



Railtalk Magazine *Xtra*

Issue 158x | November 2019 | ISSN 1756 - 5030



Welcome

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

We start this month with an interesting story about Beer! In Belgium a freight train service has been launched specifically for the transportation of Stella Artois. The trains operated by Lineas each carry 47 containers directly from a warehouse owned by Katoen Natie to DP World's Quay 1700 within the port complex. Along with an existing 'beer train' service, this means that the majority of AB InBev's beer for export through the port will now travel by rail, replacing 20 000 lorry trips a year.

If you are a fan of long heavy freight trains then perhaps a trip to South Africa is on the cards with the news that Transnet Freight Rail has launched what it said was the revenue freight service with the most wagons in the world. The train has 375 wagons and a total length of around 4 km, enabling it to carry around 23,625 tonnes of manganese ore over the 861 km from Sishen to Saldanha. This breaks TFR's own world record for a production train, a 342-wagon iron ore formation hauled by eight electric and diesel-electric locomotives. Manganese traffic has grown from 5 mtpa in 2012-13 to 11.1 mtpa in 2018-18, prompting TFR to launch the programme to increase capacity on its 1 067 mm gauge network linking the mining complex at Hotazel with various ports. The operator now has take-or-pay deals with 10 manganese

Content

- Pg 2 - Welcome
- Pg 4 - Pictures
- Pg 81 - World News
- Pg 87 - From the UK
- Pg 90 - From the Archives

Submissions & Contributions

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

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

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

Contact Us

Editor: David
david@railtalkmagazine.co.uk

Co Editor: Andy
editor@railtalkmagazine.co.uk

Content Submissions
entries@railtalk.net

Technical & Subscription Support
admin@railtalk.net

Front Cover

BHP SD70 No.4443 leads an iron ore train towards Pt. Hedland, Western Australia, with the setting sun at Wallareeny, about 60kms south of the port on October 8th.
Mark Bennett

This Page

A Trenord driving trailer leads a service from Milano Centrale into Stresa.
John Sloane

Next Page

Slovenian Railways Class 541.006 passes Zanigrad with a train of tanks heading for Koper.
Laurence Sly





exporters.

And here in the UK we have had much talk about parcel carrying trains over the last few years, but none have materialised so far. However in India, Eastern Railway's Kolkata suburban services between Sealdah and Dankuni are being used to carry parcels for online retailer Amazon in three-month pilot project. Amazon parcels will be carried in the electric multiple-units' vendor compartments during the off-peak period between 11:00 and 16:00, to avoid impacting on passengers. IR expects to carry around 7 tonnes a day, which will be charged at its usual luggage rates. Indian Railways said it expected to gain extra revenue from the service, while Amazon would benefit from reduced transit times to its Dankuni warehouse. The first service ran on October 21. If the project proves successful, IR envisages that it could be expanded to include other routes and e-commerce companies.

As always a massive thanks for all the excellent photos, please keep sending them in, and remember if you are going on holiday, don't forget to take your camera.

**David
Editor**

Terms & Conditions

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

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

All content is © copyright either Railtalk Magazine Xtra or it's respective owners. All items are credited to their respective owners and no parts of the magazine should be reproduced without first obtaining permission. In cases where ownership is unclear, please contact the editorial team and we will be happy to provide details of respective owners once permission has been granted to pass on such

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

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

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



With Thanks

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

These issues wouldn't be possible without: Ray Anslow, Brian Battersby, Mark Bearton, Mark Bennett, Tim Blazey, Rob Boyce, Keith Chapman, Julian Churchill, Nick Clemson, Derek Elston, Mark Enderby, Tim Farmer, Dave Felton, FrontCompVids, Paul Godding, Richard Hargreaves, Keith Hookham, Colin Irwin, John Johnson, Anton Kendall, Jyrki Lastunen, Ken Livermore, Michael Lynam, Peter Marsden, Phil Martin, Denzil Morgan, Thomas Niederl,

Peter Norrell, Chris Perkins, Mark Pichowicz, David Pollock, Andy Pratt, Paul Quinlan, Railwaymedia, Alan Rigby, Bryan Roberts, Neil Scarlett, John Sloane, Stephen Simpson, Laurence Sly, Stewart Smith, Steamsounds, Steve Stepney, Mark Torkington, Gerard van Vliet and Erik de Zeeuw.







Growing cranes: the CTE-terminal at the port of Enns just got bigger

Austria's Container Terminal Enns (or "CTE") has seen energetic growth in recent years. Now it's investing in the future to the tune of EUR 9.6 million.

The city of Enns in Upper Austria marks the point where the river of the same name flows into the Danube. It is also home to the CTE, a joint venture between DB Cargo and Kaindl Invest GmbH that has been running since 2014. The volume of goods shipped in combined transport has grown strongly in the intervening years, prompting the need for an expansion. Now, that expansion is nearly complete.

Totalling EUR 9.6 million in investment, the project succeeded in building a 45-tonne gantry crane, creating additional fixed storage spaces, expanding crunable tracks and galvanising digitalisation and automation. The CTE now covers 275,000 m² and offers 27 km of tracks. There are ten tracks, each measuring 720 m, on which cranes can load and unload freight trains.

20% of the investment came from the EU's Connecting Europe Facility. Additional funds were provided by a national grant from Austria's Ministry of Transport, the BMVIT. Other financing was provided by the company itself and its shareholders.

The site's capacity was well utilised shortly before the last step in the expansion, with the terminal handling a record 35,000 standard containers (TEUs) in July. A new container crane, the site's fourth, became fully operational on 1st

August. Late September saw the second full container module for storing loaded and unloaded containers come online. Alongside this, 100 weekly terminal slots were allocated to block train service to the southern port of Koper in Slovenia by DB's subsidiary TFG Transfracht. Following the completion of the expansion in early October, the CTE plans to shatter the 400,000 TEU ceiling by year's end. This would make it Austria's largest tri-modal terminal site in terms of cargo volume, terminal surface area and track infrastructure.

The official dedication ceremony for the new crane and the expanded space held on 25 October was attended by political representatives of Austria and the state of Upper Austria, along with customers, partners and many more invited guests.



At Eferding, there is an ÖBB line from Haiding (near Wels, on the line to Passau) to Aschach an der Donau, a village with 2,200 inhabitants. At the moment there is only a passenger train in each direction on school days in the morning. But until October 26th, there was a weekend service in the afternoon to Aschach and back. Here is seen ÖBB DMU No. 5047.083 hauling the weekend only train No. R3237 from Aschach a. d. Donau to Wels. These train services are all withdrawn by the timetable change on December 14th, then the line will be only used for freight trains. *Thomas Niederl*

 Austria



▶ LILo unit No. ET20.159 stops at Wackersbach on October 17th working train No. R8041 to Peuerbach. *Thomas Niederl*

▶ Every year, tons of sugar beet are transported by rail from several places in Austria to the factories in Tulln and Siebenbrunn-Leopoldsdorf. On the LILo there is a loading station near Straß-Emling. In this photo, an empty train to Straß-Emling is being pulled by E20.009. This engine was built in 1956 and is now only used for the sugar beet transport trains or for shunting in Eferding. *Thomas Niederl*

▶ On October 17th, No. ET22.156 working S-Bahn train No. 8038 to Linz Hbf is seen near the halt at Fraham. *Thomas Niederl*







15 new KISS intercity trains for WESTbahn

Stadler is building 15 double-decker KISS trains for the Austrian company WESTbahn. The contract also includes comprehensive maintenance, which will ensure high availability of the fleet. Counting the current order, this will be the third time that Stadler has delivered trains to WESTbahn. Stadler submitted a successful bid against its Chinese competitor CRRC.

The order value of the 15 KISS trains is just under 300 million euros. The new intercity trains for the Vienna–Salzburg line will replace the existing WESTbahn fleet, which will be sold to Deutsche Bahn (DB). Austrian Train Finance AG is wholly owned by Peter Spuhler's PCS Holding. Austrian Train Finance AG will lease the trains to WESTbahn at attractive market conditions. The full service contract also covers preventive and corrective maintenance work as well as general inspections and revisions. The new energy-efficient double-decker trains and optimized maintenance solution will ensure that the private company WESTbahn has a highly available fleet.

The China Railway Rolling Stock Corporation (CRRC) also applied for the contract. Stadler succeeded in defeating the bid from CRRC thanks to its overall package comprising rail vehicles, a maintenance solution and financing.

As announced by WESTbahn on 21 July 2019, it will sell its entire current train fleet to Deutsche Bahn (DB). Since the first-generation WESTbahn trains are not yet approved for Germany and the second-generation vehicles are yet to receive an upgrade from 160 to 200 kilometres per hour, Stadler is also responsible for the conversion and approval for Germany of the 17 trains being sold to DB. The first batch of WESTbahn's existing fleet of trains will be delivered to DB in December 2019, followed by the remaining trains once the new vehicles have been

supplied, which is expected to take place in 2021 according to the delivery contract.

Peter Spuhler, Chairman of the Board of Directors and anchor shareholder of Stadler, comments on the package: «I am proud that we have been able to supply WESTbahn with further state-of-the-art intercity double-decker trains. At the same time, this contract will also enable us to further expand our service business. I am also pleased that we prevailed against the Chinese thanks to our attractive customer-specific overall package.»

The 15 six-car electric double-decker KISS trains are identical in construction to the trains put into operation by WESTbahn in 2017. The trains can reach a maximum speed of 200 kilometres per hour. All 526 seats in all cars have first class comfort. A modern self-service café is available to passengers in each of the four intermediate cars. The high standard of equipment also includes pleasant air conditioning, gender-separated toilets, unobstructed access as well as a disabled toilet and a powerful wireless network. The trains are 150 metres long, 2.8 metres wide and 4.59 metres high.

