





Welcome

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

After my second spell in mainland Europe in 2017, I have to admit that there are some really beautiful places to visit, and trains to travel on, not just in terms of being an enthusiast. One such train that I can highly recommend is the trip from Villach in Austria to Udine in Italy, the train as far as I can tell runs just twice a day but the scenery is spectacular. Another memory of my recent spin is that of the sheer greenery of the lineside when travelling from Milan in Italy to Brig in Switzerland.

News from Belgium this month is that B Logistics is being renamed Lineas which means a complete new livery, and at least not everything in Belgium will be grey anymore. Of interest in Austria is that Czech operator Regiojet wants to commence services from Wien to Praha, obviously to compete with those excellent Railjets already operated by Ceske Drahy. And whilst on the subject of Regiojet, I noticed that some of the services that Regiojet used to operate in Slovakia have been taken over by ZSSK who have introduced an IC designated service, which is reservation only.

Some excellent news from Czech is that Bardotka Class 749.121 has been repainted and continues to work regularly, in the Czech press it has been stated that the regular weekend work

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Submissions & Contributions

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

Photographic Contributions

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

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

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Front Cover

On April 14th, a Roy Hill fuel train heads to the mines behind RHA's Nos. 1007 and 1012 in sunny Australia. *Mark Bennett*

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FS Class E655.225 passes Carimate whilst hauling freight train No. 47011 from Chiasso to Fossacesia on February 21st. *Laurence Sly*

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On March 30th, SBB Re 6/6s Nos 11671 and 11670 head a northbound intermodal working through Blausee-Mitholz. *Mark Pichowicz*



will continue for these excellent and popular locomotives, so get over there and enjoy them every weekend during this summer, or so they say.

Also in the news this month is the future 3D printing for spare parts. Well Siemens is using 3D printing to reduce its lead times for the supply of customised tram components from weeks to days while eliminating the cost of specialised tooling and the need to keep parts in stock.

This month's 'From the UK' is the recent Nene Valley Railway's 'Diesel 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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 Austria



▶ Lokomotion's No. 260 (the former DB Class 139.260) runs light engine through Kufstein. *Class47*



▶ On April 25th, OBB's Class 2068.017 stands between shunt duties at Villach Hbf. *Class47*









DB Class 189 locomotives to be operated by ČD Cargo

On Sunday, March 26, DB Cargo Class 189 003 arrived into the station at Praha-Libeň. The locomotive had arrived to carry out the training of ČD Cargo drivers, which was carried out from April 1 to April 8, when the machine appeared at the head of ČD Cargo freight trains.

The training of drivers will continue on Decin - Brno line on trains with LKW Walter trailers, on which also in June the DB Class 189 locomotive will appear along with ČD Cargo Vectrons. One of the CD Cargo Vectrons will be provided at the end of April to DB Cargo to train their drivers. Removing the swap at the border will further improve the quality of services in these trains.

Photo: ©CD Cargo



▶ An immaculate TSS operated Class 180, formerly in service with DB, is seen at Ceska Trebova on February 24th. *Class47*



Dracula heads on his way

At the beginning of April, the product portfolio of ČD Cargo expanded by a train named Dracula. Why Dracula?, Well the name of Wallachian prince was borrowed by ČD Cargo for its connection with Romania, its immortality given by Bram Stoker's novel and also because Dracula is considered in this region to be a brave warrior against the pagans and the folk hero.

The train has its starting point in Brno and its destination is in Romania at Curtici. The Dracula train takes about 16 hours. There are three pairs of trains between Brno and Curtici each week. In Brno and Curtici, customers have the opportunity to use container terminal services, including for transshipment and repacking of goods from trucks to railway wagons and vice versa.

LKW Walter is the first customer for which CD Cargo provides transport of road semi-trailers between Rostock and Brno six times a week. From April part of the semi-trailers go further from Brno to Romania by rail. The train is also used for car and wood transport. Since the foundation of the project, CD Cargo has been guided by the premise that the train is open to all customers and to the transport of all kinds of goods.

Photo: ©CD Cargo



Having just arrived with a local service, CD Class 714.211 reverses the stock out of the bay at Breclav in order to runround and prepare for the next service. *Class47*



CD Cargo hauls the Measuring Train for SZDC

As in previous years, ČD Cargo is tasked with the hauling of measuring trains provided by SŽDC, respectively for TÚDC or the Technical Center of Railway Infrastructure. There is a binding agreement with SŽDC covering some 30,000 kilometres.

