



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 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 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 201 Xtra

It's always good to see an increase of freight carried by the railways, in any part of the world, however I wasn't expecting that DHL Global Forwarding, the air and ocean freight specialist of Deutsche Post DHL Group, and Etihad Rail, the developer and operator of the UAE National Rail Network, would have signed a strategic partnership agreement at Middle East Rail, located in Abu Dhabi National Exhibition Center (ADNEC).

The agreement will see the establishment of a joint venture company that will enable DHL Global Forwarding to use Etihad Rail's network to conduct its main operations within the UAE. Under the terms of the agreement, DHL Global Forwarding will adopt rail as one of its primary modes of transportation to distribute goods throughout the UAE, via the railway network which links key industrial hubs. The newly formed joint venture company will further strengthen the sustainable freight offering within the UAE, operating across the Etihad Rail Network. The agreement is expected to significantly reduce pressures on road transport and boost trade, commerce and logistics in the UAE, whilst also playing a key role in helping the UAE meet its environmental responsibility commitments.

The ambitious 20-year partnership between DHL and Etihad Rail will deliver significant benefits for businesses, optimising the use of time and resources, reducing costs and more efficient asset management. Furthermore, the partnership will strengthen end-to-end logistics and supply chain services for customers in the region. DHL's robust rail freight products offer secure and reliable transportation and is also an environmentally friendly alternative to cargo transportation via road or air freight. With rail considered to be one of the most sustainable modes of transport, Etihad Rail is committed to contributing to the UAE's Net Zero by 2050 strategic initiative, whereby the UAE National Rail Network will contribute to reducing carbon emissions in the road transport sector by 21% by 2050, and each train trip will remove up to 300 trucks off the road.

"The UAE's increasing focus on infrastructural investment in the logistics sector, and DHL Global Forwarding is excited

to be part of this journey to support growing capacity requirements through rail freight," Amadou Diallo, CEO Middle East & Africa, DHL Global Forwarding, said. "Our decades of expertise in rail and multimodal transport solutions, providing fast, secure, and cost-effective connections, make us the right partner to support the development of the railway industry in the UAE."

"We welcome DHL Global Forwarding as a key partner for Etihad Rail as we embark on fulfilling our ambitious targets," Gottfried Eymmer, CEO of Etihad Rail Freight, said. "With freight operations operational since February, Etihad Rail is pleased to introduce further sustainable transport models within the UAE and continue to stimulate economic growth and sustained social development in the region."

The agreement between Etihad Rail and DHL Global Forwarding is one of the largest collaborations for the transport industry and showcases the respective organisation's commitment to the UAE's sustainability agenda.

And in other good freight news, CFL cargo, sister company of CFL multimodal, and Bertani Trasporti have announced the launch of a new rail connection between Gliwice Port in Poland and Marckolsheim in France. CFL cargo and Bertani Trasporti successfully concluded a partnership for a new train running with two round trips per week and transporting vans from the Gliwice Port to Marckolsheim over a distance of more than 1300km. This new, cross-border train with a transport capacity of 19 wagons efficiently connects the Polish and French rail corridors via Germany and will also foster modal shift, by transferring the equivalent of more than 2,300 trucks from road to rail and saving about 10,200 tonnes of CO2 per year. The rail traction is provided by CFL cargo in Germany and France, in cooperation with DB Cargo Polska who is taking over in Poland.

Until next month...

David

This Page

ZSSK Goggle Class 757.012 passes through Slavec Jaskyňa with train No. 914 09:22 Košice - Zvolen Osob St. on May 6th. *Andy Pratt*

Front Cover

Class 570.201 and 570.401 arrive at their final destination of Sannicolau Mare with train No. R11170 from Arad on March 24th. *Thomas Niederl*





On March 3rd, OBB Class 1063.009 runs through the vineyards near Straning with local freight train No. 63021 to Vienna central marshalling yard. *Thomas Niederl*

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Commonwealth Bulk Handlings Nos. CBH014 and CBH016 are passing through Thornlie with loaded grain for export at Kwinana.
Colin Gildersleve







Aurizon's No. Q4001 is seen at Herne Hill with a mixed freight from Kalgoorlie to Kwinana on May 10th. *Colin Gildersleve*



Since December there have been international trains on the Franz-Josefs-Bahn route again. After the Second World War, the line developed from an international main line to a route of only regional importance. The new train, No. 322 'Silva Nortica', to Praha is therefore a special case with Class 1116.144 seen here near to Limberg-Maissau. *Thomas Niederl*



Once again the new international connection on the Franz-Josefs-Bahn. On weekends there is a 2nd pair of trains which is hauled by MAV Taurus. On March 18th, Class 470.001 hauling train No. Rex321 to Vienna is seen near to Straning. *Thomas Niederl*



The Class 4020 EMUs are now being replaced by Desiro ML Class 4744 trains. The old vehicles cannot yet be dispensed with and are being used again on the S45 line, which has been scheduled with modern vehicles for years. *Thomas Niederl*





Local trains have been marketed by ÖBB as 'Cityjet' for several years. All double-decker trains are being modernized and repainted and it was also planned to design the Taurus locomotives accordingly, but there has been only one locomotive in this design. Class 1116.181 with train No. R2325 is seen near Sollenau on April 22nd. *Thomas Niederl*



Private operator Regiojet offers three daily trains to Vienna Airport. At the Airport there is no time for running the engine round, so at Wien Hbf they put a Class 1142 from Operator Grampet Cargo or Steiermarkbahn at the rear of the train. Outwards they take the route via Oberlaa and to turn round coming back from the Airport, the Class 1142 leads and is then uncoupled at Wien Hbf. On April 22nd, Class 1142.696 is seen at Mannswörth with Regiojet train No. IC1034. *Thomas Niederl*



Train No. R7148 from Sopron to Wiener Neustadt is on a Monday-Thursday operated by five Class 5047 DMUs. It is the longest Class 5047 DMU train in regular service. The train is seen here next to Wiesen-Sigleß on May 4th with Class 5047.091 leading 5047.034, 5047.053, 5047.032 and 5047.035. *Thomas Niederl*



Austria

ÖBB Class 1144.248 is seen ready to depart Wien Hbf (Autoreisezuganlage) following the addition of a loaded car carrier to train No. EN1153 15:53 Bratislava Hl. St. - Split on May 24th. *Andy Pratt*



WMA: Sewage Sludge Transports by MOBILER

In accordance with the amended Waste Management Act (WMA), ÖBB Rail Cargo Group (RCG) processes sewage sludge transports from Vorarlberg to Lower Austria.

The waste disposal company böhler Abfall GmbH, in connection with a rail logistics concept from RCG, was awarded the contract in the Vorarlberg Environmental Association's sewage sludge tender. Now the sewage sludge travels by rail – completely in accordance with the new Waste Management Act (WMA). Specifically, up to 12,000 tonnes of sewage sludge are transported to Lower Austria every year using innovative MOBILER logistics. The transport begins in Vorarlberg.

The MOBILER configurations are reloaded at the Feldkirch Region Wastewater Association, before they are transferred to RCG railroad cars at the Klaus station. This is followed by the environmentally friendly main rail leg in single wagonload service to the destination stations in the Vienna metropolitan area. From there, the MOBILER configurations with the sewage sludge are finally transported to recycling facilities, which are located only a few kilometers away. Thus, in successful cooperation, an efficient and sustainable end-to-end logistics solution has been achieved that combines the advantages of rail with those of road freight transport. A hydraulic lifting

device on the MOBILER vehicle enables fast, uncomplicated transloading of MOBILER configurations between truck and wagon – without a crane or dedicated siding. Under the Waste Management Act and with the transport clause going into effect, since the beginning of the year waste transports with a total weight of more than ten tonnes must be transported by rail if the distance exceeds 300 km. From January 1st 2024, such waste loads will have to be transported by rail for distances of 200 km or more, and from January 1st 2026, for distances of 100 km or more. In total, there is potential for around 15m. tonnes of waste to be transported by rail in Austria.



RFF Chairmanship handed over to DB Cargo

After holding the post for five years, CEO Clemens Först, ÖBB Rail Cargo Group (RCG), has handed over the chairmanship of Rail Freight Forward (RFF) to Sigrid Nikutta, CEO of DB Cargo.

RCG is a part of the Rail Freight Forward Initiative, an alliance of European freight railways that aim to drastically reduce the negative impact of freight transport on the planet and mobility through innovation and a smarter transport mix. The coalition aims to actively work towards increasing the rail freight transport share in the modal split to 30% by 2030. The coalition was established in 2018. RCG was a founding member and also held the chairmanship with the help of board spokesman Clemens Först.

Symbolic handover in Munich

At this year's transport logistic trade fair in Munich, Clemens Först handed over the chairmanship to Sigrid Nikutta, CEO of DB Cargo, after holding it for five

years. A small container was symbolically passed over.

RCG thus relinquishes its chairmanship, but remains a member. Först comments: "Transport is a significant component of the climate problem, and rail is a fundamental part of the solution. That is why we are not only pushing innovation in rail freight, but also fighting for fair competitive conditions compared to road and greater capacity on the rail network."

The coalition demands that it should be as easy to drive a train across Europe as it is to drive a truck, and that rail transport should not be financially disadvantaged in the process. "If we



are able to transport more goods by rail, we will also succeed in achieving the European Union's climate targets.

It is feasible to achieve a 30 percent share of goods trains in the continental transport mix – with digitalisation and automation of rail transport," says the new RFF chairperson Sigrid Nikutta.

RCG connects Ukraine to intermodal network

Direct intermodal connection between Ukraine and the extensive ÖBB Rail Cargo Group (RCG) TransNET. Benefits for the economy, nations and the environment. Scheduled timetable and attractive transit times with weekly departures in both directions.

In cooperation with Ukrainian Railways, RCG is connecting Ukraine to its intermodal network (TransNET) with the new TransFER Vienna–Kyiv line. As the leading rail logistics specialist in Europe, RCG already offers a wide range of TransFER connections throughout the Eurasian continent. The new connection between Kiev and Vienna, which stops in Budapest and Lviv, is ÖBB's freight subsidiary's first regular, high-frequency intermodal connection between Ukraine and the many hubs in Central Europe.

Standard gauge traction is provided in Europe by the RCG from the Ukrainian border onwards – all from a single source. RCG will also be handling additional logistical services such as terminal services, import and export customs and much more.

RCG partner Ukrzaliznytsia (Ukrainian Railways) will take over on the broad gauge all the way to the Ukrainian/Hungarian border.

Supporting Ukraine – keeping the economic wheels turning

The Rail Cargo Group has been intensively supporting Ukraine with transport and logistics services since March 2022. More than two million tonnes of agricultural products alone were exported – with more than 100 trains per month, exceeding any other freight transport company in Europe.

Austria

ÖBB 1116.052 propels train No. REX 2328, the 11:11 Wiener Neustadt Hbf - Breclav out of Wien Meidling station on May 27th. *Andy Pratt*



Austria

The Aspangbahn is a branch line south of Vienna which has so far avoided all modernizations. On May 4th, Class 5047.086 with train No. R7408 stops at Laxenburg-Biedermannsdorf.

Thomas Niederl

OBB Class 2016.037 with train No. R7144 Sopron to Wiener Neustadt is seen in Wiesen-Sigleß. This is the only non electrified line where double deck coaches are used on the ÖBB network.

Thomas Niederl

It is unbelievable but true that a railway with old semaphore signals is operated in the metropolitan area next to Vienna. On May 4th, Class 5047.033 arrives at Traiskirchen.