WESTbahn has already ordered trains from Stadler on two previous occasions: seven double-decker multiple-unit KISS trains have been running on the Vienna–Salzburg route since 2011. High availability rates and punctual trains quickly led to rising demand. In December 2014, WESTbahn therefore ordered ten additional KISS trains in order to introduce half-hourly services on the Vienna–Salzburg intercity route.

▶ LILU unit No. ET22.157 is the only Stadler GTW unit in special S-Bahn branding. Seen here working train No. S8037 to Peuerbach near Fraham on October 18th. *Thomas Niederl*



On October 18th, LILo S-Bahn train No. 8127 is seen at Fraham. *Thomas Niederl*

Liquefied gas (LPG) on rail

The Rail Cargo Group transports not only chemical goods safely and reliably by rail, but also provides creative logistics solutions and highly integrated logistics strategies. An example of this is the transportation of LPG.

The transportation of liquefied gas calls for particular care and attention. This is why a chemical facility and an LPG producer in Leuna, Germany, also rely on the safety of the railways and on the competence of the Rail Cargo Group to come up with viable solutions. Up to two block trains with up to 22 tank wagons will run from Leuna, a city in Saxony-Anhalt known for its chemical industry, some 400 kilometres westwards to deliver the goods to a mineral oil company located in the city of Gelsenkirchen, Germany.

But the RCG would not be renowned for its ability to provide intelligent solutions and integrated logistics concepts, if it did not also offer a special service for such dangerous goods transports. A partner also transports consumed sulphuric acid every week for the chemical plant from Leuna to Duisburg, where a specialist zinc and sulphur company is based. Thus the idea was born to connect the two transports.

In groups of eleven tank wagons per freight, the liquefied gas is now transported together with the sulphur. The advantages for our customer are not only better conditions, but also guaranteed delivery times and greater flexibility in terms of quantities delivered. Each week, two trains depart in each direction with an A-B delivery time. This not only reduces transportation times, but also guarantees the punctuality of the transports and the LPG manufacturer is very pleased.









Opening Ceremony / Inauguration of the New Hall

In the presence of Vladimír Kremlík, Minister of Transport of the Czech Republic, a new hall for repairs of railway wagons in the area of SOKV Ústí nad Labem was inaugurated on October 9th 2019. The ribbon cutting ceremony was also attended by Mr. Ivan Bednárik, Chairman of the Board of Directors of ČD Cargo Radek Nekola, member of the Supervisory Board of ČD Cargo and Ing. Petr Ort, representative of the supplier Metrostav.

Photo:©CD Cargo

The whole construction started on 28 May 2018 by signing a contract with Metrostav, as a construction and technological equipment supplier. The construction work itself started in mid-June 2018. In 12 months, the hall was completed and handed over to ČD Cargo for use after the final building permit. The new wagon cleaning hall is built on the site of an unused old "Hříž" hall and a former technical gas warehouse.

The interior of the hall is divided into two spaces in the longitudinal direction. The first part, which is intended for preparatory dismantling and cleaning work on wagons, is double-track. On one track, there is an internal viewing channel built below the floor level along the entire length of the hall, supplemented with fork jacks. In the second part of the hall, the technological operation for cleaning wagons is installed. It consists of a blasting box, degreasing and drying cabin for wheelsets and vehicle chassis.



CD Class 754.059 and PKP No. EP05-23 are seen at Bohumin on September 28th, during the 'Den Zeneznice' event. *Class47*



Successful repair of locomotive 750.235

ŽOS has handed over Class 750.235 locomotive to ČD Cargo. This locomotive has been repaired to level R1. Overall a further 8 machines are planned to be repaired, some of which are already delivered to the repair shop, others will follow in 2020.

Providing the repair was not at all easy, domestic repairers did not show any interest in the repairs of Class 750 series locomotives, mainly due to poor availability of spare parts for combustion engines of the ČKD K 12V 230 DR type. The threat was that the 750 series locomotives would gradually disappear at ČD Cargo. Fortunately, this is not the case and the Class 750 series locomotives will still be used for ČD Cargo trains.

Photo: ©CD Cargo



▶ A line up of CD Cargo Class 130s, 181s and 363 at Ostrava on September 28th. *Class47*

 Czechia



▶ CD Class 754.047 and the grounded body of Class 705.917 are just a couple of the locos seen at Bohumin during the 'Den Zeleznice' event at the end of September. *Class47*

▶ In connection with the events at Bohumin and Ostrava, preserved Class 751 No. T478.1002 heads through Ostrava hl.n. with an ECS working. *Class47*

▶ Recently purchased by CD Cargo, former RTS Class 1216.903 is seen on display at Bohumin on September 28th. *Class47*





ZSSK Cargo's Class 131.093/131.094 twin loco runs light engine into Ostrava-Kunčice.
Class47

Measurement of electricity consumption

In the Czech Republic in January this year the so-called hybrid model was introduced, according to which the traction energy consumed by carriers is billed according to realized transport performance or measured values of consumed energy on the traction vehicle. Thus, the transition to a traction electricity consumption (TEE) system based on its real consumption began. The system of billing by means of contractual specific consumption, which divides the TEE collected among carriers according to the agreed key, will be gradually abandoned.

Thus, a necessary condition for switching to the method of billing according to the actual TEE consumption is, among other things, to equip traction vehicles with a system for measuring traction electric energy. At present, ČD Cargo has installed and activated such a system on 170 traction vehicles of various series, including the latest interoperable locomotives. And on the other 12 traction units, the equipment is under construction.

In connection with the fulfillment of the necessary conditions for the transition to the method of billing according to the actual consumption of TEE, the implementation of the project entitled "Equipment of traction vehicles of ČD Cargo, as with the system of energy consumption measurement" was also commenced.

Within this project, ČD Cargo plans to equip a total of 118 traction vehicles of Classes 111, 123, 130, 181, 182, 210 and 240. For the ČD Cargo project, it will use financial support within the Operational Program Transport, specifically Call No. 45 - Ensuring Interoperability rail transport energy metering system.

Co-financing was approved on the basis of the approval protocol issued by the Ministry of Transport on 31 October 2018 and the total financial support is a maximum of 50% of the eligible expenditure.

Photo: ©CD Cargo





CZ LOKO will take care of the Čepro locomotive fleet

CZ LOKO will take care of a dozen ČEPRO locomotives, one of the major players on the domestic oil products market, which won a tender for their maintenance and service. The contract is concluded for four years.

“We appreciate it very much. Service is one of the areas that we develop consistently and consistently. We see great potential in them, and so must their level and quality. Here too, we want to be one of the market leaders,” says Michal Schaffer, Head of CZ LOKO Sales Team.

The company already applies a similar model of full-service in the Ostrava-based Liberty smelter (formerly Arcelor Mittal), where it takes care of twenty modernized 741.7 series locomotives. On the siding of the car manufacturer Škoda Auto it operates two of its EffiShunter 600 locomotives.

“Full service means that we are fully responsible for the serviceability of the locomotives, and the customer can only devote himself fully to his business that feeds them. Even for ČEPRO, this will mean ensuring the smooth operation of the terminals without further worries related to the operation,” said Michal Schaffer. In doing so, it draws attention to the increasing administrative burden on rail vehicle operators. “Smaller companies therefore prefer to transport goods by truck rather than solve these problems. The larger ones then look for a comprehensive solution that we can offer them. That is why the interest in full service siding is growing,” adds Schaffer.

ČEPRO is not a new partner for CZ LOKO. In January, the EffiShunter 600 was added to its locomotive fleet, replacing the already obsolete ČKD vehicle. The EffiShunter 300, which was taken over by the carrier’s representatives on a siding in Střelice, will be added to it, where it will operate a fuel distribution depot. Here too, the contract came from a public tender.

At the same time, ČEPRO confirmed the order of the upgraded Class 723.7 locomotive. It will be the second EffiShunter 600 to be fitted with a more powerful CAT engine, namely the C27 with 709 kW. This will enable the company to decommission the oldest locomotives Nos.720.565 and 716.510 produced in 1961 and 1983, which no longer meet modern requirements and environmental standards.

Photo: © CZ Loko



CD Cargo Class 742.086 makes an unusual appearance on the weekends only Praha - Breznice service on September 29th. Seen here departing Praha hl.n. with the morning working to Breznice. *Class47*



The first EffiShunter now has ETCS. And the interest in them is growing abroad and at home.

EffiShunter 1000 produced by CZ LOKO has become the first ever locomotive manufactured by CZ Loko to be equipped with the European security system ETCS. No manufacturer has ever installed it in the Czech Republic. It will be driven in the colors of ČD Cargo, which the first of five ordered units was delivered on September 30th. The rest will follow until the end of the year. These will be the first locomotives equipped with ETCS directly from production. Until now, locomotives were produced only with so-called preparation. The ETCS equipment will be a necessary condition for the operation of all trains on the main lines not only in the Czech Republic, but throughout the EU over the next few years.

“Without a top product, no one would be interested in us. It was a costly strategic decision because the development of its own locomotive, including the installation of the ETCS, is not cheap. However, we are now returning to us in the form of the interest of many other rail carriers in Europe and beyond,” says Josef Bárta, Chairman of the Board of Directors of CZ LOKO.

