trains currently in service feature seating capacity for 1,000 passengers. The popular trainsets, based on a proven platform concept, are in operation across Europe and Israel and compliant with all current safety, comfort and efficiency standards. They represent great strides in helping alleviate congestion in Israel.

As a full solution provider, Bombardier Transportation operates a service depot in Haifa where the existing 293 double-deck coaches are being upgraded for a speed of 160 km/h and for electric traction. This month, ISR and Bombardier also started static and dynamic tests on the new TRAXX electric locomotive ensuring the delivery of the first electric locomotive in March 2018. Bombardier team continues qualifying local staff to carry out the final assembly of the coaches, recently-delivered at an ISR shop floor in Be’er Sheva, part of a call-off from March 2016





Alstom ships the first Coradia Polyvalent for the SNTF in Algeria

Alstom has shipped the first of the 17 Coradia Polyvalent ordered by the Algerian national rail transport company SNTF (Société Nationale des Transports Ferroviaires d'Algérie) on 29 July 2015. The train will be transported to the port of Savone (Italy) where it will embark in the direction of the port of Algiers (Algeria). It is expected to arrive on the 29 January 2018. The deliveries of the following trains will be carried out until July 2018. The trains, designed and manufactured at the Alstom site in Reichshoffen, France, will circulate in Algeria's major cities.

"Today we celebrate the departure of the first Coradia train for Africa. We are proud to deliver this first train to the SNTF in Algeria. Thanks to the trust of our customer and the commitment of our teams, the delivery schedule has been perfectly respected and will continue until July 2018. With this project, we are happy to contribute to the development of mobility in this country," said Henri Bussery, General Manager of Alstom in Algeria.

The Coradia Polyvalent for Algeria is a mainline dual-mode train (diesel and electric-25kV) capable of running at speeds of 160 km/h. With a total length of 110 metres, the train has six cars and offers a capacity for 254 passengers including 60 in first class.

Coradia Polyvalent meets the requirements of the SNTF and its passengers. It is adapted to the country's climatic conditions (sand, high temperatures) and has a very efficient air conditioning system. The train also has a low floor to facilitate access and movement on board, notably for passengers with reduced mobility (PRM). Lastly, the train's design and powerful motorisation

enable optimised operating conditions. The train's interior fittings are among the latest



developments undertaken by SNTF and provide optimum travel comfort.

The Alstom site of Reichshoffen in France is responsible for the design, manufacture and validation of the 17 trains. Five other sites in France are involved in the project: Saint-Ouen for the design, Le Creusot for the bogies, Ornans for the engines and alternators, Tarbes for the traction chains and Villeurbanne for the on-board electronics and passenger information. Alstom's Coradia range of trains benefit from 30 years of experience, with more than 4 billion kilometres covered by 3,000 trains.



Stadler acquires Swedtrac from Knorr-Bremse – expansion of Stadler's presence in Sweden

Stadler is taking over the Knorr-Bremse subsidiary Swedtrac, which specializes in train modernization. The acquisition of Swedtrac will enable Stadler to strengthen its presence in the Nordic countries. The strong sales and service market in Sweden will also be consolidated thanks to this additional site. Stadler is taking on 106 Swedtrac employees, to whom it wishes to extend a warm welcome.

When Swedtrac joins the Stadler group in the first quarter of 2018, Stadler will be acquiring a company specialized in train modernization and maintenance. Swedtrac is mainly working on two major contracts at present, "OTU Refurbishment" and "X2000 Comfort Upgrade". The "OTU Refurbishment" contract involves replacing and refitting the interior and exterior of 111 trains for the Swedish customers Skånetrafiken, Hallandstrafiken, Transitio and the Danish DSB by August 2021. From June 2018 onwards, a comfort upgrade will be carried out on the X2000, which is the flagship train operated by Swedish state railways SJ. Swedtrac, which is headquartered in Tillberga just North of Västerås, became part of Knorr-Bremse in 2013. Knorr-Bremse is the world's leading manufacturer of braking systems for rail and commercial vehicles. Over the past few years, Stadler has expanded considerably in the Nordic countries, and intends to pursue its development in the region. Stadler has secured various contracts in Scandinavia in recent years:

In Sweden it landed with MTR Express contracts for customized FLIRT trains as well as full service, and was tasked with the implementation and integration of a technical upgrade of the Swedish high-speed train, the SJ X2000, as part of a project headed by ABB.