At the head of measuring trains, or more properly titled, diagnostic kits, we can see both the ČD Cargo electric and diesel locomotives. The purpose of these trains can be divided into three categories. First is the drive to measure the trackbed. In the imaginary second category, there are runs for the track tracking superstructure, in particular the basic geometric parameters of the tracks, ie the track gauge, the rail overhangs of each individual rolling strip, used rail and surface defects of the tracks. The third circuit of drives represents ERTMS radio network measurements.

Hauling of measuring trains is technologically hard and very time-consuming. Since trains run according to a precise schedule and flexibility consisting of for example the immediate replacement of a broken vehicle by another. Of course there is a selected team of experienced drivers. ČD Cargo is able to provide all of this to full customer satisfaction. CD Cargo also provide pilots - employees who have a valid knowledge of local conditions and tracks to shunt in the respective stations and complementing the respective measuring driver of the train. Besides the above mentioned measurement units, they also work together on journeys measuring hand cars and photogrammetric machines - all based on specific TÚDC orders. The planned pilot workload is 4000 hours.



On February 24th, Regiojet Vectron Class 193.205 calls at Ceska Trebova whilst leading a Praha bound service. *Class47*



Alstom inaugurates the first French cross-border Citadis in Strasbourg

On April 28th, Alstom inaugurated the first cross-border tramway between France and Germany in the presence of Peter Altmaier, Federal Minister and Director of the Federal Chancellery of Germany, Robert Herrmann, President of the Strasbourg Eurometropole, Roland Ries, Mayor of Strasbourg, Toni Vetrano, Mayor of Kehl, Alain Fontanel, President of the CTS (Compagnie des Transports Strasbourgeois) and François D'Hulst, French Local Authorities Key Account Director at Alstom.

The first passengers crossed the bridge of the Rhine on Saturday 29 April aboard one of the 12 Citadis trams already delivered. The new Citadis trams are in circulation on the extension of line A, which runs towards Illkirch-Graffenstaden, and that of line D, which links the centre of Strasbourg to Kehl in Germany.

“It is a source of great pride for Alstom to be part of the first cross-border tramway project in France. The technical qualities and modularity of the Citadis solution make it an ideal choice for the link between Strasbourg and Kehl, meeting the specific requirements of each of the two countries,” says Jean-Baptiste Eyméoud, President of Alstom France.

The Citadis trams of Strasbourg are the first trams to receive BOStrab German federal regulation approval, covering the manufacture and operation of trams in Germany. Alstom's infrastructure teams also designed and installed the overhead contact line and the rail track that runs over the cross-border bridge.

The trams are 45 metres long and have the capacity for 288 passengers. They are equipped with LED lighting and full glass doors to enhance passengers' feelings of comfort and safety. In line



with PRM (Persons with Reduced Mobility) regulations, the trams are equipped with accessible door openers, wider seats and specially reserved areas for wheelchair users and passengers with strollers.

These trams are made in France: La Rochelle (design and assembly of the trams), Ormans (design and manufacture of the engines), Le Creusot (bogies for the intermediate modules), Tarbes (elements of the traction chain), Villeurbanne (electronic equipment), Saint-Ouen (the design) and in Germany at the Salzgitter site for the bogies located under the driver cabins.

Alstom's Coradia Liner wins acclaim on the Paris-Troyes-Belfort Intercity line

The first Coradia Liner V160 trains of Alstom are proving to be a great success on the Paris-Troyes-Belfort Intercity line. The Intercity trains, which entered commercial service on 6 February, have covered more than 180,000 kilometres in the last eight weeks, presenting an availability rate that meets the objectives set by SNCF.

In October 2013, SNCF ordered 34 Coradia Liners, the latest generation of Alstom main line trains, for approximately 350 million euros. This new material has mainly been deployed on non-electrified or partially electrified lines: Paris-Troyes-Belfort, Nantes-Bordeaux and Nantes-Lyon. The trains can accommodate up to 269 passengers and travel at speeds of 160 km/h. Coradia Liner supports the policy of renewing Corail trains on Intercity lines.

“The Coradia Liner trains benefit from the solid experience gained from the Régiolis trains, which have been in circulation for 3 years. The high reliability and availability rates of these new trains are our priority. The five experts of the Alstom After-Sales Service team, based at the Technicentre Est Européen, ensure the satisfaction of our customer SNCF on a daily basis,” says Jean-Baptiste Eyméoud, President of Alstom France.

Thanks to the increased comfort of its interior layout, Coradia Liner meets the requirements of long-distance passengers: passenger lounges isolated from the platforms, the use of noise-reducing materials, new reclining seats equipped with electric sockets and coat hangers, etc. The design of this new main line train also leaves the operator free to offer a wide array of on-board services to passengers (meals brought to your seat, etc.).

