Railtalk Magazine Xtra

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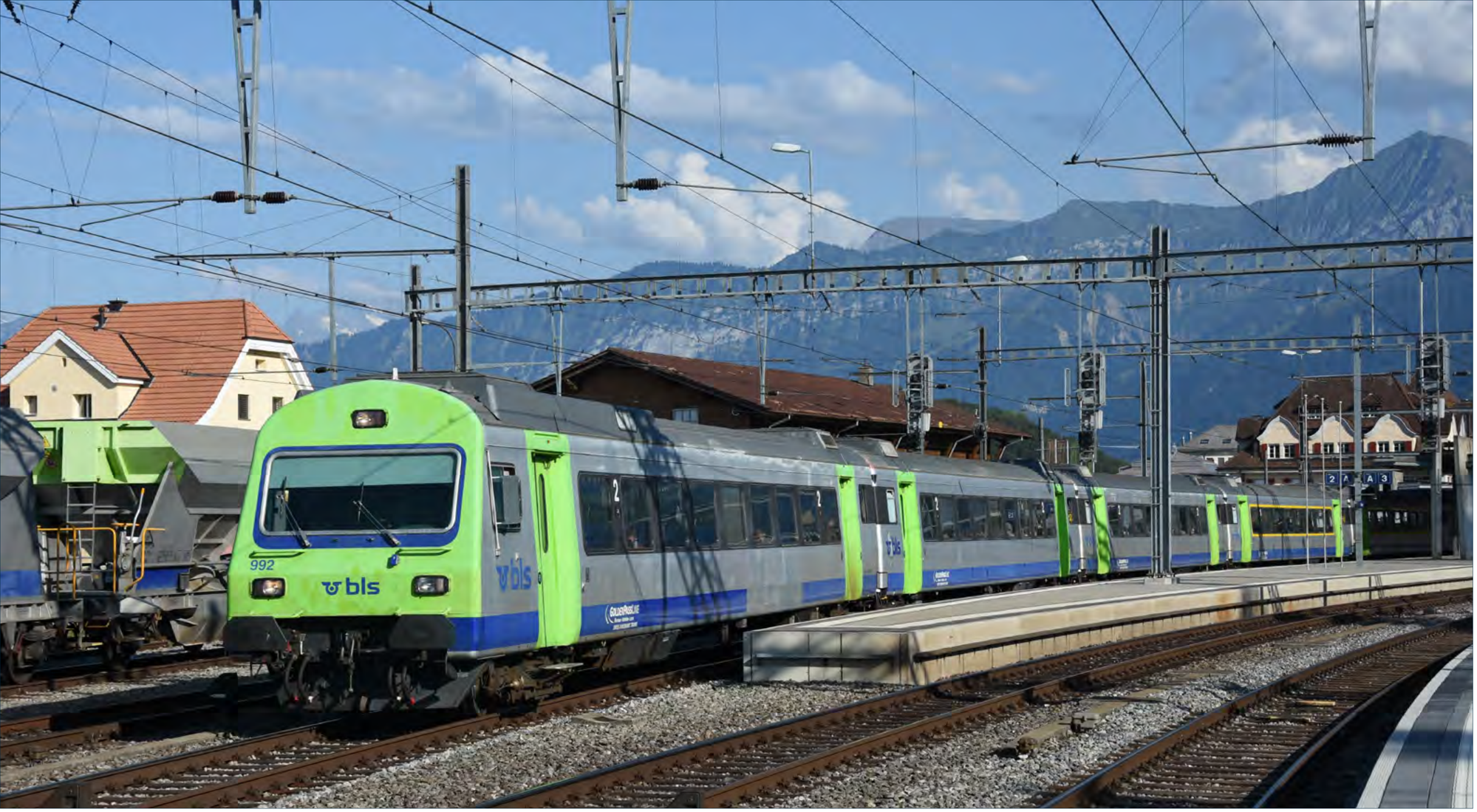

Railtalk Magazine Xtra

Welcome

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

We start this month with the news that in Russia a section for repairing Alstom traction equipment from EP20 locomotives has been opened at TMHs Novocherkassk plant. TMH said the EP20 locos supplied to Russian Railways under life-cycle based contracts were one of the most complex designs in service in Russia. The traction equipment has previously been repaired at an Alstom site in France. Meanwhile also in Russia, Novosibirsk suburban operator Express Prigorod has ordered two eight-car EP2D electric multiple-units for delivery from Transmashholding's Demikhovsky factory by the end of the year.