In Norway, Stadler received orders for FLIRT trains from the NSB/Norske Tog, and for trams from Bybanen in Bergen. It has also signed two full-service contracts: one with Bybanen in Bergen and one with Gjøvikbanen in Oslo.

In Denmark, Stadler won a full-service contract for trams in Aarhus.

The vehicle base of 81 Stadler manufactured trains and trams in Scandinavia in 2013 will have risen to a total of over 300 vehicles by the year 2020. This represents growth of almost 400 percent. Currently, around 30% of all Stadler trains on this market are maintained by Stadler Service.

The potential of the Nordic market has by no means been fully exploited. Stadler has identified further growth opportunities and is preparing accordingly. In the long term, it intends to transform the Tillberga site, which is approximately 100 kilometres from Stockholm, into a major Stadler Service center of expertise for Sweden.

Jürg Gygax, Executive Vice President of Stadler Service AG, stresses the importance of Swedtrac for Stadler: "We are proud to be expanding our modernization activities of existing vehicle fleets with this takeover. This is the perfect way to incorporate our know-how about a wide model range of complete trains and to ensure even greater customer proximity. We are looking forward to be working with the Swedtrac specialists and wish to extend to them a warm welcome." Klaus Deller, Chairman of the Executive Board Knorr-Bremse AG, responsible for the Rail Vehicle Systems Division, has the following to say about the divestiture: "We are continuing to focus on our core competencies as a key supplier for the railway industry – offering subsystems and components and the related services. For a leading independent rolling stock manufacturer like Stadler, Swedtrac will create substantial added value and drive forward the development of the company. Knorr-Bremse and Stadler have longstanding good business relations at all levels for many years. So, also in the future, Knorr-Bremse will be working together with Swedtrac on subsystems for vehicle refurbishment."



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Alstom to supply traction and signalling system to the 1st driverless metro line in Chengdu

Alstom and its JVs in China, SATEE and CASCO, have been awarded two contracts by Chengdu Railway Corp. Ltd. to supply traction systems for 200 metro cars and CBTC signalling system for the entire line of Chengdu metro line 9 phase one, the city's first driverless metro line. Two contracts are worth approximately €64 million in total. The line is expected to start revenue service by the end of 2020.

When it opens, Chengdu Line 9 phase one will be about 22km long and have 11 stations. It will connect the city's

CBD area in the southwest with city's West Railway station in the northwest. CASCO is in charge of the whole life-cycle management of the solution in China.

"We are very pleased to win these two contracts supporting Chengdu to build its first driverless metro line in the city. With its international service proven references in driverless metro and its successful execution of driverless metro lines in Beijing and Shanghai, Alstom and its joint ventures are confident delivering these two projects in high level of



excellence" said Ling Fang, Managing Director of China & East Asia, Alstom.

Chengdu is one of the most important markets for Alstom in China. So far, Alstom has won contracts supplying traction systems for 1252 metro cars of 3 metro lines and CASCO has won signalling system contracts for 2 metro lines in Chengdu. At the end of 2015, Alstom brought its world advanced Citadis tramway technology to Chengdu and build Chengdu Rong No. 2 tramway line in partnership with CRC and a local company. Besides technology, Alstom supplies core components, including traction systems and bogies, and CASCO supplies signaling systems for this line, which will start revenue service in 2018.

Alstom together with CASCO will equip Chengdu Line 9 with its Urbalis signalling system. It is a service proven solution that has been ordered by 54 metro lines



Stadler secures two contracts in Poland

Stadler has two reasons to celebrate: the company's CEO, Peter Spuhler, recently signed two new contracts in Poland. The first one involves the construction of 35 trams for MPK Krakow, and includes the option for an additional 15 trains. The second agreement was concluded with the regional rail operator Koleje Mazowieckie for the delivery of 71 FLIRT EMU trains. Other promising tenders are in the works.

