Railtalk Magazine Xtra

Issue 145x | October 2018 | ISSN 1756 - 5030

Railtalk Magazine Xtra

Welcome

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

This month I ventured to the annual Czech Rail Day which was held this year in Ceske Budejovice and once again I have to praise the organisers for such a fantastic event. There were more than 40 special trains, pasenger, freight, steam and diesel throughout the day with a special night time light show at the depot. Everyone showed such enthusiasm and organisation - I can't wait till next year!.

News from Germany this month is that Deutsche Bahn has ratified a decision to order more ICE4 inter-city trainsets for €700m. DB Fernverkehr expects to order a further 18 seven-car trainsets from a Siemens-led consortium as an option on the 119 trains already planned for delivery by 2023, of which 19 were seven-car formations and the remainder 12 cars. In addition, DB is now to buy 50 cars which will be used to lengthen half of the 12-car trainsets already on order to 13 cars. These would be 375 m long and have 918 seats. DB is also evaluating whether the maximum operating speed of the 13-car ICE4s could be raised from 250 km/h to 265 km/h.

Some good news for fans of overnight travel as in France transport minister Élisabeth Borne has authorised a €30m injection of funding to revitalise the country's two remaining overnight

Content

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
Canadian Pacific's No. 8905 and a classmate rush through Banff, Alberta with a mixed freight on September 5th.
Colin Gildersleve

This Page
Skoda built 'Laminate' No. 42.077 stands in a poor condition at Gorna Oryahovitsa awaiting its fate on August 26th.
Brian Battersby

Next Page
ZSSK Class 240.020 stands at Bratislava Predmestie on September 19th.
Paul Godding

Terms & Conditions

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

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

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

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

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

With Thanks

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

These issues wouldn't be possible without: Ray Anslow, Brian Battersby, Mark Bearton, Mark Bennett, Tim Blazey, Keith Chapman, Julian Churchill, Nick Clemson, Derek Elston, Mark Enderby, Tim Farmer, Dave Felton, FrontCompVids, Paul Godding, Richard Hargreaves, Keith Hookham, Colin Irwin, John Johnson, Anton Kendall, Jyrki Lastunen, Ken Livermore, Michael Lynam, Peter Marsden, Phil Martin, Denzil Morgan, Thomas Niederl, Peter Norrell, Chris Perkins, Mark Pichowicz, David Pollock, Andy Pratt, Paul Quinlan, Railwaymedia, Alan Rigby, Bryan Roberts, Jason Roberts, Neil Scarlett, John Sloane, Stephen Simpson, Laurence Sly, Stewart Smith, Steamsounds, Steve Stepney, Mark Torkington, Jeff Watson, Andrew Wilson and Erik de Zeeuw.

trains which link Paris with Briançon in the Hautes-Alpes region and Latour-de-Carol in Pyrénées-Orientales with a portion for Rodez. Seeking to allay suggestions that the heavily subsidised services would be withdrawn, the minister insisted on September 22 that 'the state is committed to the sustainability of the two remaining overnight trains'. Travelling to Hautes-Alpes on the Briançon service, she said 'I understand and share the commitment to night trains: they are a good solution for the accessibility of the regions, and an asset for their economic and tourist development'.

And in Italy, FS Italiane President Gianluigi Castelli has announced that the group was investing €6bn in new regional trains. In the 'biggest-ever' fleet renewal programme, FS would receive 600 trains by 2023, with deliveries running at nine sets per month and a target of 13 a month in the future. The two trains are the single-deck ETR103, part of Alstom's Coradia Stream family branded 'Pop'by Trenitalia, and the double-deck ETR521 high-capacity EMU built by Hitachi Rail Italy to its Caravaggio design and branded 'Rock' by Trenitalia.

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

Australia

An empty ore train to MAC Mine climbs through Kurrajurra on the BHP MAC branch on September 5th. The train consists of 2 SD70's followed by 134 cars, another 2 SD70's and 134 more cars.
Mark Bennett

Aurizon's No. Q4007 runs through Herne Hill with containerized freight on a wet and stormy day. *Colin Gildersleve*

Aurizon's No. S3304, in the old ARG livery, passes through the small town of Mundijong, 50 kilometers south of Perth, with a load of bauxite for the docks at Kwinana on August 10th. *Colin Gildersleve*

Specialized Container Transports No. SCT006 and a classmate run through Midland with a very late running freight made up of mainly refrigerated double storey vans. This train had experienced several breakdowns during its three day trip crossing the desert from the eastern states. *Colin Gildersleve*

6AB6, a Pacific National container service from Adelaide to Brisbane, runs past the wattles in flower at Pembrooke on the NSW Mid-north Coast behind Nos. NR64 and NR9 on August 26th.
Mark Bennett

The 4621 Newcastle to Grafton cement train arrives at Wauchope behind Pacific National Nos. 8167 and 48153. The train will shunt here, dropping off loaded cement hoppers and picking up the empties from the yard. *Mark Bennett*

Austria

OBB City Airport Train liveried Class 1016.036 runs light engine through Wien on August 18th. *Brian Battersby*

ÖBB and Siemens develop battery-powered train

Austrian Federal Railways (ÖBB) and Siemens Mobility are jointly investing in the future of passenger transport and are developing an electro-hybrid battery drive for trains. Both companies recently presented in Vienna the first result of this innovative pilot project, the prototype of the Desiro ML Cityjet eco. Operating as a battery-powered train, the Cityjet eco is an alternative for non-electrified rail lines primarily served at present with diesel-powered passenger trains. Battery operation can reduce CO2 emissions by up to 50 percent compared to diesels. Following extensive testing of the train, it is expected to first be used in passenger service in the second half of 2019.

“Climate protection is especially important at ÖBB. We’re always looking for ways to improve our products and make them more environmentally friendly. As part of this quest, ÖBB will continue to focus on replacing diesel vehicles in the future. As Austria’s largest climate protection company, ÖBB is spearheading a further initiative in the fight against climate change with the Cityjet eco,” said Evelyn Palla, member of the Management Board of ÖBB Personenverkehr AG. “Alternative and ecofriendly drives such as batteries, hydrogen and hybrid systems are becoming increasingly important in our portfolio. There are many winners with the Desiro ML OBB Cityjet eco: For comparatively low investment costs, our customer gets a train fleet that is far more flexible to use and their passengers are happy about the additional travel comfort,” said Sabrina Soussan, CEO of Siemens Mobility.

Siemens is developing an electro-hybrid battery drive that enables the train to charge its newly installed batteries via the pantograph on electrified rail lines. This energy is then available for powering the train on non-electrified stretches. As soon as the train leaves the electrified line, its batteries feed the train’s power supply system. Siemens and ÖBB will now thoroughly test this technology in a pilot project over the coming months and develop the system to series maturity. In the joint project with Siemens, ÖBB is one of the first European railways to secure valuable know-how in this field and thus be able to further expand the quality of its services for passengers as well as the sustainability of its fleet. The pilot project will be conducted with a train taken from the series of Siemens Desiro ML trains currently being produced for ÖBB. The train’s design enables it to accommodate additional roof loads. As a result, the usual industry-wide production and delivery time of up to 36 months for a new train can be reduced to less than half.

The battery system located on the middle car of the converted trainset is comprised of three battery containers, two DC/DC controllers, a battery cooler and other electronic components. The system uses lithium-titanate batteries (LTO technology). Compared with conventional lithium-ion batteries, these modified batteries allow significantly higher charging currents for fast charging. Thanks to a special thermal concept for the battery containers, it’s expected that external weather conditions will have no influence on battery life and their charge status. When the batteries are ready for series production, they should have a lifetime of around 15 years, which means they will have to be replaced only once over the entire service life of the train.

ÖBB Cityjet TALENT 3 showcased for the very first time at InnoTrans in Berlin

ÖBB presents the first assembled TALENT 3-type Cityjet
It will be on track in western Austria from mid-2019
State-of-the-art vehicle with modular structure, more seating capacity and comfort for mass transit

Safe and comfortable trains that are suitable for a modern lifestyle – passengers expect nothing less from ÖBB. In order to meet these requirements, on-going investment and regular renewal of the vehicle fleet are key prerequisites. The state-of-the-art and flexible BOMBARDIER TALENT 3- type ÖBB Cityjet is the answer and will be used in Vorarlberg and Tyrol. The first finished train was showcased together with the manufacturer Bombardier Transportation at InnoTrans – the international trade fair for rail and transport technology.

Andreas Matthä, CEO of ÖBB-Holding AG, “Our goal is to make rail travel an integral part of a modern Austrian lifestyle. For this reason, the vehicle fleet is designed not only with an emphasis on tasteful design and comfort, but on accessibility as well. With this procurement, ÖBB is setting an international benchmark for modernity for all our passengers.”

Laurent Troger, President of Bombardier Transportation, said, “At Bombardier, it is important for us to be a reliable partner for our customers and a guarantor for the design and development of ecosystems. The teams at ÖBB and Bombardier worked closely together to ensure this success in the development, design and construction of this vehicle. With an optimised passenger experience, more capacity and reliability, the TALENT 3 ensures optimum mobility in Austria and stands for the future of the rail vehicle sector.”

Nothing quiet on the western front

The first new generation 21 ÖBB Cityjets are to be deployed in Vorarlberg starting in 2019. Tirol also follows suit with 25 ÖBB Cityjets TALENT 3 ordered in July 2018, the first of which scheduled to be on rails starting in 2020. All vehicles in Austria and Germany will receive unrestricted registration, with six of the 25 vehicles in Tyrol also being registered in Italy so that cross-border traffic to South Tyrol will be possible without changing trains at the Brenner Pass.

More comfort: Accessible, power sockets and automatic climate control system
With up to 304 seats and 53 bike racks, passengers in Vorarlberg can expect an open feeling of space in these ÖBB Cityjets that offer an appealing design and comfortable seats with adequate legroom. In the Tyrol version, there are up to 316 seats and 24 bike racks. The seats have adjustable backrests and seat cushions as well as footrests and sockets. This vehicle also features a modern passenger information system, Wi-Fi, including the ÖBB onboard Portal Railnet Regio, and plenty of space for prams, bicycles, winter sports equipment and sufficient space for luggage. An intelligent, high-performance air-conditioning system and a zone concept with different lighting options for different customer needs, such as working or relaxing, round out the offer. The low-floor vehicles have sliding steps at all entrance doors and offer two separate toilets, one of which is designed for barrier-free access as per the requirements of the associations for handicapped persons. Naturally, this Cityjet also has seats for wheelchair users and their attendants.

New features: Multi-purpose zones and high-tech window panes
The demand for flexibility and comfort is increasing everyday. In order to best respond to the seasonally varying customer needs, ÖBB has planned a revolutionary vehicle concept. Thanks to its modular design, the ÖBB Cityjet TALENT 3 makes it possible for the first time to switch between winter and summer layouts in multi-purpose zones. In winter, the multi-purpose zone provides sufficient stowage space for winter sports equipment, while the summer layout offers a total of 53 bicycle parking spaces. This modular design is unique to the market to date.
The window panes are also an innovation in themselves: A special coating optimises wireless reception in the train. The high-frequency windows allow radio waves to pass through much more than the conventional windows that have been used to date. This allows passengers to better surf the Internet and make phone calls.

Photo:© ÖBB / Espen Eichhöfer

On September 24th, OBB Class 1116.073 crosses the busy main road at Wien Praterkai with a freight working. *Paul Godding*

Austria

OBB Class 2016.017 crosses the river at Wien Praterkai on September 21st with a Bratislava hl.st. to Wien Hbf service.
Paul Godding

Belgium

Former SNCB shunter No. 8428 stands in the yard at St. Ghislain with the battered carriage into which 92 British idiots squeezed to ride behind the various shunters owned by PFT. *Mark Pichowicz*

On September 4th, Amtrak Siemens Charger SC-44 loco No. 1405 heads a Cascades train at Seattle Union Station. *Jeff Watson*

VIA Rail Canada GE P42DC No. 900 heads a train through Exhibition Station soon after leaving Toronto Union Station on September 12th. *Jeff Watson*

Several GO Transit trains are stabled off peak at North Bathurst yard in Toronto, September 12th. *Jeff Watson*

On September 12th, GO Transit MPI MP40PH-3C No. 633 arrives at Exhibition Station in Toronto. *Jeff Watson*

VIA Rail Canada GE P42DC No. 915 departs Quebec City with the 15:00 to Ottawa on September 9th. *Jeff Watson*

Czechia

CD Class 151.016 approaches Olomouc with a service to Praha hl.n. *Paul Godding*

City Elefant Class 471.019 approaches Praha Klanovice with a S1 service to Cesky Brod. *Paul Godding*

Class 380.011 is seen at Praha hl.n. with a service to Brno. *Paul Godding*

Czechia

Unipetrol's Vectron Class 383.052 speeds through Praha Klanovice with a rake of tanks heading to Pardubice. *Paul Godding*

ČD Cargo is involved in the construction of a new railway line

The Railway Infrastructure Administration (SŽDC) has started in Prague the construction of a new railway corridor between Hostivař and Vršovice. Construction of the first domestic four-track line will last until 2021. An association of Metrostav, Swietelsky Rail CZ and SMP CZ won the tender for 4.4 billion CZK.