Thomas Niederl





▶ HŽPP Class 2044.018 has just arrived at Split with the previous evening's train No. EN1153 the 15:53 from Bratislava Hl. St. The train arrived 221 mins late after being diverted via Villach in Austria due to the regular route via Spielfeld-Straß being closed due to a mudslide. *Andy Pratt*

▶ HŽ Bo-Bo Class 1142.005 runs into platform 1 at Zagreb Glavni Kolodvar with train No. 210 the 08:39 Vinkovci - Villach Hbf on May 26th. The Croatian electric will work to the Slovenian border at Dobova where an ÖBB Class 1216 will take over for the remainder of the journey via Ljubljana to Villach. *Andy Pratt*

▶ HŽPP A1A-A1A Class 2044.017 waits time at Perkovic with train No. EN1152 17:20 Split to Bratislava Hl. St. on May 25th. *Andy Pratt*



Czech
Republic

Unipetrol liveried Class 383.057 passes through Pardubice with a rake of tanks. *Class47*



CZ LOKO has acquired a new customer in Italy. It will deliver four EffiShunter 1000 locomotives to freight carrier DB Cargo

CZ LOKO
Locomotion Excellence®

DB Cargo

Another company that chose EffiShunter 1000 locomotives from the Czech company CZ LOKO became one of the European leaders in freight rail transport, DB Cargo Italia. It ordered four new diesel-electric locomotives in Italy classified as D744. The first two pieces will be delivered during the summer and the other two before the end of the year.

“We will use them primarily in a dense network of single-car transports, guaranteeing high

quality and sustainability, and on non-electrified lines and industrial sidings. The new modern locomotives will contribute to greater reliability and safety, reduce the environmental impact in terms of noise and emissions and increase the comfort of our employees,” says Emanuele Vender and Rüdiger Gastell, CEO of DB Cargo.

At the same time, it also appreciates the advantages that conventional rail transport brings mainly to customers who need low-

volume transport with multiple starting or destination points.

According to Michal Schaffer, manager of CZ LOKO’s sales department, the premiere contract with this important carrier confirms CZ LOKO’s leading position on the European diesel locomotive market.

“The EffiShunter 1000 locomotive in particular represents a product suitable for the needs of rail transporters across Europe.

In Italy, which is our strongest foreign market, we have already sold more than a hundred locomotives. This is an extraordinary number,” added Michal Schaffer.

Service and other “after sales” services are provided in the country by the subsidiary



company CZ LOKO ITALIA. At the same time, the CZ LOKO company is able to provide a complete range of services in all two dozen countries in which it actively operates.



Class 362.076 passes Chotycany station with train No. R713 'Vltava' from Praha to Ceske Budejovice. The train is formed of old carriages, mostly declassified first class coaches, which will be replaced soon.
Thomas Niederl



Czech Republic

Czech based operator GW Trains has come up with a novel solution to increase cycle carrying capacity on it's services. They have converted a freight wagon into a cycle carrier which is then sandwiched between two Class 818 three car articulated DMUs. The formation is seen at Ceske Budejovice on May 27th waiting to depart to Nove Udoli.
Andy Pratt





Arriva Group grows its rail business in Czech Republic with contract win

Arriva signs new 15 year rail contract to operate services in the Pilsen region
Contract worth €82.5 million over the 15 years

New Arriva electric operations will commence in December 2023

Arriva Group has signed a contract to start rail operations in the Pilsen region of Czech Republic, growing its footprint and securing its position as the second largest private rail operator in the country.

The contract is awarded following a

competitive bidding process which sees Arriva entering the electric rail market for the first time in the Czech Republic. The contract signing took place at the headquarters of the Regional Authority for the Pilsen Region. Arriva's train fleet will expand from December 10th as a result of the new contract, with nine electric trains serving the Horažďovice, Plzeň to Pňovany route. The trains are two-car Skoda Regio Panters 650 series and are equipped with air conditioning, internet access and charging facilities.

Sian Leydon, Managing Director of Mainland

Europe for Arriva Group, commented: "I'm delighted that Arriva has been successful in winning this contract. We have demonstrated long-standing success in rail operations in Czech Republic and this win represents a growth story for Arriva and positions us for future growth in electric rail in this market. We have a strong history of providing sustainable transport solutions to passenger transport authorities across Europe, and entering a new region will further build on this."

Following the signing of the contract,

the preparatory work for taking over the operation of the line from the incumbent has already begun and Arriva plans to recruit 40 new drivers and conductors, plus a number of other roles in the coming months to ensure it is ready to take over later this year.

About Arriva

Arriva is a leading provider of passenger transport across Europe, employing around 38,000 people and delivering around 1.5 billion passenger journeys across 12 European countries. We are part of Deutsche Bahn (DB), one of the world's leading

passenger and logistics companies. With buses, trains, coaches, trams, waterbuses, car and bike-sharing systems, as well as on-demand transport solutions, Arriva proudly connects people and communities safely, reliably and sustainably, delivering these services in a better way, every day. Arriva has operations in the Czech Republic, Croatia, Denmark, Hungary, Italy, the Netherlands, Poland, Serbia, Slovakia, Slovenia, Spain and the United Kingdom.

▶ SNCF EMU No. 55647 enters Rennes station with train No. TER854333 to St. Malo.
Ray Anslow

▶ On April 25th, SNCF single car units Nos. 73956 and 73922 wait at Dinan for their next duties. No. 73956 will be heading south to Dol-le-Bretagne and 73922 will head north to St Brieuc.
Ray Anslow

▶ SNCF BB No. 22301 stands at Strasbourg with an early morning commuter service. *Class47*



Germany

Class 77.003 passes Oberhausen Sud Yard with a westbound empty car train. *Mark Enderby*



▶ Class 218.468 stands at Ulm Hbf awaiting departure with train No. SVG19912 the 07:00 Stuttgart Hbf - Singen (Hohentwiel) Freizeitexpress Südbahn on May 29th.

Andy Pratt

▶ SBB Class 11301 is ready to depart Singen (Hohentwiel) on May 29th. with train No. IC487 the 15:32 to Zürich HB. *Andy Pratt*

▶ SBB Class 11121 runs into Singen (Hohentwiel) with train No. IC280, the 10:37 Zürich HB to Stuttgart Hbf on May 29th. The train will reverse here with a DB Class 101 taking it forward to it's destination. *Andy Pratt*



▶ SWEG Class 622.480 in the striking Baden-Württemberg livery arrives at Ulm Hbf on May 30th. with train SWE No. 26519 07:34 from Aalen Hbf, already showing it's destination for it's next working. The two car Class 622 units were introduced from 2013 and are part of the Alstom Coradia LINT family. *Andy Pratt*

▶ DB Class 101.033 brings up the rear of train No. EC217, the 05:37 Saarbrücken Hbf to Graz Hbf as it arrives at Ulm Hbf on May 30th. The train is just over 3 hours into it's journey, the full journey between the 2 cities being scheduled to take 10 hours 37 minutes. *Andy Pratt*

▶ DB Regio operated Vectron Class 193.247 arrives at Ulm Hbf with train train No. IRE 16047 the 08:24 from Wendlingen (Neckar) which operates over the recently opened High Speed Line. *Andy Pratt*



Germany

▶ Class 182.597 arrives at Dusseldorf Hbf on a FLIX service to Berlin. *Mark Enderby*

▶ An empty RWE coal train heads for the loader at Buir. *Mark Enderby*

▶ Chemion Class 275.006 is seen on a train to Dormagen at Koln West. *Mark Enderby*





Germany

Class 111.056 is seen stabled in the yard at Rheinhausen. *Mark Enderby*

Medway Class 186 224 passes through Brohl on a container train heading to Antwerp. *Mark Enderby*

DB Class 146.561 passes Brohl on the rear of a northbound IC2 train. *Mark Enderby*



Germany

DB Cargo Class 193.327 heads through Aachen with a rake of tanks. *Class47*





Germany

DB Cargo Class 193.379 is seen in Kattenvenne with a Beverwijk (NL) to Oberhausen West mixed freight on May 2nd.
Erik de Zeeuw



Deutsche Bahn orders an additional 17 ICE 3neo trains from Siemens Mobility

ICE 3neo fleet grows to 90 trains
Additional order volume of around €600 million
High-speed climate protection thanks to short delivery times
Trains from first order already in service

Siemens Mobility will deliver an additional 17 ICE 3neo trains worth around €600 million to Deutsche Bahn (DB).

The ICE 3neo fleet, based on the Velaro MS platform, will then grow to a total of 90 trains. Deutsche Bahn first ordered 30 ICE 3neo trains from Siemens Mobility in July 2020, and called up 43 further trains in January 2022. With this new order, the original framework agreement for 90 trains signed in July 2020 has been completed. The ICE 3neo trains will be manufactured at the Siemens Mobility plant in Krefeld and delivered by August 2028. Trains that were first ordered have been in passenger service since December 2022, after being built in record time.

“Deutsche Bahn will be undertaking a comprehensive rejuvenation over the coming years. This includes our nationwide rail network as well as our trains. This year we are already taking delivery of an average of three new ICE trains per month. And we are further accelerating the renewal of our fleet. In doing so, we’ll also be relying on additional ICE 3neo trains from Siemens. The first trains to be delivered have been in service since December 2022 and are proving extremely successful,” said Dr. Michael Peterson, DB Board Member for Long Distance Passenger Transport.

“With the delivery of 90 ICE 3neo trains, Siemens Mobility

is providing a large share of DB’s new capacity for long-distance passenger transport. The trains are based on our proven Velaro platform, ensuring short delivery times, long-term viability, reliable operation, and a speedier transportation transition. The first trains of the ICE 3neo family have been impressing passengers since December 2022 with their refined comfort and advanced technology,” said Michael Peter, CEO of Siemens Mobility. With its top speed of 320 km/h, the ICE 3neo is one of the fastest members of the ICE fleet. The train has 439 seats and numerous innovations providing improved comfort and convenience:

- Special window panes for stable mobile phone reception
- Eight spaces for bicycles in each train
- Redesigned luggage racks with more space
- Lighting tones that change depending on the time of the day
- Tablet holders and power outlets at all seats, including 2nd class
- Additional doors for speedier boarding and alighting at stations
- A new door lift to provide easier access for wheelchair users

The eight-car trains are equipped with four different voltage systems so they can in the future provide cross-border service on international connections from Germany to Belgium and the Netherlands.



Rail Access gets even easier to use

Successful freight logistics requires an infrastructure that enables efficient switching between road and rail transport. Even companies without their own siding can transport goods throughout Europe using a combination of different modes of transport. DB Cargo has improved its Rail Access e-service so that companies can find the nearest rail network access point even faster.

Easy to find

In addition to the new look, which fits in with DB Cargo’s modern design language, the search function in Rail Access has been simplified. Users now have a single search field in which they can enter the address or name of a freight terminal. The results are clearly displayed on the map, which users can also use to search directly.

Always up to date

Rail Access now offers an even better overview of the nearest railports, intermodal terminals, ports and public sidings. User feedback was also taken into account for the relaunch. The e-service is constantly updated to keep the site profile data up to date. Users can easily report missing or outdated data on a site, contact, storage area or piece of infrastructure.

This information is then updated in Rail Access after a quick review. About 15 per cent of the data sets were adjusted in this way last year.

Flexible and adaptable

The new interface will also make it easier to adapt Rail Access to future user needs, making it an ideal platform that benefits both users and the environment.

An intelligent combination of different modes of transport on rail, road and water enables the creation of efficient and environmentally sustainable supply chains. It also means that rail freight transport will be used even more often in the long term.



