Railtalk Magazine *Xtra*

Issue 171x
December 2020
ISSN 1756 - 5030

Contact Us

Editor

david@railtalkmagazine.co.uk

Content Submissions

entries@railtalk.net

Technical & Subscription Support

admin@railtalk.net

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 above.

All images should be provided at a resolution of at least 2400px x 1700px at 240dpi.

Welcome to Issue 171Xtra

The end of a difficult year draws ever closer, and as I said last month, lets hope for some better times in 2021. But as we close 2020 I really must thank everyone who has contributed in the last few months, your photos have been invaluable to the magazine and I know that they have been well received by our readers.

In the news this month is the end of an era in Japan as the third sector Mikajiri Line is due to close on December 31st, effectively bringing to an end the movement of coal by rail in Japan. Electrified at 1.5kV DC, the 7.6km, 1067 mm gauge railway is operated by the Chichibu Railway in Saitama Prefecture, providing a link between Mikajiri and the Kumagaya freight terminal north of Tokyo. The line was built following the withdrawal of freight handling facilities at Kumagaya station to free up land required for the construction of the Joetsu Shinkansen. It mainly carried coal and limestone to the Taiheiyo Cement Co works at Mikajiri. By 2019 the infrastructure, including extensive sidings adjacent to the cement works, was becoming life-expired, leading to a decision to wind down operations. Although the railway does not formally close until December 31st, the last coal trains were operated by JR Freight on February 26th and the last general freight traffic was carried in September. The coal trains were the last such traffic to operate anywhere in Japan, running to Mikajiri from a dockside terminal near Ogimachi station in the Keihin industrial area, close to Tokyo's Haneda airport.

A manufacturer I had not heard of, but RUSSIAN light rail manufacturer PK Transport Systems has secured contracts to supply 31 Lion LRVs to the cities of Perm and Izhevsk. The city of Izhevsk, Udmurtia, will lease a fleet of 16 low-floor single-section 71-911 EM LRVs from the State Transport Leasing Company (STLK), which has placed the order with PK Transport. PK Transport says that the entire fleet will be shipped to Izhevsk by December 8. The LRVs, which are a variant of PK Transport's Lion LRV platform, will operate services on Izhevsk's Route 10 light rail line. Each vehicle will have 40 seats. The LRVs will be equipped with an external video monitoring system and driver assistance systems. The vehicles will also feature a folding ramp for improved accessibility, driver call buttons, fire-retardant aluminium interiors, air-conditioning, USB power sockets and a passenger information system. The fleet will be 60% funded through the federal Safe and High-Quality Roads (BKAD) transport initiative, with the remaining 40% provided by the Udmurtian state government.

"The problem of obsolete rolling stock is urgent for many cities, and it is gratifying that the authorities of Udmurtia and Izhevsk, in particular, have made a fundamental decision not to postpone the solution of this issue," says Mr Felix Vinokur, president of PK Transport Systems.

PK Transport has also won a contract to supply 15 71-911 EM single-car LRVs to the city of Perm, Perm Krai. Under the contract, PK Transport will deliver six units by the end of 2020, and another nine by March 1 2021.The new fleet is in addition to nine Lion LRVs previously delivered by PK Transport to the city. The first two LRVs were delivered in December 2019, with the remaining seven entering service in May 2020.

Another company I have never heard of is Zagreb-based Koncar EV who are supplying 21 EMUs to CROATIAN Railways' (HZ) subsidiary operator HZ Passenger Transport (HZPP). The first train will be delivered by November 2022, with the full fleet arriving before December 2023. The order comprises 11 trains for use on commuter lines, which will be delivered first, and 10 for use on regional networks. The trains have high accessibility for passengers with reduced mobility, and will be equipped with passenger information and CCTV systems, as well as WiFi and multipurpose spaces for luggage or bicycles.

A Merry Christmas and a Happy New Year to all our readers and contributors, lets hope for a great start to 2021.

Until next month

David

This Page

An unidentified CP Class 1400 departs Pinhao whilst working train No. IR866 11:08 Pocinho - Porto C.

Laurence Sly

Front Cover

On October 23rd, ELL Vectron Class 193.766 passes Soest Spiekerweg with a driver training run for the new Railjet service between Amsterdam and Wien. *Andre Pronk*

On October 23rd, Lineas Nos. 7786 and 7868 pass the 'Koppelpoort' in Amersfoort with the Dolomite train from Veendam (NL) to Hermalle-sous-Huy (B). *Erik de Zeeuw*

Terms & Conditions

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

HAD-PRINT
Unit 2-4, 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, Rob Boyce, Keith Chapman, Julian Churchill, Nick Clemson, Derek Elston, Mark Enderby, Tim Farmer, Dave Felton, FrontCompVids, Paul Godding, Richard Hargreaves, Jim Haywood, Keith Hookham, Colin Irwin, John Johnson, Anton Kendall, Mathijs Kok, Jyrki Lastunen, Ken Livermore, Michael Lynam, Peter Marsden, Phil Martin, Denzil Morgan, Thomas Niederl, Peter Norrell, Chris Perkins, Mark Pichowicz, David Pollock, Andy Pratt, Andre Pronk, Paul Quinlan, Railwaymedia, Alan Rigby, Bryan Roberts, Neil Scarlett, John Sloane, Stephen Simpson, Laurence Sly, Stewart Smith, Steamsounds, Steve Stepney, Mark Torkington, Gerard van Vliet and Erik de Zeeuw.

CBH Groups Nos. CBH002 and CBH025 rattle over the points at Midland as they take empty grain hoppers back to the 'bush' for another load. *Colin Gildersleve*

Watco Australia's No. G511 backs a short rail train out of Flashbutt Yard and into the loop at Midland ready to head out to the site of upcoming track work. *Colin Gildersleve*

Aurizon narrow gauge No. S3304 heads through Keysbrook towards Kwinana with empty Caustic Soda tanks for refilling, before returning them to the Alumina mine site at Pinjarra. *Colin Gildersleve*

Pacific National's Nos. NR34 and NR97 head out of Flashbutt Yard, Midland with four loaded rail wagons working train No. 5P32 to Forrestfield. *Colin Gildersleve*

Austria

First hardware independent cloud-enabled interlocking in operation

DS3: ÖBB and Siemens Mobility put the first digital interlocking architecture into operation in Achau, Austria

Digitalisation generates major economic benefits for infrastructure operators

First approval of a digital SIL4 interlocking based on COTS hardware

Together with Siemens Mobility, ÖBB-Infrastruktur AG has put a completely new digitalisation solution in the field of safety and security technology into operation at the train station in Achau, Austria: The “Distributed Smart Safe System” (DS3) is an innovative digitalisation solution and the basis for cloud-enabled interlocking (“Interlocking in the Cloud”).

“We are digitizing ÖBB’s infrastructure - the digital interlocking is a component of our comprehensive digitalisation strategy. This and many other projects make it possible to increase the capacity of our infrastructure and at the same time improve safety and security, punctuality and cost efficiency,” said Johann Pluy, Member of the Management Board of ÖBB-Infrastruktur AG.

Michael Peter, CEO Siemens Mobility, said: “The DS3 interlocking in the cloud for ÖBB in Achau is a real quantum leap for the railway industry. It enables the virtualisation of most signalling components, such as interlocking computers or ETCS computers. The trains send their position data by radio link to a central system which ensures safety, sets points, manages routes and sends authorisations to the vehicles. Siemens Mobility is proud to have developed this new signalling system, which will make rail operations more efficient, effective and flexible”.

This technology creates various new possibilities that were either entirely or nearly out of reach until now. For example, signals and points can be smartly controlled, thus enabling innovative diagnoses, predictions of malfunctions and also predictive maintenance. This will make rail traffic even more punctual and effective, thus enhancing the attractiveness of trains as a means of transport and increasing passenger satisfaction.

DS3 makes signalling hardware independent and cloud-enabled. When switching to this new technology, infrastructure operators therefore have the opportunity to completely integrate existing installations and systems. The platform fulfills the world’s highest safety standards for rail safety and security and features other advantages like cost efficiency and flexible maintenance. In addition, it contributes to sustainability, by providing savings in terms of space and energy, compared to existing systems. In the future, interlockings can be significantly reduced and combined into one data center.

Benefits for infrastructure operators and passengers
DS3 allows the ÖBB-Infrastruktur AG to benefit from a wide variety of economic advantages, such as predictive, affordable maintenance of installations, while increasing its availability. Increased cost efficiency is a particularly attractive asset: DS3 boasts lower lifecycle costs compared to other solutions that are available on the international market. Furthermore, this project presents the first-ever approval of a SIL4 interlocking on a COTS hardware and is therefore an international pilot and reference project.

December 2018 already marked the start of the first joint field trials between ÖBB and Siemens, which were conducted successfully. Following approval of the system, the interlocking was able to be effectively put into live operation at the train station in Achau on the 18th November 2020, while assuming full responsibility for security and safety.

Technology in detail
DS3 is the world’s first platform to securely make signalling applications functional and operational on standardised hardware. This means that unlike in the past, the need for creating special hardware has been eliminated. For the first time ever, the DS3 platform can be used on different, commercially available hardware for various applications and interfaces of rail safety technology: It can form the basis for the digital interlocking and for the radio block center (RBC) in the European Train Control System (ETCS). Thus, DS3 represents the fundamental building block for flexible cloud solutions. It enables the centralisation of interlockings, for example at operation control centres, as well as the geo-redundant configuration of systems.

Moreover, it can be centralised and scaled and is compatible with a wide variety of existing systems and supports standards such as Eulynx, Neupro/RASTA. As a universally deployable platform, DS3 can be combined with many rail safety technology products, when it comes to interlocking, train protection/RBC, signal controlled warning systems, control technology and others, and can be used in various safety levels (SIL).

Photo: OBB/Robert Deopito

From Hallein to Cleveland, Ohio

With its transport services for structural building components made by the company ‘Binderholz’, the Rail Cargo Group is paving the way for what is currently the biggest solid timber construction project in the USA: “Cleveland Market Square”.

The Cleveland Market Square project is the biggest solid timber construction project in the USA right now – and it’s all ‘Made in Salzburg’.

On September 29th, the Rail Cargo Group began transporting the first building components produced by the company Binderholz. Loading began in Hallein and the last train set off on November 12th. Over the past few weeks, three laapr container loads have been delivered to the Port of Antwerp on the environmentally friendly railways.

At the Port of Antwerp, the building components are then loaded onto a bulk ship that makes a direct, non-stop trip across the Atlantic, up the Saint Lawrence River and across the Great Lakes to Lake Erie. They are then transshipped at the Port of Cleveland. The final three kilometres from the Port of Cleveland to the “Cleveland Market Square” building site is the only stretch of the whole 7,500km journey that is covered by truck.