Construction works are already in full swing and the CD Cargo joint stock company is also ntensively involved. ČD Cargo freight trains are transporting gravel temporarily to the stockpile.

The employees of ČD Cargo, from the Operational Unit in Prague, also provide the unloading of gravel from the special Dumpcar wagons.

Photo: © CD Cargo

Czechia

KZC's Class 749.259 departs Vsetaty with a service to Praha hl.n. *Paul Godding*

Ceremony in Lovosice

After a short break, the regular rail link between Chinese Yiwu and Lovosice Terminal resumed in September.

On 19th of September, the YIWU 0901 train was officially welcomed in Lovosice, with Mr. Zhu Congjiu, the Governor of the Province of Zheijang, Mr. Zhang Jianmin, the Ambassador of the People's Republic of China in the Czech Republic, Mr. Wang Ting, and sales representative of the Embassy, and other Chinese representatives.

A member of the board of directors, Mr. Zdeněk Škvařil, participated on behalf of ČD Cargo; ČD DUSS Terminal was represented by Mr. Jaromír Cabalka, and a member of the Board of Directors of this company.

Participants in this event have expressed great satisfaction with the project. Regular Yiwu - Lovosice connection is part of the One Belt One Road international initiative. With regard to the quality and reliability of ČD Cargo, further development of mutual relations can be expected.

Photo: © CD Cargo

Czechia

Ceske Drahy's Class 163.234 stands at Pardubice, working a local service to Kolin. *Paul Godding*

Tank wagons of ČD Cargo in Mochov

The joint stock company ČD Cargo is not only the largest domestic railway carrier but also the owner of a large number of railway wagons. Thanks to its fleet diversity, it can meet the various requirements of its customers.

This was also the case in the second half of August, when ČD Cargo, at the request of Felbermayr Transport- und Hebetechnik, provided extraordinary service of the Mochov power distribution sidings and leased two Zaes tank wagons to the company for temporary storage of the transformer oil.

According to a Felbermayr's representative, Mr. Marcel Huben, "the event was a small victory over the road, as the road haulers were unable to react flexibly to this demand in the way ČD Cargo did."

ČD Cargo provides the company Felbermayr Transport- und Hebetechnik with transport of extraordinary consignments.

Photo: © CD Cargo

Czechia

ZSSK Class 361.110 speeds through Praha Klanovice with a Eurocity train to Zilina. *Paul Godding*

CD Class 163.073 arrives at Vsetaty with a Usti nad Labem Zapad to Kolin service. *Paul Godding*

IDS Cargo's Voith Maxima 30 CC No. 2783.001 stands at Ceska Trebova with a loaded timber train. *Brian Battersby*

Czechia

CD Cargo's Class 210.014 is just one of the many stored locos at České Budějovice, seen during the open day (Národní den železnice) on September 22nd. *Brian Battersby*

CD Class 749.121 stands at Ceske Budejovice on September 22nd working a service to Ceske Velenice. *Brian Battersby*

City Elefant No. 471.011 awaits departure time at Praha hl.n. on September 22nd with a service to Revnice. *Brian Battersby*

Czechia

CSD Class 770.001 is seen on the turntable at Ceske Budejovice during the open day on September 22nd. *Paul Godding*

On September 21st, EMU Class 560.027 approaches Brno Zidenice. *Paul Godding*

‘Goggles’ Class 754.039 is seen at Ceske Budejovice on September 22nd. *Paul Godding*

Czechia

Pepsi Drinks on the Rail

Sunday, September 9th 2018, and a complete train with PepsiCo products was dispatched from Prague to Budapest on its last journey this year.

This connection was launched at the end of June, and approximately 20,000 tons of goods were transported. The new link significantly relieved the reconstructed D1 motorway, as the ČD Cargo trains replaced some 800 trucks (1600 in both directions).

With regard to the seasonal nature of the transports, the next trains should appear on the tracks again in the spring of next year.

Photo: © CD Cargo

Rebuilt Goggles Class 753.601 and 753.603 are seen at Kladno hauling a coal train.
Steamsounds

Czechia

Trams cross the viaduct leading to Krejcárek while a pair of City Elefant EMUs pass beneath. *Steamsounds*

Czechia

CD Cargo Class 230.105 leads 230.031 and 742.328 into Brno Zidenice on September 21st with a mixed consist. *Paul Godding*

Czechia

CD Class 750.708 stands at Praha-Bubny Vltavska with train No. R1222 19:05 to Rakovnik. *Steamsounds*

Czechia

One of the original rebuilt ‘Goggles’ Class 755.001 waits for a path at Hostivice. *Steamsounds*

Metrans Class 386.007 with a dead classmate in tow passes Ústí nad Orlicí with a northbound container train. *Steamsounds*

Czechia

Prague trams Nos. 9386, 8744 and 9054 are seen at Ohrada. *Steamsounds*

Tram No. 9329 departs Újezd with a line No. 22 service to Nádraží Strašnice. *Steamsounds*

Prague tram No. 7142 working a line No. 23 service to Brevnov stands at Brusnice. *Steamsounds*

Czechia

Some photos from the very well attended open day at Ceske Budejovice on September 22nd.

Far too many exhibits to list, there were 41 special trains working during the event, without all the other various movements. Well done to CD Cargo and all the other people and organisations who contributed to such a success.

‘Bardotka’ No.751.148 *Brian Battersby*
‘Stříbrný šíp’ No. M260.001 *Brian Battersby*

‘Laminate’ No.S489.0001 *Brian Battersby*
‘Závody Tatra’ No. M120.417 *Brian Battersby*

‘Brejlovec’ No. 753.001 *Paul Godding*
‘Sergej’ Class 781.600 *Paul Godding*

Paris Metro line 10 train No. G109 arrives at Duroc with a service to Boulogne. *John Sloane*

Grand Paris Express: Colas Rail / Alstom consortium awarded a contract for track and catenary on Line 15 South – East sector

The Société du Grand Paris has awarded to a Colas Rail / Alstom consortium the contract involving the track, rigid catenary and linear equipment for line 15 South - East sector of the Grand Paris Express. The contract amounts to 155 million euros.

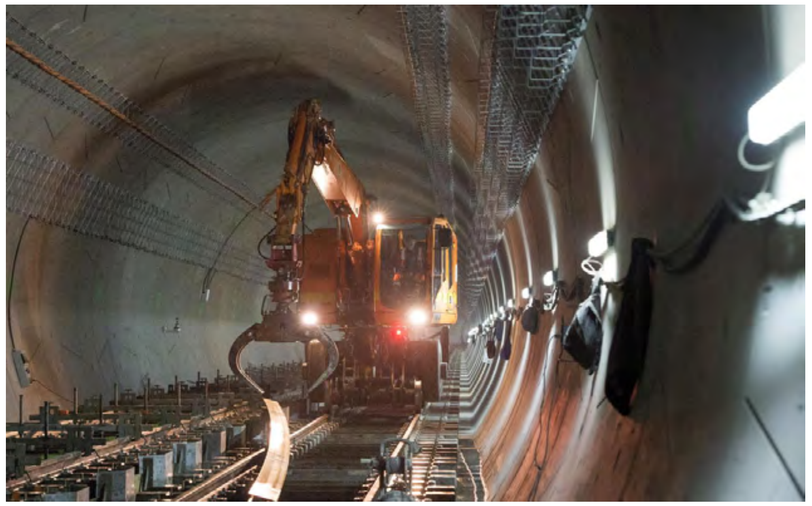
The contract includes the construction of 17 kilometers of metro line serving 8 stations – from Noisy-Champs to Vitry-sur-Seine – as well as the maintenance and storage site in Champigny-sur-Marne.

The consortium, comprised of Colas Rail (70%, leader) and Alstom (30%), is in charge of project management, studies, supply, execution of works and tests for the railway, rigid catenary and linear equipment.

The project is scheduled to last 69 months and will mobilize up to 260 employees.
For Colas Rail and Alstom, this success bears witness to their expertise and their ability to come together to lead cross-disciplinary projects in the field of railway equipment and works. The two companies have already worked together on major projects such as the Reims tramway, the LGV Nîmes-Montpellier Bypass, and the Cairo and Caracas metros. They are currently working on tramway projects in Nice and Bordeaux.

“I would like to thank the Société du Grand Paris for the trust it has placed in Colas Rail by awarding it with this first large-scale project on the Grand Paris Express network. Teams from Colas Rail and Alstom will do their utmost to ensure that the project is a success. Colas Rail aims to pursue the partnership with the Société du Grand Paris on other projects on the Grand Paris Express, bringing into play its full range of expertise,” declares Francis Grass, President of Colas Rail.
“I am particularly proud of the fact that the Société du Grand Paris chose Alstom and Colas for their expertise and skills in the field of rail works for Line 15 South – East Sector in the Greater Paris network. This demonstrates Alstom’s ability to provide more than rolling stock on major projects such as this one,” declares Jean-Baptiste Eymeoud, Senior Vice President of Alstom France.

Photo: ©ALSTOM Transport



Société du Grand Paris, in agreement with Île-de-France Mobilités, selects Alstom to supply trains for lines 15, 16 and 17 of the Grand Paris Express

Following a negotiated procedure, preceded by a tender launched in 2014, Société du Grand Paris, in agreement with Île-de-France Mobilités, has selected the rail manufacturer Alstom to develop and supply the trains for metro lines 15, 16 and 17 of the Grand Paris Express.
The contract, which is fully financed by Île-de-France Mobilités, is worth a total amount of up to 1.3 billion Euros and covers the development and supply of a maximum of 1,000 cars (183 trains), to be deployed in two versions of different train lengths, 3 and 6 cars.

On 11 July 2018, the Board of Directors of Île-de-France Mobilités approved a first tranche of 680 million euros to cover the necessary expenses to acquire the first 53 trains of the Grand Paris Express. The firm part of this contract awarded to Alstom covers the delivery of 150 cars (25 trains of 6 cars each) for a total amount of over 280 million Euros.

These new, high-capacity, steel-wheeled metros will be able to circulate at speeds of up to 110 km/h in automatic driverless mode, taking the form of six-car trains on line 15 and three-car trains on lines 16 and 17. The first trains will leave the factory from 2022 onwards and initial entry into commercial service is scheduled for 2024.

Île-de-France Mobilités will be making these trains available to future operators, thus giving them access to new-generation material that benefits from the latest technologies and offers a high level of performance. The travel experience will combine comfort and speed.
Valérie Pécresse, President of the Île-de-France Region and of Île de France Mobilités, says: “With air conditioning, video protection, USB plugs and efficient tools for providing onboard information, the new trains for Île-de-France Mobilités will provide users of Île de France’s new metro lines with high levels of comfort and safety, something I insist on for all orders of new material, metros as well as trains, RERs, buses and trams. These metros will also symbolise the modernity and dynamism of Europe’s leading economic region.”
“The acquisition of the trains destined to run on the lines of the Grand Paris Express represents the accomplishment of one more step in implementing the new metro. It follows the award of a series of important civil engineering contracts and paves the way for the first contracts for the systems that will equip these infrastructures. This is good news for companies who are seeing their order books fill up, as well as for the residents of Île de France, for whom the Grand Paris Express is taking more shape every day.”
Thierry Dallard, President of the Board of Directors of Société du Grand Paris
”We are very proud of the renewed confidence of Île-de-France Mobilités and the decision of Société du Grand Paris to award this new contract to us. We are also particularly pleased to contribute, through this new project, to the government’s determination to double the Paris metro network over the next 15 years,” says Henri Poupart-Lafarge, Chairman & CEO of Alstom.