Demand for EffiShunters 1000 is growing, CZ LOKO has now entered into new contracts with Ferrovie Nord Milano, Italy’s second largest rail carrier and Luka Koper, Slovenia, who has chosen the locomotive to operate the country’s largest seaport. Ferrovie Nord plans to deploy them in Lombardy and Piedmont. ETCS installation is also planned here.

The delivery of two locomotives for the Italian Rail Traction Company and another two for TPER, respectively its freight carrier Dinazzano Po, is already completed. They have also showed interest in the third. Mercitalia Shunting & Terminal, which already operates five EffiShunter 1000 locomotives, has ordered five more. These will be newly launched in the colors of the state freight carrier Mercitalia Rail, which will use them for en-route service across the Apennine Peninsula. In Italy alone, at least 17 EffiShunter 1000 locomotives will be in operation by the end of 2020. Together with other orders, this ensures the company annual sales of more than CZK 2.5 billion by at least 2023.

“Even with the experience of the previous cycle of economic recession, we believe that even the expected one will not change anything. The railway industry is a bit different than the automotive industry,” said the majority owner of the company, which confirms its innovative approaches by developing the first Czech hybrid locomotive HybridShunter 400 for alternative ecological drive. But according to him, not only products but also the company itself must be innovative. “By their management, functioning, care for employees and their working environment and education,” he added.

At the turn of the millennium, the company CZ LOKO mainly repaired and modernized older locomotives. Today, however, 80 percent of production is produced by the production of new series, which the company itself developed. Exports account for over 60 percent of sales and affect 18 countries.

▶ KZC Class 749.253 is seen at Raknovik on September 29th waiting departure time with a returning service to Praha hl.n. *Class47*











Alstom's tram enters service in Avignon

Alstom has commissioned its first new-generation Citadis X05 tram in its short version, on the first tramway line of Grand Avignon.

“Alstom and its teams are proud to be present at the commissioning of this first tramway line in Avignon. Thanks to their reliability, availability and easier maintenance, we are fully confident in the ability of the 14 Citadis trams to address the major travel challenges of the Agglomeration Community of Grand Avignon. I would also like to thank the members of Grand Avignon for having entrusted us with part of the infrastructural work. This new line will become a showcase for the expertise of the French rail sector,” said Jean-Baptiste Eyméoud, President of Alstom in France.



double doors facilitate accessibility and passenger exchange in stations. Everything has been designed for a pleasant travel experience: large bay windows covering 40% of the tram, LEDs with diffusers for soft, homogenous lighting, a state-of-the-art information system, large seats, air conditioning, and a video protection system.

Citadis X05 has standardised, proven, more accessible components, providing residents of the Avignon area with reliable, readily available material. Citadis X05 is particularly energy efficient and up to 99% recyclable.

Alstom offers a wide range of products and services and has also provided the tracks (studies, supply and assembly), the 750 V electrical substation and 6 km of overhead contact lines (studies, supply, installation and testing) in partnership with TSO.

Seven of Alstom's thirteen sites in France are involved in the design and manufacture of the tram for Grand Avignon: La Rochelle (for the design and assembly of the trams), Ornans (for the engines), Le Creusot (for the bogies), Tarbes (for the traction drive equipment), Valenciennes (for the control system and interior layout), Saint-Ouen (for the design and infrastructure activities) and Villeurbanne (for the on-board electronic systems).

24 metres long, equipped with 4 double doors on each side, the Citadis X05 tram for Grand Avignon will be able to carry more than 140 passengers. The full low floor and

SNCF GrandEst BB Nos. 26151 and 26152 are seen at Strasbourg working services to/from Basel on October 14th. *Class47*









Siemens Mobility and partners launch “Autonomous Tram in Depot” research project

Project is being funded by BMVI
Joint research on a fully automated tram depot with autonomous trams
Consortium led by Siemens Mobility

Siemens Mobility, ViP Verkehrsbetrieb Potsdam GmbH (ViP), the Karlsruhe Institute of Technology (KIT), the Institute for Climate Protection, Energy and Mobility (IKEM), Codewerk GmbH, and Mapillary are planning to undertake joint research on a fully automated tram depot. The project, called “AStriD” (Autonomous Tram in Depot), is being funded by the Federal Ministry for Transportation and Digital Infrastructure (BMVI) as part of its “Modernity Fund” (mFUND) research initiative.

“AStriD is the next big milestone on the way to autonomous trams. By automating time-consuming shunting operations in the depot, we want to better support our customers in ensuring sustainable value creation over the entire lifecycle as well as guaranteeing availability,” said Sabrina Soussan, CEO of Siemens Mobility.

The research and development project will be carried out at the depot operated by Verkehrsbetrieb Potsdam and aims at developing a digital depot based on the operation of autonomous trams. The project’s technical feasibility will be demonstrated with autonomous service operations in the depot, such as running

trams through a washing bay onto a siding. Depot automation is to be made commercially viable over the medium term as the first stage of autonomous tram driving. From its onset, the development project will consider the legal framework conditions necessary for the approval and operation of autonomous trams and the economic framework needed for operations. The AStriD project will be initiated in October 2019 and run for three years.

The partners have divided the project into various work packages. Siemens Mobility GmbH will develop the autonomous tram in the depot, and the tram will be integrated into the data and system landscape via the data hub provided by partner Codewerk and localized and tracked using a Mapillary digital map.

ViP will provide the tram and depot infrastructure as well as access to required data, systems and facilities, and evaluate the results from the point of view of a depot operator. “We are pleased that Potsdam has once again been selected for a project. A practical demonstration of the measures that could be promptly implemented will be helpful for us and

the whole industry. We will be checking to see whether and how time-consuming shunting operations in a depot can be fully automated. This is an interesting option for our present depot as well as for a possible further base of operations located in the north of Potsdam,” said Monty Balisch, Managing Director of ViP.

The Institute for Information Processing Technology (ITIV) at KIT is contributing its expertise in the specification and digitalization of depots, the automation of processes, and the identification of necessary data. “Automated systems will evolve out of the niche, especially in the field of mobility. I see an ideal field of application in the largely closed environment of a depot,” said Professor Eric Sax of KIT. “We look forward to contributing our latest research results to AStriD and implementing them in a tram depot.”

IKEM will analyze and assess legal and economic issues in the project. “The fact that the driver is absent as a reference point for behavioral requirements, responsibility and liability presents major legal challenges and, specifically, challenges to operation approval. For

commercial use scenarios, calculating costs and planning deployment, on the other hand, you can’t simply assume that only the driver is eliminated as a cost position. Other functions in the system will have greater importance, and the new technology must also be considered as a factor in operations and costs. There will in fact be a completely new operator model for the depot, and the project will develop this model and, as far as possible, support it with cost estimates. IKEM will answer such questions that come up in the project working with the project partners and relevant external parties,” said Matthias Hartwig, Team Leader, Mobility, IKEM.

Codewerk specializes in industrial systems and develops, among other things, software for data communication in rolling stock. In this project, Codewerk will handle the cloud and edge components for integrating the data of all systems. “Automated driving has the potential to make rail a more attractive transportation option. With AStriD, we at Codewerk want to invest in a climate-friendly technology and strengthen our competitive position,” said Christian Grund, Managing Director of Codewerk.

Mapillary will provide the project with a cloud-based online platform for the collaborative collection and provision of street images and relevant information. The data will be analyzed with artificial intelligence and processed to

provide digital maps. “The face of mobility is changing, and we will see both autonomous cars and trams rolling out over the coming years, which puts an entirely new kind of pressure on maps. Maps are no longer just needed for humans to get from A to B, but for autonomous vehicles across the board. That’s where Mapillary and our expertise in street-level imagery understanding come in. Through computer vision and street-imagery, we will teach the tram to recognize and understand its surroundings,” said Peter Kontschieder, Director of Research of Mapillary.









Strong investments for Strong Rail at DB Cargo

If Germany is to reach its climate targets, a massive amount of traffic — especially freight traffic — must be shifted onto the rails in the coming decade. For the climate. For the people. For the economy. And not least for Europe. DB's Strong Rail strategy has now set the signals for growth. Compared to trucks, rail produces 80% less emissions, making it the most climate-friendly option for the growing freight transport sector. If freight transport emissions are to be cut — as they must be to meet climate targets — the only way to do it is to move the goods being transported onto the rails. A great deal is being invested to make the rail network the backbone of the mobility revolution.

Deutsche Bahn is in the middle of the largest modernisation programme in the company's 180 year history. The decision by the German government's climate cabinet gave yet another tremendous boost to Strong Rail. In the next ten years, DB will receive a total of EUR 156 billion to maintain, expand and digitalise the rail infrastructure. That is integral to DB Cargo's objectives, since DB is also banking on growth in rail transport for its Strong Rail strategy to succeed.

The goal has been set. Specifically, the objective is to increase rail freight transport's market share to 25% from the current 18%, in a growing market. DB Cargo is doing much to make sure it reaches the goal. For example, the company initiated and successfully promoted

a comprehensive programme to procure new multi-system electric locomotives. In early October, Siemens delivered the 100th Vectron locomotive to DB.

Using multi-system locomotives enables rail freight transport across borders without needing to switch locomotives, which takes a lot of time. That improves the quality of transport and also strengthens the rail system's hand overall as it vies with road transport. DB Cargo also aims to beef up its staff and add additional freight wagons in a bid to boost capacity, reliability and effectiveness. Furthermore, it intends to improve transport volume by increasing the frequency of service.

Efforts to harmonise processes and regulations at EU level and reduce interfaces at national borders are expected to bring further progress and improve operational punctuality. Automation and digitalisation of processes such as train formation or route operation will make transport more efficient. As early as the end of 2020, all freight wagons will be equipped with smart sensor systems. Even now, customers receive successive data and can gain digital access with link2rail, which can be used for booking and tracking, for instance. This means that at DB Cargo, it's full steam ahead to Strong Rail.