US success story made in Austria
With its transport services for structural building components made by the company Binderholz, whose engineering and sales premises are located in Hallein and manufacturing in Unternberg, the Rail Cargo Group is not only paving the way for in the American success story ‘Made in Salzburg’, but also for more green transport on the environmentally friendly railways.

Austria

First departure of the TransFER China – Vienna off to a successful start

With the first LCL transport on November 19th from Xi'an, the Rail Cargo Group is expanding its portfolio to include another attractive transport service for Less than Container Loads along the Silk Road to Vienna.

As the first departure of the Rail Cargo Group's new TransFER China–Vienna for Less than Container Loads (LCL) got underway, it is now also possible to send individual cargo shipments in consolidated containers between Europe and Asia.

This transport covers around 9,600 kilometres of rail and has a transit time of 18 to 20 days. Goods can be transported directly from Xi'an over the Chinese-Kazakh border at Dostyk and on to Vienna. From there, they can be efficiently distributed further across the Rail Cargo Group's European TransNET.

Between Europe and Asia
The RCG is thus expanding its comprehensive service portfolio on the Eurasian continent and is strengthening Less than Container Load (LCL) transport between Austria and China on the environmentally friendly railways. The connection provides both an affordable alternative to air freight and a fast alternative to sea freight between Asia and Europe.

Buses on ROLA for the first time

Rail Cargo Group has transported 49 buses from Wörgl to Trento for the company OMR. This is the first time in the history of ROLA that buses rather than trucks have travelled on the Rolling Road.

A total of 49 buses belonging to the company OMR, one of the largest commercial bus companies in Europe, have been brought from Germany to Thessaloniki in Greece. The section of the journey they covered on the ROLA over the Brenner made a real difference when it comes to efficiency and to protecting the climate.

These used buses were split into groups of five to nine and loaded on to the ROLA in Wörgl before being brought to Trento. From Trento, they then continued on their own to the ferry in Venice, which took them on to Greece. All of the buses arrived safely and on time at their destination in Greece, where they are being used for urban transport. Transporting them on the ROLA means a significant stretch of the journey is carried out in an environmentally friendly way. Re-using the buses also makes a big contribution to saving resources.

ROLA benefits
The buses were loaded at the Rolling Road Terminals and transported using special low-floor wagons while the bus drivers were able to rest in the accompanying carriage and enjoy its on-board services. Thanks to this accompanied, combined (intermodal) transport, ROLA relieves transit routes of heavy traffic, considerably reduces emission levels and makes an important contribution to protecting the environment.

Reducing noise levels in rail freight transport

The EU regulation on reducing noise in freight transport will come into force in Germany from December 2020. As a result, the Rail Cargo Group will be providing exclusively low-noise freight wagons for transport into and through Germany.

An Act has been passed stating that only quiet wagons may be used for freight transport on main routes across the entire EU by the end of 2024. For many countries, Austria included, this amounts to a blanket ban on 'loud' freight wagons that have conventional brake pads and applies to all transport services – which also affects transit traffic. This Act already came into force in Switzerland in January 2020; it will also be implemented in Germany as of December 2020. From December, the Rail Cargo Group will therefore only be providing our customers with quiet freight wagons for transport into and through Germany.

What does this mean for our customers?
This means that only wagons that have the appropriate braking equipment and vehicles with the correct identification markers will be allowed to travel into and through Germany from December. Shipments that have already been submitted for transportation can be accepted at the border to Austria up to and including November 26th. Any shipments that arrive after this date will be held up at the border. In such cases, the authorised parties will be requested to provide instructions on how to proceed.

Quiet tracks in rail freight transport
A green future is a rail future. To achieve this, we are continually optimising our product and service portfolio and investing in the latest modern equipment. Reducing noise emissions is something we at the Rail Cargo Group are actively involved in. Therefore, we have been equipping all the freight wagons we have in service with quiet brake pads. Work to retrofit

wagons with quiet braking systems began back in March 2018. As things stand, 80 percent have already been equipped and work should be complete by the end of 2021.

Czech Republic

Christmas in Trutnov can begin

The joint-stock company ČD Cargo has helped with the installation of the Christmas tree on Krakonoš Square in Trutnov.

The spruce was brought from Poříčí to the historic center of Trutnov by the Technical Services and thanks to our crane and skilled staff from the Logistics Services Center Kalná Voda, it took less than an hour to erect.

So Merry Christmas!

Photo: © CD Cargo

The operation of the first train by CD Cargo Hungary

Cargo Hungary

On November 11th, CD Cargo Hungary arranged the first transport on its own license on Hungarian lines. It was a train with wood from various destinations in the Czech Republic to the Romanian station of Moacsa.

In the coming weeks, these transports should be carried out regularly in cooperation with ČD Cargo - CD Cargo Slovakia - CD Cargo Hungary.

Photo: © CD Cargo

Czech Republic

ČD Cargo provided transport of soldiers and military equipment to Lithuania

The coronavirus pandemic also affects the training of the Army of the Czech Republic, as it means the cancellation of most military exercises. Members of the Mechanized Battalion from Hranice na Moravě will nevertheless take part in one exercise. Brilliant Jump is the name of an international military exercise that is currently taking place in Lithuania. It will test NATO's Very High Readiness Joint Task Force (VJTF). VJTF must be ready for deployment within five days anywhere in the world.

Almost 300 soldiers and over 50 pieces of military equipment were reliably transported to Lithuania by ČD Cargo who have provided a comprehensive logistics chain for the army, including transhipment between normal and broad gauge.

Photo: © CD Cargo

Synergies within the ČD Group

Until December 2020, we can see two Vectrons of Czech Railways at the head of ČD Cargo freight trains. These are locomotives Nos. 193.289 and 193.295.

Whilst No. 193.289 has been operating in Austria, No. 193.295 has been employed on freight trains between Nymburk and Cheb.

Rental of these locomotives has been possible due to a decrease in the number of passenger trains.

The peak season in freight transport and the increase of ČD Cargo's performances abroad stand against this.

Photo: © CD Cargo

DB Class 185.377-9 runs north through St. Goarshausen with a Klv (combined cargo traffic) on October 28th.
Erik de Zeeuw

BayernBahn Class 140.438-3 is on its way with the 'Henkel Train' (Persil and beauty products) from Langenfeld to Gunzenhausen. *Erik de Zeeuw*

Cologne Public Transport Authority commissions Alstom and Kiepe

Electric to supply 64 trams

The Cologne Public Transport Authority (Kölner Verkehrs-Betriebe AG, KVB) has signed a contract with the manufacturer consortium Alstom and Kiepe Electric for the supply of 64 low-floor trams. The order for the new Citadis type trams with special adaptations for the German market is worth 363 million euros. Alstom's share amounts to 60% of the total value of the contract.

"Following the contract with VGF in Frankfurt, this order is a further proof of the worldwide success of our flagship tram Citadis," says Dr. Jörg Nikutta, Managing Director for Alstom in Germany and Austria. "Our trams will provide the passengers of the Cologne Public Transport Authority with the highest level of passenger comfort and will support the Cologne Public Transport Authority in successfully meeting the challenges of urban transport."

The first pre-series vehicles will be delivered to the Cologne Public Transport Authority from end of 2023. The series vehicles will follow one year later at the end of 2024. The contract also includes some options for a total of 47 additional vehicle units.

Dr. Jürgen Wilder, Member of the Executive Board of Knorr-Bremse AG and responsible for the Rail Vehicle Systems division comments: "This is the largest single order in the history of Kiepe Electric. We are proud and at the same time forward-looking that a joint technical concept from companies of the Knorr-Bremse Group was convincing in the tender. We will justify the trust placed in us by our partner Alstom and the Cologne Public Transport Authority with future-proof technology and strong service."

Alstom, as consortium leader, will produce 62 modern low-floor vehicles (60-meter long trains) and two low-floor vehicles with a length of around 30 meters at its Barcelona plant. The electrical components of the trams will be supplied by Kiepe Electric's Düsseldorf plant and will also be installed in the trams in Barcelona. The bogies for the Citadis trams will come from Alstom's Le Creusot plant in France.

The Citadis trams will operate throughout the entire urban area of Cologne and make a decisive contribution to inner-city mobility. They impress with large windows, LEDs for pleasant soft lighting, large individual seats and travel information on large screens. The equipment also includes innovations such as driver assistance systems, automatic dipped beam and rain sensors. The trams each consist of two 30-metre low-floor vehicle units and thus have a total length of 60 metres, offering space for 195 passengers. 10 double doors on each side ensure an improved passenger flow into the tram way. Especially for the German market, the trams will have pivoting bogies for maximum vehicle flexibility and steel car bodies.

With drive-, on-board- and control technology as well as traction converters from Kiepe Electric, the trams will have reliable and modern electrical technology. The latest control technology will ensure safe, efficient and thus customer-friendly fleet traffic. The pioneering vehicle concept is highly

available, efficiently maintainable and includes a modern driver's workplace. As a contribution to traffic safety in the metropolis of Cologne, the new railways will be equipped with a collision warning system.

Other leading technology from the Knorr-Bremse Group will also be supplied to the trams with hydraulic braking systems from Knorr-Bremse, Munich, boarding systems from IFE, Kematen, and innovative air-conditioning technology from MERAK, Vienna. This meets the high sustainability requirements of the KVB. On the one hand, with the use of a CO2-based refrigerant, and on the other hand, the concept of using waste engine heat to warm the passenger compartment is exemplary.

Photo: This is what the tramways for the Cologne Public Transport Authority could look like in the future (Copyright Alstom | Design & Styling)

On October 26th, DB Class 187.103 passes Hammerstein with a Skoda car train heading to Emden. *Erik de Zeeuw*

Germany

On October 26th, at the height of Hammerstein, DB Class 187.131-8 is on its way with a unit cargo train towards Koblenz. *Erik de Zeeuw*

Germany

On October 30th, SBB Cargo Class 193.521 hauling a Klv (combined cargo traffic) passes Weingut Friedrich Altenkirch on its way to Busto Arsizio (I). *Erik de Zeeuw*

LED instead of lightbulbs: DB is investing in more climate-friendly lighting

Light bulbs were yesterday: Deutsche Bahn is investing in completely “green” rail operations by 2050 and is converting all lighting systems to the more climate-friendly LED. Thousands of light bulbs in trains, factories and stations are gradually being replaced by “green” lamps: over 60,000 signal lights and The lights at around 900 stations have already been replaced, which means that around 80 percent of the backlit station signs, 60 percent of the signage systems and half of the illuminated showcases and weather shelters are already equipped with LED technology.

DB also saves thousands of tons of CO 2 a year - around 4,000 at the 900 stations alone. Due to the significantly longer service life of LEDs between five and more than ten years, the energy efficiency increases many times over. In addition, DB saves raw materials and budget.