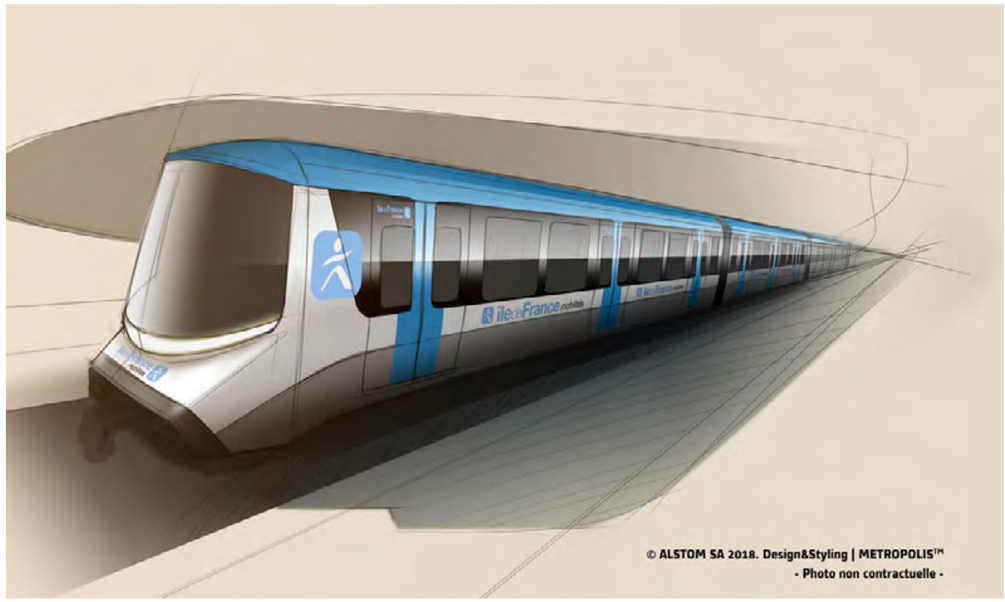
A new experience in public transport travel

The new metros for lines 15, 16 and 17 are open throughout the entire length of the train, providing passengers with a sociable, roomy, comfortable space. Thanks to the 3 large doors on each side, they increase fluidity in the exits and entrances, as well as facilitating passenger movement during travel. The equipment has been designed for high levels of comfort, notably thanks to the air conditioning, lighting and seats. It will also offer connectivity to passengers with USB charging points for mobile phones. Finally, the end of the train is structured to provide a panoramic opening with a wide windscreen.

Based on the solutions of Alstom’s Metropolis range and further improved by feedback from its customers, the new metros for lines 15, 16 and 17 will guarantee the highest levels of availability, reliability and security. Each train will be able to transport up to 500 passengers in its three-car version (54 metres), and up to 1,000 passengers in its six-car version (108 metres). Particular attention has been given to optimising maintenance.

The onboard diagnostic system will provide information on the condition of the train equipment and give maintenance personnel an overview of the fleet’s condition, making it easier to plan corrective maintenance tasks between commercial services. Alstom has also extended the maintenance sequence of the new metros, permitting significant cost reductions throughout the lifecycle of the trains.
Numerous innovations guarantee the new material’s environmental performance, which is an undeniable asset for operation. Traction and auxiliary converters will benefit from the very latest technology developed by Alstom, guaranteeing optimised energy consumption. Special attention has been paid to noise emissions, vibrations and atmospheric emissions. Brake particle emissions will be minimised by electric braking right up to a very low speed, limiting brake disc use. Furthermore, the recovery of braking energy will play a role in charging the batteries or supplying power to the general electricity network. Last but not least, the train has a recyclability rate of more than 96% and, in line with current European standards, a recovery rate of over 98%.

In total, 350 Alstom employees in France, including 150 experienced engineers, will be working on this vitally important project to ensure its successful implementation. More than 1150



jobs will be secured in France for the French rail sector as a result of the project. Alstom, a solidarity-based enterprise, will also reserve significant volumes of work on its French sites in terms of manpower hours planned for this contract for people experiencing particular social or professional difficulties.

The trains will be designed and manufactured by six of Alstom’s sites in France. The site of Valenciennes Petite-Forêt will be in charge of project management, studies, development, production, assembly and validation. Five other Alstom sites in France will develop and produce the components: Le Creusot for the bogies, Ornans for the engines, Tarbes for the traction systems, Villeurbanne for the on-board electronics and the remote maintenance system and Saint Ouen for the design.

Photo: ©ALSTOM Transport

SNCF Ter Bo-Bo No. 15016 departs Clichy Levallois. *John Sloane*

Alstom to supply new Citadis trams for Lyon's public transport network

Alstom has signed a framework contract with SYTRAL (Syndicat des Transports de l'Agglomération Lyonnaise) for the supply of 43-metre-long Citadis trams.

The first firm order of this agreement concerns the supply of 11 trams for a total amount of over 40 million euros. Other orders may be placed through this contract depending on SYTRAL's future requirements. The 11 trams will run on line T4 of the Lyon agglomeration's tramway network, thus increasing the capacity of the line. The first tram will be delivered at the end of 2019.

The design of these new trams will be identical to the 92 trams currently running on the Lyon network, while benefiting from a return-on-experience of 17 years of operation of the Citadis range. The front end has been entirely redesigned to conform to the new STRMTG guidelines introduced in 2016. The challenge was to improve visibility and comfort for the driver, while preserving the spirit of the Lyon tram's original design (the nose in the shape of a silkworm).

"We are delighted to win this contract which presents a technical challenge: to develop the front end of the tram while preserving the spirit of the original design. This order demonstrates Alstom's ability to offer tried-and-tested products, customised to meet the specific needs of its customers while complying with the regulations in force. With 92 Citadis trams in operation, the Lyon network is a real showcase of French and Alstom expertise," said Jean-Baptiste Eyméoud, Senior Vice President of Alstom in France.

With a total length of 43 metres, the new Citadis trams will be able to accommodate up to 300 passengers each, the equivalent of more than 3 buses. Citadis offers optimum onboard journey quality with a fully low floor, air conditioning, a video surveillance system and audio-visual information. Citadis is up to 98% recyclable, thus helping to preserve the environment.

These new Citadis trams will be designed and manufactured on the Alstom site of La Rochelle, France. The other French sites involved in the project are Aix-en-Provence for the speed sensing equipment, Le Creusot for the bogies, Tarbes for the traction system equipment, Villeurbanne for on-board electronics and passenger information system and Valenciennes for the maintenance equipment and supplies.

Photo: ©ALSTOM Transport

France

An almost full house at Paris St. Lazare. *John Sloane*

SNCF Infrastructure No. 75027 is seen in Acheres Yard. *John Sloane*

Several different types of trains line up at Paris Est. *John Sloane*

France

SNCF BB No. 7291 propels the 14:45 to Laroche – Migennes out of Paris Gare de Lyon.
John Sloane

Arriva signs partnership agreement with Régions de France to assist rail reforms

Leading European passenger transport group Arriva has signed a partnership agreement with the association of French regions, Régions de France, to inform the steps towards rail market opening.

As part of the French railway reforms, the regions have a crucial role in developing the approach to public transport and helping to unlock the advantages of market liberalisation, delivering benefits for passengers, transport authorities, communities and taxpayers.

At the Régions de France conference in Marseille, Manfred Rudhart, Chief Executive Office of Arriva Group, signed a partnership agreement with Hervé Morin, President of Regions de France. Through the partnership, Arriva, which is one of the largest providers of multi-modal passenger transport in Europe, delivering more than 2billion passenger journeys across 14 European countries, will work with the association of French regions to input its expertise and experience as plans are explored to reform the regional railways.

Manfred Rudhart, Chief Executive Arriva Group, said: “We are pleased to sign this partnership agreement with Régions de France. We look forward to working with the French regions and sharing our insights as plans to reform the regional railways are developed”.

Arriva brings a wealth of knowledge in supporting the transition to open rail markets, with the company bringing extensive expertise across transport modes.

Part of Deutsche Bahn (DB), Arriva is responsible for DB’s regional passenger transport services outside Germany and draws on DB’s engineering excellence, technologies and expertise to deliver transport services.

Germany

Berlin tram No. 2227 calls at Köpenick Rathaus working line No.62 service.*Steamsounds*

Abellio, Alstom, NASA and Rolls-Royce to implement new hybrid drive solution

Abellio Rail Mitteldeutschland, Alstom, Nahverkehrsservice Sachsen-Anhalt GmbH (NASA) and Rolls-Royce plan to jointly implement a new hybrid drive solution on Abellio's fleet of Coradia Lint diesel trains. The four companies agreed to conduct technical feasibility studies regarding the integration of hybrid drives developed by MTU, a Rolls-Royce brand, into Coradia Lint rail vehicles and their use on routes of Dieselnetz Saxony-Anhalt, a diesel-powered rail network in Germany. The four partners plan to sign a contract covering the retrofit of at least three vehicles once the studies have been successfully concluded and financing is secured. To this effect, the companies signed a letter of intent at Innotrans, the world's leading trade fair for railway and transport technology. Subsequent conversion of the entire fleet of 54 Coradia Lint vehicles is under consideration. The hybrid drives combine a modern diesel engine with an electric motor and batteries to recover braking energy, reducing fuel consumption and CO2 emissions by up to 25 percent. In addition, the ability to run under battery power only can reduce noise pollution in city areas and stations by 75 percent (20 dB(A)).

Stephan Schreier, Managing Director, Operations at Abellio, said: "As one of the largest operators of local rail passenger transport services in Saxony-Anhalt, we are aware of the special role we play in climate protection and, with this project, are pressing ahead unswervingly in the transition to lower-emission solutions."

Dr Jörg Nikutta, Managing Director Germany and Austria at Alstom, said: "Alternative drive systems have become an important aspect of rail transportation. Alstom has been leading the way in this for many years now to reduce emissions. It is important for us, working with our partners, to add a new feature to our well-proven diesel train Coradia Lint and offer a hybrid traction solution that is quickly available and delivers immediate benefits for travellers and the environment."

Rüdiger Malter, Managing Director at NASA, said: "The state of Saxony-Anhalt is very active on behalf of alternative drive solutions and low-emission transport. The planned hybrid trains are an important contribution to environmentally friendly rail travel which can be realized within a short time."

Lars Kräft, Vice President Industrial Business at Rolls-Royce Power Systems, said: "Our MTU Hybrid PowerPack is a pioneering high-tech drive system combining the benefits of battery and diesel-powered trains without the need for additional infrastructure. We look forward to working with our partners to bring this technology into regular service here in Germany."
Abellio is due to commence passenger services on behalf of the state of Saxony-Anhalt in December 2018 on 16 non-electrified lines in Saxony-Anhalt using 54 Coradia Lint trains. The contract covering the conversion of the first three of these vehicles to MTU hybrid drives is planned to be signed by the end of 2018. The conversion program is expected to take less than three years and will start operating in pilot mode to collect findings related to a normal daily use of a hybrid fleet.

The Coradia Lint is a fuel-efficient diesel multiple unit (DMU) that can reach operating speeds of up to 140 kph. It is powered by two MTU PowerPacks, each based on the MTU Series 1800 engine that meets the strict requirements of the current EU Stage IIIB emissions directive. The Hybrid PowerPack is an even more environmentally friendly version of this proven drive system: It combines an MTU diesel engine plus an electric machine, which can be used either as an electric motor or generator, and the MTU EnergyPack battery system, which stores the energy recovered during braking. This enables very low-noise, emissions-free battery-only electric operation in urban areas and around stations. The total operating costs of rail vehicles with MTU hybrid drives are also significantly lower. Even brake pads and discs have reduced wear due to brake energy recuperation. Because of the additional power of the electric machine, train operators also have the possibility to make up time delays using the improved drive dynamics and acceleration.

Germany

Plinthed dampflok No. 01.1063 close to Braunschweig Hbf. *Steamsounds*

Alstom to supply 5 more Citadis trams to Frankfurt

Alstom has signed a contract with Stadtwerke Verkehrsgesellschaft Frankfurt am Main mbH (VGF), the transport operator in Frankfurt am Main, Germany, for the supply of 5 additional Citadis trams. This option to the contract signed in June 2018 between Alstom and VGF for 38 Citadis trams brings the total number of vehicles to be delivered to 43.

In addition to the trams, Alstom will provide training, repair equipment and warranty services as well as spare parts for 40 years. The first two vehicles will be delivered in 2020. From 2021 Alstom will deliver twenty vehicles per year.

