



Railtalk Magazine *Xtra*

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Submissions & Contributions

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

Photographic Contributions

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

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

Welcome to Issue 169Xtra

It's with great sadness that we see the end of summer 2020 and we know that many of you have not achieved journeys that had been long planned, the nights are getting longer and at the moment so are the restrictions!. Well it's not all doom and gloom, we have another issue filled with excellent photos sent from around the world, although the list of countries covered isn't as extensive as it could be, we hope that you enjoy them all the same.

We start with some good news for loco hauled fans in Slovakia where the Ministry of Transport & Construction has selected a partnership of state passenger operator ZSSK and Austria's OBB to operate PSO supported services on the 95 km Bratislava – Dunajská Streda – Komárno line for two years from December 13. They will replace Czech company RegioJet, which has operated the route under contract since taking over from ZSSK in March 2012. The ministry said ZSSK and ÖBB had offered to provide a better quality of service, including the use of air-conditioned rolling stock, at a lower average price of €9-65 per train-km which would reduce the annual subsidy by around €200000. The existing timetable is to be maintained, with slight modifications to optimise station dwell times. The service will still be integrated with Bratislava's regional transport network. Services will in future be operated using ÖBB CityShuttle push-pull sets and a ZSSK Bdteer coach hauled by Siemens ER20 Class 2016 diesel locomotives that are currently deployed on Wien – Marchegg – Bratislava REX cross-border services. These will be supplemented by ZSSK Class 754 diesel locomotives and coaches. Less frequent additional services between Dunajská Streda and Komárno will be worked by ZSSK Class 840 three-car Stadler GTW 2/6 DMUs transferred from the High Tatras region.

An interesting event happened at the end of September when the Netzwerk Europäischer Eisenbahnen association of more than 25 independent freight operators arranged a special train through Berlin to draw attention to the federal government's failure to provide financial support for its member companies while offering compensation

to state-owned Deutsche Bahn to deal with the effects of the Covid-19 pandemic. Formed of 20 locomotives grossing 100 000 kW, the train set out from Wustermark in western Berlin and was routed through the heart of the city, where, with horns blaring, it was well within earshot of the German parliament. On departure from Wustermark, NEE Chief Executive Peter Westenberger called specifically for the federal government not to give DB Cargo preferential treatment, arguing that the planned capital injection for DB broke EU competition rules as 'it allowed DB Cargo to price its competitors out of the market'. Travelling west to east along the Stadtbahn, the colourful train made a 15 min stop at Berlin Hauptbahnhof for photographs and speeches by Westenberger, Honorary Chairman of Mofair Wolfgang Meyer, Chief Operating Officer of TX Logistik Albert Bastius and other executives.

And news from France where SNCF has launched an ambitious programme designed to reduce the environmental impact of its TER regional services as a contribution towards combating climate change. The PlaneTER programme is also intended to help win passengers back to rail and attract customers from new markets after the Covid-19 pandemic. Announced on September 23 as part of European Sustainable Development Week, PlaneTER aims to reduce annual CO2 emissions from TER services by 100 000 tonnes by 2025, at the same time cutting passengers' carbon footprint by one-third and achieving a further 500 000 tonnes of carbon emissions by attracting people out of their cars. TER services are currently used by 1.1 million passengers a day. The programme includes switching to 'greener' forms of traction and the introduction of a range of measures across the board forming part of the 2021-25 strategic plan for the TER business. All 26 000 staff involved in TER services have been asked to contribute.

Until next month

David

This Page

Shhh! HECTORRAIL No. 212.517 'Fitzgerald' sleeps late into the day at Lingen on August 21th. [Erik de Zeeuw](#)

Front Cover

Akiem's Class 187.504-6 brings a rake of fuel tanks through Köln Gremberg on July 23rd. [Anton Kendall](#)





On September 5th, the last Drosendorf bound train of the day, No. 16974, is seen here passing the closed halt at Ober Höflein, hauled by ÖGEG No. 2050.05. *Thomas Niederl*

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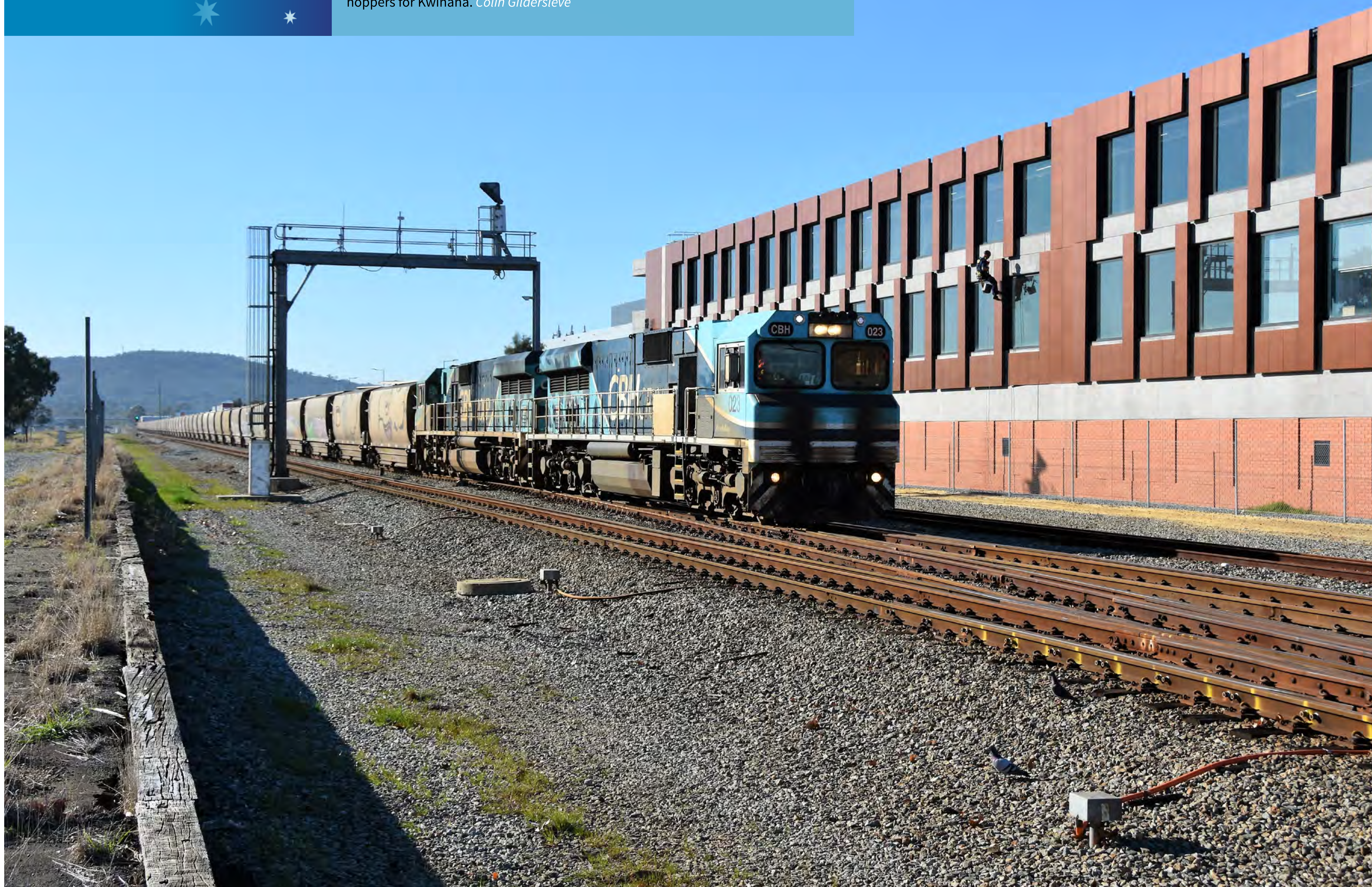
With Thanks

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,

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In beautiful early morning spring sunshine, CBH023 and a classmate pass through Midland and clatter over the up and down crossover with a long line of loaded grain hoppers for Kwinana. *Colin Gildersleve*







Pacific National's Nos. NR53 and NR63 have 10km to go on their 2,700km journey from Melbourne to Kewdale (Perth) and are seen passing Midland hospital with double stacked containers within the consist. The first vehicle is a crew coach which contains cooking facilities and sleeping quarters so the crews can do 8 hours on and 8 hours off throughout the journey. *Colin Gildersleve*



In the north of Lower Austria, a heritage train service called 'Reblaus Express' is operating between Retz and Drosendorf on every weekend between May and October. Normally, Class 2143.070 hauls the train, but on the weekend of September 5th/6th No. 2050.05 owned by the ÖGEG (Österreichische Gesellschaft für Eisenbahngeschichte) helped out and is seen here near Retz with train No. 16971 as the Class 2143 was needed for a special photo charter train on the Gänserndorf - Obersdorf line. *Thomas Niederl*









Precast concrete parts transported by the Rail Cargo Group for the Max Bögl Group are helping expand the wind farm in Pannonia-Gols and increase its green electricity output threefold.