On September 4th, a DB IC2 service with Class 146.562 on the rear is passed by OBB Class 1116.277 hauling a rake of vans at Bremen.
Brian Battersby



Alstom to supply 39 additional Coradia Polyvalent trains to the Grand Est region, including 30 France-Germany cross-border trains

Alstom will supply 39 additional Coradia Polyvalent trains to the Grand Est region for the sum of approximately 360 million euros[1]. The region had already ordered 40 Coradia Polyvalent trains, of which 36 have already been delivered. Deliveries of these new trains will be staggered between 2022 and 2024.

Firstly, this new order covers 30 trains intended for cross-border circulation in Germany. These 4-car trains, which are dual mode - dual voltage 25 kV / 15 kV and comply with German safety requirements, will run at 160 km/h, serving the German states of Saarland, Rhineland-Palatinate and Baden-Württemberg. The 30 Coradia Polyvalent cross-border trains will offer a first-class zone and an area for bicycles, and will incorporate the new TSI PRM[2] 2014 standard, notably offering more spacious toilets to facilitate movement for passengers with reduced mobility. The first cross-border trains will be delivered at the end of 2023.

Secondly, nine additional Coradia Polyvalent trains, consisting of five 4-car and four 6-car trains, have been added to the existing fleet for domestic connections. These new trains will



benefit from the same special features as those already in operation in the Grand Est region. "Alstom is proud of this new sign of trust from the Grand Est region. The expertise and innovation capacities of our French teams are mobilised to support the region in developing cross-border mobility. This order also contributes to the activity

of Alstom's Reichshoffen site," says Jean-Baptiste Eyméoud, President of Alstom in France.

Coradia Polyvalent belongs to Alstom's Coradia range of trains. With its modular architecture, it can be adapted to the requirements of each public transport authority as well as to different types of use: suburban, regional and intercity. It comes in three lengths (56, 72 or 110 metres) and offers optimal comfort to passengers, whatever the length of the journey. The train is both ecological and economical due to its low energy consumption, its compliance with the latest emissions standards in thermal mode and its reduced maintenance costs. Coradia Polyvalent is the first French regional train to comply with all European standards, in particular with regard to access for people with reduced mobility.

To date, 387 Coradia Polyvalent trains have been ordered as part of the contract awarded to Alstom by SNCF in October 2009, including 320 Coradia Polyvalent for Régiolis by 9 French regions and 67 Coradia Liner by the French state, the authority responsible for the country's TET (intercity) trains. Régiolis has already covered nearly 85 million kilometres in commercial service. The Coradia Polyvalent train also meets the needs of the export market: 17 trains have been ordered by SNTF (Algeria) and 15 trains by APIX (Senegal).

This is Coradia Polyvalent's second cross-border application as the region of Auvergne-Rhône-Alpes has ordered 17 Léman Express Coradia Polyvalent trains, to be commissioned on the CEVA cross-border line between France and Switzerland in mid-December 2019.

The manufacturing of Coradia Polyvalent secures more than 4,000 jobs in France for Alstom and its suppliers. Six of Alstom's 12 sites in France are involved in the project: Reichshoffen for the design and assembly, Ornans for the engines, Le Creusot for the bogies, Tarbes for the traction chains, Villeurbanne for the on-board electronics and signalling products, and Saint-Ouen for the design.

[1] Booked in the second quarter of the current fiscal year

[2] Technical Specifications for Interoperability relating to Persons with Reduced Mobility

Former CFL Cargo Class 275.023 and Captrain's 275.833 head through Bremen on September 4th. *Brian Battersby*



 Germany

Recently painted Press Class 140.017 and 140.046 head through Hamburg Harburg on September 4th. *Brian Battersby*

EVP MaK G1206 No. 275.104 hauls a rake of empty car transporters through Hamburg Harburg. *Brian Battersby*

HVLE V330.8 No. 250.009 hauls a rake of ballast wagons through Hamburg Harburg. *Brian Battersby*







New trains for Berlin's S-Bahn

S-Bahn Berlin GmbH has signed a framework contract with the consortium of Stadler Pankow GmbH and Siemens for the delivery of up to 1,380 vehicles. A firm order was placed for the first 106 trains.

The 85 four-section and 21 two-section trains have a high triple-digit million-euro order volume. S-Bahn Berlin, a subsidiary of Deutsche Bahn, plans to use the new trains on the Ringbahn lines (S 41 and S 42) as well as on the system's southeastern feeder lines S 47, S 46 and S 8. These lines comprise roughly one-third of the entire S-Bahn network in Berlin. The first ten vehicles will be ready to enter service as of 2020.

Subsequently, all remaining vehicles will be delivered continuously to the Berlin system up to 2023. The vehicles will be manufactured and assembled at the Berlin plant operated by Stadler Pankow GmbH.



ARS Altman Class 223.155 and OBB Class 1144.274 head a car train through Bremen.
Brian Battersby





Nuremberg orders new metro trains from Siemens

The VAG Verkehrs-Aktiengesellschaft Nuremberg has ordered 27 type G1 four-car metro trains from Siemens Mobility. The contract also includes an option for a total of a further 7 trains. These trains are earmarked for service on Nuremberg's U1 line.

The trains will be built in the Siemens Mobility plant in Vienna. Core components of the G1 will be manufactured in the Nuremberg metropolitan area and include such products as the drive converters, traction motors, auxiliary converter units and control equipment.

The project management, development and service support will be provided from Erlangen.



▶ SGL's V400.11 storms through Bremen Hbf light engine on October 11th. *Class47*





 Germany

▶ RTB Cargo Class 193.824 leads a car train through Bremen Hbf on October 11th. *Class47*



▶ On September 7th, Harzer Schmalspurbahnen dampflok No. 99.234 is seen working a service near the Pfarrsteig footpath crossing. *Steamsounds*

▶ MRB Class 1440.328 is seen stabled at Chemenitz on October 13th. *Class47*





Stadler wins tender for eleven trams from Stadtwerke Augsburg

Stadtwerke Augsburg has awarded Stadler the contract to supply eleven TRAMLINK trams. Another part of the contract is the maintenance of the vehicles over a period of 16 years. This is the first maintenance contract in the light rail segment for Stadler in Germany. The order volume amounts to 57 million Euros. The contract also contains an option for the delivery of another 16 trams.

Stadtwerke Augsburg order eleven TRAMLINK vehicles from Stadler. According to contract the seven-part unidirectional trains enter into service on the lines of Bavaria's second largest tram system from 2022 onwards. The fully low-floor accessible and barrier-free vehicles are 42 meters long and can accommodate 231 passengers, of which 86 on seats. In addition to the delivery of the trams Stadler is responsible for the maintenance of the vehicles over a period of 16 years. This is the first maintenance contract in the light rail segment for Stadler in Germany. The company cooperates with Stadtwerke Augsburg, whose employees will carry out the maintenance work in the in-house workshops on behalf of Stadler. The procurement of the new trams is an essential contribution to the modernization and planned expansion of the Augsburg tram network. The new trams will play a major role in the expansion of Line 3 and will be a significant improvement in passenger comfort.

«We are sure that the TRAMLINK is the ideal vehicle for our needs. With Stadler we have gained an experienced and proven partner», says the managing director of Stadtwerke Augsburg, Dr. Walter Casazza.

«In the Europe-wide invitation to tender, Stadler submitted the offer that best met our previously formulated performance criteria for technology, equipment and cost effectiveness.»



«We are very pleased to supply the trams to the Bavarian metropolitan region with the order of Stadtwerke Augsburg. By this the TRAMLINK will be in operation for the first time in the Free State of Bavaria from 2022 onwards», says Christoph Klaes, Sales Manager LRV and Metro Stadler Group.

DB Class 101.112 arrives into Hamburg Hbf on October 12th working a Eurocity service from Praha hl.n. to Hamburg-Altona. *Class47*

 Germany



Plenty of people attended the open day at the Lokschuppens von Wittenberge on October 12th, well worth a visit. *Class47*

Well quite how to describe this beats me, this 'Schientrabi' was seen giving rides at Wittenberge during the open day. *Class47*

2-10-0 Dampflokom No. 50.3570, built in 1942 was also seen giving rides at the museum in Wittenberge. *Class47*









 Germany

▶ No. 99.5906 is seen soon after leaving Schierke with the Traditionszug on September 7th. *Stearnsounds*

▶ DB Regio Class 648.465 stands at Bad St. Peter Ording having arrived with a service from Husum, September 14th. *Stearnsounds*

▶ Nos. 99.236, 99.5906 and 99.7232 are seen on shed at Wernigerode on September 9th whilst 99.234 propels the stock of the last train out of the station. *Stearnsounds*















▶ Hupac Vectron No. 193.491 heads light engine through Stresa on August 21st. *John Sloane*



▶ A Trenord driving trailer is seen at Stresa leading a service to Domodossola. *John Sloane*

▶ Trenord Class E464.410 and another classmate are seen at Domodossola on August 25th. *John Sloane*





SBB Class 610.012 passes Stresa working a service to Milano Centrale. *John Sloane*



Railpool's Class 186.103 speeds through Stresa with a northbound container service. *John Sloane*

BLS Cargo Class 485.010 is seen stabled at Domodossola on August 25th. *John Sloane*

 Netherlands



▶ On September 28th, VSM steam locomotives Nos. 23.076 and 23.071 have left their train in the West Harbour (Amsterdam) to turn on the triangle on the main line. *Erik de Zeeuw*