"Together with VGF, we will strengthen public transport in Frankfurt with our reliable and modern vehicles. Our Citadis trams have proven themselves around the world. They meet the latest standards, boast many innovations, and will help Frankfurt overcome the transport challenges of the future," said Gian-Luca Erbacci, Senior Vice President of Alstom in Europe.

Alstom's Citadis trams will run on existing routes in Frankfurt, improving mobility in a fast-growing city. Demographic forecasts indicate that the center of Frankfurt will reach a population of almost 825,000 by 2020 and will have up to 2.5 million inhabitants in the metropolitan area. The Citadis for Frankfurt is a 100% low floor vehicle, offering superior passenger experience with large glass surfaces, LEDs for soft, homogeneous lighting, large individual seats and travel information on large screens. It includes innovations such as driver assistance systems, automatic dipped beam, and rain sensors. The three-car tram will be 31.5 metres long with a maximum capacity of 197 passengers. Double-doors along the entire length of the tram ensure enhanced accessibility. Special adaptations for the German market include four pivoting bogies and carriages made of steel.

More than 2,500 trams from the Citadis range have been sold in over 50 cities worldwide. The 2,000 trams already in operation have covered over 1 billion kilometres and transported nearly 9 billion passengers since the first tram entered service in 2000.

Germany

Harzer Schmalspurbahnen dampflok No. 99.234 is seen at the Brocken. *Steamsounds*

HSB No. 99.7237 runs alongside the Goetheweg on the way back to Wernigerode. *Steamsounds*

No. 99.7240 prepares for a smokey departure from Schierke. *Steamsounds*

Harzer Schmalspurbahnen dampfloks Nos. 99.7241, 99.7247 and 99.7237 on shed at Wernigerode. *Steamsounds*

World premiere: Alstom's hydrogen trains enter passenger service in Lower Saxony

It was a world premiere being celebrated by Alstom, one of Europe's largest railway manufacturers, the Minister of Economy and Transport of Lower Saxony, the Federal Ministry of Transport and the transport authorities of Landesnahverkehrsgesellschaft Niedersachsen (LNVG) and Eisenbahnen und Verkehrsbetriebe Elbe-Weser (EVB) in Bremervörde on Sunday 16 September. Before the many guests and members of the press from Germany and abroad, the world's first hydrogen fuel cell train rolled into the station. The Coradia iLint, built by Alstom in Salzgitter, Germany, is equipped with fuel cells which convert hydrogen and oxygen into electricity, thus eliminating pollutant emissions related to propulsion. From 17 September onwards, two such trains will enter commercial service according to a fixed timetable in Lower Saxony.

For the time being, it is travellers in EVB's Elbe-Weser network who can look forward to a world-first journey on the low-noise, zero-emission trains that reach up to 140 km/h. On behalf of LNVG, the Coradia iLint trains will be operated on nearly 100km of line running between Cuxhaven, Bremerhaven, Bremervörde and Buxtehude, replacing EVB's existing diesel fleet. The new trains will be fuelled at a mobile hydrogen filling station. The gaseous hydrogen will be pumped into the trains from a 40-foot-high steel container next to the tracks at Bremervörde station. With one tank, they can run throughout the network the whole day, thanks to a total autonomy of 1000 km. A stationary filling station on EVB premises is scheduled to go into operation in 2021, when Alstom will deliver a further 14 Coradia iLint trains to LNVG.
"This is a revolution for Alstom and for the future of mobility. The world's first hydrogen fuel cell train is entering passenger service and is ready for serial production," emphasises Henri Poupart-Lafarge, Chairman and CEO of Alstom. "The Coradia iLint heralds a new era in emission-free rail transport. It is an innovation that results from French-German teamwork and exemplifies successful cross-border cooperation."

Dr. Bernd Althusmann, Lower Saxony's Minister of Economy and Transport, whose department has supported LNVG's purchase of another 14 hydrogen trains with more than €81 million, is impressed: "With the test operation starting today, Lower Saxony is performing real pioneering work in local transport in cooperation with Alstom and EVB. The emission-free drive technology of the Coradia iLint provides a climate-friendly alternative to conventional diesel trains, particularly on non-electrified lines," he explains. "In successfully proving the operability of the fuel cell technology in daily service, we will set the course for rail transport to be largely operated climate-friendly and emission-free in the future. The state government of Lower Saxony is proud of putting this trendsetting project on the track together with LNVG."

The federal government has actively supported the development and testing of the new drive technology in Lower Saxony by providing funds from the National Innovation Programme for Hydrogen and Fuel Cell Technology.

Enak Ferlemann, Federal Government Commissioner for Rail Transport and Parliamentary State Secretary of the Federal Ministry of Transport and Digital Infrastructure, puts it in a nutshell: "A world premiere in Germany. We are putting the first passenger train with fuel cell technology on the track. This is a strong sign for the mobility of the future. Hydrogen is a real, low-emission and efficient alternative to diesel. These trains can be operated cleanly and in an environmentally friendly way, especially on secondary lines where overhead lines are uneconomical or not available yet." He added: "We therefore support and fund this technology, in order to expand it."

For LNVG chief Carmen Schwabl, whose authority organizes the rail passenger transport between the North Sea and the Harz mountains and therefore pays annual compensation of around €300 million to the railway companies, the entry to fuel cell technology is also a strategic decision. She sees LNVG in a national pioneering role: "With the two Coradia iLint trains and with the use of another 14 hydrogen trains from the end of 2021, we are the first passenger rail transport authority to replace existing diesel vehicles by emission-free vehicles, thus contributing better to the fulfilment of the climate protection goals."

LNVG's Managing Director looks further into the future: "We also do this because about 120 diesel trainsets in our vehicle pool will reach the end of their lifetime within the next 30 years, meaning we will have to replace them. The experience gained with this project helps us find a sustainable and practical solution."

With around 2 million rail passengers and around 4 million bus passengers per year, EVB figures among the largest mobility providers in the Elbe-Weser triangle. The traditional company, which boasts a history of more than 100 years and around 550 employees, is looking forward to the "train of the future". Dr. Marcel Frank, Managing Director of EVB, emphasizes: "It is a great milestone that we will use the world's first hydrogen-powered train in our Elbe-Weser network in passenger service between Cuxhaven, Bremerhaven, Bremervörde and Buxtehude, not only for the region and for us, but also for passenger rail transport worldwide. For EVB, this is the entry to emission-free mobility."

On September 5th, a pair of DB Class 189s departs Emmerich with an empty ore train and a friendly greet from the driver who will take the train to Rotterdam. *Erik de Zeeuw*

On September 6th a brand new RRX (Rhein Ruhr Xpress) Class 462.001 EMU arrives into Dortmund Hbf with a terminating service.
Jason Roberts

Siemens officially opens RRX maintenance depot

After one-and-a-half years of construction, Siemens Mobility has officially inaugurated the new maintenance depot for the Rhine-Ruhr Express (RRX). In the future, 75 employees in the Rail Service Center in Dortmund-Eving will service and maintain the 82 electric RXX Desiro HC multiple-unit trains for a period of 32 years. The digitalized and paperless concept ensures that the trains' contractually agreed availability of over 99 percent can be guaranteed.

Martin Husmann, CEO of Verkehrsverbund Rhein-Ruhr (VRR), also speaking on behalf of the other rapid transit associations participating in the RRX project – Westphalia-Lippe (NWL), Rhineland (NVR), Rhineland Palatinate North (SPNV-Nord) and North Hesse (NVV) – stated: "I am especially pleased for the passengers, because today's opening marks a further step into the future. Over the coming years, we'll be creating a substantially improved mobility offering for the roughly 2.7 million people who use the regional rapid transit rail network every day. We expect the new facility in Dortmund will make a decisive contribution toward guaranteeing the best possible availability of the new trains."

"With our digitalized service and maintenance, we see ourselves as a pioneer in the industry and will make certain that the RRX trains are reliably available to passengers. To ensure this, we've equipped the Rail Service Center and the trains with the latest diagnostic systems that enable us to detect faults before they can actually interfere with operations," said Sabrina Soussan, CEO of Siemens Mobility.

For this purpose, Siemens Mobility has laid around 5.5 kilometers of tracks on the grounds of the former Dortmund-Eving marshalling yard and provided a six-track workshop building, a three-story warehouse and staff facility, a gatehouse building, outside storage areas and a facility for washing the trains. All maintenance processes can be managed completely without paperwork: Employees are provided with their work orders, along with all the information they need for repairs and maintenance, on tablets. While in service, the trains continuously deliver data on their status via multiple sensors to the depot, where it is processed.

Each train generates between one and four billion data points per year. Using intelligent algorithms, data experts at Siemens Mobility analyze the data for each critical component on the train. The objective is to detect any deviations from normal conditions in order to calculate error predictions and provide workshop technicians with recommendations for acute service or routine scheduled maintenance. With this information, necessary measures can be planned and prepared before the train arrives at the depot. This way, spare parts can be right at hand and the employees' work can be optimally coordinated. This ensures that the time trains spend in the depot is as short and efficiently utilized as possible so they can be quickly returned to service. The RRX workshop also has a state-of-the-art vehicle inspection system (AVI) which is being used for the first time in Germany. As the trains enter the workshop grounds, they pass the AVI facility where the wheels, axles and tread patterns of each car are automatically inspected using modern laser technology. This data is directly entered in the data management system, evaluated and further processed. In addition, the workshop has a high-performance 3D printer that quickly and directly makes plastic spare parts that would otherwise not be available on short notice or at low cost.

In March 2015, the rapid transit associations participating in the new RRX rail transport concept commissioned Siemens Mobility to deliver 82 Desiro HC electric multiple-unit trains and provide their servicing and maintenance for a period of 32 years. The order, worth a total of more than €1.7 billion, is the largest Siemens has received to date in the sector of regional rail transport in Germany.

Germany

DB Class 143.828 stands at Dresden Hbf ready to propel a very busy S2 service to the Flughafen. *Steamsounds*

CD Cargo ‘Vectron’ Class 383.006 passes Königstein with a northbound car train. *Steamsounds*

CD Cargo Class 372.012 passes Bad Schandau with a northbound car train. *Steamsounds*

Weißeritztalbahn No. 99.1790 is seen at Freital Hainsberg. *Steamsounds*

Siemens Mobility digitalizes large part of DB Cargo freight car fleet

DB Cargo AG, Europe's leading rail freight carrier, has commissioned Siemens Mobility to digitalize a large part of its freight car fleet. A total of 30,000 freight cars will be equipped with the CTmobile freight sensor solution. With this system, DB Cargo can directly and continuously determine the cars' location. The sensor also provides information about load conditions. The freight cars will be equipped over a period of three years. Siemens Mobility will operate the system for six years, monitoring data acquisition and data flows through its central in-house CT server. The contract includes an option to equip up to 50,000 freight cars.

"In an increasingly digitalized world, customers expect a high level of service these days. They want to know in real-time where their freight is, when it will arrive at its destination, and its condition," said Steffen Bobsien, Senior Vice President European Assets & Technology, DB Cargo. "We're pleased that DB Cargo has placed its trust in us for this major project, which acts as a model character for the entire industry. For Siemens Mobility, this is the largest order we've received to date for the digitalization of a freight car fleet," said Michael Peter, CEO of Siemens Mobility GmbH.

In 2017, DB Cargo announced that its entire fleet will be equipped with new sensors and telematic systems by 2020. The CTmobile system will provide DB Cargo information about its freight cars and trains in real time and can pass it on to control centers, maintenance personnel and train operators to ensure efficient logistics and route planning.

By continuously monitoring the cars, CTmobile not only helps detect theft, damage and accidents, but also provides high-quality transport documents.

By tracking the freight cars via GPS, their expected time of arrival can be optimally determined. In addition, data collected by the smart sensors can provide information about the condition of a car's load as well as the car's temperature and humidity. Since the position of each freight car can be easily tracked, DB Cargo can achieve higher car availability.

Siemens Mobility will supply the CTmobile telematics box installed on the freight car which records and wirelessly transmits the data, as well as the CTsensor device, which monitors physical conditions in the car such as temperature and humidity, and transmits this data to the telematics box. The CTsensor is usually installed in or beneath the freight car. The telematics unit records the car's position via GPS and transmits it to the central Siemens Mobility CT server application. Individual and aggregated status information can be monitored, transmitted and analyzed via secure Internet access, an automatic e-mail or an SMS alarm. Data from all device-equipped freight cars is collected in the central server and conveyed via a standardized transmission interface to the customer, where it is supplemented and processed with further information from the customer's business systems.