LED technology infographic

The “power guzzler” incandescent lamp will also soon be obsolete in the factories. Among other things, the CO 2 are already equipped with a “green” light-neutral ICE works in Cologne Nippes, the ICE works in Berlin Rummelsburg, Frankfurt am Main and Leipzig as well as the island transport terminal in Niebüll for the SyltShuttle. In the S-Bahn workshop in Frankfurt am Main, LEDs in the workshop and in the track area ensure optimal visibility. And that’s just the beginning: In the 53 regional plants across Germany, around 20,000 lamps have been successively replaced since mid-2018. DB also uses sustainable energy consumption in its facilities, for example in Europe’s most modern marshalling yard in Halle (Saale), which is illuminated by over a thousand LEDs. New freight locomotives and passenger trains, such as the Vectron locomotive or the ICE 4, are equipped with LEDs from the start.

Preparations are being made for replacing the lightbulbs in the DB light laboratory in Munich. A team of specialists tests LED lamps from various manufacturers there. Later on, only the lamps that meet the high DB requirements, that function reliably and are easily recognizable, are used.

DB has been campaigning for the environment for years. In addition to climate protection, the focus is also on species protection and noise protection. The DB Group regularly scores top marks in international eco-rankings, most recently with the top grade “A” in the CDP rating.

On October 28th, ecco rail Vectron Class 193.758 rumbles through Oberwesel with a rake of 'Zags' tanks. On the opposite bank of the river a DB Class 185 also hauls a rake of tanks. *Erik de Zeeuw*

Germany

LTE Class 186.941 'Attracktive Forces' passes the 'Adler Tower' in Rüdesheim am Rhein with an empty tow of GATX Eamnos cars from Gratwein-Gratkorn (Austria) to Amsterdam Westhaven (Netherlands) on October 30th. *Erik de Zeeuw*

DB Class 185.258-1 runs north through Bacharach with a container shuttle on October 30th. *Erik de Zeeuw*

On October 27th, DB Class 185.299-5 passes Assmannshausen with train No. 41556 from Verona Quadrante Europa (I) to Antwerpen-D.S. Kanaaldok (B). *Erik de Zeeuw*

DB Class 101.099-0 zooms through Oberwesel with train No. EC9 from Hamburg-Altona to Zürich HB in Switzerland on October 28th. *Erik de Zeeuw*

As green as it gets

DB Cargo Logistics assists Mercedes-Benz with the implementation of its sustainable business strategy and supports the carmaker as it takes the next step towards carbon-neutral mobility: at the start of 2020, rail services for inbound logistics made the switch to CO2-free energy.

Since January 1st 2020, DB Cargo Logistics has been using green electricity to transport production materials to the automotive giant's plants in Germany and Hungary. This shift entails constantly expanding rail-based transport and incorporating new digital and sustainability-focused innovations. The result is a milestone for the carmaker's inbound logistics: rail freight services for its vehicles' components are now completely carbon neutral. This applies to the rail links serving the Mercedes-Benz plants in Bremen, Rastatt, Sindelfingen, Hamburg, Kuppenheim and Untertürkheim, MDC Power GmbH's site in Kölleda, and most of the route to the Kecskemét plant in Hungary.

Account manager Katharina Weiss is in charge of the undertaking and says, "We are delighted that some 270 lorry loads of material are transported by rail instead of on roads every day, and that these freight trains now even use electricity from renewable sources."

DBeco plus makes all this possible: DB Cargo identifies the energy requirements of a specific transport service and buys the equivalent volume of green electricity. Freight trains in Germany and Austria use renewable power generated exclusively from these countries' domestic renewable resources, with hydroelectricity being particularly important at present. This green power replaces the corresponding volume of traditional traction current mix. DB Cargo also promotes the growth of renewable energy and reinvests 10% of the earnings generated by DBeco plus, most recently in the construction of a hybrid power plant incorporating hydrogen. This way, DB Cargo's customers get to protect the environment twice over.

DBeco plus is available on all electrified lines in Germany and Austria.

Martin Fildebrandt, key account manager at DB Cargo Logistics, says, "CO2-free transport plays a central role in carbon-neutral production plans, and it is only possible using trains. We offer our customers DBeco plus, the perfect product for achieving this goal. We have worked with Mercedes-Benz for many years, and as the lead logistics provider and a key player in the company's logistics chain, we have always focused real entrepreneurial talent and a lot of hard work on the network so that we can extend it by establishing new carbon-neutral locations."

Sustainability has always been an integral part of the carmaker's global production network. Reducing CO2 emissions at its more than 30 plants is one of the central pillars of this strategy, and the switch to carbon-neutral rail transport is an extremely important step forward.

DB Class 185.307-6 passes the church of St. Georg in Hammerstein with a unit cargo on October 31st.
Erik de Zeeuw

Siemens Mobility receives approval for Vectron Dual Mode

The Vectron Dual Mode locomotive from Siemens Mobility has received authorization for operation in Germany from the Federal Railway Authority (EBA) on October 29th, 2020. To date, Railsystems RP, Mindener Kreisbahnen GmbH, and Stern & Hafferl have ordered the Vectron Dual Mode. The Siemens Mobility Test Center in Wegberg-Wildenrath has also ordered a locomotive for delivery trips. The dual mode locomotives ordered by DB Cargo in September will also benefit from the authorization.

"The Vectron Dual Mode enables our customers to provide sustainable and cost-effective rail freight transport. As an alternative to conventional diesel locomotives, the Vectron Dual Mode offers the best of two worlds: It operates in electric mode on electrified rail routes to save fuel and reduce emissions and maintenance costs, and can switch to diesel operation on sections without overhead lines, eliminating the need to change locomotives," said Albrecht Neumann, CEO Rolling Stock at Siemens Mobility.

The German rail network is currently around 60 percent electrified, and the Siemens Mobility locomotive can operate through gaps in the system's electrification without requiring a change of locomotives. At the same time, metropolitan areas and large cities, which often have an electrified network, are spared emissions.

The Vectron Dual Mode locomotive is based on the proven Vectron platform and components. It has a track gauge of 1,435 mm and weighs 90 tons. The locomotive is designed to operate on a 15-kV AC voltage system and is equipped with a PZB train protection system. Regardless of its operating mode, the locomotive has 2,000 kW traction power at the wheel rim. The fuel tank has a volume of 2,600 litres. The locomotive has a top speed of 160 km/h.

On November 4th, HSL Belgium Class 66 No. 653-03 has worked a train to Aachen and is now on its way back light engine to Belgium. *Erik de Zeeuw*

Deutsche Bahn keeps spaces free for more distance

Deutsche Bahn (DB) is implementing the resolutions of the recent federal-state conference. For train travel with the best possible distance, Deutsche Bahn has once again adapted its reservation system to the current corona situation and the protective measures that are still in place.

DB Passenger Transport Board Member Berthold Huber: “Traveling by train is safe. In the coming weeks we will provide even more distance and space. From mid-December we will also be offering thousands of seats and more frequent journeys on many main routes with new trains. We welcome the decision by the federal and state governments.”

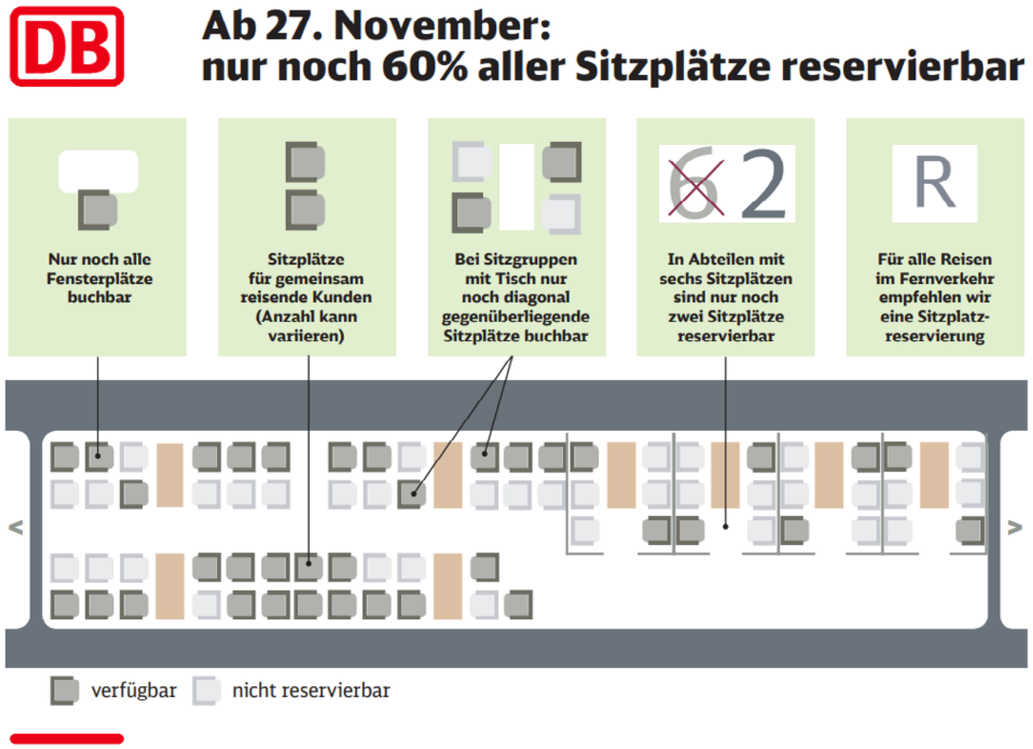
New from November 27th: On all trains, only one seat per double seat can be reserved in the open-plan coaches. All other seats remain blocked for a reservation. Individual travellers are automatically assigned window seats. For seating groups with a table, only the diagonally opposite seats can be booked (window seat on one side and aisle seat on the opposite side). This avoids reservations made by individual travellers for seats next to each other. In closed compartments with six seats, only two seats can be reserved, the window seat on one side and the aisle seat on the other.

Overall, the DB only offers 60 percent of the seats for reservation.

For customers traveling together, DB is creating extra areas in both 1st and 2nd class, where families or couples can reserve seats next to each other. The extra areas also help protect against infection, as travellers do not spread out in the carriage.

All reservable seats can still be selected using the graphic seat reservation on bahn.de or in the DB Navigator app. DB currently recommends reserving seats for all long-distance journeys. There is still no obligation to make a reservation. Travel without a reservation is still possible. In the coming weeks, DB employees will pay more attention than before to an even distribution of passengers on the train.

At the moment, long-distance trains are on average around 20 to 25 percent full.



On the connection RE4 from Dortmund Hbf to Aachen Hbf, a DB Dosto composition is on its way (Wupper-Express), with traction from Class 111.011-3 on November 4th. The last weeks of deployment has arrived for the Class 111 on RE4 services. At the timetable change in December 2020, the express train locomotives from East Westphalia will no longer operate. *Erik de Zeeuw*

Major order: DB Cargo invests for steel giant ArcelorMittal in Eisenhüttenstadt

DB Cargo has signed a ten-year contract with ArcelorMittal, the world's largest steel manufacturer and largest steel producer in Europe, to supply the blast furnace in Eisenhüttenstadt. DB Cargo is thus securing the supply of raw materials for one of the largest German steel locations until 2031.