▶ Near Soest, VSM Nos. 23.076 and 23.071 are seen working the 'Westfalendampf' train from Germany to Amsterdam on September 28th. *Erik de Zeeuw*



 Netherlands



In Amersfoort on October 16th, DB No. 6465 is seen shunting the 'Pon train' loaded with VWs intended for the Dutch importer Pon.
Erik de Zeeuw



On October 16th, Railexperts No. 1251 departs Amersfoort to pick up two Traxx locomotives in Amsterdam Watergraafsmeer.
Erik de Zeeuw



LTE Class 189.200 heads through Amersfoort with the Chendu Shuttle from Tilburg to Chengdu (China) on October 16th.
Erik de Zeeuw

 Netherlands



▶ JFT shunter No. 9702 is seen working in Amersfoort on October 16th. *Erik de Zeeuw*



▶ RFO Vectron Class 193.734 heads through Amersfoort on October 16th with a loaded container shuttle from Moerdijk (Netherlands) to Kąty Wrocławskie (Poland). *Erik de Zeeuw*

▶ On October 16th, NS Nos. 2327 and 2706 (built by CAF in Spain) departs Amersfoort Centraal working a service from Zwolle to Utrecht Centraal. *Erik de Zeeuw*





Alstom to test its hydrogen fuel cell train in the Netherlands

Alstom and the Province of Groningen, local operator Arriva, the Dutch railway infrastructure manager ProRail and the energy company Engie have signed plans for a pilot project to test the Coradia iLint, the world's first passenger train powered by hydrogen fuel cells, for the first time in the Netherlands. The signature took place as part of the "Klimaatop", or Climate Summit Northern Netherlands, taking place this week in Groningen.

The tests will be carried out on the track between Groningen and Leeuwarden at up to 140 km/h and will last about two weeks. The ambition is to organise the test during the first quarter of 2020. The objective is to demonstrate that hydrogen fuel cell technology is an appropriate way to achieve zero-emission rail traffic on non-electrified lines in the Netherlands where there are currently diesel trains running.

"Alstom is committed to developing and implementing mobility solutions that permit not only the emergence of fully sustainable transport systems but also help drive the broader energy transition. We look forward to demonstrating what has already been proven in Germany – that hydrogen represents a highly suitable way forward in both cases," said Bernard Belvaux, Managing Director of Alstom Benelux.

The Coradia iLint is the world's first passenger train powered by a hydrogen fuel cell, which produces electrical power for traction. The train is quiet and emission-free, emitting only water and steam during operation. It represents a clean alternative for railway

operators and regional authorities wishing to replace diesel fleets for operation on non-electrified lines and meet ambitious zero-emission objectives.

The world's first two hydrogen trains have already been in regular passenger service in Lower Saxony in Germany since September 2018.

The local transport authority LNVG will operate 14 Coradia iLint trains on that line from 2021. Also in Germany, RMV this ordered 27 Coradia iLint – the largest fleet of hydrogen trains in the world – for operation from 2022.

The Dutch railway network has approximately 1,000 kilometres of non-electrified line.



BSH No. 2454 and Railexperts No. 9901 are seen stabled in Amersfoort on October 16th.

Erik de Zeeuw













The Karinskaya Railway

The Kirovo Chepetsk to Karintorf narrow gauge line (aka Karinskaya Railway) is a 750mm line that runs for approx 15km to the small suburb of Karintorf. The line was built and owned by a local power station but with the power station converting to gas several years ago was running under local council subsidy to serve the town of Karintorf which has poor road access and is cut off by snow for 4 months of the year!

This line runs as a daily suburban rail network as the town of Karintorf has very poor road connections (and no road connection at all in winter).



However in May this year it was brought by Russian businessman and keen railway photographer Eugene Sterlin and his wife, as part of a long term plan to develop tourism in the area as the peat mining company "Vytkatorf" that originally owned the line no longer uses it due to the power station being converted to gas.



Photos:
 Top Left: The lines active snowplough awaits the winter season
 Bottom Left: Tu7A 3322 at Karintorf awaiting departure with the second train of the day to Kirovo Chepetsk.
 Top Right: An unidentified Tu7 and Tu4 in Karintorf shed.
 Above: Tu7A 3322 departs from Boyovo in Kirovo Chepstk with a train towards Karintorf.
 Right: Tu8 0163 in Karintorf shed. *All: Mark Torkington*



Husband and wife team Ksenia and Evgeny Sterlin, are working to encourage both domestic and international tourists to visit the line and to preserve the narrow gauge experience for future generations alongside running the day to day service for residents. There are 5 daily services in each direction to serve the town (as per the subsidy agreement) but Eugene is keen to develop freight services, preserve the narrow gauge heritage (and associated skills / operation) and encourage leisure and tourism traffic; therefore the railway is very open to visitors and is keen to see tour groups etc.









Slovenia



▶ Class 644.020 approaches Most na Soci whilst working Autovlak train No. 853 09:13 Bohinjska Bistrica - Most na Soci. *Laurence Sly*

▶ SZ Class 541.010 banks a train of rocktainers towards Zaniograd. *Laurence Sly*

▶ Vectron No. 193.746 approaches Hrastovlje with a lightly loaded container train to Koper. *Laurence Sly*







 Switzerland

▶ BLS set No. 994 arrives at Speiz with a service from Interlaken. *John Sloane*



▶ SBB Class 460.116 arrives at Speiz with an Interlaken to Basel service. *John Sloane*



▶ SBB Class 460.110 propels a service out of Interlaken West heading towards Interlaken Ost. *John Sloane*



BLS Cargo orders 25 locomotives from Siemens Mobility

The Swiss rail freight company BLS Cargo has ordered 25 Vectron MS locomotives from Siemens Mobility for planned operation on the North-South Corridor. They will be used in Germany, Austria, Switzerland, Italy, the Netherlands and Belgium. Delivery of the locomotives will be carried out in several phases from the end of 2020 to 2025. With this order, the Vectron fleet operated by BLS Cargo will grow to a total of 40 locomotives. The company previously ordered 15 locomotives from Siemens Mobility in 2015.

“The continued confidence of BLS Cargo confirms the reliability and performance of our Vectron locomotive, which meets the requirements of cross-border European freight transport and gives our customers maximum flexibility,” said Sabrina Soussan, CEO of Siemens Mobility. “With the new locomotives, we will be accessing the Belgian market and can coordinate our operations even better and closer with our Belgian subsidiary Crossrail,” said Dirk Stahl, CEO of BLS Cargo.

The locomotives ordered by BLS Cargo have a maximum output of 6.4 megawatts, a top speed of 160 km/h, and are equipped with the required national train control systems and the European Train Control System (ETCS). Siemens Mobility has already sold over 950 Vectrons to a total of 47 customers. The locomotives have accumulated more than 245 million fleet kilometers in service so far and are certified for operation in Austria, Bulgaria, Croatia, the Czech Republic, Finland, Germany, Hungary, Italy, the Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland and Turkey.



▶ Bernese Oberland Railway EMU No. 323 departs Lauterbrunnen with a service to Kleine Scheidegg on August 27th. *John Sloane*



▶ Wengernalpbahn single car electric unit No. 104 is seen stabled at Lauterbrunnen. *John Sloane*



▶ Wengernalpbahn No. 32, a 4W freight tractor built in 1995, is seen at Lauterbrunnen. *John Sloane*

▶ Wengernalpbahn 4W electric loco No. 54, built in 1909, is seen at Lauterbrunnen. *John Sloane*





 Switzerland

▶ A Jungfrau railway working is seen on the climb to the tunnel below Jungfraujoch with the north face of the Eiger behind it. *John Sloane*



▶ Wengernalpbahn EMU No. 254 is seen near Wengen on August 27th. *John Sloane*

▶ Jungfrau railway EMU No. 222 is seen arriving at Kleine Scheidegg station. *John Sloane*







An important milestone in Alstom's first system contract in Vietnam

Alstom, which is manufacturing 10 trains for Hanoi Metro Line 3, recently hosted Deputy General Secretary of the Communist Party of Vietnam, Tran Quoc Vuong, and his delegation to a visit of its train assembly plant in Valenciennes (France). The plant is working to complete the first trainset by the end of October, marking an important milestone in Alstom's first integrated metro system contract in Vietnam, signed with MRB (Hanoi Metropolitan Railway Management Board) in 2017.

As part of the visit, Alstom's Managing Director for China and East Asia, Olivier Loison, and Chairman of the Hanoi People's Committee and Mayor of Hanoi, Nguyen Duc Chung, signed a memorandum of understanding regarding the existing contract of Alstom in Hanoi. The agreement aims to foster further collaborative opportunities between both parties for new systems within the Vietnamese capital. "We are honoured to have Deputy General Secretary Vuong and his team witness the final assembly of our first train for Hanoi Metro Line 3 here in Valenciennes. This will be an important milestone for the bilateral project as we bring this train to fruition. We look forward to

remaining a close and long-term partner of Vietnam, addressing its mobility needs and supporting it in its upcoming transport projects," said Olivier Loison. In 2017, Alstom, as leader of a consortium including Colas Rail and Thales, was awarded a contract to supply an integrated metro system for Hanoi Metro Line 3.