Innovative technical solutions enable the Coradia Liner to reduce journey times: wide doors and platforms optimise on-board passenger flows as well as passenger exchange in stations. Acceleration and braking capacities have been improved thanks to distributed power throughout the entire train. As it is lighter,

the train's energy consumption is much lower than the previous generation of main line trains. The train's architecture has been specifically designed for ease of maintenance. Coradia Liner complies with current European standards and can be used on all tracks of the conventional network.

The design and manufacture of the Coradia trains secures over 4000 jobs in France with Alstom and its suppliers.



Alstom and the RATP carry out first tests on the autonomous stabling of a tram in a depot

Alstom and the RATP have successfully completed an initial experiment concerning the autonomous stabling of a tram in the RATP's T7 depot in Vitry-sur-Seine. The project lasted a total of six months, including three at the Vitry site. A phase of additional studies and tests is due to be launched from the second half of 2017 onwards.

The tram, by means of sensors (lidars), detects obstacles and reacts accordingly: reductions in speed, maximum service braking or emergency braking as the case may be. It is also capable of situating itself on the site and recognising its stabling point. The results confirm the feasibility of using these new technologies inside a depot: the tram moves autonomously, runs at the required speed in a straight line or in a curve, and stops at a pre-ordained stabling point. Henri Poupart-Lafarge, Alstom Chairman and CEO and Elisabeth Borne, President and CEO of the RATP, visited the Vitry-sur-Seine depot to observe the proper performance of the solution. Elisabeth Borne says: "The RATP is proud to participate in this first experiment concerning the autonomous stabling of a tram. This is fully in line with the group's culture of innovation, which is already quite present in the autonomous shuttle. Along the same lines, we will soon be testing the autonomous stabling / unstabling of a bus."

"Our solutions are evolving and we want our customers to benefit from all the progress we are making in new technology. One of Alstom's objectives is to reduce operating costs for its customers, with a view to optimising the total cost of ownership of their solutions. Automating the operation of the tram will allow a new approach to operations in the depot and I am delighted to see that the tests are already well under way," says Henri Poupart-Lafarge. To carry out this experiment, Alstom partially used the technology of Easymile, a French start-up working with the RATP on the development of an autonomous vehicle.

Alstom's objective is to offer increasingly complete systems solutions, from equipment integration in trains to signalling, and including solutions that facilitate operations and maintenance inside the depot. Alstom's entry into the capital of Easymile thus makes it possible to broaden the range of applications for the operation of autonomous rail vehicles.



Alstom to supply 30 Coradia trains to SNCF Mobilités, reinforcing the regional TET trains

Alstom is to supply SNCF Mobilités with 30 trains from its Coradia platform, for an amount worth approximately €250 million. The order was placed in the context of the renewal of the Corail trains on the Intercity lines. Delivery of the new trains is scheduled from September 2018 onwards.

These 30 new trains will benefit several routes: Paris - Amiens - Boulogne, services to Montluçon from Paris and Bourges, Clermont-Ferrand - Nîmes (Cévenol), Toulouse - Hendaye, as well as lines in the Nouvelle-Aquitaine region (Bordeaux - La Rochelle, Bordeaux - Limoges). They are in addition to the 34 Coradia Liner trains ordered in October 2013 for the Intercity lines, the first of which were delivered to SNCF Mobilités in November 2016.

"The first Coradia Liner Intercity trains, which run at 160 km/h, were approved and delivered at the end of 2016 and placed into commercial service in February 2017. This additional order is excellent news and will ensure the workload of our Reichshoffen site for 2018," says Jean-Baptiste Eyméoud, President of Alstom in France.

The 30 new trains come in three layouts: 19 trains with main line comfort levels, including ten 110-metre dual-mode trains and nine 72-metre electric trains, and eleven 72-metre dual-mode trains with regional comfort levels. The trains will be able to accommodate 165 passengers in their short version or 300 passengers in their long version.

The trains meet the requirements of SNCF Mobilités perfectly in terms of performance, comfort and passenger services. They are accessible to all passengers and come with large bay windows and ambient interior lighting; on-board movement is more fluid and new reclining seats have been fitted with armrests equipped with electric sockets and coat hangers.

The trains also possess large doors and platforms to optimise circulation inside the train and passenger exchange in stations, therefore travel time. Traction is distributed throughout the train and energy consumption is lower compared to previous models. The train architecture has been specially designed for easy maintenance. The trains conform to current European standards and are capable of running on all tracks on the conventional network.

The trains belong to Alstom's Coradia range of modular trains, which benefits from over 30 years of expertise and proven technical solutions. More than 2,400 Coradia trains have been sold to date and 1,900 trains are currently in circulation in Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and Canada.