In the Netherlands, a new workshop has opened in Rotterdam, The Locomotive Workshop Rotterdam maintenance depot in the port's Maasvlakte 2 area was officially inaugurated on November 26th, it has been developed by a joint venture of manufacturer Siemens Mobility and leasing company Mitsui Rail Capital Europe, and will undertake preventive and corrective maintenance, inspection and enhancement of all kinds of electric locomotives owned by MRCE as well as third parties. It has six maintenance roads and eight stabling sidings served by a traverser. Sections of overhead electrification can be energised at all common European traction supply voltages, helping to meet

Content

Submissions & Contributions

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

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

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

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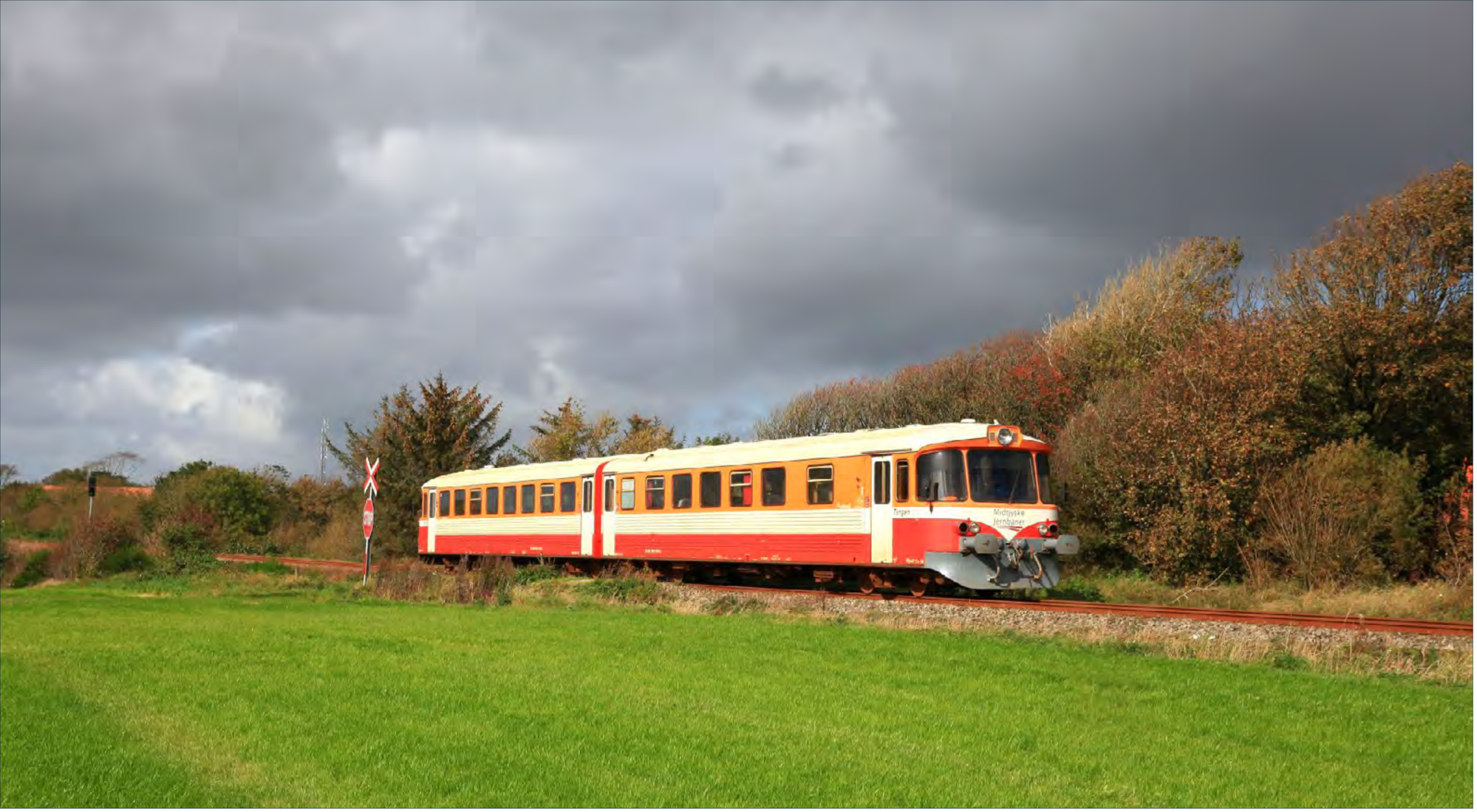
Front Cover
NAH.SH Class 245204 crosses the lifting bridge at Husum with a service for Hamburg Altona. *Steamsounds*