Alstom's share covered the supply and integration of the metro system, including the 10 trains and the Urbalis 400 signalling system[1], as well as the delivery of power supply and depot equipment together with a partner. The new line is 12.5 kilometres long with 12 stations. It is expected to carry over 23,900 passengers per hour and per direction at peak capacity. Alstom puts the passenger at the heart of

its train design process. The four-car Metropolis trains for Hanoi Metro Line 3 will feature wide doors to facilitate passenger flow, dedicated space for passengers with reduced mobility, as well as ergonomic and easy-to-grab bars. The trains will be fully electric, with lightweight aluminium car bodies. The train's exterior and interior colour scheme takes local Vietnamese inspiration and includes motifs such as dragon fruit and the rice paddy field – a design that was well received by the people at a public consultation held in September 2018.

When completed, the first train will undergo a series of static and dynamic tests at the Valenciennes Railway Testing Centre during the month of November. Tests will be carried out on the trains' automatic control system and on-board audio-visual equipment, this time on Hanoi Metro Line 3 in the second half of 2020. Entry into service is expected in the first half of 2021.

Alstom has built up close to 30 years of presence in Vietnam. It has provided signalling and telecommunication system modernisation services for the Hanoi-Vinh regional line phase one and phase



two and has offered signalling and telecommunication systems for Ninh Binh station.

[1] Alstom's Communication Based Train Control (CBTC)-solution, which controls the movement of the trains and enables trains to run at higher frequencies and speeds in total safety

Photo : Métro Hanoi Alstom© Samuel Dhote



CAF WINS TENDER TO SUPPLY ADDITIONAL TRAMS FOR BIRMINGHAM

CAF has been selected to supply 21 catenary-free trams - with an option for a further 29, for Birmingham by West Midlands Combined Authority (WMCA), the organisation that manages transport and economic development in the region. The first Urbos units are scheduled for delivery in late 2021.

In addition, the contract includes technical support services and the supply of spares for a 30-year term. The total contract value is in excess of €90 million.

CAF supplied the current fleet of 21 Urbos trams for Birmingham in 2012. In 2018 these units were subsequently fitted with the award-winning Greentech On-board Energy Storage Solution with Ion-Lithium batteries enabling catenary-free running.

The new Urbos units will be equipped with a similar On-board Energy Storage Solution which eliminates the need for potentially disruptive and expensive installation of overhead electrification equipment and helps protect architecturally sensitive areas around the city centre. The solution also provides substantial improvements in energy efficiency.

The new trams will join the existing Urbos fleet on the Midland Metro line linking Birmingham and Wolverhampton and the extension to Centenary Square, an important cultural and business hub in the city.

The Centenary Square extension is scheduled to open in early 2020 and will become the first commercial tram line in the UK designed for catenary-free running.

The Urbos tram is an articulated bidirectional unit with two cabs, giving passengers easy access with its low floor, it is designed for a maximum speed of 70 km/h with the capability to run on catenary-free sections when using the battery On-board Energy Storage System (OESS).

Richard Garner, CAF's UK Director, comments: "CAF is delighted to have been selected to provide additional state-of-the-art Urbos trams for this ground-breaking UK metro line. The CAF Urbos tram will be the first example of battery technology being used in a high intensity passenger service here in the UK. The Urbos modern, spacious design will provide passengers with a quiet, smooth and comfortable travel experience."

This WMCA tram project will create substantial improvements to the transport system in Birmingham and surrounding communities and shore up the urban regeneration plans for the city centre.

This contract for WMCA further cements CAF's position in the UK rail market. CAF is delighted with its significant success in the UK, including completion of several contracts for operators; Arriva UK, First Group, Serco Group Plc, West Midlands Trains Ltd, KeolisAmey and Transport for London, totalling an overall volume of circa €2.5 billion.



Stadler wins first large contract in the Pacific region: 34 locomotives for TRA in Taiwan

Stadler has won a tender for the supply of 34 diesel-electric locomotives to Taiwan Railways Administration (TRA) in Taiwan. Just over three weeks ago Stadler was able to announce the establishment of a joint venture with PT Inka in Indonesia. The order to develop and build locomotives for TRA represents the second success story from Asia within a short time period: For Stadler this is the first major series of rail vehicles to be delivered to the Pacific region. The locomotives will be built at the Stadler plant in Valencia.

Stadler was selected by TRA as the preferred supplier for the delivery of 34 diesel-electric locomotives. The tender is part of a larger TRA fleet renewal programme. The contract is valued at approximately 165 million euros. The locomotives are intended for passenger and freight traffic on the narrow gauge network – 1,067 millimetres – in Taiwan.

After a search lasting more than ten years and several failed attempts to achieve success in Asia from its home markets, Stadler signed a joint venture agreement with PT INKA as announced on 20 September 2019 to set up a joint plant in Indonesia. At least 500 S-Bahn car bodies are to be produced there. Just three weeks after the announcement of the joint venture in Indonesia with PT INKA, Stadler is now celebrating another major success in Asia with this new order.

For the first time, Stadler has won a prestigious tender for rolling stock and, after this long dry spell, has acquired a major contract in the Pacific region from its base in Europe.

Thomas Ahlburg, Group CEO at Stadler, says: “We are proud to be able to supply a larger rolling stock series to Asia for the first time. The locomotives will be used in demanding mountainous topography – similar to that of Switzerland – and in extreme climatic conditions. Stadler is very familiar with adapting rail vehicles to such specific challenges. Combined with the ability to build lightweight yet environmentally friendly locomotives, these are important reasons for our success in Taiwan.”

The six-axle narrow-gauge locomotives for TRA are powered by a Cummins diesel motor with an output of 2,700 hp. The starting tractive effort is up to 430 kN, and the maximum speed is 120 kilometres per hour. The locomotives are specially designed for the tropical and subtropical climate in Taiwan. High humidity of up to 100 percent and extreme temperatures of up to 45 degrees Celsius are to be expected in the operating area. The new locomotives for TRA can also run in multiple.



ŠKODA TRANSPORTATION WIN A CONTRACT FOR THE SUPPLY OF SUBWAY TRAINS FOR WARSAW

Škoda Transportation has been announced the winner of a contract for the supply of up to 45 six-car subway trains for the Polish capital Warsaw. The first train will be delivered to the customer within two years of the signing of the purchase contract. The total value of the contract is almost 8 billion crowns.

“I am glad that we have been confirmed as the winner of the contract for the supply of trains for Warsaw after long administrative and judicial proceedings. It was confirmed that our offer was the best. This is a breakthrough contract for urban rail vehicles - the Warsaw tender was one of the largest in Europe, but we waited for the decision for over two years. Warsaw can look forward to modern vehicles with a capacity of up to 1,500 people. Our latest products will now be in operation in the eighth capital city in the European Union,” says Petr Brzezina, Chairman of the Board of Directors and President of the Škoda Transportation group.

Škoda Transportation won the contract over the current fleet supplier for Warsaw, Siemens-NEWAG consortium, as well as Stadler, Alstom and CAF. The contract also includes the supply of spare parts, a simulator, extended warranty and training. Škoda Transportation cooperated on the development with Polish universities and design engineering offices such as EC Engineering.

“I am glad that we are strengthening our position in the Polish market with this contract, where our trams have been carrying passengers in Wrocław for several years. A clear external and internal audiovisual information system will ensure good orientation of passengers, and the trains will also

include compartments for wheelchair users, baby carriages and bicycles. The car bodies will be aluminum, and the length of one car will be about twenty meters. The total length of the train will be 118.2 meters. The design of the passenger compartment interior layout, choice of materials, shape and color design aims to create a comfortable environment for both passengers and drivers,” says Zdeněk Majer, member of the Board of Directors and Senior Vice-President of the Škoda Transportation group.

The maximum speed of the new trains will be 90 km/h. The trains allow full electrodynamic braking in all occupancy modes with a preference of regenerative braking, in which power is transferred back to the power system. The trains are designed according to EN and UIC standards. They will also include a camera system.





Bane NOR and Siemens Mobility celebrate milestone in digitalization of Norway's rail network

Bane NOR and Siemens Mobility have celebrated the opening of Campus Nyland, a test, training and signaling simulation center which will help the rail network operator prepare for the digitalization of the entire system. Norway has committed to becoming the first country to operate with a single digital interlocking and ERTMS signifies one of the country's largest digitalization projects. In 2022, the first digital line, Nordlandsbanen, will open. In advance, the Campus Nyland center will prepare workers for working within the digital system, ERTMS. The intelligent infrastructure behind ERTMS will reduce operating costs and increase capacity throughout the network. In addition, it will enhance safety, with real-time visibility of trains across the network. When complete in 2034, the system will include 4,200 km of track and more than 350 stations.

"Siemens Mobility is the main supplier to the Norwegian ERTMS program with their infrastructure, including interlockings and radio block centres (RBC). The Siemens Mobility solution is leading edge based upon an IP based

architecture. With a strong technical roadmap and a proven ability to deliver, Siemens Mobility is the ideal partner for Bane NOR in this challenging program. We are thrilled to work together with Siemens Mobility to develop the digital rail," said Sverre Kjenne, Executive Vice President Digitalisation and Technology, Bane NOR.

"Norway is on track to become the first country to operate in the "one country, one interlocking" architecture making it at the forefront of digitalization. Our intelligent infrastructure will ensure that the system operates efficiently. The digital interlocking, with IP controlled field components, and ERTMS are the backbone to greatly improving operations and maintenance. This architecture also opens the door for future developments such as implementing driverless technologies, moving the interlocking to the cloud, which would make proprietary hardware and spare parts a relic of the past, and would make data instantaneously available to transportation operators," stated Michael Peter, Siemens Mobility CEO. "Campus Nyland is an important milestone in turning this

vision into reality." Campus Nyland will be an industry center for digital education and will house more than 5,000 employees, who will learn the necessary digital skills needed to ensure ERTMS is successful when it goes operational. These will include individuals from Bane NOR, train companies, maintenance companies and contractors. Bane NOR will facilitate simulator training as well as physical training facilities. New technology, such as virtual reality, will be used to communicate how the tracks are built with ERTMS, as well as the design of trains and traffic control centers. More than 150 different scenarios are available for training within the highly digital training hub.