The first Rail Cargo Group transport began on September 18th to equip the windfarm in Pannonia-Gols with 23 new wind turbine towers. The necessary precast concrete parts from the Max Bögl Group are being transported in block trains, each with 21 wagons, from Neumarkt and Neumünster to Parndorf. The first train set off from Neumarkt an der Oberpfalz and arrived on schedule at the destination station in Parndorf. Here, the concrete parts were transshipped and brought straight to the Gols wind farm, where they were put in place and constructed by the company Max Bögl.

One block train a week is due to start running from Neumarkt to Parndorf; a total of 23 have been scheduled. An additional three to four block trains are planned for the start-up phase from Neumünster in Schleswig-Holstein. The entire journey for both stretches Neumarkt–Parndorf (538 kilometres) and Neumünster–Parndorf (1,246 kilometres) will be carried out using RCG's

own in-house traction.

Expanding green electricity production in Pannonia-Gols

With sustainable rail transport, the Rail Cargo Group and the Max Bögl Group are facilitating the maintenance and expansion of green electricity production generated by wind energy. The new wind turbine towers replace 25 windmills that have already been dismantled and increase the Burgenland wind farm's output threefold. This expansion will provide electricity for 90,000 households from summer 2021.

Über Max Bögl

The Max Bögl Group is one of the biggest building, technology and service provider companies in the German construction industry. With its focus on innovation, research and engineering, the company specialises in precast concrete construction, innovative products, technologies and construction methods. With its own steelworks, prefabrication plant, modernised fleets of vehicles and equipment as well as its own raw materials and building materials,



Max Bögl puts a big emphasis on reducing its carbon footprint when it comes to manufacturing and sustainable rail transport.

Alstom's hydrogen train enters regular passenger service in Austria

On September 11th, in Vienna, a new era in passenger rail started. Until the end of November, a hydrogen train will run for the first time in regular passenger service for ÖBB, the Austrian Federal Railways. The Coradia iLint, built by Alstom in Salzgitter, Germany, uses on-board fuel cells to convert hydrogen and oxygen into electricity, thus reducing operating emissions to zero.

Following successful test operation in Northern Germany between 2018 and 2020, the Coradia iLint train will now demonstrate its worth in Austria over three months during which it will transport passengers on geographically challenging routes.

"With its use in regular passenger operations for ÖBB, our innovation train Coradia iLint has reached the next milestone," said Dr. Jörg Nikutta, Alstom's CEO in Germany and Austria, at the launch event in Vienna. "The train's emission-free drive technology offers a climate-friendly alternative to conventional diesel trains, especially on non-electrified lines. I am particularly pleased that ÖBB, a strong and long-term partner in the European mobility market, is convinced of our technology and its advantages."

"We clearly see ourselves as pioneers in testing hydrogen technology on rail. As the largest climate protection company in Austria, we are actively shaping the mobility of the future with technological alternatives," emphasizes

Andreas Matthä, CEO of ÖBB-Holding AG on the occasion of the premiere of the hydrogen train.

The operational success of Alstom's fuel cell train started in September 2018, when two pre-series vehicles began regular passenger service in Lower Saxony, Germany. After 1.5 years of trial operation and more than 180,000 kilometres covered, the way was cleared for the delivery of 14 series trains beginning in 2022.

Now, the Austrian ÖBB will test the Coradia iLint on regional railway lines in the country's south, where they could replace diesel trains. Passengers can look forward to a low-noise train with a top speed of 140 km/h and zero emissions.





Czech Republic

Interesting transport of military equipment

From August 27th to 31st, railway transport of military equipment from the sapper base at the former Bechyně Airport took place. The transport happened as part of the delivery of equipment for engineering exercises to the water training ground on the Elbe near Litoměřice.

At Bechyňka, the entire transport of sixteen railway freight wagons (fourteen loaded and two empty) had to be divided into four parts due to recent measures of the Railway Administration, the first of which was transported on August 27th and the remaining three on August 28th. In Tábor, the wagons were reconnected into one part and transported to Lovosice by regular train.

Photo: ©CD Cargo



TRAXX for ČD Cargo in a diamond design

CD Cargo Class 388.005 locomotive has completed a test run between Kassel and Fulda in a new diamond design.

“We want it to remind the professional and non-expert public that the locomotive is a ‘diamond on the tracks’, ie currently the most modern locomotive in Europe,” said Tomáš Tóth, Chief Executive Officer of ČD Cargo, as.

Photo: ©CD Cargo/Martin Voigt



ČD Cargo automotive trains in Austria and Germany

Since September, ČD Cargo has been able to use the Class 383 locomotives up to four times a day (twice in each direction) on the Bratislava-Petržalka - Wien - Passau - Falkenberg Elster route and back. They are used to transport Volkswagen cars from the car factory in Devínská Nová Ves which usually runs through the Czech Republic.

Unfortunately, capacity and operational problems at the crossing in Děčín, caused by the continuous closure of the track with complete night time interruption, were the reason for the considerable dissatisfaction of VW and BLG customers, and ČD Cargo was in danger of losing these transports.

Thanks to our foreign business activities and the possibility of carrying out shipments abroad on our own license, we were able to offer the customer a variant solution consisting of driving through Austria and Germany.

Photo: ©ČD Cargo/Karim Ibrahim



Re-railing of diesel locomotives - tactical exercise

On Thursday, September 24th, a thematic tactical exercise entitled “Re-railing of locomotives of the 742.71 and 744.1 series” took place in the SOKV České Budějovice area. The exercise was led by the HZS unit of the Railway Administration and was also attended by the CZ Loko and ČD Cargo units.

The following situations were practiced: Solving the situation in the event of a fire on a traction rail vehicle (HDV) - securing the HDV (safe condition), disconnecting the battery, braking the HDV, wedging the HDV. Solution of the situation in the event of an HDV collision with a person - emergency lifting with pneumatic bags, securing the HDV against falling, first aid for the injured. Recommended method of re-railing according to the CZ LOKO manual, demonstration of lifting points and subsequent real lifting and railing.

Practical example of emergency re-railing, determination of paved places with which HDV can be lifted in emergency situations. Emergency entry into the HDV cab in the event of a collision with another HDV and rescue of the driver. Solution of the situation in case of leakage of operating fluids - specifications and quantity of operating fluids.

Probably the most interesting part of the exercise was the simulated re-railing of derailed locomotives, one with Paratech pneumatic bags and Lukas hydraulic re-railing equipment and one with a TAKRAF railroad crane (owned by ČD Cargo). The 744,114 locomotive was used for the first intervention, and the 742,716 locomotive was used for the second, both owned by ČD Cargo. In both cases, the locomotive was first derailed in a controlled manner and then re-railed.



ETCS testing at Velim has been successful for CD Cargo

Intensive testing of electric locomotives equipped with the on-board unit of the European train control system ETCS was successfully carried out at the Velim Test Center of the Railway Research Institute. These are locomotives of the 163 and 363 series manufactured in the Škoda plants, which currently serve at the freight carrier ČD Cargo. The leader of the consortium, which is in charge of the so-called retrofit, is ČD - Telematika.

“ We consider the implementation of ETCS on Czech railway to be one of the most important projects in this area for the next few years, “ said Tomáš Businský, Director of the Infrastructure Department of ČD - Telematika. “ This is a project that significantly contributes to the further liberalization of European rail transport, because vehicles equipped with this system will be able to move around Europe basically without restrictions, “ adds Businský.

“ The path to safer rail transport today leads clearly through ERTMS with two basic pillars - ETCS and GSM-R. The topic has become even more actual after a recent series of serious accidents, ” comments Tomáš Tóth, Chief Executive Officer of ČD Cargo , on one of the reasons for the introduction of ETCS.

He also adds: “ Works on the implementation of the European train control system on the infrastructure has been taking place for several years. Now it’s the turn of the carriers. By the end of 2024, ČD Cargo needs to have approximately 350 traction vehicles equipped with mobile units. In addition to new locomotives, which are equipped with ETCS devices from the manufacturer, we need to equip other vehicles with a long-term operational perspective.

The implemented tests are another milestone for us and I am glad that, despite the unfavourable covid situation, we are able to comply with the set schedule.”