"We've now broken into the Polish market," declares Peter Spuhler, owner and CEO of Stadler. Spuhler was in Krakow recently with Stadler Sales Director Peter Jenelten to sign the first contract for the supply of the new rail vehicles. The signing of the second contract took place in Warsaw.

Stadler has been operating its plant in Poland for over 10 years now and even opened a subsidiary there. But apart from the occasional domestic order - for the regional operators Koleje Mazowieckie, Koleje Śląskie, and Łódzka Kolej Aglomeracyjna, and the state-run PKP Intercity - the affiliate dealt mostly with exports. Peter Spuhler and his team consider it a major achievement for Stadler to be chosen over local Polish competitors twice: "Our persistence has paid off. At the end of the day, Stadler's unmatched quality and price-performance ratio prevailed."

The contract with Krakow's municipal transport company MPK, which was awarded to Stadler and its joint venture partner Solaris Bus & Coach, was signed in a Krakow government building in the presence of Krakow Mayor Jacek Majchrowski, MPK Krakow management board members Rafał Świerczyński und Mariusz Szałkowski, Peter Spuhler, and Solaris owner Solange Olszewska. The order for 50 trams (35 initial trams + an option for 15 more) is valued at 363.5 million PLN.

Quick and comfortable boarding and alighting

The orders consist of modern three-car, low-floor trams with four bogies. Each of the 35 new trams is designed to seat 80 and has room for 147 standing passengers as well as space for a wheelchair. Wide front doors (1.4 meters/4.6 feet) allow passengers to board and alight quickly and comfortably. Stadler worked together with MPK to design the front of the tram to minimize the risk of a pedestrian being pulled under an oncoming train in the event of a collision.

The first trams are expected to arrive in Krakow within the next 24 months, while the last units should be delivered no later than 30 months after the contract signature date. The trams are scheduled to be incorporated into MPK's regular service in 2020.





AVE S-100 manufactured by Alstom, a reference in high speed in Spain

The high-speed line connecting Madrid and Castellón has been inaugurated by the S-100 very high-speed train, manufactured by Alstom. Named Juan Sebastian Elcano in commemoration of the first Spanish navigator that made the complete trip around the Earth, the S-100 will complete the first ride on the line.

The S-100 train holds an extraordinary record of high-speed lines openings in Spain and is the only train capable today to circulate both in all Spanish high-speed corridors and on the French railway network, demonstrating its interoperability and versatility. It is also characterized by high standards of safety, comfort and punctuality.

In 1992, when the first high-speed line was opened in Spain, the S-100 model was the first to circulate at 300km per hour on the Spanish railway lines. Highly adaptable to different type of infrastructure, the S-100 has launched a new vision of railway mobility, which would change the passenger experience in Spain. Since then, the AVE S-100 has been at the forefront of the Spanish high-speed system evolution.

In 1994, it was the first train to meet RENFE's punctuality commitment, according to which passengers are refund the amount of their ticket if the train is more than 5 minutes late. Today, after more than two decades, the S-100 records the highest rate of punctuality. In 2003, this train was also used to inaugurate the Madrid-Lleida line; in 2013, the Madrid-Alicante corridor, the first high speed Spanish line with ERTMS level 2 and the Spain-France high-speed connection, first self-propelled train to circulate outside of Spain. The S-100 was also the first AVE train to incorporate Wi-Fi service for passengers in 2016 - a long history of technological successes for this train now called "Juan Sebastián Elcano", whose journey also began in Seville, ready to overcome borders.

The S-100 train is part of Alstom's Avelia platform of high-speed and very high-speed trains. With more than 35 years of experience in high speed, Alstom is a global leader in trains, signaling equipment and services. Alstom's Avelia range offers a variety of flexible solutions that can be proposed in different architectures and configurations. Alstom's Avelia high-speed trains are present in 20 countries and have transported more than 4 billion passengers.