In the spring of 2020, the Roa - Hønefoss ERTMS test line opens. The new signaling technology will be monitored and tested from Campus Nyland. The next important milestone in turning ERTMS into a reality will be the digitalization of the first Norwegian rail line. In October 2022, Nordlandsbanen, which operates from Grong to Bodø, and represents about 12 percent of the Norwegian railway will go operational.



World News



Noah's Train is going around the world

One train, one climate ambassador, 12 stops throughout Europe, 17 containers designed by inter-national street artists, 200 metres of artwork, 19 leading European rail freight companies as well as interest associations, thousands of people reached, one initiative, one destination.

Noah's Train is getting ready to set sail for Chile and is taking a message with it on its journey around the world: to increase rail transport to 30 percent by 2030.

What began in December 2018 at the COP24 World Climate Conference with two containers in Katowice, Poland, has become a strong European movement. And the longest mobile work of art. Rail Freight Forward (RFF), a coalition of European freight railways under the aegis of the Rail Cargo Group, has set itself the goal of drastically reducing the negative effects of freight traffic on our planet. A Europe-wide environmental protection campaign was launched for this very reason and Noah's Train was sent on a journey across Europe, visiting cities such as Vienna, Berlin, Paris, Brussels, Rome, Luxembourg, Madrid and Barcelona. In every city where Noah's Train stopped, creative street artists got together to create a real work of art - the longest mobile work of art. Thanks to this climate ambassador, the RFF initiative was given a strong voice to save the climate.

A work of art for climate protection

After 12 stops and 17 containers designed by international street artists, Noah's Train has reached the port of Rotterdam. In the course of an event with top-class guests from politics, economy and the media, one of its containers is going to be sent to South America. At the global UN climate conference COP25 in Santiago, Chile, it will spread the RFF message to increase the modal share of rail freight transport to improve climate, air quality and mobility.

We're in this together

Freight transport pumps 275 million tonnes of CO2 emissions into the air every year. We can all make a contribution to increasing the share of rail in total freight transport from 18 % to at least 30 % by 2030. The advantages of rail freight transport are significant and sustainable. In figures, European rail freight transport means

- 12 times less external costs for society than by road
- 6 times lower specific energy consumption
- that rail is 9 times better than the European average in terms of CO2 emissions - the ÖBB freight transport by rail in Austria even causes 21 times less CO2 per tonne transported than truck transport
- rail is 8 times better in terms of air pollution
- rail causes 85 times fewer road casualties
- rail is 5 times better in terms of noise exposure





Alstom to supply 42 Metropolis trains for Barcelona Metro

Alstom has signed a contract with Barcelona Metro operator TMB (Transportes Metropolitanos de Barcelona) to supply 42 Metropolis trains to replace those currently running on lines 1 and 3 of the network. The contract^[1], valued at over €260 million, includes the design, manufacturing and commissioning of the trains. The five-car trains will be manufactured in Alstom's Barcelona site and delivered to TMB within two and a half years.

"Alstom is honoured by this sign of confidence from TMB. The expertise and innovation capabilities of our teams are fully mobilised to support the plan to modernise Barcelona Metro for the benefit of passengers. Carrying over 400 million passengers per year, the Barcelona network is one of the most efficient and modern in Europe. With our trains, we aim to help TMB in the development of efficient and sustainable mobility that responds to the current and future needs of all passengers," said Gian Luca Erbacci, Senior Vice President of Alstom in Europe.

"With the withdrawal of the oldest fleet, we accelerate a process of renovation that will increase service reliability, sustainability and passenger comfort in two of our most frequented Metro lines, in a context of maximum demand for the collective transport of Barcelona, upon the entry into force of the low-emission zone. This is the most important rolling stock acquisition in the history of TMB," said Rosa Alarcón, President of TMB, during the signature of the contract.

According to the specifications, the new Metropolis trains will meet strict sustainability criteria; light structure, low energy consumption, high levels of recoverability and recyclability, technical reliability and ease of maintenance. The trains will also be equipped with remote sensors for optimal maintenance.

Alstom also puts the passenger at the heart of its design process. The trains for Barcelona will be built with the comfort of passengers in mind, offering accessibility, wide doors and spaces to facilitate passenger flow, acoustic comfort, vibration mitigation and passenger information in real time. Both external and internal design features will remain faithful to the TMB brand but will also add new visual elements that reflect the identity of Barcelona, such as graphics on the doors that represent Barcelona's urban landscape.

The new trains for Barcelona will benefit from the experience and reliability of Alstom's Metropolis range, currently in circulation on lines 9 and 10 of the Barcelona Metro, incorporating innovative technological solutions and meeting TMB's requirements in terms of reliability, availability, safety and comfort.

Alstom has more than 65 years' experience in the production of metros, having sold over 17,000 metro cars operating in 55 cities worldwide and carrying 30 million passengers every day.

[1] Booked in Q2 of current fiscal year



Railway Children and Social Mobility Foundation set to benefit in UK

The Alstom Corporate Foundation has announced its final selection of projects for the 2019 cycle. With a total of 158 projects having been submitted, Alstom employees have once again demonstrated their enthusiasm for philanthropy and for supporting local communities.

Among the projects, the Foundation has selected a Social Mobility Foundation project in Liverpool and the Railway Children project in the North West of England.

Railway Children is an international charity which provides a national safety network for children who runaway to railway stations and on to trains, leaving them vulnerable to violence, abuse and exploitation. The Railway Children Safeguarding on Transport project, supported by Alstom, will help children and young people across the North West of England, home to several of Alstom's sites including their train modernisation centre in Widnes. Making children on the street visible to society is vital and this funding will directly employ two full-time project workers and a project coordinator to identify and support children in crisis. Further, it will fund the development of multi-agency quick response groups across the transport system to directly help children and young people at risk and safeguard them from danger.

"Thanks to the Alstom Foundation, we will be able to support more vulnerable children in the North West found in and around the rail network. We are really looking forward to working together to transform lives." Commented Joe Clay, Railway Children Group Project Co-Ordinator. Secondly, Alstom are set to continue their support for the Social Mobility Foundation in Liverpool that was also supported in 2017 and 2018 with Alstom Foundation funding. The project contributes to the Aspiring Professionals Programme (APP), which supports talented A level students from disadvantaged backgrounds in and around Liverpool.

New for 2020, there will be an inspiring residential programme in London for Liverpool students, with an additional focus on providing a support network for low performing groups under-represented in higher education. "We are delighted to be chosen as one of the charities the Alstom Foundation would like to support this year. This is the third year that we will be supported by the Alstom Foundation and

their continued support shows their commitment to improving social mobility for young people in Liverpool. This funding will allow young people from low-income backgrounds to benefit from a whole range of activity to help them reach their aspirations." Said Sally Weatherall, Head of Regional Development at the Social Mobility Foundation.

"The Railway Children and Social Mobility Foundation are two fantastic causes making every effort to broaden social mobility and protection for those most in need in society. We are always keen to support the communities from across the regions Alstom operate, and through these amazing projects we will continue to ensure our contributions to our local communities are both sustainable and make a lasting improvement to people's lives" said Nick Crossfield, Alstom UK & Ireland Managing Director

"I am delighted to see my Alstom colleagues demonstrating such a strong citizenship commitment! In response to such a determination to support local communities the Group has decided to increase the Foundation's annual budget for project funding. Starting this year, the Foundation will have a budget of 1.5 million euros, an increase of 50% over that of previous years. This will allow it to support a greater number of projects and/or those of a higher value," said Barry Howe, Secretary General of the Alstom Foundation.

This year, the Foundation's Board has selected 25 projects for funding from its 2019/20 budget – a significant increase on the 16 projects funded last year.

Established in 2007, the Alstom Foundation supports and funds projects proposed by Alstom employees who team up with local NGO partners and not-for-profit organizations to carry out initiatives aimed at improving living conditions in communities located near the Groups facilities and project sites around the world.

The Foundation's projects focus on four axes: Mobility, Environmental Protection, Energy & Water, and Socio-Economic Development.





Stadler signs a contract for 22 locomotives for the Spanish Administration of Railway Infrastructure

Following the announcement of the tender win from 31 July 2019, Stadler in consortium with Erion now has signed the legally binding contract with the Spanish Administration of Railway Infrastructure (ADIF) for the supply of 22 rescue locomotives. The contract's value is 115 million Euro and includes an 8-year service maintenance agreement. The state-owned Spanish Administration of Railway Infrastructure has signed the contract with Stadler to supply 22 rescue locomotives in a consortium with Erion. Furthermore, the consortium has been commissioned with the maintenance of the vehicles over a period of eight years.

These locomotives are based on the light series locomotive platform and are intended for use in the standard gauge Spanish rail network to carry out high-speed railway lines inspection, rescue operations of stranded trains, snow clearance and hauling of maintenance trains with a weight of up to 600 tons. The locomotives will be able to operate under all weather conditions between +45°C and -25°C.

They are high power four-axle diesel-electric locomotives with AC/AC transmission and low axle load, fully complying with all the European standards regarding safety, emissions and

environmental protection. Characterized by their traction with IGBT, their innovative adhesion control system, high hauling capability, lightweight and reduced operation costs, they facilitate the infrastructure manager to offer a wide range of support services to rail operators. The locomotives are fitted with two cabs, ETCS and ASFA signalling systems and GSM-R communication systems.