Photo: ©CD Cargo























Germany

While the RFO (No. 1830) driver prepares his empty gas tank train for the journey to Sloe (NL), NS locomotive No.1746 searches a place to wait in the yard at Bad Bentheim for its next train from Berlin and then take it forward to Amsterdam. *Erik de Zeeuw*









Germany

▶ On September 1st, PRESS Class 145.023-6 (Pressnitztalbahn) is stabled in Bad Bentheim. The locomotive advertises “Rasender Roland”. The Rügensche BäderBahn - Rasender Roland is a narrow gauge railway on Rügen, Germany’s largest island in Mecklenburg-Vorpommern. Steam locomotives of five different classes are used there for passenger trains every day. *Erik de Zeeuw*

Train No. IC2203 from Norddeich Mole to Bonn-Bad Godesberg passes Salzbergen, powered by DB Class 101.060-3 on September 1st. *Erik de Zeeuw*

▶ HECTORRAIL Class 162.007 ‘Beckert’ (former DB Cargo Class 151.134) is on guard at the characteristic Lingen water tower on September 1st. For some time it has been possible to get married in the 42.6m. high water tower built by Stadtwerke Lingen in 1909. Via the stairs or comfortably by lift, you can get to the top of the water tower and are able to see high above the roofs of the city. *Erik de Zeeuw*





The BahnCard is cheaper than ever: save 25 percent on rail travel for a year for 24.90 euros

Inexpensive BahnCard pays off from the very first trip
25 percent discount on all Super Spar, Spar
and Flex prices
BahnCard 25 is the most popular offer

In October, the BahnCard 25 is cheaper than ever before: The BahnCard 25 is then available for 24.90 euros (2nd class) or 69.90 euros (1st class). It gives you 25 percent on all Super Spar, Spar and Flex prices for long-distance transport as well as on certain local transport offers. The BahnCard is valid for one year and is available from October 1st to October 31st.

Michael Peterson, Member of the Management Board DB Long-Distance: "This award is an invitation: to everyone who has so far been using a car - or is currently doing it again. Test the train! And test the BahnCard! Such a cheap BahnCard is often worth it from the very first trip."

The BahnCard has been a successful Deutsche Bahn (DB) product since 1992. Over five million customers currently have a BahnCard, making it the most popular mobility card in Europe.

The BahnCard 25 is the most sought-after BahnCard with around 3.5 million holders. And the BahnCard is not only very popular in Germany: BahnCard holders currently live in 157 countries, for example around 200 in Australia, around 250 in Japan and over 300 in Canada.

Further information is available at www.bahn.de/bahncard25



Germany

HSL Logistik Class 187.537 with a tank train passes Dedensen-Gummer on August 12th. *Mathijs Kok*

HSL Class 186.383 passes Bohmte heading in the direction of Osnabrück with a loco move on September 11th. The towed locomotives are HSL Class 145.092-3 and 185.642-6. *Erik de Zeeuw*

DB Cargo Class 185.295 with new double deck coaches bound for Israel, built by Bombardier in Germany passes Dedensen-Gummer on August 12th. *Mathijs Kok*



Germany

DB's Class 152.003-0 hurries a rake of empty
carts through Gemünden am Main on July
14th. *Anton Kendall*









The lignite goes - the train is coming: Europe's most modern railway plant is being built in Cottbus

The lignite goes - the train is coming: Cottbus is getting the most modern and environmentally friendly railway maintenance facility in Europe. By 2026, 1,200 new and high-quality industrial jobs will be created. Among them are 100 apprentices who can start their careers under the best conditions. The plant is the first major project to be financed on the basis of the Federal Structural Strengthening Act. With the Structural Strengthening Act, the federal and state governments are supporting the regions affected by the coal phase-out in Brandenburg, the Free State of Saxony, Saxony-Anhalt and North Rhine-Westphalia in creating sustainable jobs and new economic structures. The second important pillar of the Deutsche Bahn's commitment in Lusatia is the expansion of the rail infrastructure. The railway lines from Cottbus to Berlin, Leipzig, Dresden and Görlitz are being expanded, electrified and made fit for higher speeds. The routes to Forst, Guben and the neighboring Polish region are also being comprehensively modernized.

With the start of construction in 2023, a new ICE hall for the heavy maintenance of electric multiple units (ICE 4), a hall for converting diesel vehicles to hybrid technology with electric drive as well as a technology center for hybrid research and modern training workshops will be built at the site of today's Cottbus railway works.

The plans for Cottbus and Lusatia were presented by the Federal Minister of Finance, Olaf Scholz, the Federal Minister of Transport and Digital Infrastructure, Andreas Scheuer, together with Ronald Pofalla, Director of Infrastructure at Deutsche Bahn, and Prof. Sabina Jeschke, Director of Digitization and Technology as well as the Prime Minister of Brandenburg

and the Free State of Saxony, Dr. Dietmar Woidke and Michael Kretschmer.

Ronald Pofalla, DB Board Member for Infrastructure: "The lignite goes, the train is coming. The coal phase-out has become a viable future program. The Cottbus plant, the rail expansion - these are not just projects. These are future prospects for an entire region. Lusatia will change in a positive way: We are creating 1,100 additional jobs and 100 training positions here. And we have excellent connections to the region with the rail network - all arteries will be expanded, there will be more and faster connections from the region in all directions. This makes Lusatia attractive for further industrial settlements, for research and tourism. Because it is about the most important thing we can offer: A good future for people, for families, for companies, for an entire region."

Olaf Scholz, Federal Minister of Finance: "We are doing everything to ensure that the structural change in Lusatia is a success. We are now bringing more than a thousand good jobs and a state-of-the-art infrastructure to the region by rail. That is a huge boost for Cottbus and the whole of Lausitz. The modernization measures are also good for the climate. CO2 emissions are reduced and sustainable growth is ensured. All of this is good news for Lusatia."

Andreas Scheuer, Federal Minister for Transport and Digital Infrastructure: "Strong infrastructure means: strong region. Deutsche Bahn is building a location of superlatives - modern, innovative, digital - and thus becoming a job machine: New jobs, new dynamism, new impetus and a clear perspective for the people in Cottbus and Lusatia."

Brandenburg's Prime Minister Dr. Dietmar Woidke made it clear: "The Structural Strengthening Act has been in force since mid-August. Now we finally have clarity for Lusatia and also the necessary funds to push future projects. The expansion of the Cottbus railway works is a central project. Industrial jobs will be created here immediately. The expansion of the railway works also fits in perfectly with the other promised infrastructure measures in railways and rails for Lusatia. We fought for it for a long time. Now it's finally starting and I'm infinitely happy for the people in the region who deserve it."

Michael Kretschmer, Prime Minister of



the Free State of Saxony: "The new Deutsche Bahn maintenance facility in Cottbus is a strong signal for Lusatia. It creates high-quality jobs and training positions and helps to keep qualified specialists in the region. For a successful structural change, a modern rail network is needed so that innovative companies and research institutions can settle in Lusatia in the future. The new plant can make an important contribution to further promoting long-distance passenger transport in Brandenburg and Saxony."

Prof. Sabina Jeschke, DB Board Member for Digitization and Technology: "We are taking the opportunity here in Cottbus to build the most modern train maintenance facility in Europe. This plant will be automated and digitally controlled to a greater extent than any other and is also a beacon for German engineering. Robots, learning machines and artificial intelligence are radically reducing the time spent in the workshop for ICE trains. The vehicles can get back on track much faster - for punctual rail operations. With the new plant and more than twice as many jobs, we are enormously expanding our capacities. This is necessary because the ICE fleet will grow to more than 420 vehicles by 2026."

In the future, ICE trains will be serviced, repaired and completely rebuilt at the new Cottbus plant. The new DB plant in Cottbus will also be the only one in Germany where the heavy maintenance of hybrid trains will be carried out. This means maintenance, repair and replacement of large technical components (batteries and other drive technologies). In addition, diesel locomotives are being converted to hybrid locomotives in Cottbus. These are HELMS shunting locomotives (Hybrid Electronic Mechanical Shunter) that are already being converted in Cottbus.

In the new technology and administration center, experts focus on hybrid research. The railway maintenance plant in Cottbus has existed for almost 150 years. With its 420 employees, it is now part of DB Fahrzeuginstandhaltung GmbH (FZI).

So groß, so grün, so modern wie kein anderes

Die Deutsche Bahn baut ab 2023 ihr neuestes und größtes **Werk in Cottbus**. Hier entsteht der Innovationsstandort der DB in der Lausitz.

Neue Jobs

1.200 zusätzliche Arbeitsplätze
davon 100 Ausbildungsplätze

Schneller Bau

2023 Baubeginn
2026 Inbetriebnahme

Grünes Werk

Strom aus Solarenergie
Umweltfreundliche Baustoffe

Neue Halle für Hybridloks

Hier werden...

- ...Diesel- zu Hybridloks umgerüstet.
- ...Hybridzüge gewartet und repariert.