Siemens electrifies metro in India

Metro Line to connect Ahmedabad in two corridors

Order volume worth more than €76 million

The Indian mass-transit operator Metro Link Express for Gandhinagar and Ahmedabad (MEGA) has commissioned Siemens to electrify a 39.2-kilometre metro line in the Indian metropolis Ahmedabad. The line, currently under construction, will run in Ahmedabad city in two corridors, East-West and North-South.

Siemens will be responsible for the complete electrification of the new double-track metro line. In addition, Siemens will also provide a Scada (supervisory control and data acquisition) system for monitoring and controlling the traction power. The order has a volume of more than €76 million.

This Metro line will play a pivotal role in enhancing quality of life and economic growth of the city and the region. With addition of this project, Siemens is executing electrification projects for six Metro cities in India, the other five being, Delhi, Kolkata, Chennai, Nagpur and Greater Noida, matching the pace of urbanization in India.



Expansion of the FLIRT fleet in Mazovia

Stadler and the railway company Koleje Mazowieckie in Mazovia have reached an agreement for the delivery of 71 new FLIRT EMU trains. The contract was signed in Warsaw by Peter Spuhler and Peter Jenelten in the presence of chairman of the board Robert Stępień and member of the board Czesław Sulima.

Stadler received its first order from Poland in 2006 for 14 FLIRT trains. These trains are in operation along regional lines in Mazovia, and are also in use in Silesia. FLIRT trains are known for their outstanding reliability. And as passenger surveys show, they are also highly popular. Ten of these FLIRT trains will be operated by Koleje Mazowieckie in the future.

"We're thrilled to have won the new Koleje Mazowieckie tender, and look forward to supplying Mazovia with our latest generation of safe, reliable, and comfortable trains. The modern features of these trains can be enjoyed by both train operators and passengers alike," declared Peter Spuhler during the signing of the contract.

As well as being spacious, the new FLIRT trains can reach speeds of 160 km/hour (100 miles/hour). They come equipped with ETCS level 2 automatic train control systems. Contemporary doors, high-performance air conditioning, visual and audible passenger information systems, and on-board Wi-Fi offer passengers the ultimate in riding comfort. The vehicles are fitted with special supports and toilets designed for people with disabilities. There is also plenty of space for baby carriages and bicycles. Finally, each vehicle is equipped with a defibrillator

and an intercom system so passengers can contact the conductor in the event of an emergency. The new order is valued at 2.2 billion PLN, making it the highest bid for regional trains ever to be submitted in Poland.



Alstom's JV Gibela moves the team dedicated to PRASA project in the new train manufacturing plant in South Africa

Alstom and its partners of its local South African joint venture company Gibela, have now moved into the new factory and training centre complex in Dunnottar, Ekurhuleni which has now become Gibela's corporate offices too. The plant construction is now almost finalized, on schedule less than two years after the start of the construction.

Gibela's current 400+ fulltime employees are now based at the complex at 2 Shosholozo Avenue, and work begins on the manufacture of the first of 580 six-car X-Trapolis Mega commuter trains to be built over the next 10 years for the Passenger Rail Agency of South Africa (PRASA). At peak production more than 1,000 employees are expected to be manufacturing an average of five trains a month. Moreover, of 65 apprentices selected during 2017, most have already begun their training at the Gibela training centre. By the end of the first quarter of 2018, the first train's car body shell – essentially, its metal panel-clad metal frame – is expected to be completed. By the end of 2018, the first South African-built train should be ready for delivery to PRASA.

"Alstom is very proud of the progress made by Gibela in less than 2 years to finalize the construction of the plant, in Dunnottar. The

completion is underway for March 2018. All teams are now on board and ready to start the manufacturing in a brand new factory with new staff and a new supplier base" said Didier Pflieger, Senior Vice-President for Middle-East and Africa.

18 of 20 trains built at Alstom's Lapa, Brazil factory – using South African materials and involving South Africans – have been in commercial service part of 2017 and are estimated to have already clocked up, in total, more than half a million kilometres. One of the two trains built in Brazil – the other one will still be used for testing purposes – will now be based at Gibela's training centre in Dunnottar, where it will be instrumental in the training of some 19,500 artisans and technicians. To meet its local content commitment of at least 65% of contract value, Gibela has on-boarded so far 54 South African suppliers to supply materials, parts and services. More than 4,700 South African jobs are being supported by the company's activities.