On May 2nd, Captrain Class 185.549 runs through Kattenvenne with a Coking Plant Prosper, Bottrop to Stahlwerk Bremen working.
Erik de Zeeuw





Germany

Northrail's Class 275 007 is seen on a westbound limestone train at Bottrop Sud. *Mark Enderby*

DB Class 193.353 and 185.003 take a mixed freight over the hump at Oberhausen Sud Yard. *Mark Enderby*

Metrans Class 187 505 is seen on a eastbound ore train at Bottrop Sud. *Mark Enderby*



▶ HGK No. DE93 passes through Koln Sud on a northbound binliner. *Mark Enderby*

▶ Rail Force One's Class 193 734 leads a northbound empty box train through Koln West. *Mark Enderby*

▶ Thyssen-Krupp No. 548 passes through Dusseldorf on a diverted Duisburg - Dornap-Hahnenfuth empty limestone working. *Mark Enderby*



Germany

▶ Linesas Class 186.505 is seen on westbound cars arriving at Rheinhausen. *Mark Enderby*

▶ Class 151.053 passes through Dormagen with a northbound empty steel. *Mark Enderby*

▶ OBB Class 1293.192 passes Dormagen with a southbound box train. *Mark Enderby*



▶ RBH Class 145.066 and 145.097 on a Dillingen - Oberhausen coal train passes Porz.
Mark Enderby

▶ DB Class 420.958 is one of a small number of Class 420s on the S19 route, seen here at Porz.
Mark Enderby

▶ Northrail Class 192.050 is seen at Porz on a southbound car train.
Mark Enderby



Dodging the sunshine, former SBB Cargo Class 482.047-8, now operated by ITG, leads a southbound fuel train through Harrbach on April 20th. *Anton Kendall*



Owned by ELL and operated by WLC, Vectron Class 193.943-8 hauls a rake of brand new timber wagons past Haarbach on April 20th. *Anton Kendall*



▶ StadlerEuroDualNo.90802159241-9, operated by DB Cargo, hauls a rake of fuel tanks past Haarbach (Maintal) on April 20th.

Anton Kendall

▶ A pair of MRCE Vectrons, lead by Class 193.601-2 passes Haarbach with colourful container wagons owned by GATX and Eurowagon on April 20th. *Anton Kendall*

▶ With DB Cargo's house colour of red very much in abundance, Class 187.156-5 hauls a rake of empty cartics southbound through Haarbach on April 20th. *Anton Kendall*



125 years of train manufacturing in Krefeld

The Krefeld rail vehicle plant is celebrating its 125th anniversary this year. Founded on March 16th, 1898, as Waggon-Fabrik A.G. Uerdingen, the plant was taken over by Siemens in 1989. The facility has grown steadily since then and, with more than 2,000 employees working on the design, development and production of state-of-the-art trains and electrical components, is one of the most modern rail vehicle plants in the world.

“With its strong focus on innovation, quality, delivery reliability and productivity, the Krefeld plant makes a significant contribution to the success of Siemens Mobility – and to the success of our customers,” said Michael Peter, CEO of Siemens Mobility. “On average, we build around 600 state-of-the-art, digitally mastered rail vehicles a year at the plant. This top performance is possible only thanks to our highly motivated, specially trained team and the comprehensive use of digitalization throughout production and logistics. We’re quite proud of these achievements!”

On the Krefeld plant’s production area of approximately 74,000 m² and logistics area of around 64,200 m², Siemens Mobility manufactures Mireo, Desiro, Velaro and ICE4 trains for regional and high-speed rail transport. The vehicles are then delivered, primarily by rail or ship, to rail operators throughout the world and are used for national or cross-border service.

The ICE: A German success story from Krefeld

With the success of the ICE4, the new ICE 3neo, and other orders, Siemens Mobility is proving that complex, large-scale, billion-euro projects can be executed punctually, reliably, and with cutting-edge technology. The Velaro MS, which Deutsche Bahn calls the ICE 3neo, was designed and built in record time and delivered to the customer just two-and-a-half years after the order was received. The planning and construction of the ICE series also secures thousands of jobs at Siemens and suppliers throughout Germany. Siemens Mobility stands for the retention of key know-how in the German railway industry, and thus has a global signal effect. Around 1,100 suppliers, mainly small and medium-sized companies, and their employees benefit from the strong position of the Krefeld plant. Projects like the ICE 3neo generate over 75% of their added value in Germany alone.

A strong employer in the region

Over 2,000 people are employed at the Krefeld plant, including 1,200 in manufacturing and around 300 in development. In cooperation with the Siemens Professional Education program, around 125 trainees attend the Krefeld Training Center every year. Trainees in mechatronics, industrial mechanics and industrial management, and student trainees in dual training programs for Bachelor of Engineering degrees in mechanical engineering, industrial mechanics, electrical engineering, information technology, as well as mechatronics and a BA in international management are on the way to highly qualified, next-generation professional careers.

Major orders with a huge impact

In 2011, a framework order from Deutsche Bahn for up to 300 ICE 4 trains bestowed Siemens with the largest train order it had ever received. The Rhine-Ruhr-Express project in 2015 was one of the largest orders won in Germany to date for Siemens Mobility – and for the Krefeld plant – in the local mass transit sector. Krefeld delivered 82 Desiro HC (High Capacity) trains for the order. In 2022, this success was again surpassed, this time by Egypt. The country commissioned Siemens Mobility to develop and build a 2,000-kilometer high-speed rail network across Egypt. For Krefeld, this means an order volume of 41 Velaro trains and 94 Desiro HC regional trains. It is the largest order in the company’s history.

Hydrogen and battery drives

The company’s trains powered by hydrogen or battery drives – the Mireo Plus H and the Mireo Plus B – are also being built at the Krefeld plant. Both of these train types combine innovation and sustainability and operate on routes where electrification with overhead lines is neither possible nor economical.

Factory digitalization is a key theme

Siemens Mobility invests millions in the Krefeld plant each year to secure a leading position worldwide in rail vehicle production. In the digital Krefeld plant, fully digitized manufacturing and logistics processes ensure maximum transparency and efficiency. With the help of continually collected data, operating processes are constantly monitored and improved. This way, the company can simultaneously work on 14 different customer projects based on five different platforms per year. In addition to using digital twins for the vehicles and for virtual welding training, Siemens Mobility is introducing a state-of-the-art robotic welding system in

Krefeld this year to manufacture innovative aluminum bodyshells and components at a continuous pace. These and other innovations showcase Krefeld as a highly modern and highly productive manufacturing and development facility for state-of-the-art rail vehicles – a location where around 350 engineers work on developing advanced rail platforms.



3D printing gets trains on track faster

Deutsche Bahn (DB) reaches the mark of 100,000 spare parts produced using 3D printing technology. The 100,000th part is a gear housing for shunting locomotives. With a volume of almost one cubic meter and a weight of 570 kilograms, it is the largest and at the same time the heaviest 3D printed part that the group uses. The spare part is indispensable for the operation of the shunting locomotive - the vehicle stands still without the gearbox housing. In the future, around 370 locomotives will benefit from the speed of the new process, can be repaired more quickly and used again in shunting operations. Using conventional procurement methods, the part would only have been available from the locomotive manufacturer with long delivery times of ten months on average. By opting for a replica using 3D printing technology, DB shortened the delivery time to two months. The new gearbox housing is produced in an indirect 3D printing process using binder jetting. A powdered starting material is combined with a liquid binding agent to form the mold into which the gearbox housing is later cast.

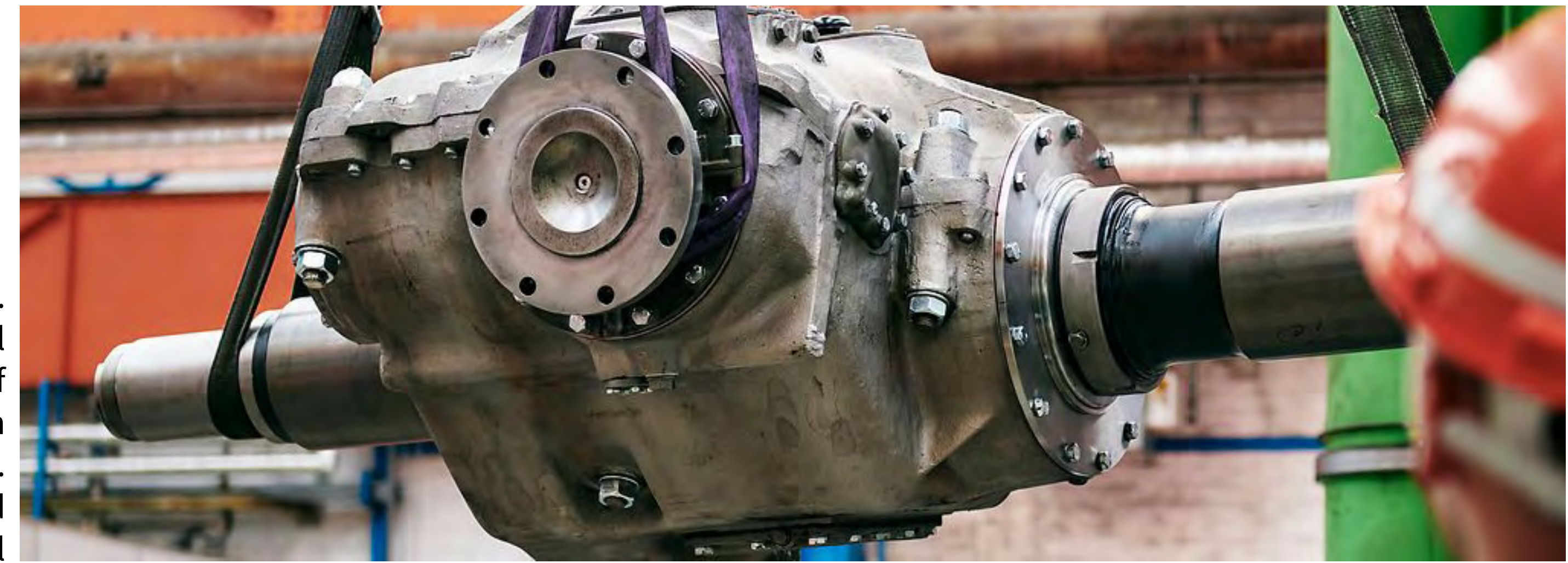
Transmission housing - manufactured using indirect 3D printing

The gearbox housing is part of the digital warehouse that DB is continuously expanding. Virtual technical drawings of spare parts are stored in the database. If required, these parts can then be produced quickly and easily with a mouse click using 3D printers. This saves logistics space, storage costs, shortens delivery times and logistics chains and thus creates independence. In recent years, global crises such as the corona pandemic or the war in Ukraine have revealed the vulnerability of complex supply chains.

In this way, DB also ensures greater sustainability. Shorter distances and smaller physical warehouses avoid CO₂ emissions and waste of resources through superfluous inventories. In addition, 3D printing in itself saves resources. Because only the raw material actually required is used in production. This is more economical than so-called cutting processes, in which parts are milled out of a block. In addition, 3D printing extends the life cycles of vehicles. This is because Deutsche Bahn can use it to manufacture components that are no longer available from the manufacturer. Daniela Gerd tom Markotten, DB Board Member for Digitization and Technology: "3D printing is transforming maintenance. It saves time, money and resources because we can produce spare parts at the touch of a button thanks to a "digital warehouse" and do not need large inventories. In times of global supply bottlenecks and raw material shortages, 3D printing is more important than ever."

Model of a 3D printed sand mold

DB is the world leader in 3D printing for the railway industry. What started in 2015 with simpler spare parts like a plastic coat hook has now grown into 100,000 parts for over 500 different applications. More and more of them are operationally relevant. This also includes steel parts such as wheel set bearing covers for shunting locomotives, a box link for ICE trains or the



gearbox housing for shunting locomotives. Around 1,000 virtual models are currently stored in the digital warehouse. By 2030, around 10,000 different components are to be kept in stock in this way.

DB uses its own printers and partner network for production. At the end of 2016, the Group launched the "Mobility goes Additive" network. More than 140 companies - from users, printing press manufacturers and print service providers to universities and start-ups - are now working together here to jointly promote innovations. Various printing processes are used, including material extrusion, the powder bed process and binder jetting.

Handshake on the 3rd EuroDual for BBL Logistik – there is no other locomotive better suitable

European Loc Pool (ELP), leading provider of locomotive leasing services, announces its latest milestone in collaboration with BBL Logistik GmbH, a modern railway transportation and logistics company. The two companies have solidified their successful collaboration by signing a contract for a long-term full-service lease of a third EuroDual locomotive.