Neues Verwaltungs- und Technologiezentrum

Hier entsteht...

- ...eine Forschungseinrichtung für Hybridantriebe.
- ...ein Trainings- und Servicezentrum mit Lehrwerkstätten.

Neue Halle für ICE-Züge

Hier werden...

- ...die neuen ICE-4-Züge in voller Länge gewartet und repariert.
- ...Mitarbeitende durch neueste Technologien und Roboter unterstützt.

Bestehendes Instandhaltungswerk

Germany

Class 185.619-4, operated by HLG, brings a rake of Kali & Salz hopper through Gemünden am Main on July 14th. *Anton Kendall*

Lineas Nos. 7784 and 7789 run light engine through Bad Bentheim on August 23rd. *Mathijs Kok*

On August 23rd, Class 101.068 with Back-on-Track branding, passes a Coradia Lint of the Bentheimer Eisenbahn at Bad Bentheim. *Mathijs Kok*





Smart and digital: Deutsche Bahn and the City of Hamburg are extending their smart city partnership by five years

Hamburg's local transport is becoming even more digital: Deutsche Bahn (DB) and the Free and Hanseatic City of Hamburg (FHH) are extending their smart city partnership agreed in 2017 by five years. Hamburg's First Mayor Dr. Peter Tschentscher and DB Infrastructure Director Ronald Pofalla have issued a "Memorandum of Understanding". Both partners want to use digital technologies and innovative ideas to make local public transport and train stations more attractive for customers. The specific measures include new monitors for better traveller information, optimized route guidance for easier orientation, digital lockers and a larger range of train stations for cyclists, such as other Bike + Ride and StadtRAD stations.

Film Smart-City Hamburg

Ronald Pofalla, DB Board Member for Infrastructure: "The demand for the ioki shuttle alone shows that, together with the City of Hamburg, we have created a great offer for our customers. I am pleased that we are now continuing this successful partnership. Digitization is the main driver with which we can make rail travel even more attractive for our customers. We will present a further milestone at the ITS World Congress in Hamburg one year from now: Then the first S-Bahn will be highly automated."

Smart City Hamburg

Dr. Peter Tschentscher, First Mayor of the Free and Hanseatic City of Hamburg: "Improving mobility is a key issue for the Hamburg Senate. In the Smart

City partnership with Deutsche Bahn, we implement innovation projects that make local transport more reliable, more comfortable and more environmentally friendly. With self-driving trains and buses, a network of the various offers and modes of transport as well as new services such as the 'Hamburg Box', Hamburg is becoming a model city for the mobility of the future and a pioneer in the digitization of rail transport."

Dr. Anjes Tjarks, Senator for Transport and Mobility Transition of the Free and Hanseatic City of Hamburg: "The Smart City partnership is a central element of the mobility transition in Hamburg. We want to convince people to switch, and intelligent networking of the offers is crucial for this. Innovative traffic concepts and traffic solutions will increasingly become an image and location factor for cities in the future. With the train we have a strong partner with whom we can make the Hamburg location more attractive in this respect - among other things with the first digital S-Bahn."

Since the partnership began three years ago, several projects have already been successfully started or implemented:

The "Digital S-Bahn Hamburg": From 2021, four trains on the S21 and S2 lines will run on the 23 km long route between the Berliner Tor and Aumühle stations in a highly and fully automated manner. As a result, trains can run more quickly and with greater reliability.



The ioki Hamburg Shuttle: The shuttle service integrated in public transport for the first and last mile has established itself as a permanent component of mobility in the city over the past two years: The emission-free and barrier-free offer already has over 400,000 passengers and over 250 tons CO2 saved.

Attractive train stations: At the Dammtor train station, which will act as the gateway to the World Congress for Intelligent Transport Systems (ITS) in 2021, DB and FHH have already implemented numerous projects to make the train station more attractive for travelers. These include the Hamburg Box, where customers can pick up their pre-ordered goods, newly designed showcases or an audio-visual art installation that creates a special atmosphere. In time for the ITS, the waiting area on the platform will also be given a refreshment.





Germany

Class 185.537-8 owned by TX Logistics hauls a rake of UK gauge IKA wagons through Gemünden am Main on July 15th. *Anton Kendall*















Netherlands

On August 22nd, RailForceOne's 'Shark' Class 193.623 passes through Utrecht, hauling D-locomotive No. 1572 and a container train.

Mathijs Kok





Trial runs of Alstom's hydrogen train in the Netherlands deemed successful

The Province of Groningen has published a report outlining the results of the Coradia iLint tests performed in March on the 65 kilometres of line between Groningen and Leeuwarden in the north of the Netherlands. The tests aimed to investigate whether a hydrogen fuel cell train could be a fully sustainable alternative to the diesel trains currently running in the northern part of the country.

The Alstom's hydrogen train has been extensively tested with the Province of Groningen operator Arriva, the Dutch railway infrastructure manager ProRail and the energy company Engie. DEKRA, an independent testing inspection and certification company, was the test leader. The tests took place without passengers.

The report states that Alstom's hydrogen train has successfully met the 4 objectives of the test frame: authorisation by the Dutch NSA (National Safety Assessor) to run on the Dutch railway network, fully zero emission and perfectly fitting the commercial service of the current timetable, quick

and easy refuelling, and familiarisation of the general public to hydrogen mobility.

"After Germany, the Netherlands is the second country in Europe where the Alstom's hydrogen train has proven itself a unique emissions-free solution for non-electrified lines. The tests have demonstrated how our hydrogen train is mature in terms of availability and reliability, providing the same performance as diesel equipment, and with the benefit of low noise and zero emissions. The Coradia iLint hydrogen train supports the transition towards global sustainable transport systems," said Bernard Belvaux, Managing Director, Alstom Benelux.

Regarding the commercial service performance: both the stop timetable (all stations) and the express timetable have been tested successfully. Hydrogen consumption, infrastructure compatibility, acceleration, braking, docking, maximal speed, performance of the auxiliaries, all operations went without problems.

The Dutch drivers found the behaviour of the train comfortable, smooth and easy to drive. Refuelling with green hydrogen went faster than expected and was performed safely. Moreover, this zero-emission train is significantly quieter than the current diesel trains. This was confirmed during the tests and is a significant benefit for the passengers and inhabitants on the line.

The report concludes that the goals have all been achieved and that the hydrogen train is a fully viable alternative to diesel equipment.



▶ SBB Cargo Class 193.528 hauling a P&O container train is seen on the Betuweroute near Sliedrecht on August 22nd. *Mathijs Kok*

▶ LTE Class 193.729 with a 'China container train' passes through Den Dolder on September 12th. *Mathijs Kok*

▶ Former NS 20, better known as the Camel (because of its 'bumps') with an outing to the Dutch railway museum, passes Nijmegen Heyendaal on September 6th. *Mathijs Kok*





RRF No. 4401 (an ex NS Class 1600) and HSL Logistik No. 186.364 haul a rake of tanks past Eempolder on August 29th. *Mathijs Kok*

Railexperts/HSL Logistik No. 6002, an ex DB V60 is seen in Leusden on August 31st with an empty car train. Behind it is HSL Logistik Class 186.107. *Mathijs Kok*

The Arriva 'Winks' have started test running, on August 31st Nos. 603, 601 and 602 are seen at Amersfoort. *Mathijs Kok*



Netherlands

Former PCT No. 223.154, now in use with Rail Cargo Carrier hauls a gas tank train through Oberhausen-Osterfeld on August 28th. *Mathijs Kok*

Crossrail Class 66 No. 6312 with a silo train passes through Tilburg-Reeshof on August 26th. *Mathijs Kok*

The old Dutch No. 273 (Mat-46) and No. 386 (Mat-54) are seen making a maintenance run through Bilthoven on August 27th. *Mathijs Kok*



Netherlands

Lineas Nos. 7870 and 7777 with a dolomite train pass Oss on August 9th. *Mathijs Kok*

Hectorrail Class 241.002 hauls a Samskip trailer train through Oberhausen-Osterfeld on August 28th. *Mathijs Kok*

A trio of DB DE 6400's, with No. 6411 leading, haul a mixed freight through Tilburg Reeshof on August 26th. *Mathijs Kok*



Switzerland

SBB's Class 843.054-8 runs a short rake of tanks through Pratteln from the works at Pratteln to MuttENZ Rangierbahnhof, on July 21st. *Anton Kendall*



Switzerland

An unusual working through Pratteln on July 20th, bringing sugar wagons from Poland and hauled by the former Voralpen Express Class 446.016-8 and former DR loco 142.103-1. *Anton Kendall*



Switzerland

SBB Cargo's Class 474.002 and 474.009 head through Pratteln with a container train on July 21st.
Anton Kendall





U.A.E.