Six of the twelve Alstom sites in France are involved in the design and manufacture of the Coradia trains: Reichshoffen for the design and assembly, Ornans for the engines, Le Creusot for the bogies, Tarbes for the traction systems, Villeurbanne for onboard electronics and Saint-Ouen for the design.



▶ A DB operated S-Bahn service arrives into Berlin Hbf working an S7 service to Ahrensfelde. *Class47*

▶ 'Dinslaken Kobras' branded Class 295.097 carries out shunting duties at Oberhausen West Yard. *John Sloane*

▶ Still carrying Railion branding, DB Class 232.230 hauls a rake of coal wagons through Duisburg Entenfang. *John Sloane*





Alstom's shunting loco Prima H3 receives final homologation from EBA

Alstom's hybrid shunting locomotive Prima H3 has been delivered homologation certificate to operate at up to 100 km/h in Germany, opening the way to mainline operations. The certificate has been granted by the German Federal Railway Authority (EBA). The Prima H3 is the only three-axle shunting locomotive to reach this maximum speed and can therefore be easily integrated into regular rail traffic.

"We are very pleased with this important milestone as it offers greater flexibility to our

customers. The intelligent concept of our environmental-friendly and space-saving locomotive allows efficient shunting on tracks with tight curves as well as fast service on mainlines.", says Didier Pflger, Vice President of Alstom Germany and Austria.

The Prima H3 hybrid locomotives are now used by various customers: Volkswagen, Deutsche Bahn, Audi, InfraLeuna, Mitteldeutsche Eisenbahn Gesellschaft (MEG) and Chemion.

A year ago, Alstom received an order from DAL for the supply of four Prima H3 hybrid locomotives. DAL is going to lease all four vehicles to Chemion Logistik GmbH. The vehicles will be used at the CHEMPARK sites of Leverkusen, Dormagen and Krefeld-Uerdingen. Now the locomotives from this order have been handed over, bringing the total number of Prima H3 in operation to 19.

The Prima H3 locomotive consumes 50 percent less fuel than conventional shunting locomotives. Moreover, its new technology helps to reduce exhaust emission (nitrogen dioxide) by up to 70 percent. Developed for future emission standards, the 350 kW diesel generator complies with emission standard stage IIIB. The Prima H3 spends 50 to 75 percent of its operating time in battery mode, thus making emission-free rail transport possible, e.g. in city centres or production halls. The Prima H3 is developed and manufactured in Germany.



▶ Hector Rail's TRAXX F140 AC2 No. 241.012 heads out of Hamburg, seen here passing through Hamburg-Harburg hauling a rake of intermodal wagons. *Class47*



▶ Heidelberg tram No. 3268 arrives at Bismarckplatz. *Stearnsounds*



▶ DB Class 362.391 pauses between shunt duties outside Frankfurt Hbf. *John Sloane*

▶ OBB's Class 1116.028 hauls a rake of car transporters through Bremen. *Class47*



Improving Efficiency with the TRAXX Last Mile Locomotive



electric locomotive to efficiently bridge sections of non-electrified tracks and seamlessly transition between electric and diesel operation. This flexibility and efficiency is ideal for use in places like ports, terminals, depots or factories where an additional supporting diesel shunting locomotive must be called in to help diesel trains cross the final, non-electrified, track sections known as the “last mile”.

But the Last Mile function’s advantages aren’t limited to ports and depots. The battery system also lets the TRAXX locomotive move about workshops and trains stations without using its diesel engine – further reducing emissions and increasing flexibility. In addition, when crossing borders between two territories that rely on different overheated power supplies, for example between Germany and the Netherlands or Switzerland and Italy, the TRAXX locomotive’s Last Mile function makes shunting possible in border stations, where the voltage changes from country to country.

The TRAXX AC Last Mile locomotive also comes with a 400 litre diesel tank that provides approximately eight full hours of operation, more than enough to handle any unforeseen catenary failures. This offers operators the flexibility to develop new logistic concepts while cutting back the time and costs of freight transport.

Still, the advantages of this innovative locomotive go beyond convenience and flexibility for the operator. Their ecological benefits are also crystal clear. The locomotive’s regenerative braking system reduces overall energy consumption by around 15% while its ‘eco mode’ can cut energy consumption 5% by shutting down unneeded traction motors.

More than 2,000 TRAXX locomotives have been sold in whole Europe, Israel and South Africa. Currently more than 1,700 of them are operating in Europe with very good performance and reliability figures, proven by an availability rate of more than 98%.