BBL Logistik operates locomotives on various railway lines, including electrified and non-electrified routes. They have found the EuroDual locomotive to be the perfect fit for their operations, endorsing its hybrid concept that combines the best features of both worlds. The EuroDual locomotive, renowned for its exceptional versatility, has already proven its worth since the first unit entered into BBL Logistik operations in December 2021. The handover of the second locomotive is scheduled for July 2023, and the third EuroDual order was confirmed with a symbolic handshake during the Transport Logistic Fair in Munich on May 10th 2023.

Jens Ziese, co-CEO of BBL Logistik GmbH, emphasized, "We chose to lease another EuroDual locomotive because we are extremely satisfied with the locomotive we already operate. The EuroDual locomotive stands unrivaled in its suitability for our business. Its ability to swiftly adapt to diverse operational requirements makes it a valuable asset for the company."

BBL Logistik will utilize the EuroDual locomotive for the transportation of construction materials such as rails, ballast, and other materials.

"Cost-effectiveness, sustainability, efficiency, and flexibility played crucial roles in our decision to opt for the EuroDual locomotive. In today's era, these factors are of paramount importance, and the EuroDual locomotive meets all expectations in this regard.", adds Thomas Gritzka, Co-CEO of BBL Logistik GmbH.

The partnership between BBL Logistic and European Loc Pool is based on a deep understanding of their

operations and has paved the way for mutual success. "We are proud to support a unique company like BBL Logistik. Their determination to overcome challenges and pursue innovation resonates with our positioning as a positive disruptor in the rail equipment leasing business.", states Emiel Knarren, Chief Commercial Officer of European Loc Pool.

European Loc Pool and BBL Logistic continue to drive forward, embracing cutting-edge solutions to optimize rail transportation operations. This third EuroDual locomotive deal marks a significant milestone in their growth journey.

More about the hybrid locomotives

ELP focuses on innovative six-axle hybrid locomotives with a power output of up to 2.8 MW diesel, 9 MW electric and a traction capacity of 500 kN. As standard, all vehicles are equipped with ETCS Baseline 3 for Level 2 operations. The first ELP EuroDual locomotives have been in service on the German rail network since April

2020. They enable operation on electrified and non-electrified lines as well as load-mile and shunting operations. All dual locomotives are equipped with radio remote control.

Starting in mid-2023, the second generation of ELP's dual locomotives, the Euro9000, will be put into service as a hybrid multi-system electric locomotive designed for use in all European corridors. As the "launching customer," European Loc Pool ordered the first ten Euro9000 locomotives from Stadler in May 2019. The first version with 1.9 MW of diesel and 9 MW of electric power at 500 kN tractive effort will be used in Germany, Austria, the Netherlands, Italy, Belgium, and Switzerland.

Subsequently, the locomotive's area of operation will be expanded to other countries and corridors.

Deutsche Bahn confirms Talgo the largest single order of its history: 56 new Talgo 230 trains worth approximately 1,400 million euros

As part of the framework contract signed in 2019 for a maximum of 100 trains.

Extension of the order placed in 2019 for 23 trains already under production, to reach a total fleet of up to 79 trains.

They will be the only ICE trains with full accessibility from platform height in all the train.

German federal railway company Deutsche Bahn has announced an ambitious plan to expand its ICE high-speed train fleet, which will result in the largest train supply contract for Talgo in its over 80-year history: 56 new units worth approximately 1,400 million euros. This new order is part of the framework contract signed in 2019 along with a first order for 23 trains. Both orders will take the Talgo-made ICE L fleet to reach 79 units.

The trains belong to the Talgo 230 technology platform and will be operated by Deutsche Bahn throughout Germany under the “ICE L” name, which designates long-distance, high-speed services that will also feature low-floor platform level in all their coaches (Intercity-Express Low-Floor) and will therefore be fully accessible, a unique capability of the Spanish company among the global rail industry.

The 56 new ICE L units will be identical to the 23 that are currently in production and that will gradually come into operation from autumn 2024: they are state-of-the-art trains, with more space and a high level of comfort, composed of a locomotive that provides traction to a 17 passenger coaches, of which the last one incorporates a driver’s cab to make operations more flexible, in a configuration unknown in Spain but quite common in Germany.

For international routes, the multi-system locomotive, developed entirely by Talgo, is fully interoperable and will allow ICE L trains to travel not only within Germany, but also on international services connecting Berlin with Amsterdam quickly and without stopping at the border. The composition will also be compatible with locomotives from other manufacturers for operation, for example, on non-electrified lines.

Each train offers a total of 562 seats, 85 of them in first class and 477 in second class, including a bistro/cafeteria coach and another specifically designed for people with reduced mobility (PRM), and incorporates a new interior design scheme characterised by the combination of functionality and durability with the luminosity and warmth of the materials. Its new coaches also incorporate for the first time a new window designed to improve mobile phone and data coverage on board the train.

Proven reliability

With the ICE L project Deutsche Bahn is making a commitment to Talgo technology, a commitment that in September 2022 the company described as “a deliberate choice for a proven vehicle platform to achieve greater reliability through the use of tried-and-tested components”.



Dr. Michael Peterson, Member of the Management Board for Long Distance Passenger Transport at DB has said: “In the next few years, DB will undergo a major overhaul. This applies both to the rail network and to our trains. This year we will already receive an average of three new ICE trains per month. We are now accelerating the rejuvenation of our train fleet. In the process, we are also relying on additional ICE L trains from Talgo. The highlight of these trains is the level boarding and alighting, which significantly increases comfort for all passengers”.

Carlos Palacio Oriol, President of Talgo, said: “The new order from Deutsche Bahn is the largest in the company’s history and demonstrates the European operator’s confidence in the innovations that our trains will bring to the German market, improving accessibility, comfort, energy efficiency and reliability”.

“This new contract,” Palacio added, “is great news for all the professionals at Talgo who work hard every day to manufacture the latest generation ICE L trains, and it is also great news for the Spanish railway industry and its technologies, due to the success of consolidating a national benchmark in the most dynamic and demanding long-distance railway market in Europe.”

The Federal Minister for Digitalisation and Transport, Volker Wissing said at the FEDECOM ‘Company of the Year’ award ceremony held for Talgo in Berlin: “We in Europe are very ambitious when it comes to climate targets. By joining forces we can be much stronger, and that is why I am pleased that we inspire each other, that we support each other: that a Spanish company has helped to solve a problem we had in Germany”.













Netherlands

On May 10th, Foundation 2454 Crew mC No. 9002, built in 1924 by fa J.J. Beijnes/Haarlem (electric equipment by Vickers) is seen in Baambrugge, working a Haarlem via 's Gravenhage and Gouda to Haarlem private charter driven by Railexperts. *Erik de Zeeuw*



Railexperts No. 1251 and rake of SSN coaches passes Ommen, working a trip to Germany with members of the NVBS foundation on April 27th.
Erik de Zeeuw



On April 27th, HSL LOGISTIK Class 186.381 passes Holten with a Elektrownia Dolna Odra/Poland to Kijfhoek Yard coal empties.
Erik de Zeeuw



On April 20th, Train Charter Services No.101004 is seen near Holten with a Bentheim (Germany) to Amsterdam empty stock movement . The 'L' in the windscreen means driver in training. *Erik de Zeeuw*





Netherlands

On May 13th, two nostalgic carriages are seen passing Barneveld with NSM No. 386 built in 1962 by Elektrisch Fabrikant Werkspoor, Utrecht Type Mat '54, ELD2 series 371 - 393 (Plan Q) leading NSM No. 273 built in 1952 by Elektrisch Fabrikant Werkspoor, Amsterdam Type Mat '46, ELD2 series 221 - 299.

Andre Pronk









Originally with DB Cargo, Class 189.091-2 was purchased by MRCE but has now gone back to its original owner. She is seen here working with 189.070-6 on a loaded coal train passing Rotterdam Waalhaven. *Anton Kendall*









Now operated by BT Trains but formerly owned by DB Cargo, V60 shunter No. 363.727 (98 84 8363.727-4) pushes a long container train into the Combi Terminal at Rotterdam Pernis on April 22nd. *Anton Kendall*



Portugal



On May 22nd, Class 592 No. 117M stands at Coimbra B station. *Mark Armstrong*

CP Class 0350 No. 0365 is seen at Entroncamento station on May 22nd. *Mark Armstrong*

On May 22nd, Azvi diesel locomotive No. 1601 seen stored at Alfarelos. This is a former RENFE (Red Nacional de los Ferrocarriles Españoles, Spanish National Railways) Class 316 locomotive. *Mark Armstrong*



Portugal



▶ On May 22nd, CP Class 5600 No. 5618 at Lisbon Santa Apolonia station. *Mark Armstrong*

▶ CP Class 3100 No. 3159 stands at Cascais station on May 23rd. *Mark Armstrong*

▶ Lisbon tram No. 563 is seen working a Line 28 service on May 22nd. *Mark Armstrong*





Romania

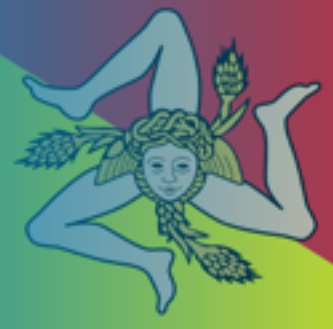
Former SNCF DMU Class 570.328 with train No. R11168
arrives at Periam on March 24th. *Thomas Niederl*



Every day at 16:30, three trains meet each other at Sannicolau Mare. On the left, Class 970.555 with train No. R11185 Timisoara - Cenad; in the centre 570.201 and 570.401 as R11170 from Arad and on the right 570.352 as R11171 to Valcani. *Thomas Niederl*



Sicily



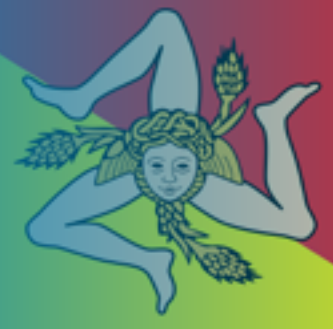
▶ A line of Trenitalia Alstom built Class ETR 104 EMUs are seen in the sidings at Messina on May 4th. *Michael Lynam*

▶ A line up of Class 145 shunters are seen adjacent to the station at Messina on May 4th. *Michael Lynam*

▶ On May 4th, Trenitalia Alstom built Class ETR 104.060 is seen between duties at Messina station. *Michael Lynam*



Sicily



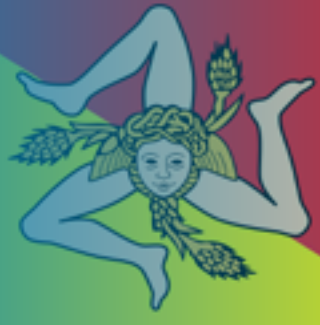
FS Mercantia Rail branded Class 652.131 and 652.046 are seen in the depot yard at Messina.
Michael Lynam

Class 464.005 and 464.037 are seen stabled on the depot at Messina on May 4th.
Michael Lynam

Trenitalia Class E464.199 is seen stabled with a rake of empty stock coaches at Messina on May 4th.
Michael Lynam