Despite a global shift towards renewable energy, as governments look to reverse the adverse effects of climate change, the fact remains that much of the world's transport sector is still dependent on fossil fuels. When it comes to the future of sustainable mobility in the Middle East, however, rail transport is leading the way.

With 25% of worldwide CO2 emissions, from energy combustion, coming from transport, and CO2 emissions forecasted to grow by 60% by 2050, the development of sustainable, eco-friendly transport solutions is a matter of the utmost environmental importance here in the Middle East.

Consequently, the region's governments are taking major steps towards reducing greenhouse gas emissions, cutting down on the use of fossil fuels, and decarbonising transportation. In the GCC, for example, there has been huge investment in the expansion of infrastructure for rail transport systems, as the country's leaders continue to reaffirm their commitment to the growth and innovation of sustainable mobility solutions.

Alstom, a global leader in rail transport and sustainable mobility, is working closely with many regional transportation authorities to ensure the most advanced and sustainable technology innovations are in place to safeguard the health, well-being and mobility of communities across the region.

Railway on the fast track to implementing sustainable mobility in the Middle East

Known as a global driver of innovation towards carbon neutrality in rail transport, Alstom places a huge focus on greener and smarter mobility solutions. The company is in the process of delivering the world's fastest-built turnkey driverless metro project, The Dubai Route 2020 Metro, which includes eco-friendly trains equipped with full electrical braking systems, LED lighting and other innovations to reduce energy consumption.

One such innovation is the implementation of HESOP (Harmonic Energy Saver Optimiser) technology, which recovers the electrical energy generated by trains during braking. In addition to reducing operational costs, HESOP will also cut about 3 million kilograms of carbon emissions and decrease power consumption by 6.6 million kilowatts per annum.

“With rapidly evolving demographics and consequent massive urbanisation, Alstom has taken up the challenge of developing innovative sustainable mobility solutions that meet the increasing demand for transport, while preserving the environment,” says Tamer Salama, Alstom Managing Director for the GCC region.

“We believe that the continued development of sustainable transport will only be made possible by increasing the adoption of eco-design methods. It is therefore Alstom's goal to promote sustainable and Healthier Mobility™,

worldwide, which is why we have given eco-design a central role in our business. In 2019/2020, 25% of newly developed Alstom solutions were covered by an eco-designed process, including circular economy aspects,” Tamer Salama adds.

As a dedicated and long-standing partner of the region's transportation and mobility development, Alstom will continue to play an integral role in improving the environmental performance of rail across the region. Through innovations in electric transport and hydrogen fuel, Alstom aims to shape the future of the region's mass transit and mobility for the better. In doing so, it remains dedicated to significantly reducing emissions, minimising land use and carbon footprint, and decarbonising rail transport.

Romania



Alstom to provide digital train control, traffic management and electrification infrastructure for the Rhine-Danube rail corridor

Alstom will provide digital train control, traffic management and electrification infrastructure as part of the rehabilitation and modernisation of Lot 2 (Apata-Cata) on the Sighisoara-Brasov section of the European Rhine-Danube rail corridor in Romania. Alstom's share of the contract amounts to approximately €70 million. The Asocierea RailWorks consortium, of which Alstom is part, has signed the contract, with the project execution expected to last four years.

This project completes the previous one for Lots 1 and 3 of the same section, which was awarded to Asocierea RailWorks in March 2020. In total, Alstom will provide signalling and electrification works on the double line covering the railway distance of 128 kilometres – totalling more than 250 kilometres of modernized railway infrastructure – between Sighisoara and Brasov, two important touristic destinations in Romania.

“Alstom has now reinforced its leading position on the Romanian railway market, for both digital train control and electrification. Covering the entire subsection between Sighisoara and Brasov will provide a smooth and effective operation, ensuring a consistency in the quality of service and coordinated efforts to complete the entire subsection on time and budget,”

explains Gabriel Stanciu, Alstom Managing Director for Romania, Bulgaria and the Republic of Moldova.

The new project, totalling 28 kilometres of double railway line, includes the optimisation of the existing route by building tunnels to reduce travel time, as well as the modernisation of most of the old line, for passenger trains operating at up to 160 km/h. Alstom is directly responsible for the traffic management system, digital interlocking and ERTMS Level 2 deployment (ETCS Level 2 + GSM-R telecommunications system), passenger information systems as well as catenary upgrades and electric traction substations. The most complex part in this project is the construction of two double tunnels (four tunnels in total, two per each direction) totalling almost 13 kilometres of double lines. In these tunnels, Alstom is responsible for an electro-ventilation system to compensate the lack of natural ventilation, along with a fire-proof system to ensure full traffic safety. As with Lots 1 and 3 of the Sighisoara-Brasov section, for the upgrade of the catenary systems, Alstom will supply its OCS3 catenary solution for main lines. Trains have been running between Braşov and Sighișoara since 1873. After completed rehabilitation, the train journey should take under one hour for the fastest trains, compared to 160 to 250 minutes at present.

Alstom has been active in ongoing rehabilitation works on the Romanian part of the Rhine-Danube Corridor since 2012 and now has five ongoing and two completed signalling and infrastructure projects on this section, covering over

75% of the distance of the 450 km currently in rehabilitation on the Romanian section of the European corridor. The pan-European Rhine-Danube Corridor links the cities of Nuremberg-Prague-Vienna-Budapest-Curtici-Simeria-Brasov-Bucharest-Constanta. Through the rehabilitation programmes currently in implementation on the sections located on the Northern branch of the Romanian part of this Corridor, the traffic speed will increase to 160 km/h for passenger trains and to 120 km/h for freight trains.



Mexico



Alstom delivers Line 3 of Guadalajara urban transportation network

Inauguration of a landmark mobility project for the State of Jalisco in Mexico

Alstom has officially delivered Line 3 of Guadalajara urban transportation network, a new line expected to carry around 230,000 passengers daily. The line covers nearly 21 kilometres, covering 18 stations through the cities Zapopan, Guadalajara and Tlaquepaque. It will be operated by the local operator SITEUR (Sistema del Tren Eléctrico Urbano - Urban Electric Train System).

In 2014, Alstom was selected by the federal Secretaría de Comunicaciones y Transportes (SCT – Communication and Transportation Ministry) to provide an integrated system for the Guadalajara network extension. The project, representing a nearly €330 million investment (with €240 million for Alstom), will enhance mobility services for residents across the State of Jalisco, providing significant social and economic benefits.

“Line 3 is designed to be 100% accessible to all, with spaces for people with disabilities inside the cars and dedicated infrastructure at all stations. The line is an example of a modern, inclusive transport system that offers passengers a reliable, safe and comfortable travel experience while remaining environmentally sustainable,” said Maite Ramos, Managing Director of Alstom Mexico.

“We congratulate everyone involved in the inauguration of this very

important project for Jalisco. Without a doubt, it will greatly benefit all the State’s residents, changing the way they travel and improving their lifestyle. Alstom’s efficient work to carry out this project saw the company’s experience and commitment contribute to improving the quality of life of residents and proposing complete safety in their travel,” said Manuel Gomez Parra, General Director of Railway and Multimodal Development of the SCT.

The 2014 contract included the supply of 18 Metropolis trains, communication systems, the high-voltage and traction substations, and traffic control systems based on Urbalis 400, Alstom’s CBTC system. The trains are equipped with air conditioning, video surveillance, and passenger information systems. With these projects, Alstom reaffirms its commitment to continue to lead the way to greener and smarter mobility around the world, developing and commercializing integrated systems that provide the sustainable foundation for the future of transportation.

Alstom has been present in Mexico since 1968, with the development of the first metro line in Mexico City. Since then, it has been an important ally for the development of mobility and urban connectivity, as well as the economic growth of the states of the country where it operates. For 52 years, Alstom has pioneered the introduction of metros and its maintenance in Mexico City, Monterrey and Guadalajara. In addition, the company has developed signalling systems and maintenance services for trains and infrastructure for the main railway companies in the country.



Austria

ROLA price reductions on the Brenner axis

ROLA customers are benefitting from a reduction in the basic price as well as attractive round trip discounts. Making ROLA more attractive is another step towards shifting freight transport to rail.

The Rail Cargo Group are reducing the prices for the Rolling Road (ROLA) from 1st October 2020. The new price system allows for a reduction in the basic price for trucks weighing less than 40.5 tonnes (9 Euro discount), a further round trip discount (6 to 9 Euro) for all trips on the Brenner axis. The new price system makes it possible to book a ROLA trip through Tyrol starting at 82 Euro.

Cost savings on the Rolling Road

Regardless of the number of trips and connections booked, all ROLA customers benefit from the basic price reductions. Hauliers and forwarding agencies that regularly use ROLA connections on the Brenner axis will especially benefit from the round trip discounts: these will be granted from 8 round trips per calendar month and will apply from the very first round trip. So the more ROLA is used, the higher the discount will be.