The BOMBARDIER TRAXX AC Last Mile Locomotive has proven extremely successful in commercial use, primarily due to its flexibility and energy efficiency. These advantages are, in large part, due to the TRAXX locomotive’s Last Mile feature that enables this electric locomotive to cross non-electrified track sections.

This Last Mile feature is made possible by the use of an innovative support diesel engine accompanied by a traction battery. Together, these two systems empower this

Locon and More’s stylish liveried Siemens ES64 F4-213 speeds through Wunstorf with an intermodal working. *Class47*











First double-deck trains for Hungary: MÁV-START to buy up to 40 KISS EMUs from Stadler

Hungarian passenger operator MÁV-START Zrt. and Stadler have signed a frame agreement about the delivery of up to 40 6-car double-deck KISS EMU. MÁV-START has an obligation to order a minimum of ten units from Stadler, the value of the first assignment will amount to EUR 195 million including training and spare parts. The new trains, which will be the first double-deckers in the history of the Hungarian railways, will enter service in the spring of 2019.

The framework contract signed on 12 April 2017 provides sufficient flexibility for MÁV to schedule the procurement of the 40 units gradually, with regard to the availability of the European Union funding. With the deployment of the new, large capacity vehicles, MÁV-START is going to open a new chapter in the passenger transport of the Hungarian railways, as the KISS trains will be the first double-deck EMUs in the country. The new trains will also be compatible with the existing 123 FLIRT EMUs delivered by Stadler in the past ten years, providing MÁV-START with exceptional flexibility with regard to the operational possibilities.

The 155.88 meter long, 2.8 meter wide and 4.6 meter high units will consist of 6 coaches and 600 seats, and will be able to carry 50% more passengers compared to a single decker unit with the same length, which will help MÁV-START to give an answer for

the challenges of the growing number of passengers on the most crowded suburban lines of Budapest. The trains will be equipped with four toilets, one of them accessible for persons with reduced mobility, while the multifunctional areas will have the capacity to carry four wheelchairs, as well as twelve bicycles or five strollers. The amount of bicycles during summer timetable can be increased to 24. The new vehicles, which have been designed according to the latest safety standards, will be equipped with EVM and ETCS Level 2 train control systems, making them able to run at a top speed of 160 km/h on the modernized railway lines of Hungary. Passenger comfort will be enhanced by the exceptionally smooth running, a state-of-the-art passenger information system, a spacious and bright interior, cutting edge air conditioning, and free WIFI.

The trains will be deployed primarily on the busy suburban lines of Budapest-Vác-Szob and Budapest-Cegléd-Szolnok between 2019-2020, but the passengers can also meet them during the weekends on high intensity regional lines around Debrecen and Nyíregyháza, as well as at the lakes of Balaton and Velence in the summer season. The remaining units can also appear later on the lines of Budapest-Újszász-Szolnok and Budapest-Hatvan-Gyöngyös.

▶ OBB Class 1116.013 hauling a Wien bound freight, passes stabled Class 1116.043 at Gyor on April 24th. *Class47*





























▶ Chevrolet 1937 railcars Nos. 9004 and 9010 (formerly 590.004 and 590.010) are seen at Madrid Delicias museum store awaiting restoration. *John Sloane*



▶ Built in 1956, Renfe 4-8-4 Class No. 242.2009 is seen at Madrid's Delicias museum. *John Sloane*



▶ The Class 340 of Renfe are a class of 4-axle diesel-hydraulic locomotives built by Krauss-Maffei (and Babcock & Wilcox) for the Spanish Railways. The design is similar in outward appearance and technology to the DB Class V 200. No. 4020 stands at Madrid's Delicias museum. *John Sloane*



















Alstom delivers first metro cars of the additional fleet for Panama Line 1

Alstom has delivered the first three cars of the additional fleet for Panama Metro Line 1. The contract was awarded to a consortium led by Alstom, and composed of Thales, Sofratesa, CIM and TSO. Alstom will also upgrade the existing signalling and power supply infrastructure, required to run the extended fleet with five cars per train.

Line 1 of the Panama Metro was inaugurated in April 2014. It is approximately 16km long with 14 stations and it runs through Panama City, from North to South. The expansion of the fleet was made necessary due to the tremendous commercial success of the line in terms of ridership, which, with more than 275,000 passengers per day, goes far beyond initial forecast. The current fleet will be reconfigured from 20 3-car trains as of today to 26 5-car units.

“We are pleased to announce the on time delivery of these additional cars for Panama Metro which comply with the required technical specifications. We are delighted to offer a high-quality solution to passengers who use the service “daily” announced Xavier Boisgontier, Managing Director North LAM.