The maximal power output of the engine is 2.8 MW, the locomotives can reach a top speed of at least 160 km/h.

Consortium partner Erion provides rolling stock maintenance services to public and private operators across Spain, Portugal, France, Belgium and Germany. Erion is a joint venture between Stadler and Spanish rail operator RENFE. Stadler holds a majority stake in the company.



Bangkok Blue Line expands passenger service with Siemens Mobility metro trains

Mass Rapid Transit Authority of Thailand (MRTA) Bangkok Expressway and Metro Public Company Limited (BEM) and CH. Karnchang Public Company Limited launched revenue service on a key section of the Blue Line Extension in late September. BEM is operating 14 new metro cars delivered by Siemens Mobility on the extension. This is the latest milestone of the turnkey project which include delivering 35 three-car metro trains, the signaling system, the traction power supply, passenger information system, SCADA, depot workshop equipment, system integration and project management as well as a 10-year maintenance contract for the line's expansion project. The full Blue Line extension will be commissioned in spring 2020.

“Bangkok is a prime example of an urban center that has both required and benefited from its public transit growth. With more than 360,000 passengers per day riding the Blue Line, this project is set to not only improve availability, but also enhance the passenger experience. We delivered on time, supporting BEM with the growing mobility demand,” stated Michael Peter, CEO of Siemens Mobility. “The metro cars can carry more than 800 passengers and will help the city reach its goal of increasing urban transit riders from 40 percent of the population to 60 percent by 2021.”

With more than 8 million residents, Bangkok is the largest city and the capital of Thailand. It is also Asia's sixth largest economy in terms of per capita income. With its continued growth, the city has put an increasing focus on enhancing its rapid transit system, including the expansion of the Blue Line, which originally opened in July 2004. Siemens Mobility provided turnkey solutions for the original line and then in 2017 was awarded the contract for the current expansion. In July, the Blue Line started passenger service on the first phase of this extension from Hua Lamphong to Tha Phra in honor of the king's birthday, which was three months ahead of the contractually agreed schedule. Now, the Blue Line extends to Lak Song station. The line encircles many of the city's core cultural and business districts.

The metro trains are an evolution of the ones used at the original Blue Line. They are being primarily manufactured in Vienna, Austria, and tested in Germany prior to being shipped to Thailand. They can

operate up to 80 kilometers per hour.

In addition to the Blue Line, which has been operating since 2004, Siemens Mobility also delivered the Skytrain and the Airport Rail Link. In 2016, Siemens Mobility received an order for 22 four-car metro trains to operate on the city's Green Line. Delivery of the first trains was in August 2018.





WABTEC CELEBRATES MULTIPLE MILESTONES OF ITS 'MAKE IN INDIA' PROJECT

Factory completes one year of manufacturing, on track to roll out 100th India locomotive

Two years ago, at the same IREE event, legacy GE Transportation announced the arrival of its first 4500 horsepower (HP) locomotive at the Mundra Port. To date, there are 135 such locomotives in revenue service with the Indian Railways, including 85 that were fully manufactured in India and is set to have 70 percent local content.

Wabtec's 6000 HP diesel-electric locomotive, the first in India, is currently undergoing test trials on Indian Railways track and is expected to enter revenue service soon.

The state-of-the-art Marhowra factory is operated by a diverse and talented workforce, comprised of over 25 percent women. Wabtec's partnership with both global and local suppliers has helped establish an integrated ecosystem, enabling a fast ramp up of local manufacturing and creating more than 5,000 direct and indirect jobs across India.

The Roza maintenance shed has completed regular maintenance of 100 locomotives and trained 1800+ Indian Railways Locomotive Pilots through the company's training institute. This globally trained service team, in partnership with Wabtec's Real-Time Monitoring and

Diagnostic Centre at Roza, is helping ensure exceptional reliability across the Indian Railways locomotive fleet.

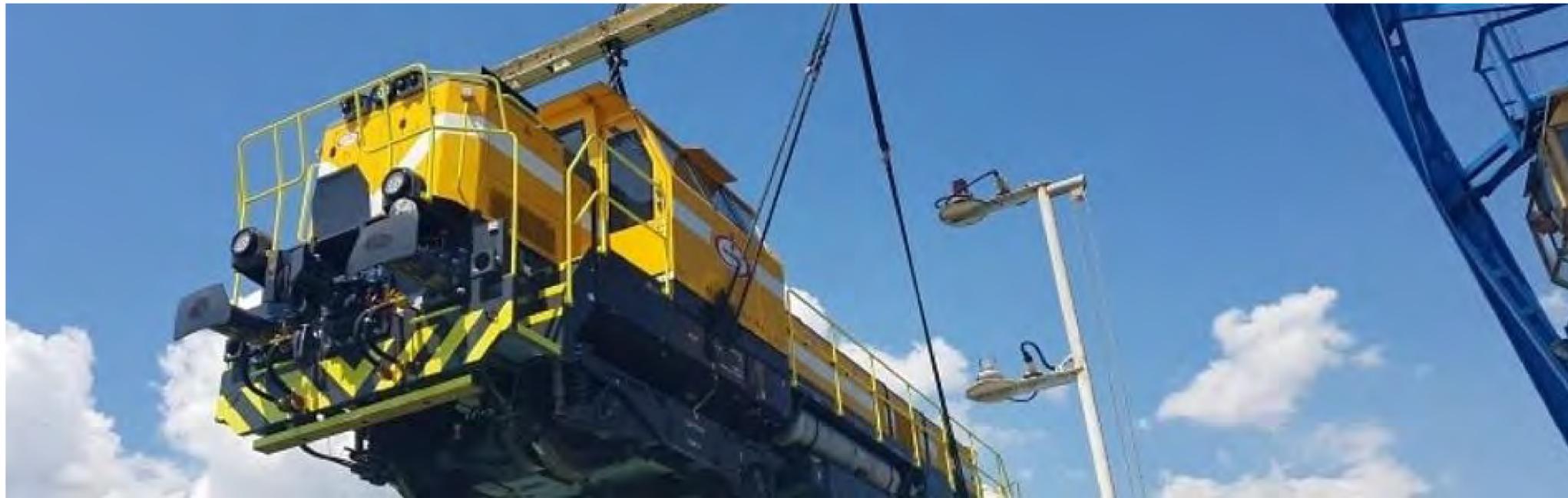
"The team's passion for these locomotives and determination to meet project deliverables is unmatched, as demonstrated by the results we've seen so far," said Wabtec's Sandeep Selot, Managing Director, GE Diesel Electric Locomotive Private Limited. "We are proud to receive positive feedback on the overall experience of our locomotives from the locopilots themselves, including ease of operation, ergonomic comfort, improved visibility and enhanced tractive effort. This excites us even more as we approach the next milestones for the project."

In addition to Wabtec's progress on locomotive production, the company's community outreach programs in and around the Marhowra factory have fueled vocational training and educational equity. Efforts have resulted in skill development for over 250 female entrepreneurs and increased attendance by the students at the Talpuraina Middle School where Wabtec employees serve as volunteer instructors.

"As Wabtec continues to integrate as one company, we look forward to the meaningful impact we can have on India's future economic development," said Dr. Sujatha Narayan, Regional General Manager for Wabtec Corporation in India.



DB Cargo Czechia brings five shunters to Turkey



They are used in the largest Turkish steelworks in Isdemir near the Syrian border.

The type 600 EffiShunter diesel electric shunting locomotives are from Czech manufacturer CZ Loko, which makes five classes of shunting locomotives. Between July and October, two new locomotives set off on the journey, followed by three more. DB Cargo Czechia took full charge of the transports, taking them from the plant in Česká Třebová to Turkey on various routes by rail, road and water.

The first locomotives to be transported spent more than half of the 3,000 km journey on trucks. Next, the route was optimised to be largely rail based all the way to the Turkish city of Pavas, with a passage by ferry over the Sea of Marmara. From there, it's only 30 more kilometres to Isdemir, a city near the Turkish-Syrian border that is home to

Turkey's largest steelworks.

"We at DB Cargo Czechia are happy to have landed this customer. We were able to accumulate new experience while offering a complex logistics solution with rail transport playing a starring role. It was only thanks to our DB Cargo network in south-eastern Europe and our collaboration with DB Schenker Arkas in Turkey that we were able to adhere to the timetable and meet the most stringent customer requirements", said Jan Rajnoch, Head of Sales at DB Cargo Czechia. Within three years, the company Iskenderun Demir ve Çelik (Iskenderun iron and steel) aims to boost its production by up to 30%, and rail transport is set to play a key role in the effort.



From the UK

Severn Valley Railway

We head off once again to the ever popular Severn Valley Railway this month where their recent diesel gala was once again an extravaganza of traction over several days.

▶ Class 20 189 arrives at Arley on October 4th with a service from Kidderminster.
Richard Hargreaves

▶ Class 37 688 brings a local service past the engine house at Highley on October 4th.
Richard Hargreaves

▶ 'Warship' Class 42 No. D821 waits departure time at Arley on October 3rd.
Richard Hargreaves







From the UK

Severn Valley Railway

On October 4th, Class 52 No. D1015 'Western Champion' approaches Highley with a Kidderminster - Bridgnorth service.
Richard Hargreaves

Visiting 'Clayton' Class 17 No. D8568 is seen at Hampton Loade on October 5th.
Richard Hargreaves

Class 40 106 stands at Hampton Loade on a wet October 4th, working a service to Bridgnorth.
Richard Hargreaves