Alstom has been present in South Africa for many years and was awarded this €4 billion contract by PRASA in October 2013. The contract also includes 19-year service agreement.



PKP CARGO Group applies for intermodal projects financing

Two PKP CARGO Group companies have applied for intermodal project financing from EU resources. Subject of projects is purchase of specialised rolling stock, as well as modernization and expansion of container terminal with purchase of equipment. PKP CARGO S.A. and PKP CARGO Centrum Logistyczne Małaszewicze Sp. z o.o. have applied for financing three intermodal projects, in total, in the Union's Transportation Projects Centre, according to the Infrastructure and Environment Operational Programme 2014-2020 framework.



Two projects are pursued by PKP CARGO S.A. and cover purchase of rolling stock. First one is oriented on purchase of platform wagons for intermodal freight, and the second one is for multisystem locomotives and wagons designed for intermodal transport. Third project pursued by PKP CARGO Centrum Logistyczne Małaszewicze concerns construction and assembly works in the Małaszewicze Intermodal Terminal, including purchase of technical devices, machines and equipment. Available co-financing in these three projects amounts to maximum 50% of costs. 'PKP CARGO Group demonstrates more and more rapid growth rate in the intermodal freight sector. In order to keep up with dynamics, we must invest in development of this sector. We count on co-financing for our project from the EU resources, and as a result of this, we would satisfy market demand for both domestic and foreign intermodal services, including rapidly developing New Silk Road' said Krzysztof Mamiński, vice-President of PKP CARGO S.A.



New trains to get longer numbers

Trainspotters could soon be jotting more digits down as new duties to display longer numbers take effect, according to rail body RSSB. As of 1 January 2018, all new trains, whether carriages, wagons or locomotives, as well as all existing trains that operate across borders into Europe, must display a new standard European Vehicle Number (EVN). Since the time of the first railways, locomotives, carriages, wagons and units have all carried numbers as a form of identification, inspiring young and old to take up the quirky hobby of trainspotting, which became especially popular in the 1940s.

The numbers also serve a higher purpose, meaning that information about the trains can be shared easily and confidently, for planning their routes and to ensure they're properly maintained. As trains increasingly operate across national borders, European Vehicle Numbers will provide some consistency to operators, maintainers and suppliers, and could boost safety and efficiency.

Rail in the late 1960s. This was known as the Total Operations Processing System, or TOPS, and was originally developed by the Southern Pacific Railroad in USA. For many vehicles, the European Vehicle Number will actually incorporate the traditional British TOPS-based number, which can be underlined or emboldened in the marking.

However, only new trains will need to display the EVN. The majority of existing trains in Britain are not likely to need to run in mainland Europe, and these won't need to have the new numbers displayed on the side - although they will still need to be allocated a European Vehicle Number for identification in continental vehicle registers.

Britain's railways rely on a modern RSSB-managed IT system known as "R2" to administer and process rolling stock data – including their registration, marking and numbering. RSSB says that this means the change should be relatively hassle-free for Network Rail and train operating companies, as R2 does all the hard work in generating and allocating vehicle numbers, managing registration and providing the link between the EVN and the National Vehicle Register.



From the UK

Great Central Railway

The first event of the 2018 season was the East Lancs Railway with a Sulzer day in early January, but the first major gala was at the Great Central in Leicestershire with its 'Winter Steam Gala,' drawing a fair size attendance across three days.

▶ Class 37 714 'Cardiff Canton' and Class 20 No. 8098, stand at Loughborough on January 26th. *Derek Elston*

▶ Recently back from repairs and a repaint, a gleaming Class 47 No. 1705 is seen in the sunshine at Loughborough. *Derek Elston*

▶ Former Willesden resident LMS 8F No. 48624 stands outside the shed at Loughborough on January 26th. *Derek Elston*