The Alstom Metropolis trains are manufactured in Santa Perpetua plant in Barcelona, Spain. Metropolis trains for Panama meet with the highest standards in environmental terms, due to maintaining low energy consumption through light weight trains, as well as through the optimization of its traction performance and energy recuperation. The train reaches maximum speeds of 90 km/h and includes a communication and information system for passengers. Furthermore, the trains offer wide access doors, a large capacity for passengers within the corridors to increase circulation between the cars, internal LED lights and a CCTV security system.

Alstom is also providing an integrated metro system for Line 2 of Panama Metro, which includes 21 Metropolis trainsets, Hesop reversible substations, and Urbalis – Alstom’s Communication Based Train Control (CBTC) solution which controls the movement of the trains and enables to run at higher frequencies and speeds in total safety.



Further success in Sweden

Stadler is delivering 22 customised electric multiple units to Stockholm

Stadler won out against the competition to build 22 customised electrical multiple units (EMU) for Stockholm Transport (SL). The total contract volume amounts to approximately CHF 232 million. The EMU will be used on the Roslagsbanan route, connecting Stockholm with regions to the north and east of the Swedish capital. The 891 mm track gauge is unique in the world, and Stadler meets the need for a special model: the Swiss rail vehicle manufacturer is well established in the tailor-made sector and continues to generate between 12 and 15 per cent of its group-wide turnover in this area.

Stadler was awarded the contract for the 22 EMU, known as X15p, on 23 August 2016. The cancellation period expired on 21 April. This means Stadler can deliver trains to Sweden once again. “We are delighted with this order from Stockholm. The customised vehicles will allow us to evidence our flexibility and customer focus once again,” explains Peter Spuhler, owner and Group CEO of Stadler. The 22 EMU will be used on the 65-kilometre Roslagsbanan route. The trains are designed for a speed of 120 km/h, and can take 300 passengers, with seats for 150. Furthermore, they are designed to make access easy for passengers with restricted mobility, and also offer more space for prams and bikes. The trains will be delivered in 2020 and will be put into service a year later. The contract with SL includes an option for a further 45 vehicles. The Roslagsbanan 891 mm track gauge is unique in the world, and this calls for a bespoke model. Tailor-made models of this kind are one of Stadler’s strengths. The company prides itself on its high level of flexibility and willingness to cater for specific customer requirements. This clearly sets it apart from the competition.

Built for tough winters

The trains for SL are also winter-proof. They are specially designed to withstand harsh climatic conditions. The winter-proofing of its vehicles is something Stadler has proven with its trains in Norway, Finland, Estonia, Russia and Belarus, where extreme conditions occur regularly in the winter. This exceptional winter weather resistance is a result of features such as closed engine rooms, double-wall intercar gangways and high-quality insulation. Floor heating and warm air curtains fitted on the entrance doors provide extra comfort inside the train when external temperatures are low. Thanks to the lightweight aluminium design of the carriage bodies, the trains can accelerate more quickly, which results in a significant decrease in the energy required as well as lower operating costs. The latest order from Sweden reinforces Stadler’s position in this market. Back in June 2015, Stadler received an order for 33 double-decker multiple-unit trains from the Swedish rail company Mälardalen. They will run in the area around Lake Mälaren, to the west of Stockholm.





Full Steam Ahead: An Additional 20 Trams with Voith Traction Systems are Destined for the Streets of Helsinki

Energy efficiency, reduced life cycle costs and increased availability were the key criteria used in order to secure the contract

The successful operation of the current fleet further assisted in securing this order

A conventional bogie mechanism is combined with modern low-floor technology

Škoda ForCity Smart Artic low-floor trams will be relying on Voith located in St. Pölten, Austria, for the electrical drive systems utilized in the Helsinki tram fleet. These quiet, energy-efficient trams fitted with Voith traction systems combine a conventional bogie mechanism with modern low-floor technology. The first vehicles have been operating successfully in Helsinki for over three years and boast an availability rate of over 99 percent. The operator, Helsinki City Transport (HKL), acknowledged the successful operation of the vehicles by ordering another 20 units.

Finnish rail vehicle supplier Transtech Oy, which forms part of the Škoda Transportation Group, commissioned the first of the 40 new low-floor trams in 2013. Delivery of this series is scheduled for completion in 2017. The follow-up contract recently signed, includes the subsequent delivery of another 20 trams featuring complete drive systems from Voith. Each system comprises of high-voltage equipment, two double traction inverters and eight

complete drive units, consisting of motor-gear units and complete wheel sets. The Voith scope of supply also includes the monitoring and diagnostics system for the entire vehicle. The Artic© low-floor tram achieves a 100% low-floor configuration despite a freely pivoting bogie. A separate motor-gear unit with a continuous output of 65 kW drives each of the eight axles of the 27.6 m long vehicle. The traction motors receive their input power via two EmCon double traction inverters with a continuous output of 2 x 220 kVA each.