DB Cargo is investing in top-quality logistics for its customers: the rail freight operator will procure 352 multifunctional double wagons with a total of 1,408 special containers for the transport of ore, coke and limestone by the summer of next year. The logistics provider Innofreight designed them specifically for the transport of these raw materials and optimized their loading volume. DB Cargo is also having its partner set up two partially automated unloading systems at the Eisenhüttenstadt plant by summer 2021 and will operate them itself. The new transports start immediately afterwards. A total of up to 4.2 million tons of raw materials can then be transported annually.

Future containers

"As the backbone of the German economy, we have been supplying ArcelorMittal with raw materials for many years and transporting the steel produced to customers, especially for the automotive industry and plant construction. We are now putting a lot of money into our hands for this long-standing cooperation: Our new trolleys for ArcelorMittal are characterized by a durable substructure, while the removable structure is designed to be flexible for more frequent replacement. The highlight: We can adapt the structure individually to the changing requirements, "explains Pierre Timmermans, Director of Sales at DB Cargo.

"ArcelorMittal Eisenhüttenstadt is implementing one of the most modern raw material logistics systems in Europe," says Sybille Klipstein, Lead Buyer Rail at ArcelorMittal. "With the use of special container types optimized for the different properties of ore, coke and limestone, we can increase the net payload per train by around 20 percent and thus require significantly fewer trains. This protects the environment and reduces our shunting effort in the factory. In addition, the automated unloading offers employees a low-dust and noise-protected workplace. We are thus setting new standards in terms of efficiency, environmental protection and occupational safety. "

Netherlands

While the cyclist studies his phone in the Venloos forest, the amateur photographer takes a picture of Captrain Class 189.090-4 with an empty coal train on the way from Oberhausen (D) to Rotterdam on November 4th. The signal towards Germany shows green for RFO Class 189.203, which is approaching with a Duisburg shuttle. *Erik de Zeeuw*

On October 22nd, NS ICM Nos.4246 and 4227 pass Hattemerbroek with Intercity train No. 540 from Groningen to Amersfoort. *Erik de Zeeuw*

NS International Vectron Class 193.766 passes the bridge over the river Eem in Amersfoort with train No. IC148 from Berlin to Amsterdam on October 23rd. At the start of the new timetable on December 13th 2020, ÖBB will start a direct Nightjet together with NS International from Amsterdam to Munich, Innsbruck and Vienna. To train the personnel, various trains to and from Germany are being operated with a Siemens Vectron. *Erik de Zeeuw*

BLS Cargo Class 193.497 passes near Hulten, as it hurries on to Rotterdam with a Hupac Novara shuttle on November 7th. *Erik de Zeeuw*

At Willemsdorp on November 7th, RFO Class 193.623 passes in the first rays of the sun with a Cabooter/Blerick shuttle and a friendly waving driver. For the last mile from Venlo to Blerick, the accompanying RFO No.1446 will haul the train. *Erik de Zeeuw*

Netherlands

Eurobahn Flirt ET Nos. 7.06 and 6.01 approach the German border on November 4th working a service on line 13 from Venlo in the Netherlands to Hamm Hbf in Germany. *Erik de Zeeuw*

Netherlands

DB 189.033-4 and 189.040-9 are on their way from Dillingen/Saar (Germany) to Rotterdam with an empty ore train and pass through the autumnal forest in Venlo on November 4th. *Erik de Zeeuw*

Captrain No. 1375, recently painted, heads between Breda and Tilburg on November 7th. *Erik de Zeeuw*

On November 7th, NS Class 186.041 and 186.045 top'n'tail train No. IC1135 past Oisterwijk heading from Amsterdam to Eindhoven. *Erik de Zeeuw*

Netherlands

On November 7th, BLS Cargo Class 475.406 hauls petroleum distillates on its way from 'Koole Botlek' in Rotterdam to Trecate (Italy). *Erik de Zeeuw*

While the contractor prepares the grass in rows for the chopper with his rotary rake, CROSSRAIL No. 6311 hums by with a container shuttle from Neuss (D) to Antwerp-Berendrecht (B) on November 7th. *Erik de Zeeuw*

Netherlands

In preparation for the new Amsterdam - Wien service due to start in December, driver training has been taking place along the route. Here Vectron Class 193.766 approaches Ede-Wageningen. *Andre Pronk*

Netherlands

On November 6th, another training run for the forthcoming Amsterdam - Wien service, again using Vectron Class 193.766 seen here passing Soest Spiekerweg in beautiful autumn light.
Andre Pronk

On November 4th, the training run passes Barneveld Stockholmweg. *Andre Pronk*

And again on November 4th, Class 193.766 passes Bathmen with the Amsterdam driver training run.
Andre Pronk

An unidentified CP Class 1400 passes Gouvinhas whilst working train No. IR865 09:20 Porto SB - Pocinho. *Laurence Sly*

CP Class 1400 No. 1424 approaches Pinhao whilst working train No. IR876 17:14 Pocinho - Porto SB. *Laurence Sly*

Class 1400 No. 1438 departs Pinhao whilst working train No. IR866 11:08 Pocinho - Porto Campanha. *Laurence Sly*

No. 1438 departs Vesuvio whilst working train No. IR868 13:08 Pocinho - Porto Campanha.
Laurence Sly

CP Class 5600 electric loco No. 5612 passes Gafaria whilst working train No. IC720 10:38 Porto Campanha - Lisboa Oriente. *Laurence Sly*

Siemens built CP Class 4700 No. 4719 passes Ponte whilst hauling a southbound intermodal train. *Laurence Sly*

CP Class 5600 No. 5609 passes Alem da Ribeira whilst working train No. IC523 15:30 Lisboa Oriente - Porto Campanha. *Laurence Sly*

An unidentified CP Class 1400 passes Gouvinhas whilst working train No. IR865 09:20 Porto São Bento - Pocinho. *Laurence Sly*

South Africa

Bombardier's TRAXX Africa locomotive fleet completes ten million kilometres in service

The TRAXX Africa locomotives have each made around 1,600 round trips of 2,200 km and moved over ten million tons of freight since starting service in December 2017

Ongoing production and delivery of highly reliable locomotives in South Africa marks Bombardier's commitment to the country's impressive rail modernization plan

Global mobility technology leader Bombardier Transportation has announced that its Transnet locomotive fleet in South Africa has successfully completed ten million kilometres in service since operations began in December 2017.

Transnet Freight Rail (TFR) awarded Bombardier the contract to supply 240 electric locomotives in March 2014. Since then, Bombardier has been delivering the BOMBARDIER TRAXX Africa locomotives to Transnet as part of South Africa's rail modernization plan. In addition, the localized manufacturing is contributing towards skills development in the country and Broad-Based Black Economic Empowerment (B-BBEE) programs.

"This achievement is thanks to the close partnerships between Bombardier, Transnet Freight Rail, Transnet Engineering and more than 200 local suppliers who are supporting us in the delivery of these modern electric locomotives," said Makgola Makololo, Managing Director South Africa at Bombardier Transportation. She added, "We are proud to see our locomotives forming the backbone of the regional freight movement in South Africa and Bombardier is fully committed to this country through our local manufacturing capability, strong local supply chain and job creation that comes with each TRAXX Africa locomotive manufactured here."

"This achievement is thanks to the close partnerships between Bombardier, Transnet Freight Rail, Transnet Engineering and more than 200 local suppliers who are supporting us in the delivery of these modern electric locomotives." Makgola Makololo, Managing Director South Africa at Bombardier Transportation

The locomotives are being used to transport freight on South Africa's long routes between its mines and ports. Bombardier has maximized local manufacturing and has assembled the new freight locomotives from the very first unit in South Africa. With more than 60 per cent of the total contract value on local content achieved and around 300 direct and 1,800 indirect local jobs created, we are a well-established local manufacturer and employer that is fully integrated into South Africa's fabric.

Surpassing Contractual Requirements

With over ten million tons of freight movement making 1,600 trips of 2,200 km from Hotazel to Port Elizabeth operating with multiple locomotives during each trip, Bombardier is significantly maintaining high fleet availability and reliability for Transnet's operations. The TRAXX Africa locomotives have been operating at an availability rate of 98 per cent compared to 95 per cent contractual requirement and one failure per million km compared to the target of 15 based on the contract requirements. Bombardier is a B-BBEE level 2 certified company, also exceeding the requirement to maintain B-BBEE level 4 under the contract contributing significantly towards local development programmes for the South African government.

Vietnam

Alstom puts exceptional logistics in place to deliver its metros for Hanoi Metro Line 3

On November 27th, Alstom began shipping the second of the ten 4-car metro trains that will equip the new Line 3 of the Hanoi metro. Designed and manufactured at the Alstom site of Valenciennes, exceptional logistics have been put in place to transport this metro to Hanoi, where it is expected to arrive in January 2021. The 8 other metro trains will all be delivered to Hanoi in time for the start of commercial service, which is scheduled for 2021.

Transporting the Hanoi metros is one of the most complex operations carried out by Alstom's Exceptional Transport department, which is responsible for managing and purchasing the train deliveries. More than a year's preparation was necessary to organise these deliveries: defining the most suitable transport solution, designing and manufacturing specific handling tools and obtaining authorisations in France and Vietnam were some of the key stages of this transport operation. This is a real team effort between the Valenciennes site, the Alstom teams in Vietnam, and the many subcontractors involved in this project, most of whom are French.

The delivery of the metro to its final destination requires 6 lifting operations per car, each one weighing between 34 and 40 tonnes, and a transit time of 2 months. At the Valenciennes site, after separation and preparation of the 4 cars, which are approximately 20 metres long, they are loaded onto extendable trailers using cranes to transport them to the port of Dunkirk, located just over one hundred kilometres away. Thanks to its partners and subcontractors, including the company Geodis and the dock workers of the port of Dunkirk, the 4 cars are then loaded by lifting them more than 40m high aboard a container ship belonging to the French shipping company CMA CGM. After a crossing of just over a month between Dunkirk and Port Klang in Malaysia, the 4 cars will be unloaded and then transhipped on board a ship bound for the port of Haiphong (Vietnam). The last leg of the journey to the depot in Hanoi will take about ten more days.

The Hanoi metro is one of Alstom's projects designed and manufactured in France for international markets. Export projects make up 40% of the sales made by Alstom's sites in France. The metro is a showcase for French industrial expertise and contributes to the workload of the six Alstom sites in France directly involved in executing this project: Valenciennes for the design and manufacture of the metros, Ornans for the engines, Le Creusot for the bogies, Tarbes for the electrical cabinets and traction systems, Saint-Ouen for the UrbalisTM 400 signalling solution and Villeurbanne for the onboard computerised systems, passenger information and signalling equipment.