Getting more trucks on the tracks

The new price system will provide for an extensive incentive scheme to shift more trucks on the Brenner axis to rail. Furthermore, it brings ROLA’s prices more on a par with road transport.

ROLA has much more to offer beyond its attractive prices:

- Environmentally friendly: ROLA customers make an important contribution to protecting the environment by avoiding



harmful emissions and noise pollution.

- Cost savings: toll and fuel charges are avoided and additional investments for crangible equipment are not needed for loading and unloading ROLA.

- High level of safety: the highest safety levels can be guaranteed all year long when trucks are on the rails instead of the road.

- A rest while on the move: while the trucks ride the train, the drivers take a break in the accompanying carriage with on board services.

On September 15th, the AC version of the Vectron locomotive received official approval from the Danish safety authority “Trafik-, Bygge og Boligstyrelsen” for operating in Denmark. The approval marks an important milestone for the commissioning of 42 Vectron locomotives ordered by Danish State Railways (DSB) from Siemens Mobility over the last two years. The first three locomotives will be delivered in September 2020. “With the Vectron, Danish State Railways is getting a fleet of modern locomotives that stands for quality and

high reliability. The approval and commissioning of the Vectron in Denmark is an important contribution to providing sustainable European rail transport. We are especially pleased that we can hand over the locomotives to our customers earlier than originally planned,” says Michael Peter, CEO of Siemens Mobility.

“For DSB, the future begins very concretely with the delivery of these first three Vectron locomotives from Siemens. The electric locomotives will have a positive

effect on our environmental footprint both in relation to energy consumption and local particle emissions, and will further support DSB’s targets to provide sustainable, reliable and flexible train operation that will benefit our customers”, says Flemming Jensen, CEO of DSB.

The new locomotives for DSB will operate in Denmark and Germany and will be used primarily in regional transport as traction for DSB’s double-decker passenger cars. All locomotives have a maximum power output of

6,400 KW and a top speed of 200 km/h. The Vectron AC is designed to operate on 15 kV / 16.7 Hz as well as on 25 kV / 50 Hz voltage systems and is equipped with the ETCS train control system as well as the PZB/LZB and DK-STM control systems.

To date, 50 customers have already chosen the Vectron for their fleets and have ordered over 1,000 locomotives. Including the new approval in Denmark, the Vectron can now be operated in 20 European countries.



Italy

**60 technicians operating around the clock,
over 240 thousand man-hours.**

**The economic investment totalled 21.6
million euro**

The San Michele sull'Adda bridge reopened to rail traffic on September 14th. Rete Ferroviaria Italiana (FS Italiane Group) has completed the third phase of the project about two months ahead of schedule.

There to inspect the bridge were Claudia Terzi – Lombardy's Regional Councillor for Infrastructure and Transport, Michele Pellegrini - the Mayor of Calusco D'Adda, Gianpaolo Torchio-Mayor of Paderno D'Adda, and Maurizio Gentile - Managing Director of Rete Ferroviaria Italiana as well as the Commissioner for Extraordinary Maintenance Operations on the San Michele Bridge.

The reopening involves the continuance of the limitations existing prior to the closure of the bridge, specifically:

- road traffic is permitted for vehicles weighing no more than 3.5 tonnes and with a width not exceeding 2.2 metres, alternating one way, with all vehicles being able to travel at a top speed of 20 kilometres per hour;

- rail traffic is permitted for weights per axle exceeding 16 tonnes (with specific derogations for the new generation Caravaggio and Donizetti convoys), with trains being able to travel at a maximum speed of 15 kilometres/hour.

In addition, alternating (non-simultaneous) road and rail traffic will be facilitated.

For the construction site activities (installation of scaffolding, sandblasting, painting, sealing coupled profiles, replacing/reinforcing hundreds of metal elements), 60 engineers, technicians and workers of RFI and contracting firms were employed. Altogether there were about 240,000 hours of work, completed in round-the-clock shifts.

The worksite will continue with the remaining activities pertaining to the completion of painting the bridge, in line with the work activities that do not affect road and rail traffic.

The total amount of the works came to approximately 21.6 million euro, of which 1.6 million was financed by the Lombardy Region.

San Michele sull'Adda Bridge opens to railway traffic



Europe

Key milestone in Alstom's acquisition project of Bombardier Transportation: signed sale and purchase agreement under revised price terms

On September 16th, Alstom announced that it signed the sale and purchase agreement with Bombardier Inc and Caisse de dépôt et placement du Québec (CDPQ) for the acquisition of Bombardier Transportation.

“The acquisition of Bombardier Transportation represents a transformational change for Alstom. It will enable the Group to accelerate on its strategic roadmap and strengthen its leadership in the context of a dynamic market, at a time where sustainable transportation is at the heart of the global agenda.

Bombardier Transportation will bring to Alstom complementary geographical presence to broaden Alstom's commercial reach in key growing markets, strong product complementarities in rolling stock,

strategic scale in services and signalling, industrial capacity in key countries, a leading portfolio offering and additional R&D capabilities to invest in green and smart innovation. Alstom will also welcome new talent and expertise, with the arrival of Bombardier Transportation employees.”, said Henri Poupart-Lafarge Chairman and CEO of Alstom.

Terms of the agreement have been adapted to the current situation. A €300m reduction in the price range has been agreed with Bombardier Inc and CDPQ. Excluding any further downward adjustments linked to the net cash protection mechanism, the price range for the acquisition of 100% of Bombardier Transportation shares will be therefore €5.5bn to €5.9bn. Alstom considers that the proceeds are likely to amount up to €5.3bn,

based on estimated potential post-closing adjustment and obligations linked to the net cash protection mechanism², compared to the €5.8bn – €6.2bn range communicated on February 17th, 2020. The financing structure remains the same as communicated previously, in particular the size and terms of the rights issue and the reserved capital increases of CDPQ and Bombardier Inc. As announced last February, pursuant to the new terms of the acquisition, CDPQ will become the largest shareholder of Alstom with approximately 18% of the share capital and voting rights. Alstom is convinced of the strong strategic rationale for the acquisition and is confident in its ability to recover Bombardier Transportation's commercial, operational and profitability potential. Alstom confirms its objectives to deliver €400m run rate cost synergies in year 4 to 5 and

to restore Bombardier Transportation margin towards standard level in the medium term. The transaction is expected to be double digit EPS accretive in year 2 post closing and to preserve Alstom's strong credit profile with a Baa2 rating.

Alstom's Board of Directors approved these new terms and is confident in Alstom's capacity to deliver strong value creation for all stakeholders through this acquisition.

Following positive progress on antitrust regulation process, the closing of the transaction is now expected for Q1 2021 subject to regulatory approvals and customary closing conditions, with an extraordinary shareholders' meeting to be held on October 29th 2020.