This Page
BLS EMU No. 992 departs Speiz with a service to Bern. *John Sloane*

Next Page
In the north of the Jutland peninsular is a private local railway operating from Vemb via Lemvig to Thyboroen. This is the last line were the famous Y-Togs are in regular service. Unit Ym 14 is seen here near Ramme station. *Thomas Niederl*



the increasing demand for the maintenance of complex cross-border locomotives. Roof-mounted solar panels meet 50% of the site's energy requirements.

Some exciting news from Austria where ÖBB has unveiled the interior designs for the sleeping car and couchette vehicles in its Siemens-built Nightjet overnight trains which are scheduled to enter service from 2022. Developed with customer feedback following public consultation using compartment mock-ups at Wien Hbf in 2016, the interior accommodation is intended to 'combine eco-friendly travel with a pleasant atmosphere and a touch of futuristic design', in 'a timeless, chic and needs-oriented' configuration, the operator explained. Thirteen 7-car Nightjet rakes are being supplied under a €1·5bn framework agreement between ÖBB and Siemens Mobility with delivery completed by 2023.

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

David
Editor

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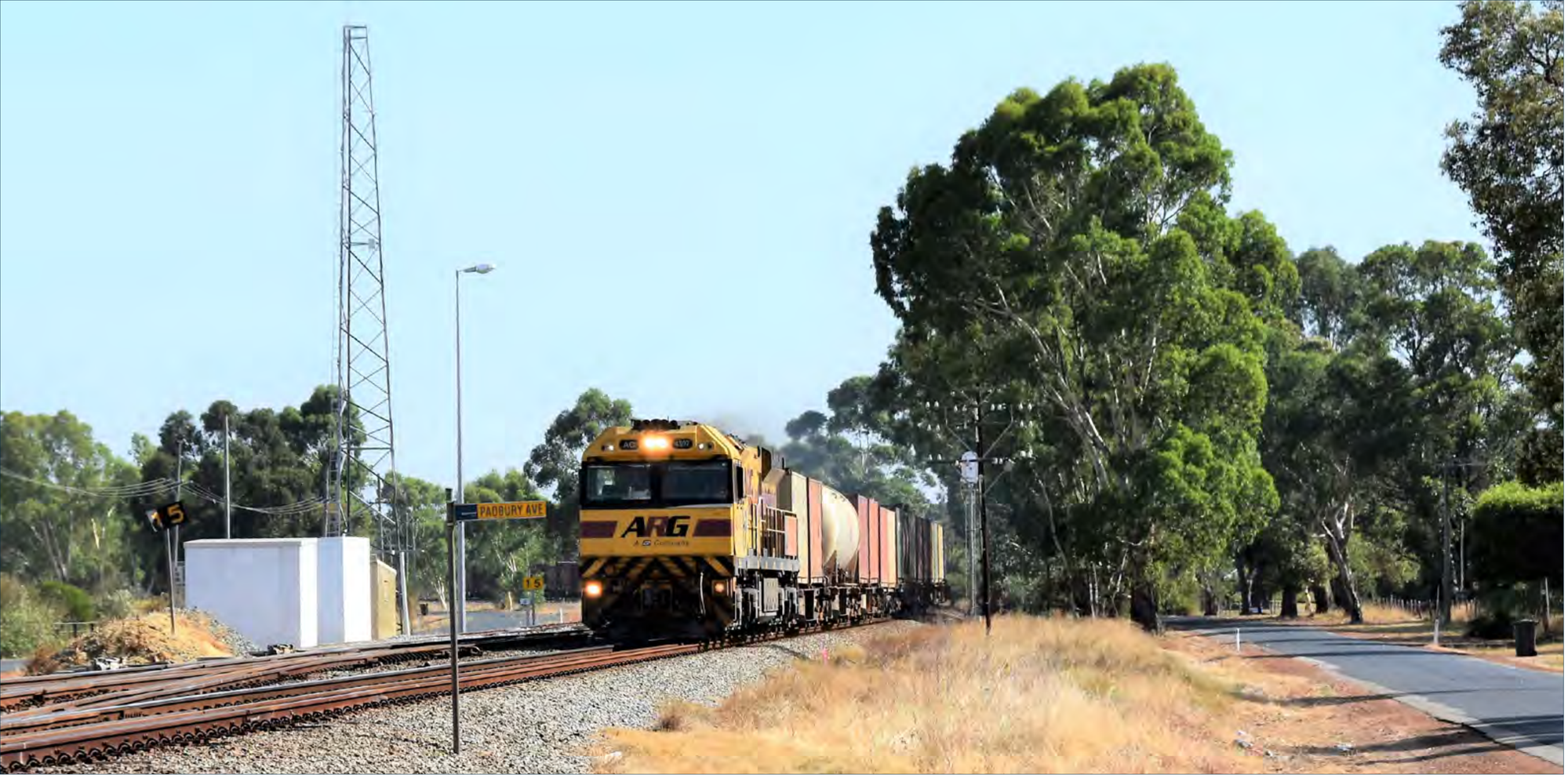
With Thanks