DB Class 101.077 stands at Köln Hbf. *Steamsounds*

Germany

DB Class 111.115 stands at Düsseldorf Hbf with train No. RE10412 to Aachen Hbf. *Steamsounds*

Siemens Mobility presents world's first autonomous tram

Siemens Mobility, together with ViP Verkehrsbetrieb Potsdam GmbH, presented their research project on the world's first autonomous tram at InnoTrans 2018. On a six-kilometer section of the tram network in Potsdam, Germany, Siemens Mobility demonstrated a test tram driving autonomously in real traffic on September 18 through 21.

ViP has provided a Siemens Combino tram for the project. This experimental vehicle is equipped with multiple lidar, radar and camera sensors that serve as "digital eyes" by capturing the tram and its traffic environment. At the same time, complex algorithms function as a "brain" by interpreting and evaluating data from the momentary operating situation, providing a prognosis for further development of the situation, then triggering an appropriate response by the tram. Thanks to its artificial intelligence capability, the tram responds to trackside tram signals, stops at tram stops, and reacts autonomously to hazards such as crossing pedestrians and other vehicles. Siemens Mobility is the first company to launch an autonomous tram for research and development purposes.

"This world premiere demonstrates how we are actively shaping the mobility of the future. Our autonomous tram can already master essential operating tasks in real road traffic at this stage of development. By relying on the "Siemens Tram Assistant" collision warning system being used in, among other places, our Avenio M tram operating in Ulm, Germany, we have already reached series maturity – an important milestone on the way to autonomous driving. By making trains and infrastructure intelligent, we can guarantee availability and enhance safety in local and long-distance travel," said Sabrina Soussan, CEO of Siemens Mobility.

The experimental tram being used to demonstrate autonomous driving at the world premiere is not designed for commercial use.

The current project aims at identifying the technological challenges of autonomous driving under real-life conditions, then developing and testing solutions for them. A continuation of the cooperation is already being discussed with ViP.

Germany

V60.615 approaches Witten Hbf with the Rhurtalbahn sonderzug for Wuppertal Hbf. *Steamsounds*

DB Class 182.005 with an RE1 service to Frankfurt(Oder) stands at Magdeburg Hbf. *Steamsounds*

A pair of National Express EMUs approach Wuppertal Hbf. *Steamsounds*

Germany

Railjet Class 1116.204 stands at Munich on August 17th working an Eurocity service to Budapest. *Brian Battersby*

Euro Cargo Rail's EMD No. 247.052 is caught stabled at Freilassing on August 18th. *Brian Battersby*

DB Class 111.126 stands at Wuppertal Hbf with train No. RE10417 to Dortmund Hbf. *Steamsounds*

Shunting locomotives presented to commemorate anniversary

On the 20th anniversary of the founding of Mitteldeutsche Eisenbahn GmbH (MEG), DB Cargo honours the company's achievements.

MEG was founded on 1 October 1998 as a joint subsidiary of DB Cargo AG and the company known today as VTG Rail Logistics GmbH. "Thanks to the combined efforts of our 340 employees, we have transformed MEG over the past 20 years from a branch line company to a Germany-wide operation serving freight customers across the country," says Michael Koch, managing director of MEG. Today, MEG provides rail traffic services on public and private networks and also offers services in the rail freight segment as well as for private railway infrastructure companies. For large industrial customers such as Dow Olefinverbund GmbH in Schkopau and Böhlen as well as CEMEX Zement GmbH in Rüdersdorf, Germany, MEG operates factory railways. The company saw its transport volume grow to more than 19 million tonnes in 2017.

Alstom presents three Prima H3 shunting locomotives

MEG's fleet of vehicles comprises 12 shunting locomotives, 32 main-line locomotives and 19 combination main-line/shunting locomotives. In Schkopau, MEG also operates a vehicle maintenance depot for locomotives and freight wagons. On the occasion of MEG's 20th anniversary, Alstom presented the company with three Prima H3 hybrid shunting locomotives in Schkopau. "We're delighted that MEG is once again choosing the Prima H3. Our environmentally friendly shunting locomotive harnesses modern technology that can be used in many different applications, especially given its powerful, economical hybrid drive system", says Jörg Nikutta, managing director of Alstom in Germany and Austria. All of MEG's new vehicles are equipped with Alstom's TrainTracer technology, which allows for remote data transmission and centralised monitoring of their technical systems. In addition, the vehicles are outfitted with the latest generation of vehicle and drive control systems. The three locomotives presented today will be supplemented by two additional hybrid locomotives, which will join the fleet by March 2019. With its new additions, MEG will have more than 11 hybrid shunting locomotives at its disposal by early 2019.

"Prior experience has shown us that these locomotives produce significantly less noise than conventional diesel shunting locomotives, consume roughly 40% less fuel and produce 60% fewer emissions. The impressive amount of value they add dramatically underscores the benefits our fleet offers. The new locomotives are also a much pleasanter driving experience," says Dr Jürgen Sonntag, managing director of MEG.

DB Cargo is also investing in environmentally friendly, future-proof technologies. This includes its partnership with a large Japanese technology group, with whom it is working to jointly develop hybrid locomotives. Furthermore, hybrid locomotives are already providing a shunting service at multiple rail stations in Germany today. DB Cargo is also doing its bit for the environment with its "Innovative Freight Wagons" research project, which tests quiet, energy-efficient, economical components. This project helped reduce the Prima H3's noise emissions considerably. Regardless of how they are used, these hybrid locomotives run on battery power between 50% and 75% of the time. This advantage allows for emissions-free rail traffic in urban areas and manufacturing facilities. The locomotives have a top speed of 100 km/h, which allows them to be seamlessly integrated into main-line traffic.

Germany

Beacon Rail's Class 223.013 heads through Harburg heading for the docks. *John Sloane*

VIAS EMU No. ET 409 approaches Koblenz Lutzel with a Neuwied service. *John Sloane*

DB Cargo liveried Class 150.186 stands outside Koblenz Lutzel museum. *John Sloane*

Station shunter on August 18th at Budapest Keleti was Class 460.022. *Brian Battersby*

Hungary

Gysev Class 470.504 stands at Budapest Keleti on August 18th waiting departure time with a service to Sopron. *Brian Battersby*

MAV's Class 470.010 has just arrived at Budapest Keleti on August 18th. *Brian Battersby*

Fox Rail's Class 429.010 is seen stabled at Budapest Kelenfoeld on August 18th. *Brian Battersby*

FS Class E403.023 is seen arriving at Pisa with a Rome - Ventimiglia service. *John Sloane*

FS Class E652.044 departs Lucca with a westbound freight.
John Sloane

Italy

Trenitalia Class E402.177 stands at Santa Margherita Ligure with a Grosseto to Milan Centrale IC service on August 26th. *John Sloane*

FS E464.680 has just arrived at Viareggio with a service from the Pistoia direction on August 25th. *John Sloane*

Oceanogate's Class E483.018 passes Pisa hauling a northbound intermodal on August 25th. *John Sloane*

FS Class 464.515 pushes south out out of Zoagli with a stopping train to Sestri Levante on August 27th. *John Sloane*

Italy

FS EMU No. ALe 642.041 stands at Pisa waiting departure time with a service to Lucca. *John Sloane*

Trenitalia's No. E464.689 stands at Santa Margherita Ligure with a La Spezia to Ventimiglia service on August 26th. *John Sloane*

FS No. E655.426 is just one of many seen on Genova Brignole depot on September 1st. *John Sloane*

FS Class 464.627, pushing a service to Sestri Levante, heads into Santa Margherita tunnel on August 26th. *John Sloane*

Italy

A Rome bound Pendolino sweeps through Zoagli station on August 27th. *John Sloane*

Trenitalia's No. E402.152 calls at Santa Margherita Ligure with an IC service to Milan on August 27th. *John Sloane*

FS No. E402.166 emerges from Zoagli No. 2 tunnel with an IC train from Grosseto to Milan Centrale on August 27th. *John Sloane*

VSM No. 50.0073-2 running tender first, hauls a museum train from Apeldoorn to the depot in Lieren during the ‘Back to the Past’event on September 2nd. *Erik de Zeeuw*

An ICM (Koploper) intercity EMU and a VIRM Regiorunner EMU stand at Utrecht Centraal. *John Sloane*

Portugal

Porto Electrico tram No. 213 at the Batalha terminus of route No. 22 on September 3rd. *Martin Miller*

Interior of the delightful tramway museum located in the former power hall of Massarelos Depot, Porto, September 4th. *Martin Miller*

CP EMUs Nos. 3403, 3407 and 3427 stand at Porto Sao Bento on September 6th. *Martin Miller*

Portugal

The northern terminus of the last remaining Portuguese metre gauge line at Espinho. Espinho Vouga is the truncated northern terminus of the section from Espinho to Oliveira de Azermeis. *Martin Miller*

CP EMUs wait departure time at the delightful Sao Bento station in Porto. *Martin Miller*

CP EMUs Nos. 3420 and 3422 wait next workings at Braga on September 12th. *Martin Miller*

Sentinel No. 1167 is in use as the depot pilot at Contumil. 36 of these broad gauge diesel-hydraulic shunters were built by Sorefame under licence from Sentinel. They had 250hp / 184kW Rolls-Royce engines. *John Sloane*

CP Class 1900s No. 1962 and Class 14 No. 1413 are seen stabled at Contumil depot. *John Sloane*

Siemens built CP No. 5614 waits departure time at Campanha with a service to Lisbon. *John Sloane*

Republic of Ireland

GM Class 201 No. 216 hauls the Belmond 'Grand Hibernian' on the approach to Charleville, Co. Cork. *Paul Quinlan*

On September 19th, ZSSK Class 350.015 approaches Bratislava Vinohrady with a Kosice - Bratislava hlavna stanica service.
Paul Godding

Slovakia

With a matching rake of tanks, RTI (Rail Trans International) Class 44.135 approaches Bratislava Vinohrady on September 19th.
Paul Godding

Slovakia

CD Cargo's Class 383.004 speeds through the station at Kuty on September 19th with an intermodal working. *Paul Godding*

On September 19th, Class 350.005 and its stock are seen stabled at Kuty. *Paul Godding*

Tatra built tram No. 7841 stands at Vinohrady working a service No. 5 to Dubravka. *Paul Godding*

Switzerland

On September 17th, SBB Re 6/6 No. 620.031 (11631) heads south with a freight at Immensee. *Mark Pichowicz*

Switzerland

SBB Siemens Vectron Class 193.473 heads an Italy bound intermodal working through Immensee on September 17th. *Mark Pichowicz*

SBB Class 460.018 approaches Arth-Goldau with train No. IR2428 16:34 Erstfeld - Zürich on September 17th. *Mark Pichowicz*

1911 built Ge 2/2 No. 161 and Bernina railcar ABe 4/4 No. 35 approach Blonay during the Blonay Chamby railway's Mega Bernina Festival. *Mark Pichowicz*

On September 15th, 1914 Built Bernina Krokodil Ge 4/4 No. 182 crosses the impressive viaduct on the Blonay Chanby railway during the Mega Bernina Festival. *Mark Pichowicz*

Switzerland

Basel BVB trams Nos. 483, 1456, 486 depart Basel Bankverain on September 4th.
Keith Hookham

Basel BLT tram No. 259 is repainted in historic old livery, seen here with work mate No. 201 in the more usual yellow livery.*Keith Hookham*

Matterhorn Gotthard Bahn No. 105 stands at Brig on September 5th, waiting its next working.
Keith Hookham

Switzerland

VHE owned steam loco No. 5810 departs Häusernmoss working a special for the Slow up Emmental event on September 9th. *Keith Hookham*

Dampf Furka Bahn diesel No. 51 stands at Oberwald waiting its next working. *Keith Hookham*

Preserved RhB No. 161 together with No. 182 arrive at Blonay whilst working at the Blonay Chamby Mega Bernina Festival on September 8th. *Keith Hookham*

Switzerland

DFB No. FO4 is seen after arriving at Furka On September 7th. *Keith Hookham*

Preserved RhB No. 81 is seen at Blonay whilst working at the Blonay Chamby Mega Bernina Festival on September 8th. *Keith Hookham*

On September 7th, DFB No. TM506 was utilised to help push the steam service through the Furka tunnel on the upwards journey between Oberwald and Realp. *Keith Hookham*

Switzerland

Preserved MOB No. 2002 on display at Chaulin depot before working at the Blonay Chamby Mega Bernina Festival on September 8th. *Keith Hookham*

Basel BVB tram No. 303 is seen sporting its new coat of green paint which matches the new units that have recently purchased, seen here at Basel Bahnhof SBB on September 3rd. *Keith Hookham*

Basel BLT tram No. 158 stands at the Aescherplatz tram stop on September 3rd. *Keith Hookham*

Ukraine

On August 19th, 2TE10M No. 2601 accelerates away from Ivano Frankivsk with train No. 136 from Chernivitsi to Bilhorod-Dnistrovsky via Lviv and Odessa. *Mark Torkington*

Ukraine

VL60-2226 is seen on arrival at Pomichna on August 17th with an unidentified local train in the early hours. *Mark Torkington*

On August 19th, No. 2M62-0999 waits to depart Ivano Frankivsk with the daily overnight train to Kiev. *Mark Torkington*

M62-1457 pulls into Nadvirna with a Rakhiv to Ivano Frankivsk local train on August 20th. *Mark Torkington*

Ukraine

No. Tu2-263 is seen at its home station of Haivoron on August 17th. *Mark Torkington*

Alstom signs Memorandum of Understanding with Ukrainian Railways for electric locomotives

Alstom and Ukrainian Railways (UZ) have signed a Memorandum of Understanding officialising cooperation for the provision and maintenance of electric locomotives. The MoU was signed by Yevgen Kravtsov, Acting Chairman of the Board of Ukrainian Railways, and Henri Poupart-Lafarge, Alstom's Chairman & CEO, during the InnoTrans 2018 railway trade show in Berlin.