Siemens Mobility to install CBTC on Jurong Region Line in Singapore

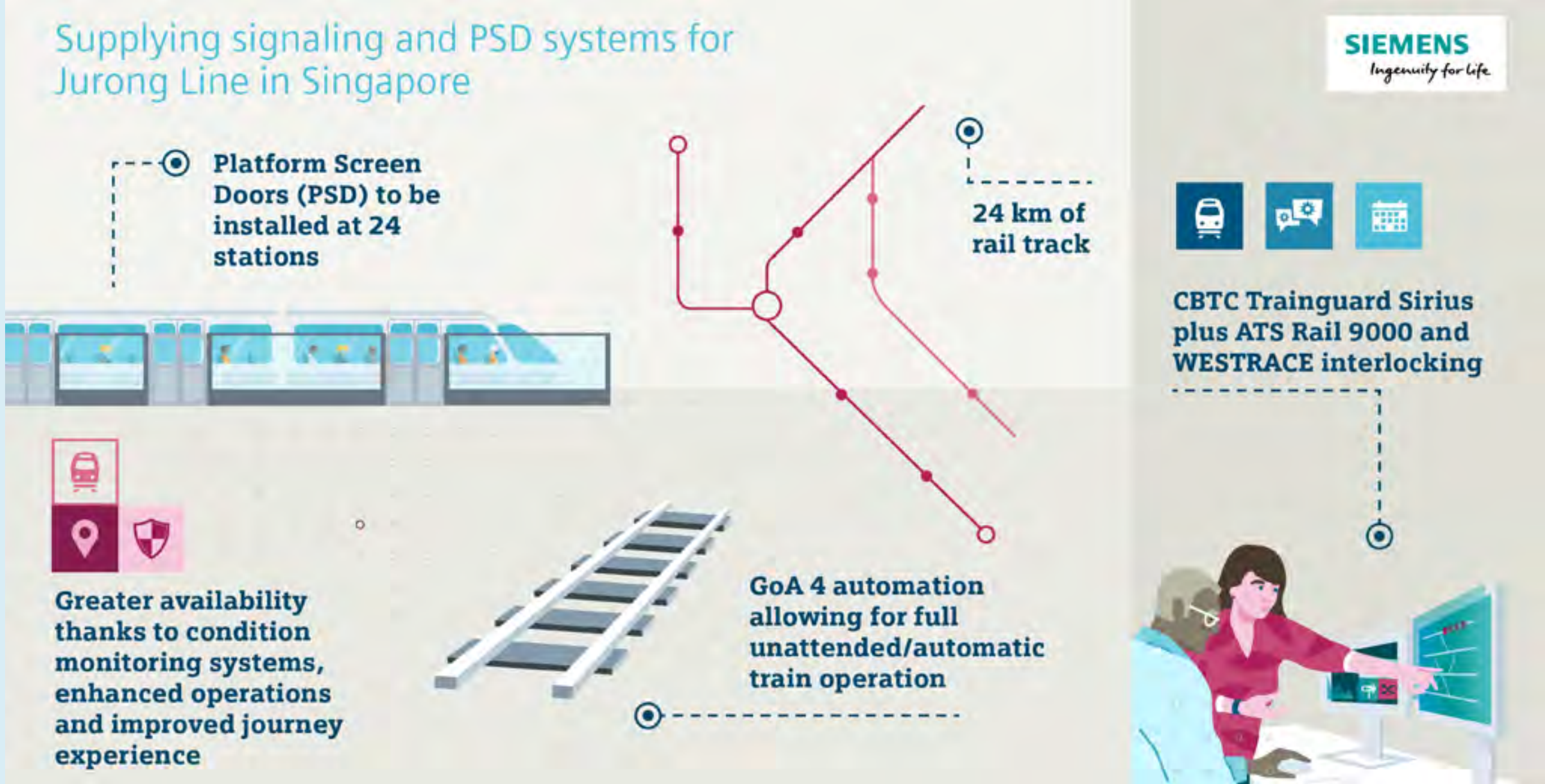
Communications-Based Train Control (CBTC) signaling system to be installed on 24km of elevated Jurong Region Line in Singapore
Half-height Platform Screen Doors to be installed at 24 stations throughout line
The intelligent infrastructure will provide greater availability, enhanced operations, and will improve passenger experience

Siemens Mobility has been awarded a contract of approximately 135 million Euros by the Singapore Land Transport Authority (LTA) to install an automatic train control signaling system and half-height platform screen doors on the Jurong Region Line (JRL). Siemens Mobility will utilize its Trainguard Sirius solution and modern interlocking product Westrace to implement a Communication Based Train Control (CBTC) signaling system across the entire 24 kilometers of track. In addition, Siemens Mobility will install platform screen doors at the 24 stations being built, which will support the GoA 4 automation of the line and allow for full unattended/automatic train operation. The project has been designed by an international team of Siemens Mobility in Singapore and Spain.

“We are delighted to have the opportunity to build on our existing technology partnership with Singapore’s Land Transport Authority and deliver intelligent mobility solutions that support Singapore’s continued efforts to effectively manage their urban development,” said Michael Peter, CEO of Siemens Mobility. “The state-of-the-art CBTC signaling technology for the Jurong Region Line will allow this new rail option to operate with superior availability

and automation, featuring a high degree of service reliability and passenger experience.”

The JRL is currently under development and once completed will be Singapore’s seventh MRT line. The line will be comprised of three branches, 24 stations, and span 24 kilometres of track. It will serve both existing and future development in the western part of Singapore and will significantly improve connectivity of the region and support the development of the Jurong area. The JRL is expected to put 60,000 more households in Jurong within a 10-minute walk from a train station. The JRL is scheduled to open in 3 stages – with the final stage being finalized in 2028. Trainguard Sirius is the Siemens Mobility high-performance CBTC system which lets operators maximize their network capacity and throughput. The radio-based technology provides real-time data on vehicle position and speed conditions, allowing system operators to safely increase the number of vehicles on a rail line. Additionally, the technology precisely locates each train on the tracks and controls speed, improving safety for riders and employees, while also providing the ability for continuous updates on system status that results in fewer delays and up-to-date travel information. Trainguard Sirius is currently being used for the Downtown Line in Singapore, Turkey, Brazil, Spain,



China and Venezuela. This project will build on the already well-established relationship, Siemens Mobility has with Singapore. That includes providing the signalling and the test center for the Downtown Line (DTL), one of the world’s longest suburban fully automated metro lines, as well as providing electrification for two other mass transit projects: Circle Line Stage 6 and North East Line extension.



Vossloh supplies fastening systems for new heavy-haul line in Mongolia

Vossloh won a first contract for the supply of rail fastening systems for a heavy-haul line in Mongolia. The about 270 km long line will connect the Tavan Tolgoi with Gashuun Sukhait port at the Chinese border. After its completion, about 30 million tonnes of goods, primarily raw materials for steel production, will be transported on the new rail link each year – with significant environmental advantages compared with the current road haulage. The deliveries of the fastening systems started some time ago, and an approximately 70 km long section has already been completed. Under the current plans, construction work will be completed by the end of 2021.

For the haulage of the extreme loads on the wide gauge track through the steppe landscapes and the Gobi desert, the line will be equipped with Vossloh’s innovative rail fastening system W 30 HH. This system is ideally suited for the demanding climatic conditions, such as extremely hot summers and winter temperatures down to minus 40 degrees Celsius, as well as for the challenging soil conditions in Mongolia.

The system first proved itself on the test track constructed in 2017 near the capital Ulaanbaatar and has since been used successfully in various projects.

Also the many years of global experience and the capacities and quality standards in combination with the technology center at the production site in Werdohl convinced the delegation of the Mongolian company Bodi International.



Greece

Alstom introduces the Citadis X05 tram to Athens

Alstom was proud to deliver the first two of the 25 Citadis X05 trams ordered by Attiko Metro, the urban transport authority of Athens in July 2018. The tram began dynamic tests at the end of September 2020 before being put into passenger service in February 2021. The 25 trams will run on the city's existing network, as well as on any planned extensions. The delivery of the last tram is expected by the end of May 2021.

"Alstom is proud to bring its latest generation of tram to Athens. By providing reliable and modern rolling stock, we commit to supporting the development of urban transport in Athens, to further increase the capacity and availability of the existing lines and their extensions," said Stavros Vlachos, Managing Director Alstom Greece.

"It is our duty to contribute to a more sustainable and green mobility in the city of Athens. We know how important it is for everyone to have the latest generation trams for improved, eco-friendly and more pleasant urban transport" said Attiko Metro CEO Nikos Kouretas.

In addition to the manufacturing and supply of the trams, Alstom is also responsible for the on-site testing, training and warranty services, as well as spare parts for the vehicles. These are Alstom's first trams sold in Greece, after the company provided 28 metro trains in early 2000 for the first Athens Metro project.

The modern Citadis X05 trams will supplement the existing fleet of light rail vehicles for use on the network in Athens and Piraeus. This latest generation from the Citadis range offers superior passenger experience, with 20% more glass surfaces, LEDs for soft, homogeneous lighting, large individual seats, and travel information on large screens via a telematic system. The five-section trams will be 33 metres long, with a capacity of 294 passengers. Double doors along the entire length of the tramway ensure enhanced accessibility.

The Citadis X05, the latest version of the Citadis range, boasts a number of new technologies, including permanent magnet motors for higher efficiency, as well as optimised HVAC (heating, ventilation and air-conditioning), which together reduce its energy consumption by 25%. Simplified sub-system integration and maintenance decrease lifecycle costs, while the tramway is 97% recyclable. To date, Citadis X05 has been sold in cities such as Sydney, Paris, Nice, Avignon, Caen, Lusail, Frankfurt and Athens.

2,700 vehicles of the Citadis range have been sold in 60 cities worldwide. Citadis trams have covered over 1 billion kilometres and transported 10 billion passengers since the first tram entered service in 2000.

Photo: The Alstom Citadis X05 tramway for Attiko Metro in Athens, Greece. ©Alstom



Spain

First infrastructure digital inspection for the Madrid Light train network

Rail tracks inspection are now more reliable and faster
21-km track
4 optical units
4.000 measurements per kilometre
0,02 mm resolution

During the summer, Alstom teams have carried out an innovative project in Spain to digitalise track inspections for Madrid Light train network. The project was performed jointly with the MLO (Madrid Metro Oeste) operator as

projects performed jointly with national infrastructure operator Adif.