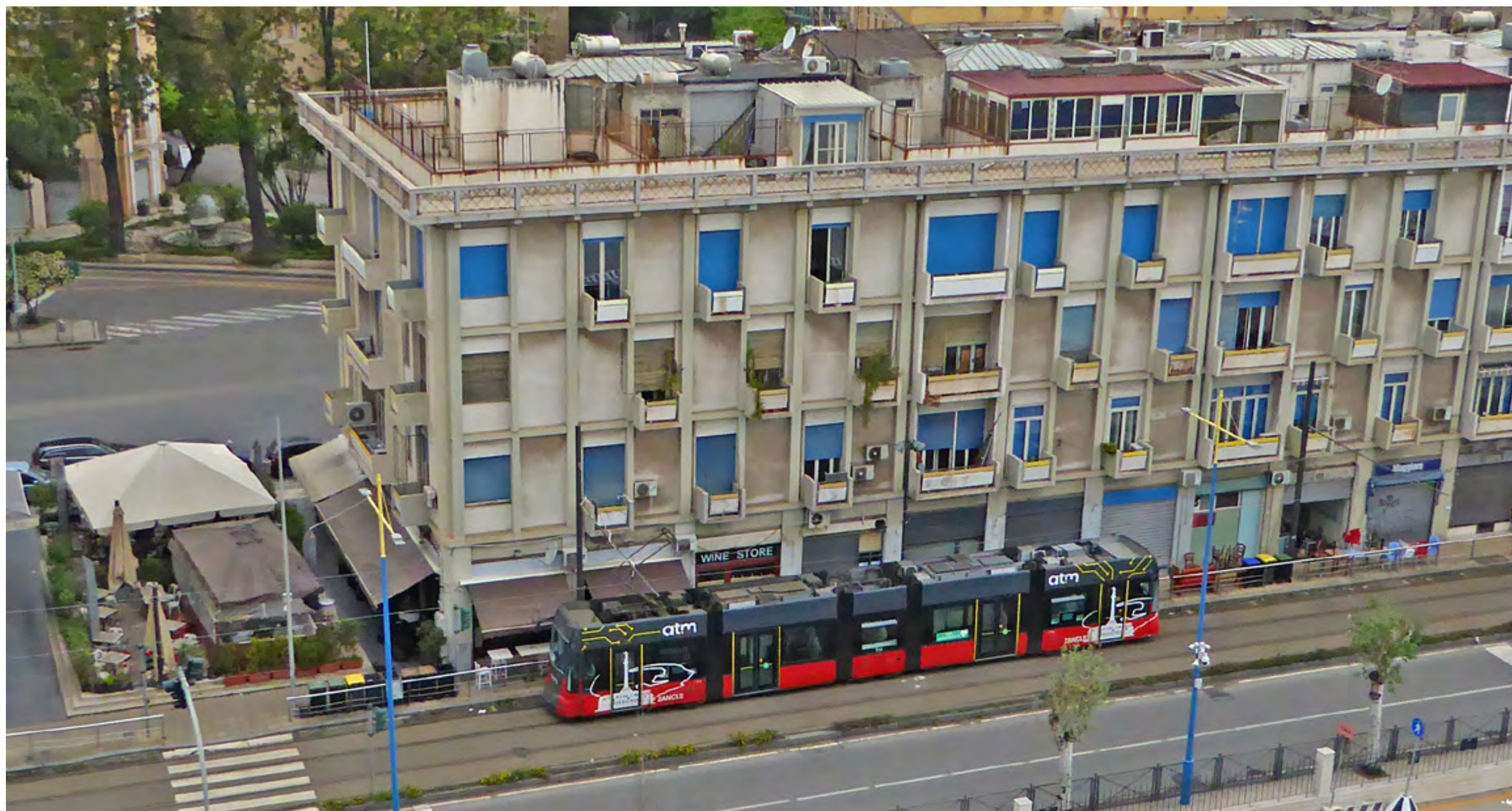
Sicily



Trenitalia's Class 445.052-9 looks a little withdrawn in the depot yard at Messina on May 4th. *Michael Lynam*

Messina's depot shunter No. 98 83 22-14.5414 at the depot. *Michael Lynam*

Alston Cityway articulated tram T14 in atm livery passes the Municipio stop on route No. 28 from Annunziata - Gazzi via Messina Centrale railway station. *Michael Lynam*



Slovakia



▶ On May 5th, privately owned Class 749.247 waits time at Martin station at the head of the Retro Express railtour while ZSSK Cargo 751.047 shunts wagons in the yard next to the station. *Andy Pratt*

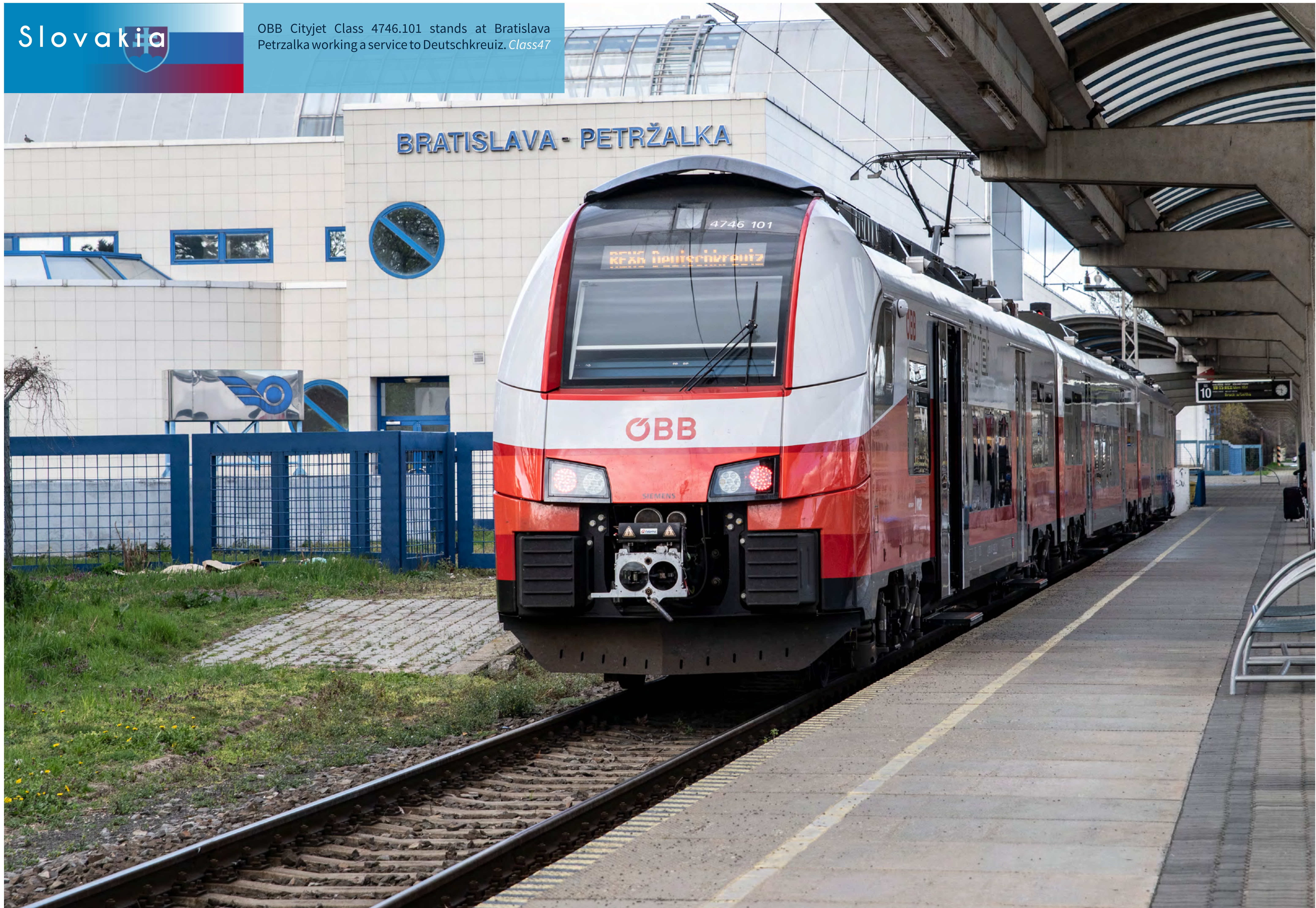
▶ Czech 'Grumpy' Class 749.247 stands at Horná Štubňa station at the head of the Retro Express four day railtour on May 5th. *Andy Pratt*

▶ The Retro Express railtour stands at the end of the freight only branch at Dobšiná, with Class 749.247 in charge on May 6th. *Andy Pratt*



Slovakia

OBB Cityjet Class 4746.101 stands at Bratislava Petržalka working a service to Deutschkreutz. *Class47*



Slovakia

ZSSK Class 383.102 working a Bratislava hl.st. to Kosice service arrives at Puchov. *Class47*

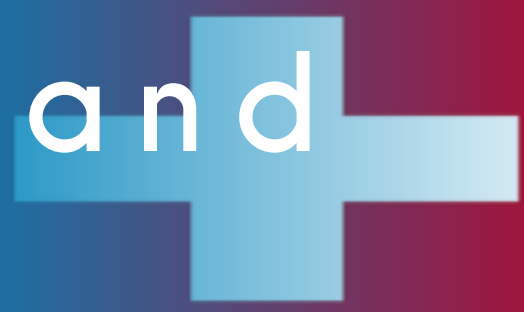




Switzerland

SBB Cargo Class 620 082-8 (the former 11682) approaches Basel Muttentz Rbf on the outskirts of Pratteln with a rake of fuel tanks on April 19th. Anton Kendall





Who can get to Muttenz first? Two freights run neck and neck through Pratteln on April 18th, with SBB Cargo's TRAXX Class 474.016-3 on a HUPAC container working paralleling DB Cargo's TRAXX Class 185.108-8 on a Novelis working. *Anton Kendall*

SBB Cargo's Class 193.476-9 hauls a rake of tanks from Cornaux to Hamburg, passing Pratteln in a spell of sunshine on April 19th. *Anton Kendall*

Railpool's Class 187.005-4, working for BLS Cargo, leads a rake of tanks through Pratteln on April 18th. *Anton Kendall*







With Limmattal Yard's arrival roads in the background, SBB's Class 841.003-7 removes some wagons from a recent arrival and takes them towards the wagon repair depot on April 17th. *Anton Kendall*



Sweden

Alpha Trains supports the Scandinavian freight market with Vectrons

Alpha Trains, the leading lessor of locomotives and passenger trains in Europe, is proud to announce its support of the Scandinavian freight market with brand-new Siemens Vectron AC locomotives. Green Cargo, the biggest freight operator in Sweden, has signed a long-term lease agreement for five Vectron locomotives for the Scandinavian corridor. These Vectrons are new to the market and Green Cargo is one of the first lessees. The locomotives are homologated for operation in Germany, Austria, Denmark, Sweden, and Norway, and can operate at a speed of up to 200 km/h.

With these new Vectrons, Green Cargo modernises its fleet and continues to develop its international traffic from Malmö in the south of Sweden through Denmark to Germany and back, in order to better serve their customers. All Vectrons are equipped with ETCS, which will give Green Cargo much flexibility as Sweden

gradually moves towards ETCS in the coming years. The locomotives will be delivered in 2023.

This lease agreement marks the first Siemens Vectron under Full-Service lease for Alpha Trains in Scandinavia. Alpha Trains has contracted Siemens Mobility in Sweden to perform Full-Service on the Vectron locomotives. The services for the locomotives will be carried out at the newly opened Rail Service Center in Malmö and the turnaround point in Maschen.

The partnership between Alpha Trains and Siemens Mobility/Sweden guarantees a high-quality level of maintenance with a focus on efficiency to maximize the usage of the locomotives and reduce operating costs.

“As a strongly customer-focused company, Alpha Trains is delighted to provide Green Cargo with our latest

Siemens Vectron locomotives to modernise their fleet. We believe that these locomotives will significantly reduce the environmental impact of transport and also will offer exceptional performance and reliability. Furthermore, our partnership with Siemens Mobility in Sweden for Full-Service maintenance underlines our commitment to provide high-quality and efficient services to our customers, helping to reduce their operating costs and ensuring maximum uptime for their operations”, Fernando Pérez, Interim CEO of the Alpha Trains Group.

Siemens Mobility CEO Sweden Kristina Nyquist comments: “We are delighted about this first collaboration with Alpha Trains in Sweden. With our performance-based approach we will support Alpha Trains in its attempt to further grow on the European market.”

Alpha Trains is strongly committed to contributing to the achievement of climate goals by supporting the modal shift from road to rail and promoting environmentally friendly rail transport solutions. The introduction of the brand-new Siemens Vectron locomotives to the Scandinavian freight market is a significant step towards achieving this goal. With their state-of-the-art technology, the Vectrons also have a significant positive impact on the environment, as they emit significantly lower levels of pollutants and greenhouse gases than road transport.