The strategic priority of UZ is the renovation of its electric locomotive fleet. The total requirements of UZ over the next 10 years cover 495 locomotives, including freight locomotives of different voltages (25kV, 3kV, and dual-voltage) and dual-voltage passenger locomotives, as well as associated services and maintenance for up to 25 years. It also encompasses the homologation of the product in Ukraine and the provision of all relevant documentation by Alstom.

"I am very pleased to be officialising this cooperation with Ukrainian Railways today. Alstom is present in over 60 countries and we are proud to count Ukraine among them. Wherever we are, we adapt to local conditions and propose suitable solutions to our customers. We see the high potential of the Ukrainian market, and we would be proud to contribute to the modernisation of the country's railway infrastructure and its further integration within the broader European railway market," said Henri Poupart-Lafarge, Chairman and CEO of Alstom.

"Alstom is one of the world's leading rail transport manufacturers. I am pleased with the fact that today's memorandum is a starting point for our cooperation with the French company. Our strategic goal is to renew our fleet of locomotives. As we already have a strategic partner in the supply of diesel locomotives, we are actively exploring the possibilities for the effective cooperation on the renewal of the electric locomotive fleet. Almost 47% of Ukraine's railways have been electrified, but the goal is to increase the number of electrified areas up to 54% within two years. Cooperation with Alstom is also very important for us because the company has considerable experience in the manufacture of 1520mm gauge electric locomotives. Moreover, the possibility of maximum localization at Ukrainian enterprises is the essential condition in the cooperation with Alstom", said Yevgen Kravtsov, Acting CEO of Ukrainian Railways.

Following preliminary meetings held in April this year between Alstom's management and Ukrainian authorities, Alstom has opened a representative office in the country.
The Ukrainian railway network is 1520mm gauge with over 22,000 kilometres of track. The country plans to develop international railway routes to Europe and to modernise its transport infrastructure in all segments, from urban with trams and metros, to mainline with regional and intercity trains or high-speed lines.

Alstom can already boast significant experience in 1520mm gauge railways, specifically in Kazakhstan and Azerbaijan, where it has been delivering freight and passengers locomotives adapted to the local requirements since 2010. These include heavy freight Prima T8 locomotives, which feature very high hauling capacity. They ensure the highest tractive efforts on electrified networks, with appropriate comfort and maximum safety for covering long distances. The latest Prima T8 versions, such as the KZ8A for Kazakhstan and the AZ8A for Azerbaijan, can haul up to 9,000 tons and can run at 120 km/h. They include adaptations for the harshest conditions, including desert environments and extreme cold down to -50ºC.

Alstom and Merrill Technologies Group celebrate first power car bodyshell for next-generation Avelia Liberty high-speed trainsets

Alstom and Merrill Technologies Group (Merrill) have celebrated the completion of the first power car bodyshell for the future Avelia Liberty trainsets to serve as the new Acela Express fleet on the Amtrak Northeast Corridor, highlighting a major milestone in production of the new Acela fleet.

The power car bodyshells are made from 100% U.S. steel and have been specifically painted to reflect the Amtrak blue and white colors. Approximately 175 workers at Merrill's Alma, MI, facility are working on the manufacturing of the 56 bodyshells for Alstom. The first bodyshell will arrive at Alstom's passenger rolling stock center of excellence in Hornell, NY, in the coming weeks, where Alstom will complete the manufacturing of the power cars.

"We proudly celebrate this project milestone, not only with respect to supplying Amtrak with new trainsets, but also the emergence of a high-speed rail manufacturing industry here in the U.S.," said Jérôme Wallut, Senior Vice-President of Alstom in North America. "We look forward to receiving all of the bodyshells and congratulate Merrill and their highly-specialized staff on the completion of this first unit for the new Avelia Liberty trainsets that will carry passengers on the Northeast Corridor."

"Merrill is honored to partner with Alstom in their pursuit to grow high-speed rail manufacturing in the U.S.," said Robert Yackel, Merrill CEO. "Completing the fabrication and painting of the inaugural bodyshell symbolizes the unlimited potential we can reach when companies and countries work together."

Amtrak and the new Acela Express trainsets proudly rely upon U.S. manufacturing up and down the supply chain, from across America," said Amtrak Vice President of the Northeast Corridor Service Line Caroline Decker. "We thank Alstom for their commitment to supplier diversity and Merrill Industries for delivering a product that will power the new trainsets thus playing a critical role in the future of Amtrak's service on the Northeast Corridor."
In 2016, Alstom and Amtrak announced a contract for 28 next-generation Avelia Liberty trainsets to serve the Acela Express and for long-term technical support and the supply of spare components and parts for the long-term maintenance of the new trainsets. Alstom has the highest level of Buy America content among rail companies doing business in the U.S., working with over 500 U.S. suppliers, including partnerships with DBE, SBE and Veteran firms. The new trainsets will be 95% Made in America and will create 1,000 directed and 300 indirect jobs.
The Avelia Liberty is the latest development of Alstom's Avelia high-speed train range. The new trainset will be able to carry nearly 30% more passengers than the current Acela trains. The trainset configuration includes two innovative compact power cars and nine passenger vehicles, with the possibility of three more being added if demand grows. The train can travel at speeds up to 300 km/h (186 mph). Each concentrated power car is equipped with Alstom's pioneering Crash Energy Management system.

Alstom's facility in Hornell dates to the 1860s and has manufactured over 2,000 new rail cars, and refurbished over 5,000 more, as well as manufactured over 8,000 traction cases. The site, which boasts 700,000 ft2 of manufacturing space is comprised of engineering, manufacturing and assembly facilities, paint, water test, and inspection facilities, a climatic chamber and a test track. More than 800 Alstom employees in Hornell are currently overhauling vehicles for transit authorities and operators such as Massachusetts Bay Transportation Authority, Maryland Transit Administration and Port Authority Transit Corporation, in addition to manufacturing the next generation Avelia Liberty high-speed trainsets for Amtrak.

Florida East Coast GE ES44C4 Nos. 819 and 810 cross Spruce Creek whilst hauling train No. FEC101-03 13:30 Bowden - Hialeah.
Laurence Sly

U.S.A.

After waiting to pass a southbound train,train No. FEC202-04 departs New Smyrna Beach as it continues it`s journey from Miami to Jacksonville, GE ES44C4 Nos. 819 and 810 provide the power. *Laurence Sly*

FEC EMD GP40-2 No. 426 departs the yard at New Smyrna Beach with two wagons for Daytona Beach. *Laurence Sly*

Running without an LNG car, FEC GE ES44C4 Nos. 808 and 805 pass Ormond Beach whilst working train No. FEC226-05, 23:00 Hialeah - Bowden. *Laurence Sly*

FEC GE ES44C4 Nos. 812 and 818 pass New Smyrna Beach with the railway's hot intermodal train No. FEC101-04. *Laurence Sly*

White Pass and Yukon Route Railroads Nos. 92 and 93 return their train to their base station at Skagway Alaska, after a trip to the White Pass summit on September 11th. *Colin Gildersleve*

U.S.A.

FEC EMD SD40s Nos. 714 and 704 are stabled for the weekend at City Point yard. *Laurence Sly*

Florida East Coast GE ES44C4 Nos. 810 and 819 storm across Daytona Beach Golf Club whilst hauling train No. FEC101-05 from Bowden to Hialeah. *Laurence Sly*

U.S.A.

After shunting sidings south of the yard, FEC EMD GP40-2 No. 426 returns to New Smyrna Beach yard, seen here crossing 10th Street, This is local train No. 910 which works out of NSB and runs both north and south most weekdays serving local industries.
Laurence Sly

FLOW Consortium wins the Operation and Maintenance Contract on Riyadh Metro

Alstom, as a Member of FLOW Consortium with Ansaldo STS and Ferrovie dello Stato Italiane, has received a Letter of Award (LoA) from Arriyadh Development Authority (ADA) to provide operation and maintenance services for lines 3, 4, 5 and 6 of the Riyadh Metro over a period of 12 years including the mobilization period.

Alstom partnered with Ansaldo STS and Ferrovie dello Stato Italiane to form the FLOW Consortium for the tender for the operation and maintenance of the metro system. The total value for the consortium comes to around 10.9 billion Saudi Arabian Riyals (equal to €2.5 billion), with the rolling stock and systems infrastructure maintenance representing more than €730 million.

Alstom's scope of work within the FLOW consortium will include the full maintenance of the transit system, including trains provided by Alstom for lines 4,5,6 and as well as those provided for line 3, as well as fixed installations such as tracks, signalling, communication, passenger information systems and power supply.

"We are honoured that our client ADA, for whom we are currently supplying a fully integrated Metro System for lines 4, 5 and 6 (Yellow, Green, and Purple lines), is renewing its trust in Alstom's capabilities and expertise with an additional contract for operation and maintenance services. Alstom has been present in the Kingdom of Saudi Arabia for nearly 60 years and this award also illustrates Alstom's commitment to supporting the Kingdom of Saudi Arabia's mobility projects for a more efficient, more reliable and more sustainable transport network. "We are very pleased to be working closely with our partners from the FLOW consortium," declared Didier Pfleger, Senior Vice President for the Middle-East and Africa region at Alstom. FLOW will provide a comprehensive range of O&M services for lines 3, 4, 5 & 6 of total length of 113 Km and 50 stations including 2 main station and 5 interchange stations,3 depots and 3 OCCs. The services also include Metro Operation, Security, Passenger Assistance, Facility Management, Maintenance of Buildings (stations, Park & Rides, depots etc..) and the complete transit system, including Trains, Signalling, Telecommunication, Power Supply, Passenger Information, among others.

The O&M contract has been devised based on worldwide best practices, and against global KPIs in urban metro operation and maintenance, namely in the areas of Passenger Services, Facilities Management, Transit System, Health & Safety and security, as well as Local Content. The contract, as set by ADA, carries a minimum Saudization target of 45%, as well as a minimum level of 55% for Local Content in the areas of supplies and services related to the Riyadh Metro operation, in addition to on-the-ground logistic support.

In addition, FLOW will introduce to the job market several types of positions for Saudis, both men and women, in various Engineering specialties (such as Civil, Mechanical, Electrical and Telecommunication), along with a wide range of vocational positions: Special technicians, Customer Service jobs in Ticket Sales, Safety & Security, as well as other Administration positions.

Alstom to supply core railway system for Shanghai Metro Line 15

A contract worth around €58 million in China

Alstom, together with its Shanghai-based joint venture Shanghai Alstom Transport Electrical Equipment Co. Ltd. (SATEE) and its Xian-based joint venture Xi'an Alstom Yongji Electric Equipment Co. (XAYEECO), has won a contract from Shanghai Shentong to provide the train electrical design, traction systems including motors, auxiliary converters and train control monitoring system (TCMS) for 324 metro cars for Shanghai Metro Line 15. The contract value is €58 million.