In 2017, Alstom won the contract to supply an integrated metro system for Line 3 in Hanoi. This new line, which will provide Hanoi's residents with a new, safe and environmentally friendly means of transport, involves several French companies - Alstom, Colas Rail, Thales - and is financed by the French Ministry of Economy and Finance and Directorate General of the Treasury, the French Development Agency, the European Investment Bank and the Asian Development Bank.

The new line will extend over 12.5 kilometres and will consist of 12 stations. At full capacity, it is expected to carry more than 23,900 passengers per hour in each direction. Alstom is responsible for the design and manufacture of the 10 trains, the supply and integration of the UrbalisTM 400 signalling system, the power supply and the depot equipment.

Italy

Alstom to supply Italy's first hydrogen trains

The board of FNM, Lombardy's leading public transport group, approves major investment in green railway transportation

Alstom will supply six hydrogen fuel cell trains, with the option for eight more, to FNM (Ferrovie Nord Milano), the main transport and mobility group in the Italian region of Lombardy, for a total amount of approximately €160 million. The first train delivery is expected within 36 months of the date of the order.

The new hydrogen trains will be based on Alstom's Coradia Stream regional train platform, which is dedicated to the European market and already being produced for Italy by Alstom's main Italian sites. The hydrogen powered Coradia Stream for FNM, will be equipped with the same fuel cell propulsion technology that was introduced to the world by the Coradia iLint. The hydrogen Coradia Stream will maintain the high standards of comfort already appreciated by passengers of its electric version. The hydrogen version will match the operational performance of diesel trains, including their range.

"We are immensely proud to be introducing hydrogen train technology to Italy, and we recognise the trust placed in us by our Italian customer. This development confirms Alstom's role in defining the future of mobility. These trains, together with the Coradia iLint that have already proven themselves in commercial service in Germany, represent another major step in the transition towards global sustainable transport systems. I take this opportunity to congratulate FNM for demonstrating that they are a leader in this area," says Gian Luca Erbacci, Senior Vice President of Alstom Europe.

The Coradia iLint is the world's first passenger train powered by a hydrogen fuel cell, which produces electrical power for traction. This zero-emission train emits low levels of noise, with exhaust being only steam and condensed water. The iLint is special for its combination of different innovative elements: clean energy conversion, flexible energy storage in batteries, and smart management of traction power and available energy. Specifically designed for operation on non-electrified lines, it enables clean, sustainable train operation while ensuring high levels of performance.

The Coradia Stream trains for FNM are manufactured by Alstom in Italy. Project development, most of the manufacturing and certification are performed at Alstom's site in Savigliano. The on-board signalling systems are delivered by the Bologna site.

Poland

Alstom's HealthHub™ TrainScanner enters service in Warsaw

Innovative predictive maintenance solution for PKP's Avelia Pendolino fleet

Alstom's predictive maintenance solution for rolling stock, TrainScanner, has entered in service in Warsaw's Pendolino Service Centre, where it will be used to maintain the fleet of 20 Avelia Pendolinos operated by PKP Intercity.

TrainScanner provides predictive maintenance and continuous assessment of rolling stock's technical condition. Thanks to digital data analysis, it identifies the optimal moment for component replacement. The system implemented in Warsaw builds on Alstom's long experience in the United Kingdom, where TrainScanner has been used in servicing Avanti West Coast's Pendolino fleet for years.

"We are very proud to be inaugurating this TrainScanner in mainland Europe. It is another milestone towards the future of mobility. Thanks to automated, data-based solutions, we can continuously improve predictive maintenance processes, which translates into direct benefits for operators and passengers. Predictive and condition-based assessment of the fleet's technical condition helps avoid downtime and maximises availability," said Artur Fryczkowski, Managing Director Alstom in Poland and Ukraine.

"TrainScanner is a glimpse of the future of the industry. I am glad that PKP Intercity trains will be inspected in this innovative way, as this will not only bring us savings, but above all will allow us to ensure greater reliability of our trains, and thus the comfort and safety of passengers," stresses Adam Laskowski, Board Member of PKP Intercity S.A., Polish national long-distance carrier, whose rolling stock fleet includes 20 Alstom's Pendolinos.

Using 3D cameras and lasers, TrainScanner automatically enables condition-based and predictive maintenance for wheels, brake pads and pantograph carbon strips as well as on under-frames and body shells. Especially suitable for large or dispersed fleets or when high level of service is required, subsystem information is captured as the train passes through the TrainScanner. After automated inspection, the data is transmitted to Alstom's HealthHub platform, which translates raw data into actionable information, by using rule-based algorithms, leading to the calculation of a health index for each asset.

TrainScanner and HealthHub provide significant benefits in terms of both maintenance and operation, lowering the consumption of materials and the number of required maintenance activities, and thus enabling significant savings for fleet owners and operators. The system contributes to longer intervals between maintenance, longer component life and increased safety during operation.

Alstom has been present in Poland for over 20 years, with a local workforce of almost 2000 employees. The Alstom Konstal production plant in Chorzów is one of the three largest Alstom factories in the world. Alstom's bogie production plant in Piaseczno delivers 600 bogies a year for international Coradia Stream, while the Pendolino service depot in Warsaw services 20 Pendolino trains that cover 21,000 kilometres daily and cross 34 cities in Poland. Alstom is the only Top Employer certified company in railway industry in Poland.

Luxembourg

CFL cargo purchases Bombardier Transportation's TRAXX MS locomotives to further expand into European rail market

Mobility solution provider Bombardier Transportation signed a contract with the Luxembourg based railway undertaking CFL cargo for 10 innovative BOMBARDIER TRAXX MS locomotives.

The new locomotives represent a major leap towards the successful future of integrated rail freight transport in Europe as they will enable seamless cross-border transport from Central Europe to France. The locomotives will be authorized for service in Luxembourg, Germany, Poland, Austria, Belgium, and France.

A part of the 10 new locomotives for CFL cargo will be equipped with the innovative Last Mile diesel concept that enables the TRAXX locomotive to operate in non-electrified terminals and sites.

"Our TRAXX MS locomotive is Europe's most-modern locomotive, and we are looking forward to supporting the expansion of East-West freight transport in Europe." Peter Ammann, Head of Global Business Development Locomotives, Bombardier Transportation

"We are very pleased to be the first railway operator to expand its business offering with an optimized rail transport solution for the East-West European corridor. The new TRAXX multi-system locomotives will allow us to cross numerous borders as easily as a truck, thus providing our clients with a competitive transport solution that contributes to reaching the European New Green Deal objective of increasing rail's share of Europe's overall transport to 30 per cent by 2030", said Laurence Zenner, Chief Executive Officer of CFL cargo.

"Together, with our launch customer CFL cargo, we are proud to offer an innovative solution that opens new business opportunities for rail transport clients. Our TRAXXMS locomotive is Europe's most-modern locomotive, and we are looking forward to supporting the expansion of East-West freight transport in Europe", added Peter Ammann, Head of Global Business Development Locomotives, Bombardier Transportation.

The BOMBARDIER TRAXX MS locomotive

Bombardier has based the development of its next-generation TRAXX 3 locomotive on the proven successes of the previous members of the TRAXX family. To date, more than 2,000 of these locomotives are operating in 20 countries, covering a combined distance of 300 million kilometres per year.

CFL cargo is already operating in six countries in Europe and is specialized in international and cross-border traffics. Together, with its sister company CFL multimodal, the railway operator addresses both the conventional and the intermodal market and enables to smoothly connect Luxembourg by rail to the major ports and economic centers in Europe.

1 MS stands for multi-system, an electric locomotive able to operate on AC and DC railway electrification systems – often needed for cross-border operation.

France

Alstom to supply 13 additional tram-trains to Île-de-France Mobilités and Transilien SNCF for the sum of approximately 70 million euros

Alstom has received an order to supply 13 additional Citadis Dualis tram-trains to Île-de-France Mobilités and Transilien SNCF, for the sum of approximately 70 million euros. Île-de-France Mobilités will cover 100% of the investment cost of these trains. In total, 11 trains are destined for line T4 (Bondy/Aulnay-sous-Bois and Montfermeil Hospital), and 2 trains for line T12 (Massy/Evry). This exercise of options is part of the tram-train contract signed in 2007 with Transilien SNCF for the delivery of up to 200 tram-trains.

"Following the entry into commercial service of the Citadis Dualis tram-trains on line T4 in December 2019, and as we currently produce the trains for line T13, I am delighted that Alstom is continuing to deploy the tram-train solution in the Île-de-France region. This new exercise of options points to the relevance of this versatile transport solution and to the renewed trust of our customers, Île-de-France Mobilités and Transilien SNCF," said Jean-Baptiste Eyméoud, President of Alstom in France.

Designed to meet the increased need for mobility between urban and suburban networks, the Citadis Dualis tram-train links the centre of town with the suburbs without any break in continuity, by combining the advantages of the train with those of the tram. Based on the design of Alstom's Citadis tram, the Dualis version retains the fundamental characteristics that made Citadis so successful: modularity, accessibility and reliability. Citadis Dualis can run on a tram network just as easily as on a regional rail network thanks to certain adaptations in power, safety and comfort. This configuration makes it a versatile means of transport: it has the same gauge as a tram, meaning it can circulate in town, while its performance, the same as that of a train, enables it to carry passengers at nearly 100 km/h in outlying areas without having to change transport modes. Citadis Dualis plays a role in sustainable mobility by revitalising urban spaces and enhancing the architectural heritage of cities.

To date, 78 Citadis Dualis tram-trains are in operation in France. This includes 30 in Île-de-France, 24 in Auvergne-Rhône-Alpes and 24 in Pays-de-la-Loire. In 2018, Alstom received an order to supply 34 additional Citadis Dualis tram-trains to Île-de-France Mobilités and Transilien SNCF, with Île-de-France Mobilités covering 100% of the investment cost of the trains. 23 tram-trains are destined for the T12 Massy/Evry line and 11 for the T13 Express Saint-Cyr/Saint-Germain line. These trains are currently being developed and manufactured at Alstom's Valenciennes Petite-Forêt site.

Seven of Alstom's sites in France are involved in the design and manufacture: Valenciennes for the trains and project management, Ornans for the motors, Le Creusot for the bogies, Tarbes for the traction drive components, Villeurbanne for the on-board computerised systems and passenger information, Petit-Quevilly for the transformers, and Saint-Ouen for design.

In Europe, more than 200 Alstom tram-trains (Citadis Dualis and Regio Citadis) have already been sold, covering more than 50 million kilometres. This Alstom technology is also being exported via the Citadis Spirit, adapted to the North American market and adopted by the cities of Ottawa and Toronto in Canada in 2013 and 2017.

Photo: © Alstom/ Aldino Pavone

Spain

Alstom joins the Spanish Hydrogen Association

Alstom has joined the Spanish Hydrogen Association, whose aim is to foster, promote and drive the technological and industrial development of hydrogen technologies in Spain. By joining, Alstom once again shows its commitment to sustainable mobility and the promotion of hydrogen as an energy vector in the decarbonization process of our society.