Finland

VR FleetCare provides air conditioning maintenance for trams and M300 metro trains

VR FleetCare’s service operations are expanding to the maintenance of air conditioning systems in light rail vehicles in the Helsinki metropolitan area. The planned annual maintenance and inspections of air conditioning systems in trams and metro trains operated by Metropolitan Area Transport Ltd are scheduled to take place between 2023 and 2024. A total of 50 M300-series metro trains and 52 trams will undergo these maintenance procedures.

The agreement, signed in May, covers the scheduled maintenance activities for the air conditioning systems of trams and M300 metro trains, including the need-based leak inspections and fault repairs. The agreement also includes troubleshooting and fault repairs for the whole fleet, and it has an option for a two-year extension.

Maintaining the air conditioning systems is essential for ensuring their proper functioning and maintaining passenger comfort. The maintenance will be performed at the customer’s depot sites for the fleets.

“We are extremely pleased with the trust Metropolitan Area Transport Ltd has placed in us, and the expanding collaboration brought by this agreement. We are already familiar with the customer’s older rolling stock through the ongoing refurbishment of the M100 and M200 metro trains, so we are delighted to continue our partnership with the modern M300 series. Moreover, we are excited to start the maintenance of air conditioning systems, an area in which we have gained decades of experience through VR’s rolling stock. With our growth, we have also had the opportunity to rebuild our service organization in an even more customer-centric manner. Our skilled refrigeration technicians from the recently established Mobile Installation Services -unit will take care of the air conditioning maintenance,” says Wilhelm Schevelew, VR FleetCare’s Head of Sales and Development.

“Within the growth, we also have open jobs for new refrigeration technicians with the necessary qualifications. So, if you are interested in working with heavy equipment, we encourage you to visit our open jobs page,” Schevelew suggests.



Alstom and Danish State Railways unveil a 1:1 scale model carriage of the new IC5 train

Alstom, global leader in smart and sustainable mobility, and Danish State Railways (DSB), together revealed to the Danish public a full-size model of the new IC5 Coradia Stream trains in the presence of Flemming Jensen, CEO of Danish State Railways (DSB), Emmanuel Henry, Managing Director of Alstom in Denmark and different stakeholders.

In April 2021, Alstom and DSB signed a historic landmark framework agreement, worth €2.6 billion for the supply of 100 Coradia Stream trains, as well as 15 years of full-service maintenance. To facilitate the design and manufacturing process, Alstom produced a 1:1 scale model of the new IC5 train.

The full-size model of the IC5 train carriage is equipped with seats, tables and other interiors and will be used to validate the train's functionalities and design with various stakeholder groups – including DSB's customers and staff. An exceptional travel experience and comfortable seating are key priorities, which the IC5 train's interior design ensures, enabling customers to both relax and work along the journey. The new design offers enhanced passenger features such as wider table space, reclined chairs, individual armrests, reading light and charging facilities on each seat. Furthermore, the IC5 train will have more screens than on the current DSB trains, providing passengers enhanced real-time journey information availability.

Minor changes are expected before full completion of the design. Nevertheless, the 1:1 scale IC5 train mock-up offers a strong impression of what customers and employees can expect from the real thing.

“We have reached an important milestone together with Alstom. The IC5 trains will be the backbone of climate-friendly, comfortable and efficient train traffic in Denmark in a few years. With the design of the trainsets finally frozen in, production of the IC5 trains

can begin,” says Flemming Jensen, CEO of Danish State Railways.

“Through strong cooperation with DSB, we have now reached an important milestone with the finalised design – and real-size mock-up – of the IC5 train. Now, we are looking forward to the production and delivery of the trains, which are based on our well-proven Coradia Stream train family. It combines innovation, sustainability, and great passenger comfort in the best possible way. The details of the train are customised for Denmark, so there is no train like this elsewhere,” says Emmanuel Henry, Managing Director of Alstom in Denmark.

The new IC5 train is based on Alstom's state-of-the-art, low-floor, high-performance Coradia Stream Electric Multiple Unit (EMU) and meets today's demands of regional and intercity transport. The Coradia Stream train offers a modular design, allowing operators to choose the configuration and interior that work best for their market and commercial strategy. In total, over 1000 trains based on the Coradia Stream train family have already been ordered by Italy, Luxembourg, and the Netherlands among others, ensuring the trains are a well-proven product. The train family offers versions with zero direct emissions such as battery or hydrogen for non-electrified lines, making it a special high-capacity solution that completes the portfolio. In addition, Alstom's sustainable approach to services considers the entire life cycle of the product, from initial design to end of life, which will maximise the value of DSB's asset.

The IC5 trains are adapted to meet the requirements of the Danish rail network and its top speed of 200 km/h will help ensure swift mobility across the country. They are prerequisites for being able to take full advantage of the major infrastructure projects on the railway that are currently being carried out, such as electrification and new signals.

The IC5 trains will replace the IC3, IC4, IR4 and Øresund trains. These will be continuously phased out, and will operate as both high-speed, intercity and regional trains.

Materials in the new IC5 trains are all inspired from Danish design tradition and offer, among other things, seat fabric with a high proportion of wool, which means that the seats will avoid environmentally harmful surface treatment. In addition, all products and materials are eco-labelled and up to 96% of the train can be recycled.

The IC5 train has five carriages with 300 seats. The carriages have low entry, good flex areas for bicycles and prams, and even more places for storing luggage than the existing trains.

Alstom has been present in Denmark for 20 years, having sold over 500 regional trains in the country, as well as world-class signalling solutions. In Denmark, Alstom is currently delivering the ERTMS signalling solutions for Banedanmark for Tracksideside in Eastern Denmark, and for on-board equipment nationwide.

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U.K.



Siemens Mobility secures service contract for rail vehicles in North of England worth €530 million

Siemens Mobility has been awarded a contract extension for the maintenance of the Class 185 fleet serving TransPennine Express routes operating between Manchester, Sheffield and Cleethorpes and Manchester to Hull from northwest of England depots. The majority of maintenance work will take place at Ardwick Depot, Manchester and subsidiary depots at York and Cleethorpes.

“The UK is one of our core markets and we’re proud to have been awarded this contract extension. It is a real testament for us being a trusted partner to our customers and continuing to ensure trains perform at a high standard throughout their entire lifecycle. Railigent X applications, part of the open, digital Siemens Xcelerator business platform, enable us to offer best passenger experience and highest availability,” said Michael Peter, CEO of Siemens Mobility.

“We have had a long and productive relationship with Siemens Mobility and we are delighted to continue working together

with the award of this eight-year contract extension. We are looking forward to Siemens Mobility, Eversholt Rail and TransPennine Express delivering further improvements to one of our key fleets through building upon our strong, collaborative partnership. Suppliers like Siemens are vital in making sure that customers remain at the heart of everything that we do and we are committed to offering the best passenger experience when people choose to travel with us,” said David Walker, Head of Fleet Commercial for TransPennine Express.

“We look forward to working with TransPennine Trains Limited and Siemens Mobility to continue to deliver a reliable Class 185 fleet for passengers”, said Paul Sutherland, Client Services Director at Eversholt Rail.

The €530 million contract extension will continue to support around 200 jobs across Siemens Mobility depots in the north of England. Siemens Mobility has been

maintaining the fleet since 2006 and has delivered a programme to provide a full digital upgrade to the 51-strong fleet leading to improved reliability. The Class 185s use Siemens Mobility’s cloud based Railigent X application suite, this means the trains are fitted with remote condition monitoring which allows the teams to get direct updates on each train and how it is performing, including any areas that need to be prioritised for maintenance. The technology provides updates on individual vehicles as well as an accurate picture across the whole fleet, ensuring the 20-year-old trains can give the best passenger experience. This technology has meant the train fleet has performed consistently well, winning industry reliability awards.

Siemens Mobility will work closely with the operator, TransPennine Trains Limited, and train owner, Eversholt Rail, to ensure the continued reliable service of the Class 185s throughout the extended contract to 2031.



Sweden



Alpha Trains looks forward to continuing its successful partnership with Alstom after reaching an important milestone with the 100th locomotive in their joint Full Service offering

Alpha Trains, the leading leasing company for locomotives and trains in Europe, is proud to announce that it has reached a significant milestone in its partnership with Alstom. Under the Global Service Agreement signed in October 2021, the 100th locomotive has now been offered in a full service package, demonstrating the impressive success and efficiency of their collaboration.

The long-term agreement, which covers the maintenance of locomotives on a full-service basis in several countries across Europe, started with 50 locomotives in 2021 and has increased to 100 in less than two years. The high level of performance and quality of maintenance offered by Alstom led to an expansion of the agreement, enabling Alpha Trains to offer a highly reliable fleet of

Traxx locomotives in Western and Central Europe. Today the well-equipped and experienced Alstom sites in Bruges (Belgium), Rotterdam (The Netherlands), Kassel (Germany) and in the maintenance depots along the main corridors contribute to the maintenance of these locomotives.

Fernando Pérez, Interim CEO of Alpha Trains Group, stated: “The rapid increase in the number of locomotives maintained under the Global Service Agreement proves the high quality of Alstom’s service. At Alpha Trains, we are committed to finding the best solutions for our customers, and this partnership enables us to provide greater reliability, availability, and flexibility across Europe through preventive and corrective maintenance”

The partnership between Alpha Trains and Alstom reflects their shared commitment to providing sustainable and efficient transportation solutions for Europe. By continuously improving the performance and reliability of Traxx locomotives, the companies are contributing to the modal shift from road to rail and reducing greenhouse gas emissions.

Alpha Trains looks forward to continuing the successful partnership with Alstom providing top-quality maintenance services to its customers in the coming years. Thanks to a large maintenance network in Europe, Alstom has all the assets to accompany this strategy.

Image: Alpha Trains looks forward to continuing its

successful partnership with Alstom after reaching an important milestone with the 100th locomotive in their joint Full Service offering. © Alpha Trains





China

Alstom's Chinese joint venture accomplishes passenger operation of demo train with the new generation of silicon carbide and permanent magnet motor propulsion system

Recently, Alstom's Chinese joint venture, Alstom NUG Propulsion System Co., Ltd [1] (Hereinafter referred to as ANP) successfully applied its new generation of silicon carbide (SiC) and permanent magnet motor propulsion system (PMM) on a demo train on Chengdu Line 7 and began operation with passengers.

The demonstration train was the first to introduce a ground-breaking traction system in China that combined both a complete silicon carbide traction converter and a permanent magnet synchronous motor. The project's successful completion marks the beginning of a new chapter in energy conservation in the rail transit industry and is solid evidence that Alstom has contributed to the high-quality growth of China's green and intelligent rail transit integration.

ANP's new generation silicon carbide and permanent magnet motor propulsion system adopts advanced technologies such as silicon carbide power devices with high-frequency, high-junction temperature, and low loss, as well as innovative technology of high-efficiency permanent magnet synchronous motors. Thanks to the use of SiC and PMM technologies, 30% of energy is

saved for train traction. On the other hand, during the design phase of the new converter, special attention was given to maintaining a similar level of reliability, while going from car control to single axle control. The maintainability is increased by adequate design of the new converter. This significantly makes maintenance operations more convenient. In addition, this product features lightweight and significantly reduced noise index, satisfying customer demands for environmental friendliness, reliability, and cost-effectiveness.

Alstom, a global leader in smart and sustainable mobility, is perfectly positioned to address the need for green, intelligent mobility. Alstom has initiated the implementation of the new Vasteras TC1500 traction chain, specifically designed to accommodate full SiC integration. The technology has undergone testing in Stockholm, serving as a model for local development and application of this innovative technology.

Based on this, ANP's new generation of silicon carbide and permanent magnet motor traction system has five major innovation points: high frequency, miniaturisation, and low loss axis controlled full SiC power inverter module;

high-efficiency permanent magnets synchronous traction motor; new generation of high-reliability control units and new digital gate drivers; speed sensorless control technology for permanent magnet motors; more energy-efficient and noise reducing cooling system.