Shanghai Line 15 is a high capacity metro line, connecting north and south in the western part of Shanghai. Revenue service is expected in 2020. This is the second contract Alstom has won providing transport solutions for Line 15 of Shanghai's Metro. In May 2018, Alstom and its other Shanghai-based joint venture, CASCO Signal Ltd, won another contract from Shanghai Shentong to provide the Urbalis signalling solution for the line.

Line 15 will receive the upgraded OptONIX traction system, which was specifically designed and developed for the Chinese market taking benefit of more than a decade return of experience of the OptONIX solution in operation on Chinese market. The upgraded system will achieve higher levels of energy efficiency and electrical braking while remaining 98% recyclable.

"Solid international references in driverless metros, the excellent performance of Line 10, and the local partnerships that Alstom has built in Shanghai are the main reasons that we have won this contract. Shanghai Shentong can count on Alstom for successful and timely project delivery," said Olivier Loison, Managing Director China & East Asia at Alstom.

In 1999, Alstom won its first metro contract in China to supply 168 metropolis metro cars to Shanghai Line 3. So far, Alstom has supplied 1,222 metropolis metro cars for seven Shanghai metro lines, among which Shanghai metro line 10 has one of the highest daily passenger volume among all driverless metro lines worldwide. In addition, together with its joint venture CASCO, Alstom has supplied signalling system for eight metro lines in Shanghai.

Alstom plays a leading role in driverless metros worldwide. So far, 26 driverless metro lines worldwide have ordered Alstom signalling and/or rolling stock solutions. 12 driverless metro lines are in Asia Pacific, including Shanghai Metro Lines 10 and 15, Hong Kong South Island Line, Taichung Green Line, Singapore North East Line, Circle Line and Thomson – East Coast Line.

Alstom wins major rolling stock contract for Mumbai Metro Line 3

Alstom has been awarded a contract worth approximately €315 million to supply 248 metro cars for Mumbai Metro Line 3 by the Mumbai Metro Rail Corporation Limited (MMRCL). The Mumbai Metro Line 3 is a 33.5-km long underground stretch connecting the busiest and congested regions in Mumbai – one of the fastest growing cities in India. The metro line will connect Cuffe Parade business district in the extreme south of the city to SEEPZ in the north-central with 26 underground and one street-level station. Line 3 will be the first underground metro line in Mumbai and will be one of the biggest underground continuous stretches in India.

This contract is the biggest rolling stock contract for Alstom in India in the urban sector and comprises the design, delivery and commissioning of 31 lightweight, fully-furnished modern passenger train sets of 8 cars each. Alstom will be responsible for training of operating and maintenance staff for Mumbai Metro Line-3 system as well. It is also the first time that the metro cars will have 75% motorization, as stipulated in the MoUD guidelines, enabling quick acceleration and deceleration thereby bringing about greater efficiency in operations. The trains will be also equipped with regenerative braking system aiding significant reduction in carbon emissions. In addition to the above features, it will be also the first UTO (Unattended Train Operation) project in Mumbai and second in India after Delhi Line L7/8.

While the complete designing and development of the metro cars will be undertaken out of Alstom's Bangalore (India) engineering centre, the 248 metro cars will be manufactured from its state-of-the-art rolling stock manufacturing unit at Sri City in Chennai (India).

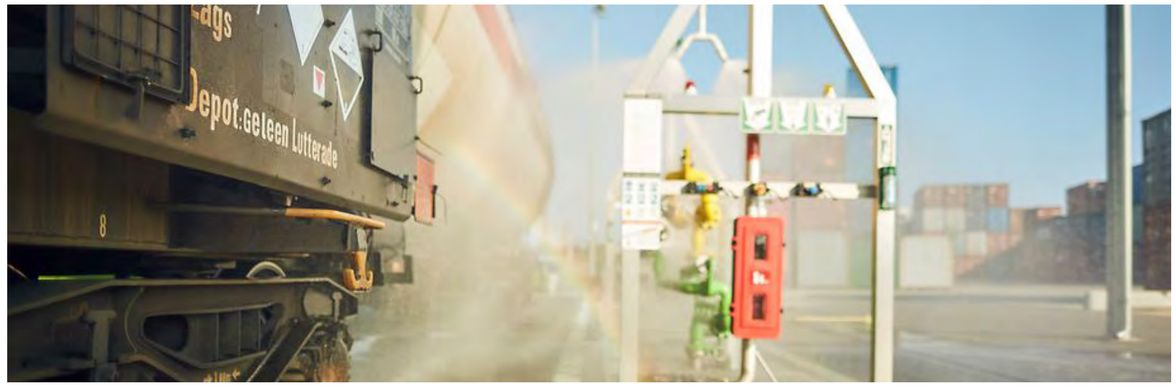
Alain Spohr, Managing Director, Alstom India and South Asia said, "We are delighted to be the partner of choice for the prestigious Mumbai Metro Line 3 project. By providing reliable, advanced and competitive transportation solutions, we are committed to support our customer in easing Mumbai's transport challenges. With the project stipulating 75% manufacturing in India, this contract has further reinforced our commitment to invest, grow and Make in India."

Mumbai Metropolitan Region is one of the fastest growing regions in India and Line 3 will be a game changer. Connecting Mumbai's key financial hubs such as Nariman Point, Bandra-Kurla-Complex, and CS International Airport, the sub-terrestrial line will provide a much-needed relief to the strained surface transport network and increase mobility across the region. Alstom has also won the contract to supply power and telecommunications system for Mumbai metro Line 3 earlier this year.

Currently, Alstom is executing metro projects in several Indian cities including Chennai, Kochi and Lucknow where it is supplying Rolling Stock manufactured out its state of the art facility at Sri City in Andhra Pradesh. In the Mainline space, Alstom is executing Signaling & Power Supply Systems for the 343 Km section on World Bank funded Eastern Dedicated Freight Corridor. Phase 1 in the construction of the new electric locomotive factory for manufacturing and supply of 800 units of high horse power locomotives at Madhepura in Bihar is complete while the depot at Saharanpur is also ready to commence operation.

Hazardous materials belong on the railways

Hazardous materials belong on the railways Rail Safety Days in Denmark – with the commissioning of the Taulov Tank Terminal, the risk of major accidents involving chemicals will decline.



On 4 and 5 September 2018, this year's DB Cargo BTT Rail Safety Days event was held in cooperation with the Danish Taulov Tank Terminal and DB Cargo Scandinavia. Experts from the chemical industry, employees of fire brigades and authorities as well as customers and employees of DB Cargo had an opportunity to learn first-hand about the transshipment of hazardous materials and about the safety-related technology used at the terminal.

"Very few Danish consignees and consignors of chemicals have railway sidings", says Erik Koning of DB Cargo BTT, who moderated the event. Due to the Danish interpretation of the EU Seveso Directive, which governs the control of major accident hazards involving dangerous substances, a permit is required in Denmark to transship most hazardous materials from rail to road. The chemical hub in Taulov was developed as a solution. The DB Cargo terminal there handles the transshipment of tank containers. In October 2017, the Taulov Tank Terminal began operating on the grounds of the pre-existing terminal. The new terminal was built to handle the transshipment of chemicals transported in tank wagons.

The safest journey

"By using rail to transport shipments for the longest part of the journey and road for the relatively short pre- and onward carriage segments, the risk of an accident occurring during chemical transport is significantly reduced", says Koning. However, Danish customers have not yet tapped the full potential of the railways for transporting hazardous materials. "Even extremely hazardous materials such as ammonia and highly flammable chemicals are driven by lorry all the way through Europe to customers in Denmark," says Koning. According to Koning, rail is the safest means of ground transport available. When risk is calculated as the number of accidents involving hazardous materials per tonne of freight transported, transport by rail is a staggering 42 times safer than by lorry.

The Taulov Tank Terminal now offers an excellent means to transship hazardous materials from road to rail transport and back again. It boasts two tracks, each 80 m in length and equipped with four unloading and two loading stations. Ten silos are planned for construction, each of which will stand 35 m tall and have a capacity of 40,000 tonnes. DB Cargo will soon be the first transport company to apply for a Danish permit to store hazardous materials in Denmark.

On a tour of the terminal, the guests had an opportunity to inspect the technology used in the facility's safety systems for themselves. The filling stations were all installed underground and each one has its own liquid management system. Alarm and sprinkler systems are in place at each station, as is an eye wash station and equipment with specialised safety couplings for use during transshipment. The maintenance shafts were constructed to be able to accommodate excess water from the sprinkler system. An emergency generator ensures that operations can continue without interruption even in the unlikely event of a blackout. Safety is the utmost priority for DB Cargo – at the company itself as well as for customers, residents living near railways and the environment as a whole. This is why DB Cargo believes it has a special responsibility to move hazardous materials shipments from the roads to the railways.

The right wagon for every kind of freight

DB Cargo may have the largest rail network in Europe, but it also has the largest and, even more importantly, the most versatile wagon fleet – an unbeatable combination because it allows the company to offer a solution to truly meet every need.

DB Cargo organises its various freight wagons into 14 categories, meaning it has the right wagon for every industry and every application. In our new series, we'll present all the different categories, highlighting one wagon at a time.

The first category in the series is the covered bulk freight wagon, which features a rapid central gravity unloading mechanism, mechanised flap-closing system and four wheelsets. In addition to covered bulk freight wagons with precision gravity unloading, DB Cargo also offers vehicles for rapid unloading between the rails. This wagon offers the special advantage of keeping dust levels low during loading and unloading.

DB Cargo offers 23 different covered bulk freight wagons

The Tanoos-y 898 is a central self-unloading wagon with a swing roof. It is designed for the transport of moisture-sensitive bulk freight and may be used exclusively for shipping salt. The wagon unloads into underground hoppers between the rails. Its body comprises a funnel-shaped container that is permanently welded to the wagon's underframe. The wagon features a swing roof on top and four sliding unloading gates on the bottom – these openings are fitted low and offer precision unloading. Operating wheels on the side of the wagon are used to open and close the dual sliding gates. The swing roof is operated using a convenient wheel located on the single end platform. To reduce condensation, the swing roof has an insulated sandwich design with an outer layer of stainless steel. This construction is highly advantageous when transporting and eventually unloading salt. Being sensitive to moisture, salt forms fewer clumps in these wagons and will continue to flow freely. This ensures high quality while also keeping large clumps of salt from clogging the wagons' funnels.

The 14 categories of freight wagons
. E: Open wagon F: Open bulk freight wagon
. H Covered, high-capacity sliding-wall wagon
. R: Bogie flat wagon with four wheelsets
. S: Bogie flat wagon with six wheelsets
. S: Bogie flat wagon for transporting coils
. S: Bogie flat wagon for transporting steel plates
. S: Bogie flat wagon with tie-down fastenings
. T: Covered bulk freight wagon T: Wagon with opening roof
. Lorry transport Combined transport Tank wagon

Locomotive with autonomy

PKP CARGO S.A. will cooperate with Pesa Bydgoszcz S.A. and Institute of Rail Vehicles "TABOR" in Poznań in research and development works on the construction of a dual-system autonomous locomotive.

The agreement on this matter was signed in Berlin during InnoTrans by the president of PKP CARGO S.A. Czesław Warsewicz, head of Pesa Bydgoszcz S.A. Krzysztof Sędzikowski and the director of IPS "TABOR" Maciej Andrzejewski. It anticipates that PKP CARGO and Pesa will develop technical assumptions and configuration of the designed locomotive, which will be verified by scientists from IPS "TABOR". The second stage will consist in design and research works, followed by the construction of a dual-system, electricity and diesel autonomous locomotive by Pesa. The first vehicle will be tested by PKP CARGO, thanks to which under normal track operation conditions it will be possible to verify the functioning of the locomotive, as well as implement corrections and improvements in its construction.

Czesław Warsewicz, president of PKP CARGO S.A. points out that two-system locomotives are universal, as they allow performing both shunting and lining operations without changing the vehicle. " We are optimistic about the joint research and development on new locomotives, we hope that they will result in construction of innovative vehicles that will increase the efficiency of our work" emphasizes Czesław Warsewicz. "New locomotives will be more efficient and will help to reduce costs, which is important under the circumstances of rising fuel and energy prices"- adds the head of PKP CARGO S.A.

"This contract is an example of our good cooperation with PKP CARGO. It is important to us and shows that we not only restructure the company, but also think about innovation" says Krzysztof Sędzikowski, president of Pesa Bydgoszcz.