"Hydrogen technology is a sustainable, noiseless and emission-free alternative for non-electrified lines. The hydrogen train is a demonstration of Alstom's commitment to the development and implementation of innovative sustainable mobility solutions that contribute to the global energy transition and decarbonization", explains Leopoldo Maestu, Alstom in Spain Managing Director.

The tests conducted, both in Germany and in other European countries, have demonstrated the reliability, safety and feasibility of fuel cells as an alternative to diesel traction on non-electrified lines. Currently in Europe, around 40% of the main railway lines are not electrified (80,000 kilometres). Traffic on these lines is operated by about 12,000 diesel vehicles (5,900 diesel trains and 5,800 diesel locomotives). For this reason, many countries, such as Germany, France, Netherlands, Austria, Italy and the United Kingdom have plans to incorporate hydrogen technology in rail transport.

Spain, for its part, has more than 5,000 km of non-electrified lines, approximately 35% of the network, which are operated by diesel trains and locomotives. More than 200 diesel traction trains currently circulate on the Spanish railway network for freight and passengers transport. Hydrogen is a consolidated alternative for these lines in the mid-term, as reflected in the "Hydrogen Roadmap" recently approved by the Spanish Government. The objectives of this Roadmap for 2030 include the commercial operation with hydrogen trains of at least two railway lines in Spain. Hydrogen, as a sustainable energy vector, will be key to achieve climate neutrality before 2050 with a 100% renewable electricity system.

About the Spanish Hydrogen Association

Since its foundation in 2002, the Spanish Hydrogen Association (AeH2), a benchmark agent in the hydrogen sector, has worked to encourage, promote and drive the technological and industrial development of hydrogen technologies in our country, and that their positive impact reverts to Spanish society and the economy. In fact, as a leading player in the sector, AeH2 works hand in hand with public institutions to promote the development of green hydrogen in Spain and, in coming months, will begin with the elaboration, in an agreed manner with all sector agents, of the Sectoral Agenda of the Hydrogen Industry at the request and with the support of the Ministry of Industry, Trade and Tourism (MINCOTUR). AeH2 is made up of a group of companies, public and private institutions, and individuals, who share their interest in achieving the main purpose of the association. Among the initiatives promoted by AeH2 is the Spanish Technological Platform for Hydrogen and Fuel Cells (PTE HPC), a project supported by the Ministry of Science and Innovation.

Qatar

Alstom completes phase 1 of the Lusail Tramway project in Qatar

Alstom has successfully completed phase 1 of the Light Rail Transit (LRT) project of Lusail, a planned city currently under construction near Doha, Qatar. This phase of the project is covering 9.7 km of single-track catenary-free and 12.8 km of single-track underground line. It also includes 16 stations with various configuration, 1 interchange station with Metro, 1 depot and 1 viaduct crossing over Al Khor Expressway. The operation of the network will be executed with Citadis X05 new generation trams with a capacity of 209 passengers utilizing both catenary and catenary-free technology (APS).

In 2014, Alstom, as part of LRTC Consortium[1] along with QDVC, was awarded a contract by Qatar Railways Company to supply a turnkey tramway system that is catenary-free above ground.

“We are very proud of our major contribution to the completion of phase 1 of Lusail LRT Project, which will provide reliable and environmentally friendly transportation system for Lusail’s residents and visitors. Indeed, Qatar has become one of the most advanced countries in the region in terms of smart mobility and transportation, and we are committed to meet the country’s growing needs for innovative and sustainable mobility systems”, says Mama Sougoufara, Managing Director of Alstom Middle East

Alstom contributes to providing the city of Lusail with a fully integrated tramway system by delivering the design, manufacturing, commissioning of 28 Citadis trams, track works including hardscaping, power supply equipment (Bulk and TPS substations, catenary and APS), signalling and platform screen doors.

Each Lusail 32-m long tram is composed of five modules per single unit. The design and colour are inspired by the traditional Qatari boat, the Dhow, on the side of the rolling stock, we also note a pearl - historical symbol in Qatar. The vehicles are fully low floor to enable easier access for all passengers. The Lusail tramway turnkey system offers passengers a high level of comfort, and it includes passenger information and security systems both at station level and on-board. The trams are eco-friendly and equipped with a full electrical braking system and LED lighting.

[1] LRTC Consortium composed of Alstom and QDVC, a Qatari shareholding company in charge of civil works (51 % Qatari Diar Real Estate Investment Company & 49% VINCI Construction Grands Projets)

India

Alstom’s Sricity factory hits 500

Alstom, a leader in sustainable and smart mobility, has achieved another milestone in India. It’s SriCity factory in Andhra Pradesh that manufactures Rolling Stock (Metro Trains) for Urban Metro projects, successfully completed production of its 500th Metro Car. As Alstom’s largest Urban Rolling Stock manufacturing unit in the Asia-Pacific region, this facility is delivering metro trainsets to not only Indian cities but also global ones – Chennai, Kochi, Lucknow, Mumbai, Sydney and Montreal. The currently operational metro trainsets built at this facility have clocked over 27 million kilometres cumulatively.

Known for its state-of-the-art manufacturing standards, Alstom’s SriCity facility started operations in September 2012, with manufacturing for Chennai Metro. So far, the site has recorded over 2 million manufacturing & testing hours and has a capacity to build 480 cars per annum.

Most recently, after the advent of Unlock 1.0 in India, the site successfully dispatched the first batch of two trainsets for the Canadian city of Montreal (Réseau Express Métropolitain).

Presently, the site is manufacturing for Mumbai Metro L3 (Aqua Line), Montreal Metro - Réseau Express Métropolitain and Sydney Metro (City and Southwest extension). This factory also has more than 15% of women employees in various roles, as supervisors, planners, shopfloor engineers etc.

Speaking on this milestone, Alain SPOHR, Managing Director of Alstom India and South Asia said, “Despite the global pandemic that has disrupted business across industries, our teams continue to work tirelessly, to ensure on-time deliveries to Metro Corporations who are working on upgrading urban mobility in various cities. We are manufacturing trainsets that incorporate the highest safety features along with enhanced passenger experience. Our commitment continues towards Make-in-India, and localization is over 75% for all domestic projects.”

Alstom’s footprint in India is spread across various states - focused on developing Engineering solutions at the Innovation Center in Bangalore, Electric Locomotives (eLoco) at the Madhepura unit, Rail Components in Coimbatore and eLoco Car Body Shell production in Kolkata.

Morocco

Alstom to deliver 66 additional Citadis trams to Casablanca in Morocco

Alstom has been awarded a contract by Casa Transports, the company in charge of Casablanca's public transport, to provide 66 Citadis trams X05 and an option for 22 additional trams for lines 3 & 4 expected to open by end of 2023. The contract is worth €130 million*.

The number of passengers using the Casablanca tramway lines 1 and 2, in service since December 2012 and January 2019, has increased with now more than 220,000 passengers per day in the network. In order to address the growing mobility demand, Casa Transports has been comissioned by public authorities to extend around 26 km of tramway lines and purchase new rolling stock. Alstom has previously supplied 124 Citadis x02, the power supply and the signalling equipment for line 1 & 2.

"We are pleased to pursue our contribution to the development and modernization of the Moroccan urban network thanks to our proven mobility solutions that benefit from the very latest technological innovations. We are very proud with this new order and of Casa Transports' trust and confidence in Alstom's Citadis solution. With a total fleet of at least 256 Citadis to be operated in Morocco, more people in Casablanca will be able to commute comfortably" said Nourddine Rhalmi, President of Alstom in Morocco.

The new Citadis trams for Casablanca will operate in double units of 64 meters, which will carry up to 630 passengers each. The full low-floor and the 12 side doors facilitate passenger flow and enable access for all, including people with reduced mobility. As per Casa Transport, the new generation of tramway will be equipped with the latest passenger information systems.

Furthermore, in line with Casa Transport requirements, Alstom proposes a design reflecting the history and culture of Casablanca. The Citadis trams will be manufactured partly in Barcelona and many suppliers based in Morocco will participate to produce subsystems that will be integrated, as well, in Spain. Also, the Alstom factory in Fez will provide the electrical cabins and loomings. The French sites involved are La Rochelle for Project Management and Engineering activities, Valenciennes for interior design, Ornans for the motors, Villeurbanne for the onboard electronics, Aix-en-Provence for the speed measurement system and legal recorder, Tarbes for the modules and circuit breaker cabinets and Saint-Ouen for the design. The Charleroi site in Belgium will provide the traction system and the Getafe site in Spain will provide bogies. After delivery and before their commissioning, the trams will undergo static and dynamic tests on the client's site. Finally the Alstom team in Morocco will ensure the after sales service.

Alstom has been present in Morocco for a century. With more than 500 employees, Alstom has completed a number of key projects, including the delivery of 190 Citadis X02 trams to the cities of Rabat (66 Trams) and Casablanca (124 Trams), 12 Avelia Euroduplex trains for the high-speed line that links Tangier to Casablanca and 50 Prima locomotives providing the best solutions for freight, passenger and mixed transport services.

Thanks to the new plant in Fez, Alstom is able to increase the production of cables for rail applications as well as electrical switchboxes that are supplied to its European plants and mounted on trains exported around the world.

* Booked in Q3 of the fiscal year 2020-2021

Photo: © Alstom / Design & Styling

Greece

Alstom consortium selected for first section of Athens Metro Line 4

Alstom to provide rolling stock, signalling and infrastructure solutions
A project worth around €300 million for Alstom.
One of the largest infrastructure projects planned in the EU
20 Metropolis 4-car trains
Urbalis 400 CBTC technology (driverless)

Alstom, as part of a consortium with Avax and Ghella, has been designated winner in the public procurement tender for the construction of the first section of Athens Metro Line 4, following the recent approval of the technical and financial offers by Attiko Metro's Board of Directors. Alstom's share in the project is worth approximately €300 million.*

The entire new Line 4, known as the "U-Line", will run through the most populated areas of central Athens, crossing existing Lines 2 & 3, covering 38 kilometres and a total of 35 stations.

The current project refers to phase 1, Goudi-Alsos Veikou, consisting of 12.8 kilometres and 15 stations. Alstom's responsibility will include rolling stock, signalling, and infrastructure. Alstom will supply 20 fully automated, 4-cars Metropolis trains, the state-of-the-art CBTC solution Urbalis 400, Iconis security and control systems and the Hesop energy saving system.

"I am immensely proud that Alstom has been selected for the construction of the first section of Athens Metro Line 4. It is another step in Alstom's long-standing presence and cooperation in Greece. Athens Metro Line 4 is one of the biggest turnkey projects in Europe, covering a comprehensive portfolio of rolling stock, signalling and infrastructure," says Gian Luca Erbacci, Senior Vice President of Alstom Europe.