“The specifications to be met by trams in the Finnish capital are especially stringent due to the challenging weather conditions and the knock-on effects for the transport network,” explains Alfred Gmeiner-Ghali, Vice President Sales & Marketing at Voith Digital Solutions Austria. “Alongside maximum driving comfort and minimal running costs, the particular robustness of the vehicle coupled with their reliable traction system were the decisive factors in awarding us the order for our electrical drive systems. We are delighted about this follow-up order and regard it as confirmation of our successful collaboration to date with Transtech Oy and operator HKL in particular.”

Ollipella Heikkilä, Head of Rolling Stock at Helsinki City Transport is also impressed: “The high efficient and most reliable Voith traction systems in our new Škoda ForCity Smart Artic trams are an important part to achieve the lowest LCC we ever have experienced in Helsinki.”



Alstom celebrates the 25th anniversary of the first High Speed Train in Spain

In 1992, Alstom was a pioneer in introducing very high speed in Spain. Since then, Alstom has added to this great milestone a long list of innovations, which contribute to designing tomorrow's seamless railway transportation.

Alstom celebrated in April the arrival of the first High Speed train in Spain, a great milestone where the company had a relevant role. Back in 1992, the first train to run at 300 km/h on the Spanish network was a model designed, manufactured and maintained by Alstom.

Since then, Alstom has been a major player in the modernization of the Spanish railway industry. It has been pioneer not only in high speed, but also in introducing new generation trams, driverless metros, ERTMS signalling systems, Wi-Fi on board etc.

These technological milestones have been accompanied by industrial development. In the last decades, Alstom has been expanding its presence and commitment in Spain, which have made it one of the main employers in the Spanish railway sector, with up to 19 sites and close to 2,000 employees. Currently more than 50% of its business in Spain is dedicated to projects abroad, with centres of excellence for all of its business units.

Alstom in Spain presents four innovation and technological centres, specialized in tramway signalling and in signalling engineering, as well as in comfort and ergonomics and in railway services.

“Innovation leads our way. We are currently developing the first in Spain 4.0 factory in the sector, carrying out digitalization programs based on IoT technologies, implementing sensors to create smart products and solutions. These innovations have a unique purpose: to improve efficiency, profitability, sustainability and quality for our clients” says Antonio Moreno, president of Alstom Spain.





Bombardier's Joint Venture Wins Contract to Build 40 High Speed Train Cars for China

Joint venture's fourteenth contract for high speed cars raises total number of cars delivered to China to over 3,000

New generation of eco-friendly CRH series trains renowned for advanced design and exceptional passenger experience

Rail technology leader Bombardier Transportation has announced that its Chinese joint venture, Bombardier Sifang (Qingdao) Transportation Ltd. (BST), has been awarded another contract from China Railway Corp. (CRC) to supply 40 CRH1A-A new generation high speed train cars to the Nanning Railway Bureau. The new trains will become part of the ongoing integration of Guangxi's regional high-speed railways into the national high-speed network.

This new contract for five 8-car trainsets is valued at approximately 543 million Chinese RMBs (73 million euro, \$79 million US) and follows a separate contract for 144 high speed cars announced by the JV in early March. Bombardier owns 50% of the shares in BST, and the JV is controlled by BT's partner CRRC Sifang Co., Ltd. This latest contract is the fourteenth high speed train order that BST has been awarded since 2004.

Jianwei Zhang, President of Bombardier China, said, "Our cutting edge rail technology is one of the driving forces behind the rapid development of China's advanced high speed train network. We have already provided over 3,000 high speed train cars to the Chinese market and this latest contract is further proof of our ability to consistently leverage our expertise and experience to contribute to the development of local and national economies in regions like Guangxi."

Guangxi occupies an important hub of tourism, trade and is an important link with the Association of Southeast Asian Nations. These high speed trains will help integrate Guangxi into the national network, connecting the region to neighboring cities and boosting the local economy while improving the passenger's travel experience.

The CRH1A-A train has an operational speed of 250km/h and its aluminium carbody's design delivers improved performance and lower operating costs by reducing weight, track wear and aerodynamic drag. The train also has a unique appearance due to

its innovative graphics, windows, lighting and shape, while its exceptional energy efficiency sets new industry standards for sustainable transportation and passenger comfort. The trainsets are manufactured at Bombardier Sifang (Qingdao) Transportation production facilities in Qingdao, China and feature the highly efficient BOMBARDIER MITRAC propulsion and control system, supplied by a separate Bombardier Chinese joint venture, Bombardier CPC Propulsion System Co., Ltd. (BCP).