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

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

CBH Group's Nos. CBH002 and CBH013 are nearing their destination of the CBH unloading facility at Kwinana Port where their load of grain will be off-loaded and sent for export.
Colin Gildersleve

Transperth A series 2-car EMU No. 335 leads a classmate into the Thornlie terminus. Early next year the Thornlie branch is due to be extended through to the Mandurah line at Cockburn.
Colin Gildersleve



Aurizon's No. AC4307, in an old ARG livery, is seen at Millendon Junction with a mixed freight from Kalgoorlie to Kwinana. *Colin Gildersleve*

Alstom to supply driverless trains and digital signalling system for Sydney Metro extension to City and Southwest

The Northwest Rapid Transit Consortium (NRT) has reached contractual close for the extension to the existing NRT Public Private Partnership (PPP) contract on Sydney Metro. The contract, which was awarded in 2014, has been extended to deliver a seamless customer experience on the new metro, with NRT to operate and maintain the full metro line from Rouse Hill to Bankstown - in total 66 kilometres of rail and 31 metro stations by 2024. Alstom has signed a contract with NRT to supply the rolling stock and signalling system for the next stage of Sydney Metro, Sydney Metro City and Southwest. The project is an extension of the Metro North West Line, which successfully opened to customers in May 2019. Under the contract, valued at approx. €350 million, Alstom will be responsible for the project management, design, supply, manufacturing, testing and commissioning of 23 six-car fully-automated Metropolis trains and the Urbalis 400 Communication Based Train Control (CBTC) signalling system. The trains will be manufactured in Alstom's manufacturing centre in Sri City, India which successfully delivered 22 Metropolis trains for the Metro North West Line. The contract also includes an option to purchase further trains if required.

"Sydney Metro has been a game changer for the travelling public of Sydney and Alstom is delighted to continue to be a part of this iconic project. It strengthens Alstom's position as the market leader for the supply of railway technologies in Australia." said Ling Fang, Senior Vice President of Alstom Asia-Pacific.

As an extension of the existing Metro North West Line, the NRT PPP will provide a fully integrated turn-up and go service along a dedicated 66-kilometre metro network with a total of 31 stations from Rouse Hill through the City and to Bankstown. The Metro North West Line operator, Metro Trains Sydney, will be responsible for the operations and maintenance of the entire line.

The City and Southwest extension includes a 15km greenfield line with seven new stations plus the conversion of the existing suburban rail line to metro rail standards, covering a further 13km of track and 11 existing stations. The project also includes expansion of the current Sydney Metro Trains Facility at Rouse Hill and a new trains facility at Sydenham. Construction of the new line is currently underway with revenue service expected to start in 2024.

The Metropolis trains and digital signalling systems for the City & Southwest project will include the same design and features as the North West Line, designed to meet the specific needs of Sydney. According to the specifications, the new trains will meet strict sustainability criteria; a robust lightweight structure, low energy consumption, high levels of recoverability and recyclability, technical reliability and ease of maintenance. The trains will also be equipped with remote sensors for optimal maintenance planning.