With a presence of over 40 years in Greece, Alstom has successfully participated in the largest transport infrastructure construction projects in the country, including the construction of Lines 2 & 3 of the Athens Metro (inaugurated in 2000), the Athens Suburban Railway and Metro Line 3 extension to Piraeus, of which the first 3 stations were handed over in July 2020. In addition, in September this year Alstom began to deliver the first Citadis X05 trams for Athens.

Alstom has a global leadership position and fully proven experience in the successful construction, commissioning and delivery of new integrated metro systems, as well as in their safe, reliable and efficient operation. Alstom can boast more than 65 years' experience, having sold over 17,000 metro cars that carry 30 million passengers every day operate in 55 cities around the world. One of the most recent successes for Alstom in integrated metro projects being the 15-kilometre-long Dubai Metro Route 2020, inaugurated in July 2020.

* Booked in Q3 of the fiscal year 2020-2021

Ukraine

HHLA expands intermodal activities to Ukraine

Hamburger Hafen und Logistik AG (HHLA) has established its own intermodal company in Ukraine. The new Ukrainian Intermodal Company (UIC) offers container transport by rail between the Port of Odessa and important economic centres in the country. HHLA is thus expanding its successful intermodal business and extending its product range for fast, reliable and efficient hub-to-hub transport services in seaport-hinterland traffic.

Ukrainian ports have developed very dynamically in recent years. Last year, the throughput volume at the Black Sea port of Odessa increased by 8.5 percent to almost 650,000 TEU. However, at 22 percent, rail only accounts for a small share of the container traffic between the port and the Ukrainian hinterland. By comparison, over 46 percent of sea containers in Hamburg reach or leave the port in the environmentally friendly manner by rail.

With UIC, HHLA has taken the first step towards a stronger modal shift from road to rail. The rail system offers several advantages: the existing broad gauge network optimally connects the largest inland economic centres with the Ukrainian coast. In comparison, large parts of the road network are in need of modernisation. Furthermore, due to the large distances in Ukraine – the Eastern European country is almost twice the size of Germany – rail transport is best suitable to be a sustainable way to transport goods.

"HHLA possesses extensive expertise in the intermodal business. With an efficient train system based on customer-friendly services, transparent prices, simple booking processes and reliable timetables, we want to tap the considerable potential of the Ukrainian intermodal market," says Philip Sweens, Managing Director of HHLA International. Together with local partners HHLA intends to remove obstacles to rail transport in Ukraine, and to establish and market a reliable range of services.

Weekly container train connections to Ternopil, Kharkiv and Zaporizhia

Up until now, container transport by rail in Ukraine was almost exclusively carried out using individual cars or groups of wagons. The newly established UIC bundles the individual loading to container block trains, thereby increasing the efficiency and reliability of transports. Since early October 2020, UIC offers weekly block train connections between Odessa and Ternopil in the Lviv economic region in Western Ukraine. In November, a weekly service to the industrial centre of Kharkiv, the second largest city in the Ukraine, will start operations. It is also planned to establish a weekly container train connection between Odessa and Zaporizhia in the east of the Ukraine.

In the Port of Odessa, HHLA operates the largest container handling facility in Ukraine: the Container Terminal Odessa (CTO). The CTO has its own rail terminal, which is currently being expanded and where the container block trains are formed. All inland activities are carried out in cooperation with private rail terminals. Additional services such as stuffing and stripping of containers, hub-to-door delivery to the final destination by truck or customs clearance are also available. UIC operates to high, western-oriented quality standards and is a neutral operator, ie. granting all shipping companies and forwarders open access to its intermodal services. The future plan is to expand the offer of regular rail connections to other Ukrainian production and consumer centres and increase the frequency of services.

Photo: © Container block train from UIC at HHLA Container Terminal Odessa

Romania

Alstom to provide new Metropolis trains for Bucharest Metro

Alstom's first rolling stock contract in Romania: a proven, world-class train for the travelling public of Bucharest

A contract worth over €100 million, with the possibility of extension up to €240 million

30 Metropolis trains to be delivered in two lots

First rolling stock contract for Alstom in Romania

Six-car train with 216 seats each

Alstom has been awarded a contract by Metrorex SA, the state-owned Bucharest metro operator, to provide a total of up to 30 Metropolis trains to run on the newly built Line 5 of the city's metro network, delivered in two lots. The value of the contract for the first 13 trains is over €100 million.* This contract can be extended with an option for another 17 trains, based on customer's order, the total estimated value of the project could go up to €240 million.

The first train will be delivered in less than 29 months and will circulate on the first section of the new metro line, that is already in operation. The other 12 trains of the first lot will be delivered immediately after the homologation of the first one, while the optional lot of 17 units will be delivered based on a firm request from the Bucharest metro operator.

"We are very proud of this award, especially as it will see Alstom trains running for the first time in Romania. Alstom's world-class metro expertise has been appreciated all over the world over the last 30 years and now the Romanian passengers will be able to enjoy it as well. We are happy to see our leadership in train production, in addition to maintenance, recognised by our Romanian customer," said Gabriel Stanciu, Alstom Managing Director for Romania, Bulgaria and Republic of Moldova.

Each of the six-car trains for Bucharest will have 216 seats in a longitudinal seating arrangement and provide two special access areas for passengers with limited mobility. The trains have a specific configuration, customised for Bucharest metro: stainless steel car body shells, 114 metres long and 3 metres wide, providing a total capacity of 1,200 passengers. The final configuration, colours and finishes will be fully customised according to the requirements of the customer, to be established during the collaborative design stage. The trains will have onboard CBTC units, to be compatible with the latest trackside signalling technology.

Passengers will benefit from a range of innovations to make the journeys more efficient and more comfortable, including internal noise attenuation, four double doors per car per side, large windows, LED lighting and real-time passenger information, such as dynamic route map. The trains have features that allow for optimum passenger flow: wide doors, large gangways and dedicated areas for people with disabilities.

Alstom's Metropolis range of metro trains has been in operation for over 20 years worldwide, its flexibility offering a wide range of possible configurations. Among Alstom's 60 metro customers around the world feature the cities of Paris, New York, London, Amsterdam, Singapore, Riyadh, Dubai, Sydney and Montreal.

* Booked in Q3 of the fiscal year 2020-2021

Turkey

SYMBOL OF RELIABILITY – ŠKODA TRAMS IN TURKEY HAVE EXCEEDED THE LIMIT OF TWO MILLION KILOMETRES TRAVELLED

The excellent operational reliability of Škoda trams has been demonstrated by the two million kilometres travelled by a fleet of low-floor vehicles in the Turkish city of Eskişehir over two years of operation. An interesting fact is that modern Škoda Transportation vehicles are equipped with powerful traction batteries for driving on routes without overhead lines.

The order for Eskişehir is one of a number of successful export deliveries of trams, which go to a number of countries around the world from the Plzeň-based company - from Germany and Italy, through Slovakia and Hungary to Turkey, for example. As elsewhere, in the case of the Turkish city Škoda service is also part of customer service. “Our trams in Eskişehir reached 2 million travelled kilometres in just two years of their operation in October this year, and thanks to the reliable service, the transport company is very satisfied with the vehicles. Warranty services are provided by a permanent service group of our specialists in Eskişehir, who work with colleagues from the local transport company,” says Škoda Transportation Service Manager Matěj Mottl.

ForCity Classic Eskişehir are 100% low-floor trams, which enable quick boarding and alighting of passengers and guarantee barrier-free access. The vehicles have non-swivel bogies for a gauge of 1000 mm. The advantages of the vehicles include high capacity and a balanced placement of entrance doors along the entire length of the vehicles. The five-section, uni-directional tram with a length of 30m can accommodate more than 270 passengers.

Specifically the Turkish market is very interesting to Škoda Transportation. “In another local city, Konya, the Plzeň-based company has been carrying passengers in fully low-floor Škoda ForCity Classic trams since 2015,” adds Director of Škoda Transportation Service, Radek Elhota.

“Škoda Transportation delivered sixty modern low-floor trams to Konya, as well as twelve battery-powered trams. In addition, our owner PPF Group recently completed the acquisition of a 50% stake in Turkish vehicle manufacturer Temsa. We are currently actively developing a significant synergy with our sister company. We are preparing a comprehensive business and product strategy for our mutual cooperation in individual markets. This is an opportunity for further development of our modern, ecological products,” adds Chairman of the Board of Directors and President of the Škoda Transportation group, Petr Brzezina.

“It is also thanks to battery-powered trams that the name of our company is increasingly positively mentioned among Turkish transport companies; the Turkish rolling stock market is the subject of our long-term business,” says Radek Elhota. The trolley-free tram project prepared by the city of Konya on the Alaaddin-Soud line also won an award at an international forum: e.g. in the public transport project competition at the Summit of the International Association of Transportation Companies.

Canada

The first REM car has been unveiled in Montreal

Alstom participates in the unveiling of the first REM car in Montreal
4 REM Metropolis cars already delivered by Alstom
212 total cars to be delivered

The Alstom-led consortium, Groupe des partenaires pour la mobilité des Montréalais (Groupe PMM), participated in the Réseau express métropolitain (REM) project office’s unveiling of the first cars that will carry passengers on the REM in Greater Montreal.

The event was attended by Chantal Rouleau, Minister Responsible for Transport and Minister Responsible for the Metropolis and the Montréal Region, Valérie Plante, Mayor of Montreal, other local politicians, Charles Émond, President and Chief Executive Officer of Caisse de dépôt et placement du Québec, Macky Tall, Head of Real Assets and Private Equity at Caisse de dépôt et placement du Québec and President and Chief Executive Officer of CDPQ Infra, Jean-Marc Arbaud, Managing Director of CDPQ Infra and REM project office, Éric Appert, Director of the Groupe PMM consortium and Souheil Abihanna, Managing Director of Alstom Canada.

To date, Alstom has delivered four cars to Montreal. The cars for the REM are based on a proven Metropolis platform, already widely in service in the world, including in Sydney, and adapted for Montreal, not only in their design, their capacity, their accessibility, and to the experience they will offer passengers, but also to climatic conditions. The cars will form a single uninterrupted train for passengers, serving the mobility of Greater Montreal. The exterior livery, chosen by the public, was inspired by the Samuel-De Champlain Bridge and was designed to blend into the Montreal environment, offering passengers breath taking views via panoramic windows and large bay windows at either end.

Alstom is supplying REM with not only 212 Metropolis cars, or 106 trains, but also Alstom’s automated and driverless Urbalis 400 communication-based train control (CBTC) solution, an Alstom Iconis control centre, as well as platform screen doors and depot equipment for this fully automated light-metro system. Recognized as the supplier of choice for reliable and efficient metros, Alstom has delivered nearly 6,000 Metropolis cars to 25 cities around the world.