The vehicle, equipped with four optical units, camera, lasers and an inertial navigation system, analyses various track parameters (such as rail width, levelling, track twist radius, alignment, banking and warping). These measurements are critical for safety operations as track anomalies can cause derailments if not detected and corrected in time. This information can be integrated within the HealthHub platform, also facilitating prediction of future defects to anticipate maintenance tasks.



part of the Services agreement both companies have maintained during the last thirteen years to offer the best service to users through maintenance and systems and infrastructures innovation.

This latest digitalization project consisted in the inspection light train lines connecting the west Madrid municipalities with the suburban train stations. The 21-kilometres-track was inspected using TrackTracer technology, Alstom's innovative track monitoring tool, integrated in a special vehicle that measures the infrastructure automatically.

This is the first commercial project of its kind in Spain, after the tests carried out with TMB last year and the R&D

Traditionally, rail inspection is performed manually, with the process being slower, less reliable and less cost-effective. WINFRAM and TrackTracer technology allows up to 4,000 measurements per kilometre at an average speed of 20 km/h with a resolution of up to 0.02 mm to catch a maximum of details and accuracy.

Photo: Vehicle with TrackTracer technology integrated, at MLO depot. ©Alstom

From the Archives

Armenia

On June 19th 2008, the Yerevan children's railway is seen in operation.
Mark Enderby

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From the Archives

Belgium

SNCB Nos. 5936, 5939, 5917, 5905 and 5946 are seen at Merelbeke shed on June 11th 1994. *John Sloane*

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From the Archives

Belgium

SNCB No. 2316, with 2617 and 2609
dead behind, pass Berchem with a
container train on March 24th 2011.
John Sloane

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From the
Archives

Bulgaria

760mm gauge diesel No. 75008 is seen at
Velingrad on May 1st 2011. *John Sloane*



From the
Archives

Czech
Republic

CD Class 163.075 arrives at Usti nad
Labem hl.n. with a service from Decin
on March 29th 2012. *Brian Battersby*

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From the
Archives

Czech
Republic

Class 111.005 is seen stabled at Praha
Smichov on May 29th 2002.
Mark Enderby



From the
Archives

France

SNCF No. 16049 is seen at St. Denis
on October 28th 1993 with a service
from Amiens. *John Sloane*



From the
Archives

SNCF No. 80010 is seen with an ECS
working at Paris Austerlitz on October
29th 1997. *John Sloane*

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France



From the Archives

France

SNCF Nos. 7325 and 7335 are seen
with a P. Way train at Pieton on June
8th 1999. *Mark Enderby*

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From the Archives

India



YDM4 No. 6435 is seen at Agra Idgah
on April 3rd 1983. *John Sloane*



From the
Archives

No. BB301.12 stands at Bandung with
a passenger train on February 3rd
1980. *John Sloane*

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Indonesia



From the Archives

Ireland

▶ CIE No. 227 passes No. 205 at Limerick Jct. on March 22nd 1998. *Mark Enderby*

▶ CIE No. 148 working the 07:52 ex Limerick, passes Ballybrophy on March 27th 1998. *Mark Enderby*

▶ Arrow DMU Nos. 2603 and 2604 call at Kildare on March 21st 1998.
Mark Enderby



From the Archives

Italy

FS Class E4645.022 heads through Viareggio on August 20th 1989 with a freight bound for Pisa.
John Sloane

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From the
Archives

Italy

FS Class E655.233 leads a freight
through Verona on August 28th 2006.
Brian Battersby



From the
Archives

Italy

Dispolok No. E189.991 is seen stabled
at Brescia on August 28th 2006.
Brian Battersby



From the Archives

Myanmar

1986 built Kawasaki No. DD.511 acts as station
pilot at Yangon on January 25th 2006.

John Sloane

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From the Archives

No. DF.1606, a Bo-Bo-Bo built by Alstom in 1972 is seen at Hisipaw on January 29th 2006.

John Sloane

Myanmar

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From the Archives

Myanmar

Bo-Bo No. DD.1529 built by KSK of Osaka in 1972
runs through Mandalay on February 3rd 2006.
John Sloane

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From the
Archives

Netherlands

English Electric derivative No. 620 is seen shunting a coach at Venlo on March 28th 1989. *Mark Enderby*

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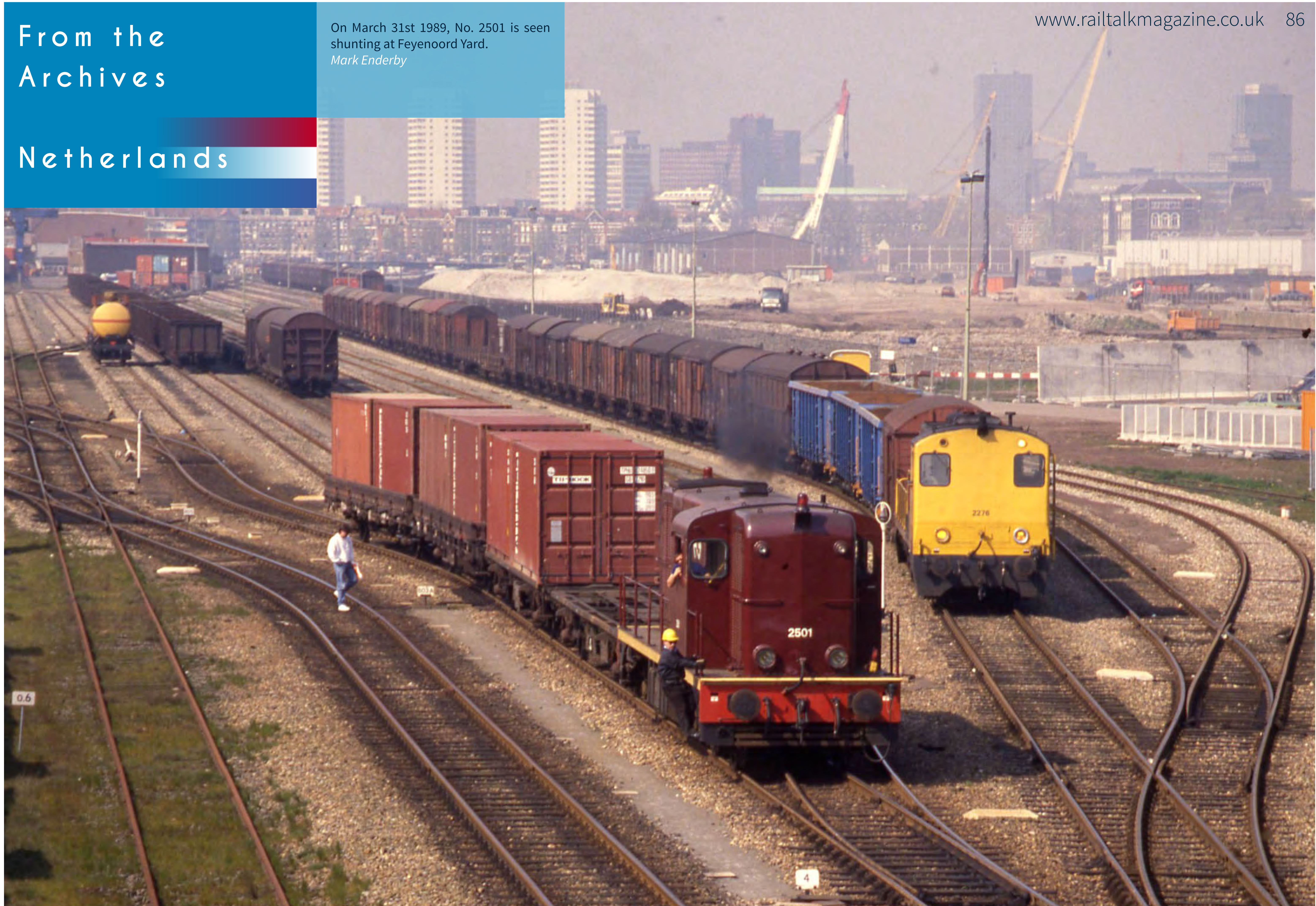


From the
Archives

Netherlands

On March 31st 1989, No. 2501 is seen
shunting at Feyenoord Yard.
Mark Enderby

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From the
Archives

Netherlands

NS No. 1209 hauls a rake of hoppers
through Tilburg on March 30th 1989.
Mark Enderby



From the Archives

Pakistan Railways Alco No. 3748,
built in 1962, arrives at Multan with
a service from Kundian on February
18th 1980. *John Sloane*

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Pakistan



From the
Archives

Thailand

No. 4042 is seen on a P. Way train at Ban Ta Suk on October 29th 1995. *Mark Enderby*

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From the Archives

Tunisia 

No. DP152 pauses at Medjz El Bab with an intercity service to Ghardimou on April 23rd 2007. *Mark Torkington*

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