Alstom has put sustainability and the passenger at the heart of its design process. The trains for Sydney will be built with the safety and comfort of passengers in mind, offering accessibility, wide doors and spaces to facilitate passenger flow, acoustic comfort, vibration mitigation and passenger information in real time.

Watco Australia's Nos. G511 and FL220 are seen at Kenwick with train No. 4142 a transfer intermodal from Forrestfield to the container port at Fremantle. *Colin Gildersleve*

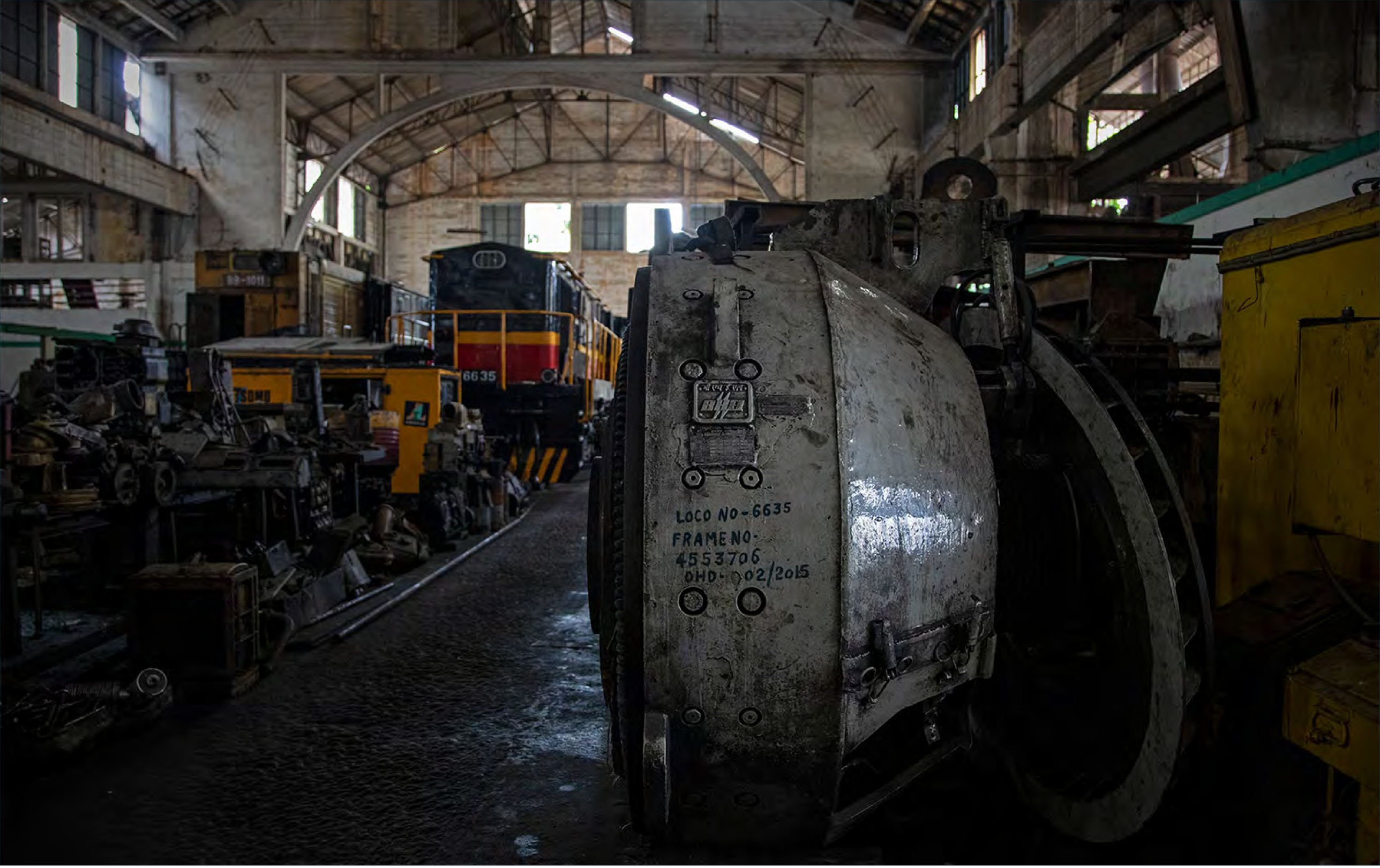
On November 13th, Aurizon's narrow gauge No. S3310 is approaching the Wellard loop with empty Alumina hoppers. This train will layover in the loop and await the passage of a loaded train in the opposite direction before continuing on to the Alcoa mine site. *Colin Gildersleve*