Awarded to the Groupe PMM consortium in early 2018, the REM project is the largest transit project in Quebec’s history since the construction of the Montreal metro over 50 years ago. REM will be one of the world’s largest automated transportation networks - 67 km long with 26 stations - connecting downtown Montreal to the South Shore, the North Shore, the West Island and the Montréal–Trudeau international Airport.

Alstom has been present in Canada for over 80 years. Headquartered in Montreal, Quebec, which is also home to the company’s global centre of expertise in research and development of integrated urban mobility control systems, the company also has office and manufacturing facilities in not only Sorel-Tracy, Quebec, but also in Ottawa, Toronto and Brampton, Ontario. With two sustainable industrial locations, and long-term structuring mobility projects and offices across the country, Alstom is a proud Canadian mobility player developing not only the future of transportation but also of the economy, industry and employment in the country.

Egypt

Bombardier to establish Engineering Academy in Cairo

Engineering Academy will develop a new generation of Bombardier Engineers to deliver the Cairo monorail system and new mobility projects in the future

On the opening day of the prestigious TransMEA 2020 exhibition in Cairo, rail technology leader Bombardier Transportation announced it will establish an Engineering Academy in Cairo to develop the next generation of skilled Bombardier engineers for its mobility projects in Egypt and beyond.

The Engineering Academy will be open to recent engineering graduates in Egypt who are interested in developing a long-term career in rail transportation with Bombardier. The training program will provide a structured series of work placements on the Cairo monorail mega-project, as well as classroom-based tuition and online tuition, individual assignments and mentoring. It will be aligned with established and proven Bombardier engineering systems and processes. Once they have completed the program successfully, the engineers will have access to the Bombardier international job career path.

"The Bombardier Transportation Engineering Academy will be an exciting post-graduate program giving talented young Engineers the benefit of practical work experience combined with the opportunity to learn from international engineering experts from a world leading mobility provider. Our young Engineers will undertake assignments in the real-life project delivery environment here in Cairo on our monorail mega-project," said Ahmed Eldamanhoury, Managing Director Egypt at Bombardier Transportation.

He added, "This hands-on approach will enable our trainees to hone their skills and the program presents opportunities to gain long-term employment in the rail industry with Bombardier."

Photo: INNOVIA monorail 300 system coming soon to Cairo. © Bombardier

China

Bombardier's joint venture wins contract to build 112 new Chinese standard high-speed train cars

Global mobility solution provider Bombardier Transportation has announced that its Chinese joint venture, Bombardier Sifang (Qingdao) Transportation Ltd. (BST), has been awarded a contract from China State Railway Group Co., Ltd. (CHINA RAILWAY) to supply 112 CR300AF cars – the new Chinese standard high-speed train car used for China's evolving high-speed rail network. The 112 cars will be configured into fourteen 8-car trainsets with an operating speed of 250 km/h. The contract is valued at approximately 1.6 billion CNY ($248 million US, 209 million euro). Bombardier Transportation owns 50 per cent of the shares in BST, which is consolidated by Bombardier Transportation's partner CRRC Sifang Rolling Stock Co., Ltd.

Jianwei Zhang, President, Bombardier Transportation China, said, "We are honoured to have been chosen to supply the new generation of high-speed railway CR300AF trains, through our BST joint venture. We sincerely thank CHINA RAILWAY for its trust and CRRC for its support. We will deliver the state-of-art trains at quality, within budget and on time."

This latest order is BST's first contract for the new generation of high-speed trains, the CR300AF which has an operating speed of 250 km/h. Among the 14 trainsets, 10 are for Fujian Fuping Railway Co., Ltd. and the remaining train-sets are for Guangdong Meizhou-Shantou Passenger Dedicated Line Co., Ltd. BST was first chosen to supply the new Chinese standard high-speed train cars in 2018, and since then has delivered a total of 448, 350 km/h CR400AF and CR400AF-A cars to CHINA RAILWAY. This new order reflects the trust and satisfaction that the customer has placed in BST.

Bombardier Transportation in China is the full solution provider across the entire value chain. From vehicles and propulsion to services and design, Bombardier Transportation in China has seven joint ventures, six wholly foreign-owned enterprises, and more than 8,000 employees. Together, the joint ventures have delivered 4,600 railway passenger cars, 580 electric locomotives and over 3,000 metro cars, Monorail, APM, and trams to China's growing rail transit markets. It is a major signalling supplier to the Chinese high-speed network and through its joint ventures, propulsion equipment and signalling systems are utilized in a total of 30 Chinese cities.

Photo: The new generation 250 km/h CR300AF high-speed train. © Bombardier

From the Archives

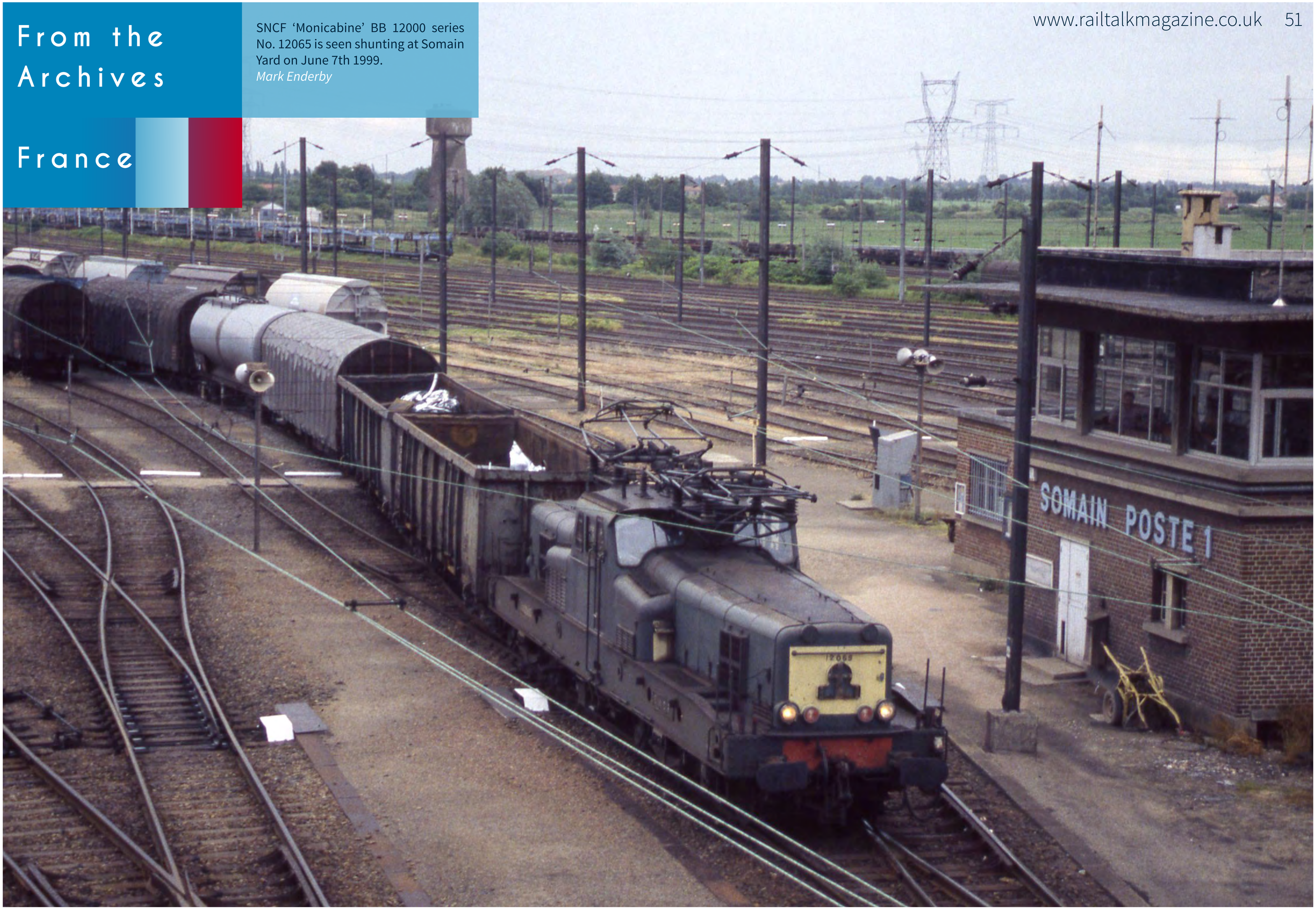
Austria

On June 3rd 1989, OBB Class 1020.020 passes Golling with a freight.
Mark Enderby

From the Archives

France

SNCF ‘Monicabine’ BB 12000 series No. 12065 is seen shunting at Somain Yard on June 7th 1999.
Mark Enderby



From the Archives

France

SNCF BB No. 4211 is seen at Paris SO depot on October 27th 1988.
John Sloane

From the Archives

France

SNCF CC No. 6506 speeds through Boulevard Massena on October 23rd 1989 with an Austerlitz to Port Bou service. *John Sloane*

From the Archives

Germany

DB Class 216.125 passes through Lehrte station with a freight heading to Hannover on October 19th 1974. *John Sloane*

From the Archives

Greece

Mitsubishi built SEK No. 9409 is seen at Pireus on August 27th 1973.
John Sloane

From the Archives

Hungary

MAV No. V46.012 is seen shunting stock at Budapest Keleti station on September 15th 2007. *John Sloane*

From the Archives

Ireland

CIE No. 212 ‘River Slaney’ is seen departing Cork (Kent) on April 2nd 1996 with a service to Dublin.
John Sloane

From the Archives

Ireland

CIE No. 072 is seen hauling an ore train at Tara Mines on March 24th 1998.
Mark Enderby

From the Archives

Italy

FS Class E636.378 calls at Sestri Levante on August 2nd 1984.
John Sloane

From the Archives

Italy

SNCF Thello BB No. 36012 is seen departing Ventimiglia with a Milan to Nice Thello service on September 2nd 2016. *John Sloane*

From the Archives

Italy

Former FS Class 341.2016, now in operation with FC Turin-Ceres, stands at Turin Ponte Mosca station on August 8th 1984. *John Sloane*

From the Archives

Poland

Repainted into British Railways Electric Blue livery, a very smart No. EP07-1051 sits in Wroclaw Glowny station in-between turns on October 2nd 2008. *Jeff Nicholls*

From the Archives

Poland

A scruffy No. ET22-016 rolls through Leszno with a long rake of bogie coal wagons on May 27th 2011. *Jeff Nicholls*

From the Archives

Poland

Steam loco No. Ol49-7 storms out of Wolsztyn with the 05:16 commuter train to Poznan on June 11th 2009. Just edging into shot on the right, a DMU bound for Leszno hurries to catch up. The steam crews referred to these units as 'Ice Cream Carts' ! *Jeff Nicholls*

From the Archives

Switzerland

BLS 2-Co-Co-2 loco No. 208 is seen stabled at Spiez depot on July 28th 1985. *John Sloane*