The project of an electric-diesel autonomous locomotive, which is based on the Gama family locomotive platform, received a positive evaluation and recommendation for funding under the Innotabor program announced by the National Center for Research and Development. The autonomous locomotive - after completing all tests and obtaining the required permits - is to be commissioned in four years.

The vehicle is to achieve the level of GoA3 automation. In practice this will mean that the locomotive will not require control of the route by the driver, as the safety will be ensured by an autonomous steering system controlled by artificial intelligence (AI). It will be composed of a system of sensors, cameras, gyroscopes and the like devices. But the driver will be present in the cabin, primarily to take over the control of the locomotive in the event of unusual situations.

Bombardier completes world-first ERTMS tests in Sweden

Bombardier Transportation has completed the world's first tests of the latest wayside software release of the European Rail Traffic Management System (ERTMS) Level 2 solution, known as Baseline 3 Release 2. The pilot operation of the BOMBARDIER INTERFLO 450 solution took place in August on Sweden's ERTMS test track as part of the preparations for the national rail upgrade, set to safely increase speeds, reliability, and capacity as well as integration with Europe.

The market-leading wayside tests were conducted, in close collaboration with Swedish Transport Administration Trafikverket, between August 20-23 with an ERTMS Baseline 3-equipped Bombardier Rc6 test vehicle. This significant milestone in the preparations for rail modernisation in Sweden follows the official approval of the INTERFLO 450 rail solution by Trafikverket and Swedish Transport Agency, Transportstyrelsen, in 2017. Sweden's 40-km Corridor B ERTMS test track, located in southern Sweden, is being used to test the system without disrupting existing rail services.

Project Director Anders Åkeson from Trafikverket stated, "This is a major step towards ERTMS roll-out in Sweden.

The results of these tests with Bombardier show we are getting ready to progress from testing to implementation. Our real-life test environment demonstrates the reliability of the standard as well as interoperability between sub-systems. The ERTMS installed base demonstrates four to six times higher reliability than the conventional systems operational today"

"For Bombardier, these successful tests mark another major milestone towards building an ERTMS-enabled rail network in Sweden. This reflects our technical capabilities and commitment towards Trafikverket in delivering future-proof, high-technology mainline rail control solutions," added Anna Hojer Head of Nordic / Managing Director, Bombardier Transportation Sweden.

Initially created to enable European cross-border rail traffic, the globally-adopted digital ERTMS Level 2 standard provides accurate and continuous radio-based, automatic train protection. These world-first tests for the very latest software release for the wayside system, encompassing the most advanced functionalities, reflect the maturity of Bombardier's technology. ERTMS Level 2 can optimise higher-speed operation and supports network interoperability, while reducing maintenance costs. Bombardier commissioned the first ERTMS Level 2 worldwide and today its solutions are used in 26 countries.

Bombardier has supplied solutions to the Swedish railway system for over 100 years. Its local presence includes its regional business, project delivery and engineering hub for rail control, production centre for propulsion systems and network of service centres. As well as being the only supplier with approved ERTMS Level 2 technology, Bombardier has equipped over 130 vehicles with its BOMBARDIER EBI Cab onboard ready for the ERTMS upgrade and is a leading rail control supplier for regional and commuter lines.

Bombardier Transportation Presents a New Battery-Operated Train and Sets Standards for Sustainable Mobility

Emission-free, energy-efficient and low-noise – the new battery-operated train from Bombardier Transportation, scores with these features. A group maiden voyage with the BOMBARDIER TALENT 3 electro-hybrid train was the highlight of the press event at Bombardier's Hennigsdorf site. The guests included Enak Ferlemann, State Secretary at the Federal Ministry of Transport and Digital Infrastructure and Federal Commissioner for Rail Transport as well as the Brandenburg Transport Minister Kathrin Schneider.

"We want to continue to electrify rail transport. A train that can charge its batteries from the overhead line while driving is a huge step toward this and the epitome of innovation," the State Secretary stated. "On non-electrified or only partially electrified routes, the motto is: move away from diesel on the tracks and toward cleaner and more environmentally-friendly mobility."

The new battery-operated train is the first of its kind to enter passenger operation in Europe in over 60 years. It does not generate any exhaust and sets the standards for smart mobility with peak values of 90 percent in the areas of efficiency and recyclability. It is also around 50 percent quieter than modern diesel trains. According to a comparative study by the Technical University of Dresden, the battery-operated train clearly has an edge with respect to the total costs across the service life of 30 years.

"With our new battery-operated train, we are putting real innovation on the tracks," says Michael Fohrer, Head of Bombardier Transportation in Germany. "This train is Bombardier's technological response to challenges such as air pollution, climate change and scarcity of resources. Around 40 percent of the German rail network is not electrified. The Bombardier battery-operated train is an attractive option to counter that, both economically and ecologically speaking."

In general, the prospects for the battery-operated train are positive. The range increases proportionally with the continuous capacity increases due to new battery developments. The current prototype is equipped with four BOMBARDIER MITRAC traction batteries and can travel routes of around 40 kilometres – in 2019, the next generation of battery-operated trains will be able to cover distances of up to 100 kilometres on non-electrified railways. In 2019, Deutsche Bahn (DB) will start a twelve-month trial run with passengers with the current prototype in the Alb-Lake Constance region.

The development of the battery-operated train is subsidised by the German federal government in the framework of an innovation program for electromobility with four million euros. The project partners include the DB Regio subsidiary DB ZugBus Regionalverkehr Alb-Bodensee (regional transport for the Lake Constance region), Nahverkehrsgesellschaft Baden-Württemberg (Baden-Wuerttemberg Regional Transport Company) and the Nationale Organisation Wasserstoff- und Brennstoffzellentechnologie (National Organisation for Hydrogen and Fuel Cell Technology) and the Technical University of Berlin.

Siemens Mobility wins digital services order for Singapore mass transit system

Siemens Mobility and consortium partner ST Engineering Electronics Limited have been awarded an 18.8 million Singapore dollars contract by the Singapore Land Transport Authority (LTA) to develop and implement a Rail Enterprise Asset Management System (REAMS). This digital program will be managed from the MindSphere Application Center in Singapore, one of Siemens' digitalization hubs. The facility was the first to integrate multi-disciplinary digitalization specialists from different Siemens businesses.
"This order from LTA confirms the growing demand from our customers for an entire asset management solution. The shift towards data-driven, just-in-time predictive maintenance and asset monitoring is key to guaranteeing one hundred percent availability of an entire system – from rolling stock to signaling, power and communications – and enhancing its performance over the lifecycle," said Johannes Emmelheinz, CEO of Siemens Mobility's rail service business.

REAMS will increase overall availability and improve operational efficiency by limiting maintenance downtime, increasing infrastructure reliability and optimizing the lifecycle costs of key assets. In the initial phase, the system will be implemented on Singapore's 42-kilometer Downtown Line (DTL), which is served by a fleet of 92 trains and 34 stations. The consortium will develop a software platform that will store and analyze data from DTL's maintenance management system and the core systems that are critical to DTL's efficient operation: trains, signaling, platform screen doors, power supply system, tracks, communications and the integrated supervisory control system. The collected technical data will be combined with financial information to create decision-supporting tools for data-centric asset management. The core functions of REAMS are expected to be operational by mid-2020. Other metro lines in Singapore will be added in future phases.

REAMS will also be equipped with data analytics capabilities and expertise based on Railigent, Siemens Mobility's Data Analytics Application Suite for Rail, in order to identify potential issues before they occur, so that assets can be repaired or renewed pre-emptively.

First CalTrain car bodies roll into new Stadler SLC facility

First car bodies for CalTrain to roll into Stadler's new Salt Lake facility, marking two major milestones for Stadler in North America.

The CalTrain project is the biggest project Stadler US has taken on in its two-year presence in Salt Lake City. The train manufacturer, with roots in Switzerland, was awarded the contract in 2016 to design and build 16 six-car KISS double-decker electric multiple-unit trains. The contract also includes an option for an additional 96 cars.

While manufacturing of the car bodies takes place in Switzerland, Stadler US will handle all steps of final assembly and commissioning in Utah.

The first car bodies arrived in Salt Lake City on Tuesday, Sept. 5th. Due to their height and size, they will roll directly into Stadler's new facility at 5800 W 150 S, Salt Lake City, UT 84104, marking the first time Stadler will use their brand new facility.

The contract with CalTrain is part of California's CalMod project, which will electrify the corridor from San Francisco's 4th and King Caltrain Station to the Tamien Caltrain Station. It is the first time that Stadler sells lightweight double-decker trains to the United States. With this contract Stadler KISS trains will be running in nine different countries. The contract for Caltrain marks the seventh, and by far the biggest success in the United States for Stadler.

Stadler sign a supply contract with Go-Ahead for 22 FLIRT railcars

Go-Ahead has commissioned Stadler with the delivery of 22 electric FLIRT railcars for use on the Allgäu E network in Baden-Württemberg and Bavaria.

The contract with a low three-figure million euro order volume was made official at a ceremonial signing from Stefan Krispin, General Manager Go-Ahead Germany, and Ulf Braker, CEO Stadler Pankow, in Berlin during the international leading trade fair for transportation technology.
Go-Ahead once again triumphed in the context of a Europe-wide tender and will be operating the railway services on the Allgäu E network in future. As of 12.12.2021 the electric railcars will be put into action on the Munich-Memmingen-Lindau route. This means Go-Ahead now has a fleet of 88 FLIRT railcars in total with various configurations and features.

The four-part vehicles are generously designed in terms of seating, including work tables and plug sockets for charging mobile devices. Extra luggage racks add to the luggage storage above the seats. Passenger spaces can be monitored via cameras built into the vehicle ceilings, thus contributing to safety. Both the interior and the exterior of the vehicles are designed in the traditional Bavarian blue and white. 395 people can travel in the 74-metre long railcars; 200 of them sitting in second class and 16 in first class. Just like all FLIRT railcars, these trains have a bright and friendly passenger area, are easily accessible, and have a continuous low-floor design. There are two toilets in the railcars, one of which is equipped according to TSI PRM. The particularly large multi-purpose areas provide space for transporting up to 21 bicycles, bulky luggage, pushchairs and prams. Wheelchair spaces are installed according to TSI PRM. The state-of-the-art passenger information system and the Wi-Fi in the vehicles themselves help those travelling to receive up-to-the-minute journey updates. The trains travel at a maximum speed of 160 km/h.

"We are very pleased that we are able to continue the excellent, partner-based cooperation with Go-Ahead," said Ulf Braker, Managing Director of Stadler Pankow GmbH. "The vehicles are the first e-vehicles that will run to Lindau am Bodensee on this route which will be electrified by the time operations begin. The extremely comfortable vehicles with large luggage racks are our key to meeting the increase in travel in this region."

"With the supply contract for the Allgäu electric network we have now concluded our fourth contract with Stadler. One of the cornerstones of our high-quality operations are the state-of-the-art vehicles," said Stefan Krispin, Managing Director of Go-Ahead Verkehrsgesellschaft Deutschland GmbH. "As new railway operators on this route, our future passengers will have high expectations of us in terms of comfort, safety and quality, and we want to fulfil these expectations with the new FLIRT railcars from Stadler."

From the UK

Severn Valley Railway

This years Autumn steam gala at the line featured visitors LMS Princess Coronation No. 6233 Duchess of Sutherland, LMS Royal Scot No. 46100 Royal Scot,BR Britannia No. 70000 Britannia and LNER Q6 No. 63395 as well as the home fleet with plenty of overnight running.

GWR Heavy Goods loco No. 2857 arrives at Bridgnorth with a service from Kidderminster, passing LNER Q6 No. 63395 heading in the opposite direction. *Richard Hargreaves*

SR West Country Class No. 21C127/34027 'Taw Valley' waits departure time at Kidderminster. *Richard Hargreaves*

British Railways (BR) Standard Class 7 No. 70000 'Britannia' arrives at Highley with a service to Kidderminster. *Richard Hargreaves*

From the UK

On September 21st, LMS Princess Coronation Class No. 6233 ‘Duchess of Sutherland’ arrives into Kidderminster with a service from Bridgnorth. *Richard Hargreaves*

From the UK

Visitor for the gala, LNER Q6 No. 63395 (NER T2 2238) approaches Highley on September 21st, heading to Bridgnorth.
Richard Hargreaves

Tranz Rail No. DSC2229 is seen at Mount Manganui depot, Tauranga on November 15th 2010. *John Sloane*

Stabled at Palmerston North depot on November 20th 2010 is Tranz Rail's No. DC4409. *John Sloane*