Belgium

A well graffited SNCB AM66 No. 650 stands at Welkenraedt having just arrived from Aachen Hbf. *Steamsounds*

Cambodia

On October 4th, No. 6697, an Indian YDM4 which was previously hired to KTM in Malaysia but has now been bought by Royal Railways Cambodia, sits in Phnom Penh works receiving some maintenance. *Mark Torkington*



No. 6635 and its main generator sit separately in Phnom Penh works on October 4th. *Mark Torkington*

No. BB1051 is surrounded by other Alsthom locos in storage at Phnom Penh works, October 4th. *Mark Torkington*

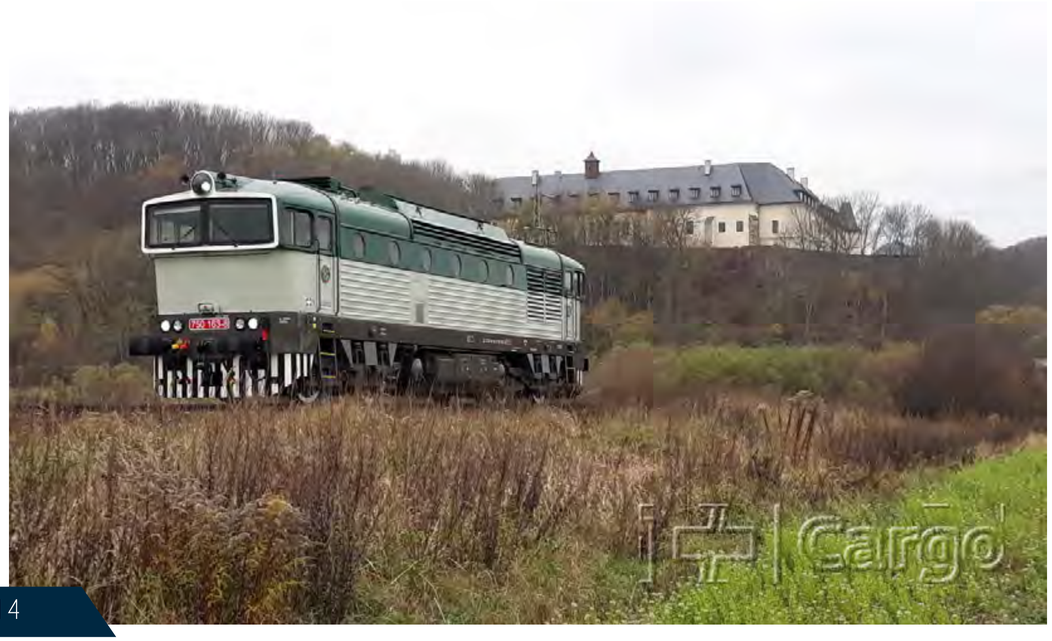
Cambodia

Chinese built No. BB1061 sits outside Phnom Penh works, October 4th. *Mark Torkington*

Czechia

CD Class 163.098 arrives into Prerov with a terminating service from Olomouc. *Class47*