Prior to this, a 20-year joint venture extension agreement was reached between Alstom and New United Group, regarding ANP with the purpose of further developing their pragmatic partnership. The fact that this demonstration project was completed successfully is a strong indication of the two sides' growing collaboration. Together with its Chinese joint ventures, Alstom will continue to provide complete and independent service to the Chinese rail transit market. It will also use cutting-edge technologies and procedures to enable China's rail transit to enter a new era of sustainability, intelligence, and low-carbon transportation.

Present in China for over 60 years, Alstom participates in the full spectrum of China's railway projects. Alstom in China now has a complete range of rolling stock (high-speed trains, railway passenger cars, locomotives, metros, automated people movers, monorails and

trams), state-of-the-art components (traction systems, bogies, traction motors, dampers), customised services as well as infrastructure and signalling solutions.

Alstom in China has eleven joint ventures, and over 10,000 employees. Together, the joint ventures have delivered more than 6,000 railway passenger cars and 1,530 electric locomotives, more than 7,200 metro cars, over 800 monorail cars, 136 automated people mover cars, and 191 tram cars to China's growing rail transit market as well as to overseas markets. In China, Alstom also provides customers with a wide range of services solutions, from heavy maintenance to modernisations, and currently has more than 3,200 metro cars under maintenance contracts. It is a major signalling supplier to the Chinese high-speed network, and through its joint ventures, its signalling systems and propulsion equipment are utilised in more than 100 urban mass transit lines.

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Serbia

AŽD is an important player in the Balkans and has just completed signalling on the Serbian railway line Subotica - Horgoš

The Czech company AŽD has completed and handed over the Subotica – Horgoš (Hungarian border in Serbia) railway line secured with modern signalling systems to Infrastruktura železnice Srbije (Serbian Railways). It was an order worth 11.6 million euros.

The Subotica – Horgoš line is now secured in four stations (Javna Skladišta, Palić, Bački Vinogradi and Horgoš) by the Czech fully electronic digital interlocking system StationSwing ESA 44-SB. All stations on the line are equipped with Czech turnout point machines, LED traffic lights and AŽD level crossing safeguarding systems are installed at 13 points where roads cross the railway line. The contract also included the installation of the unified European Train Control System ETCS L1.

“Serbia, and indeed the entire Balkans, has long been among the strategic territories where our company supplies modern signalling technologies for railways. For our investors in the Western Balkans, we are an important partner that boldly competes with foreign manufacturers and suppliers,” says AŽD CEO Zdeněk Chrdle.

By executing the contract, AŽD company confirmed its important position in the Balkans, where, in addition to Serbia, it currently also fulfils its obligations in Montenegro, Bosnia and Herzegovina, Croatia, Bulgaria and Greece. In total, since 2006, when the Czech company entered this territory for the first time with Czech systems, there have been orders for 172 million euros.

“Our current largest order in the Balkans is the supply of signalling and telecommunication equipment for the Croatian railway line Hrvatski Leskovac - Karlovac, worth 34.5 million euros. It is such an important order that not only Croatian Minister of Transport Oleg Butković, but also Prime Minister Andrej Plenković took part in the signing of the contract. Also in Montenegro, you will find our systems on the Podgorica - Nikšić line, including the complete signalling of the most important railway hub, Podgorica. Montenegro has even taken over part of the Czech regulations and also Czech standards in the field of signalling and telecommunication systems,” explains Zdeněk Chrdle.

AŽD continues to strive for contracts in its field of activity in the Balkans and demonstrates the quality of Czech solutions. “Currently, we have started offering a Czech novelty abroad in the form of the DIGITAL 4.0 intelligent railway, which is used, for example, by autonomous trains without drivers. We have it installed on our Plum Railway (Čížkovice – Obrnice), which keeps us abreast of modern world trends in the field of railway management and signalling,” concludes Zdeněk Chrdle.

Romania

Alstom to provide integrated metro system for the city of Cluj-Napoca in Romania

Alstom to provide system integration, signalling and telecommunication, power supply, track work, platform doors, security and control centre and cybersecurity platform

Alstom's Urbalis CBTC solution to enable first fully automated metro project in Romania

Alstom's contract share worth around €400 million

Alstom, global leader in smart and sustainable mobility, has signed a contract with the Cluj-Napoca City Hall for the construction of Cluj-Napoca Metro Line 1, in the Transylvania region of Romania, as part of a consortium with the civil works companies Gulermak and Arcada. The full value of this state-of-the-art turnkey project comes to around €1.8 billion, with Alstom's share reaching approximately €400 million.

Alstom will be responsible for the system integration, signalling and telecommunication, power supply and track work, platform doors, security and control centre, as well as implementing proven cybersecurity throughout the system. Alstom will deploy communications-based

train control (CBTC) supporting the highest grade of automation 4 (GoA4) for the first time in Romania, using its proven, high-capacity CBTC signalling solution Urbalis.

"I am extremely proud that Alstom will take part in the construction of the Cluj-Napoca Metro. It is another milestone in Alstom's long-standing presence and expertise in Romania. This is a very ambitious and innovative infrastructure project for the country. Cluj-Napoca Metro is one of the biggest turnkey projects in Europe, covering a solid portfolio of signalling and infrastructure solutions that showcase Alstom's leadership in sustainable urban mobility. Furthermore it provides an exciting opportunity to innovate in the Romanian market with the driverless metro – our international track record gives us the unique expertise needed for such a pioneering project," says Gian Luca Erbacci, President of Alstom Europe Region.

Line 1 of the new metro, to be completed over 8 years, will cover 21 kilometres and 19 underground stations. The first section, totalling just over 9 kilometres, 9 stations and an above-ground depot, will be financed through Romania's National Recovery

and Resilience Plan (NRRP), and will be completed in 4 years.

Upon completion, the Cluj-Napoca Metro will be Romania's first fully automated metro line. Deploying Alstom's turnkey metro system featuring integrated control centre, Urbalis CBTC technology supporting driverless operation and high-capacity service at 90 seconds headways, and state-of-the-art cybersecurity platform, will bring frequent, reliable and energy-efficient operation to the west-east connection and greatly improve green mobility across the city of Cluj-Napoca.

With over 50 years' experience and 80 turnkey systems in commercial service globally, Alstom is the world's leading partner for delivering integrated turnkey systems suited to every mobility need. Recent metro system highlights include Montreal REM, Riyadh Metro, Athens Line 4, Grand Paris Line 18, Toulouse Line C, Panama L2, Guadalajara Metro line 3 and Dubai Metro Route 2020.

Alstom is the world leader in the CBTC market, with its advanced and high-performance urban signalling solutions in service on

145 lines worldwide. In Europe, Alstom technology is already in use in Madrid, Milan, Lyon, Lausanne, Paris and Amsterdam serving various types of lines and grades of automation; and is currently being installed on numerous other lines, including Line 5 of the Bucharest Metro.

For almost 30 years, Alstom has been an innovative pioneer playing an important role in Romania's transition towards a modern and sustainable railway transport. From state-of-the-art digital rail control, to

infrastructure and electrification projects, along with metro and mainline rolling stock and the long-term maintenance of the metro fleet in the country's capital city Bucharest, Alstom is constantly making a difference in the mainline and urban rail transport in Romania.

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Hungary

The Hungarian railway corridor will be secured by the modern technologies of the AŽD company

The AŽD company has signed a contract with the Hungarian construction company V4SIL (part of the V-Híd holding) for the supply of modern signalling technologies and a unified European Train Control System ETCS L2 level for the Soroksár – Kelebia project.

This is the second, this time a major contract for the Hungarian railway network that the Czech company has contracted. The project is divided into two parts. The southern part of the section Fülöpszállás – Kelebia includes a total of 8 railway stations and adjacent track sections and is the primary part of the project. The

northern section of the line Soroksár – Fülöpszállás including a total of 10 railway stations and adjacent track sections was contracted as an option.

The AŽD company will supply and install digital station interlocking equipment ESA-44, including the integrated line signalling system ITZZ, LED signal lamps, level crossings and also stationary parts of the ETCS L2 system. The Hungarian company V4SIL (jointly founded by V-Híd and AŽD) will participate in the project in the area of development, production and installation of railway signalling equipment in accordance with local

regulations and legislation. The cooperation will include the application of Czech know-how and tools in the production of final equipment in Hungary, as well as the development of software specially adapted to Hungarian needs.

"We have been striving for this contract for a long time and it is very important for us. The project implementation time of 27 months is extremely demanding. In addition, the complexity of the entire project underlines the requirement to link the AŽD systems to the technologies of the Chinese contractor, which is implementing the

Serbian section of the line. Our goal is to win more contracts in Hungary. Since it is obvious that they value their own contractors here, we are following the strategic of cooperation with national companies," said AŽD CEO Zdeněk Chrdle after signing the contract.

Italy

Siemens Mobility receives large order from TX Logistik AG (FS Italiane Group)

Siemens Mobility and FS Italiane Group, together with its subsidiary TX Logistik AG, have signed a contract at the Transport Logistic trade fair in Munich for the delivery of 40 Vectron locomotives. The order includes full-service maintenance for 15 years plus an optional extension of service to the next respective revision. The parties also agreed on an option for ordering 25 additional locomotives. The locomotives will be built at the Siemens Mobility plant in Munich-Allach and are planned to haul freight along the Rhine-Alpine Corridor. The total order volume is around €300 million.

“We are especially pleased that we can now also count TX Logistik AG among our customers. With the Vectron, we are delivering a state-of-the-art, digitally networked locomotive that makes it possible to operate through five different countries stretching from the Rhine River to the Alps. Railigent X applications, part of the open, digital Siemens Xcelerator business platform, will enable condition-based, predictive maintenance of the Vectron fleet to secure its optimal reliability and availability,” said Michael Peter, CEO of Siemens Mobility.

The locomotives ordered by TX Logistik will have a top speed of 160 km/h and be equipped with the European Train Control System (ETCS) as well as the national train control systems for operation in Germany, Austria, Switzerland, the Netherlands, and Italy. Maintenance of the Vectrons will be handled in the Railcover workshop network located along the Rhine-Alpine Corridor.

To date, Siemens Mobility has sold more than 1,700 Vectron locomotives to 63 customers in 16 countries. The fleet has so far accumulated more than 700 million kilometers of service mileage. Locomotives based on the Vectron platform are approved for operation in 20 European countries.



Hong Kong

Wabtec Signs Modernization Deal with MTR

Wabtec Corporation has signed a deal to modernize 25 Mk3 Battery-Electric Locomotives for Hong Kong-based MTR Corporation. The order, valued at approximately £12 million, will extend the service life of the fleet, improve performance, and reliability.

“This order is a result of an extensive collaboration with MTR to define a project that will maximize the capital investment in the fleet,” said Garry Mowbray, Group Managing Director and Regional Vice President UK, Wabtec. “The tailored approach is designed to install the latest technologies where necessary to provide the greatest benefit to MTR’s fleet. This project provides an innovative and lasting transportation solution unlocking the potential of one of our strategic customers assets.”

MTR’s modernizations come as the company looks

to meet the growing demands on its transit network by maximizing and extending the capabilities of the locomotive fleet. The project strives to extend the service life of the locomotives by more than 15 years.

“With Wabtec’s extensive knowledge of this particular locomotive, I am confident that the project will be delivered on time and enhance the operational efficiency and performance of MTR locomotives.” said Mr. Kim-Hung Lee, Acting Chief of Operations Engineering Maintenance, MTR Corporation

Wabtec built the original locomotives for MTR in 1996 and 1997. Following a detailed feasibility study of modernizing these locomotives, the project focuses on three key areas. Wabtec will upgrade the locomotives existing control electronics and the motor alternator



control units, as well as replace the battery charger units. The control electronics upgrade also will include a datalogger, which provides comprehensive diagnostic capabilities. Additionally, Wabtec will design and build new automatic test equipment to ensure the newly refurbished electronic racks meet different modes of

operation.