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 6,000 employees.

Together, the joint ventures have delivered more than 3,500 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 21 Chinese cities. As a proven global full services provider, Bombardier's joint ventures have also won orders in China to provide maintenance for 1,160 metro cars.





Alstom to renew power supply for Line B of Buenos Aires metro

Alstom has been awarded, after an international public tender process, a contract worth around €17 million, to renew power supply for Line B of Subterráneos de Buenos Aires (SBASE). The project is expected to be delivered in 15 months.

The scope of the contract includes the design, assembly and commissioning of medium voltage ring cables, third rail power and tunnel disconnections. It also includes modifications in substations and other complementary systems in the power supply. Line B, in operation since 1930, is about 10 km long and includes 18 stations. This project will increase the line's capacity, benefiting the 250,000 passengers that use the service daily. Alstom already provided signalling systems for Line B in 2005 with an extension in 2013.

“Alstom is proud to have been awarded this first infrastructure project for Buenos Aires metro. With this project, Alstom confirms its long-time partnership with SBASE, providing efficient and reliable solutions that contribute to the efficiency and quality of the service offered to the population of Buenos Aires” said Michel Boccaccio, Senior Vice-President of Alstom in Latin America.

Alstom has been present in Argentina since 1993 providing signalling systems for Buenos Aires metro, maintenance and modernisation of existing metro and suburban trains. Alstom is also currently delivering 120 cars for lines D &



H which will give additional comfort to the passengers commuting every day.



Alstom delivers the last metro to Los Teques, Venezuela

Alstom has delivered the last of 22 metropolis trainsets to join Los Teques' metro system. The trains began circulating on Line 2 of Los Teques, in operation since 2015, benefiting around 42,000 passengers per day.

Alstom supplied 22 metro trains of 6 cars each, medium voltage electrification, traction substations and part of the signalling equipment. The Alstom-led consortium “Grupo de Empresas”; together with Colas Rail and Thales, subcontracted by Consorcio Linea 2, is responsible for the project, including engineering, integration and commissioning of the electromechanical works on a turnkey basis.

The Metropolis trains for the city of Los Teques, located 30 km Southwest of the capital of Caracas, offers wide access doors, increased passenger capacity with corridors for circulating between the cars, internal LED lighting and a CCTV surveillance system. They were manufactured at the Alstom site of Valenciennes, which is specialized in the design, development, manufacturing and testing of rail equipment for metros, tramways and double-deck trains.

“We are pleased to hand over and as per schedule the last Metropolis trainset to the city of Los Teques. This project undoubtedly already benefits the city and its residents, who commute aboard a reliable, comfortable and environmentally-friendly means of transportation”, declared Xavier Boisgontier, Alstom Managing Director North LAM.

Alstom's Metropolis is a world leading, proven, safe and reliable train that serves many cities including Panama, Singapore, Sao Paulo, Shanghai and Amsterdam. More than 5,000 Metropolis cars have been sold worldwide.

With over 35 years contributing to Venezuela's railway infrastructure, Alstom continues to seek ways in which to improve the quality and efficiency of the country's transport solutions, providing suitable solutions, in order to benefit the population.





From the UK

Nene Valley Railway

The Nene Valley Railway is a preserved railway in Cambridgeshire, England, running between Peterborough Nene Valley and Yarwell Junction. The line is 7 1/2 miles in length and in early April it held a diesel gala. Having a connection to the East Coast main line, makes access for visiting locos easier.

▶ Visiting the line for the diesel gala, DB Class 60 007 makes a spirited departure from Orton Mere with a service to Wansford on April 8th. *Class47*

▶ DCR's Class 31 452 enjoys the sunshine on the turntable at Wansford. *Richard Hargreaves*

▶ On April 8th, Class 50 008 crosses the river at Wansford, arriving with a service from Peterborough. *Richard Hargreaves*





From the UK



▶ Class 14 No. D9520 stands at Wansford ready to work a service to Peterborough.
Richard Hargreaves

▶ At Ferry Meadows, the rebuild of Alco No. 801 continues. Built in New York in 1949, No. 801 along with its 4 sisters Nos. 802-805 operated in South Wales where it worked until the last of the fleet was withdrawn in 1983.
Richard Hargreaves

▶ ROG's Class 47 815 and Peak Class 45 041 are seen in the yard at Wansford on April 8th. The Peak failed with electrical problems and didn't work during the gala. *Richard Hargreaves*