Teams from Wabtec’s United Kingdom and Hong Kong offices are leading the project in collaboration with MTR. Wabtec is currently in the design phase and plans the first delivery in 2024.

Italy

ŠKODA GROUP AND TESMEC JOIN FORCES TO DEVELOP HIGH-PERFORMANCE AND SUSTAINABLE RAILWAY SOLUTIONS

Škoda Group, a leading European manufacturer of components and vehicles for public transport, starting a strategic technological cooperation with Tesmec Group, a renowned company specializing in infrastructure technologies. This collaboration, facilitated by Tesmec Rail, Tesmec's subsidiary dedicated to railway solutions, aims to revolutionize the railway working and diagnostic vehicles sector, creating cutting-edge, high-performance, and environmentally friendly products on a global scale. Deliveries of the 44 sets of components will be carried out between 2024 and 2028.

The railway industry plays a vital role in the energy and ecological transition, contributing significantly to the reduction of carbon dioxide emissions when compared to road transport. Supporting sustainable mobility is the focus of the partnership between Škoda Group and Tesmec Rail. This cooperation highlights the shared aim of both firms in growing their brands through a collaboration that places a strong emphasis on technical innovation. Full electric and hybrid propulsion systems, including gearbox based on energy storage integration,

will be supported by Tesmec rail vehicles equipped with Škoda Group's electrically powered traction solutions. In addition to reducing environmental effect, this integration also makes energy recovery possible.

"It is with great pleasure that we, together with Tesmec, a major player in infrastructure technology, embark on a journey to change the transport industry. At Škoda Group, we have always been driven by innovation. We are committed to pushing the boundaries. By equipping Tesmec's vehicles with our advanced traction equipment, we aim to redefine safety, reliability, and comfort in railway transport. This partnership is an important step in our joint efforts to provide seamless transportation solutions that have a minimal impact on environment. We also want to enhance safety on the rail and with those targets we are on the same board with Tesmec," describes Petr Novotný, The President Components & Bus Mobility at Škoda Group.

To produce a distinctive, integrated green solution that gives the customers an advantage in the markets

for diagnostic rail vehicles, catenary construction and maintenance vehicles, Škoda Group and Tesmec Rail modified their conventional products. Both businesses will strengthen the way they operate and increase their share of the market in the target regions by combining their business opportunities and encouraging collaboration. "When we talk about the future, sustainability and innovation are the two pillars, a winning combination between technological development and compliance with environmental policies. The challenge of green and sustainable technologies represents a great opportunity for an international company like Tesmec Group. There are many changes to face. Therefore, we require an accurate planning, "technological curiosity" and strategic collaborations such as the one with Škoda. It's a path that we will continue to follow with ever greater conviction," says Ambrogio Caccia Dominioni, the President and CEO of Tesmec.

The partnership between Škoda Group and Tesmec train got underway in 2020 after Tesmec Rail won the contract from RFI (Rete Ferroviaria Italiana) to provide

four electrified train cars for diagnostics on the Italian network. Taking advantage of this achievement, Tesmec Rail was awarded a second contract from RFI in 2022 to supply 44 railway trucks with electric gearbox and a bimodal propulsion system. With the help of this ground-breaking system, the vehicles can be powered both from a diesel engine-generator and at 3 kV DC (Lot 1) or at 25 kV AC (Lot 2). The technological developments that resulted in these key milestones were greatly aided by the work of Škoda Group.

This collaboration sets the stage for a new era of sustainable, technologically advanced railway solutions. Together, they will continue to push the boundaries of innovation, providing the railway industry with state of the art products that promote environmental responsibility and advance the future of transportation.

Spain

Alstom has been awarded a contract to implement Adif's innovation project on ERTMS for low density lines

Alstom, global leader in smart and sustainable mobility, has been awarded by Adif, railway infrastructure manager, a contract to develop a railway safety innovation project in Spain. The project, valued at €13.7 million, consists of the development of a new ERTMS (European Traffic Management System) system application designed explicitly for low density lines. The contract includes the installation and testing on a pilot line of the General Interest Railway Network (on the La Asunción Universidad-Guardo section, which is part of the León-Aranguren metric gauge line).

This R&D&I project, managed by Alstom's railway safety and signalling technology centre in Madrid, aims to develop a new application of the ERTMS standard for low density local and regional lines by introducing satellite technology -among others- and public telecommunications networks. The initiative proposes using novel train positioning systems (such as sensors

hybridisation, including satellite sensors) or public communication networks instead of GSM-R networks.

"It is a great satisfaction to once again develop a pioneering project with Adif. We were already the first to implement a level 2 ERTMS system without the support of level 1 on the high-speed network, to develop the first fully automatic train in operation in Spain, to implement ERTMS technology for suburban networks and to promote the monitoring of passenger flows in urban networks through Big Data. This new project reaffirms Alstom's position in Spain as a technological and innovative leader in rail safety and signalling," said Leopoldo Maestu, President of Alstom Spain and Portugal.

The European Traffic Management System is the most advanced train command and control system adopted by the European Union for signalling and communications

between the track and onboard equipment. The development and dissemination of this European system for rail traffic management has contributed in recent decades to safe and interoperable railway operation, with a large deployment on international lines. However, its adoption out of the mainline has been more limited due to its high cost and difficulty ensuring compatibility with the installed equipment.

This new system, which is now being developed with the innovation project, distinguishes itself by having less on-track equipment, while matching the safety performance of the ERTMS usually implemented on high-speed lines. Moreover, it is interoperable and homogeneous with the existing solutions. Secondary railway lines will benefit from the advantages and functionalities of the European standard: ERTMS significantly improves the quality of the service and its performance and conditions of reliability, quality and efficiency. In addition, it increases

the system's transport capacity by reducing the intervals between running trains and lowering operating costs.

Leader in signalling

This innovation project adds to the cutting-edge signalling projects that Alstom has been developing in Spain over the last two decades, including the commissioning of the first ATP on the Mediterranean Corridor, the first driverless railway system at Madrid airport, and the first ERTMS level 2 without level 1 support on the Albacete-Alicante high-speed line. Alstom in Spain has more than 650 experts for developing signalling solutions, two centres of excellence and test laboratories in Madrid, and project management centres in Leon, Sitges and Malaga. From its facilities in Spain, it develops and supplies digital signage and mobility solutions for more than 20 countries.

From the Archives

No. 1590 on the Trinidad tourist train in Cuba is seen at Iznaga on May 13th 2011. *Mark Enderby*

Cuba



From the
Archives

JHMD narrow gauge diesel No.
T47.011 seen on a train to Nova
Bystrice on July 4th 2008.
John Sloane

Czech
Republic



From the Archives

SNCF No. 63984 stands at Longeau depot with push pull stock on October 31st 1991. *John Sloane*

France



From the Archives

Germany

DB Class 218.452 approaches Oker in the Harz on April 30th 2010.
Mark Enderby



From the
Archives

Germany

Former DR Class 112.157 stands
at Köln Hbf with an RE7 service to
Munster on July 10th 2013.
John Sloane



From the Archives

Germany

HSB Nos. 99.5906 and 99.7245 race past Eisfelder Talmuhler on April 29th 2010. *Mark Enderby*



From the Archives

Germany

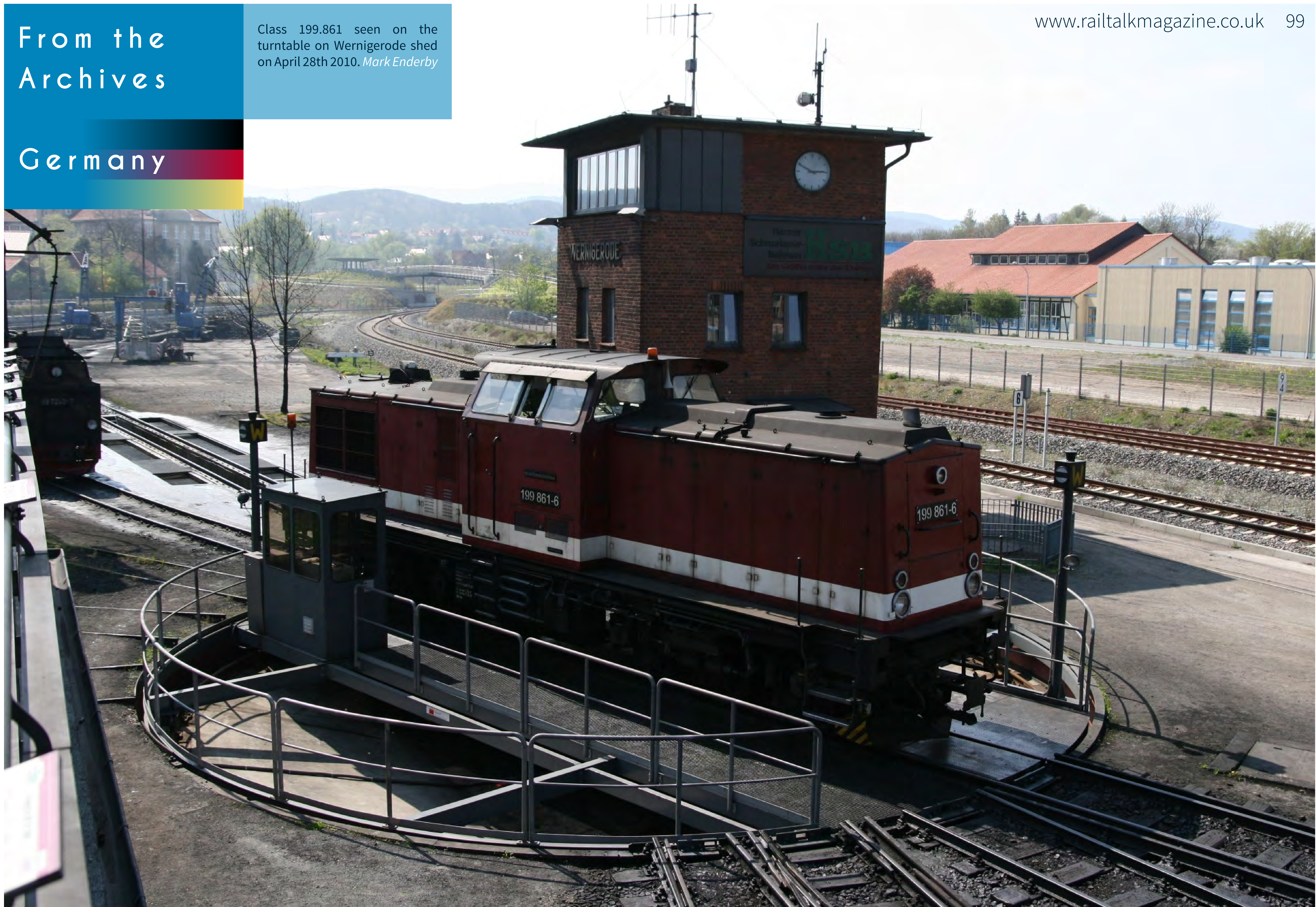
HSB No. 199018 is seen at Bertsdorf on May 1st 2012. *Mark Enderby*



From the Archives

Germany

Class 199.861 seen on the turntable on Wernigerode shed on April 28th 2010. *Mark Enderby*



From the Archives

Darjeeling Railway's No. 780 is seen on the outskirts of the town on October 13th 1998. *Mark Enderby*

India



From the Archives

Metre gauge YDM4 diesel loco No. 6426 calls at Mayuram Junction with the Cholan Express on August 15th 1980. *John Sloane*

India



From the Archives

FS No. 740-056 catches the first rays of sunshine at Cremona shed on the early morning of August 19th 1977.
John Sloane

Italy



From the Archives

PKP Class SM42-300 seen at Warszawa Główna on August 21st 1979.
Mark Enderby

Poland



From the Archives

On the Central Railway of Peru, diesels Nos. 432 and 435 await their next duties at the depot at La Oroya on December 8th 1981. *John Sloane*

Peru



From the Archives

ADIF Class 310.024 stands at Irun depot on June 10th 2012. *John Sloane*

Spain