750.163 in retro livery



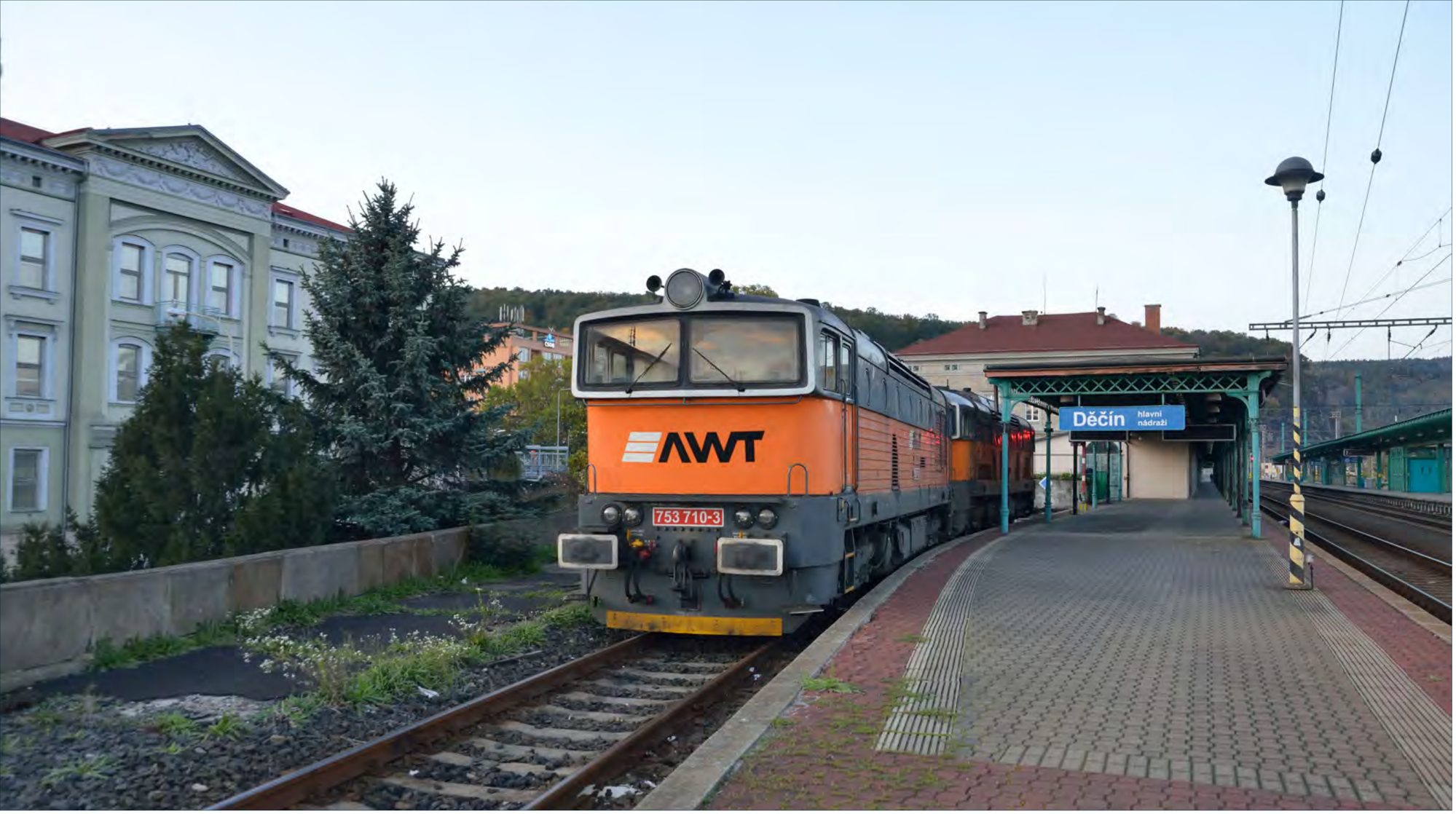
This year, ČD Cargo has invested heavily in the repairs of Class 750 series locomotives. These are carried out, based on the tender, in ŽOS Zvolen, where they have extensive experience in repairing this class.

As part of the repair, locomotive No. 750.163 has been painted with a green-gray retro livery. This is not a return to the original color combination, as this locomotive would have left the production plant in red, which was later exchanged for ČD Cargo's "corporate motive". The retro coating aims to remind the tradition of production of these locomotives in CKD Prague.

The locomotive will be deployed on freight trains in the PJ Brno district.

Photo: ©CD Cargo

Czechia



AWT Class 753.710 is seen stabled at Decin hl.n. on October 12th. *Class47*

Introduction of new TRAXX locomotives

On November 21st, the management of ČD Cargo had the opportunity to see the first two new locomotives TRAXX MS 3 in Kassel, Germany. The locomotives are part of the purchase agreement signed in August 2018. The first locomotive will be transferred to the Czech Republic for testing in the coming weeks.

The ČD Cargo delegation was led by Zdeněk Škvařil, Member of the Board of Directors responsible for operations, and Martin Šimek, CFO. The locomotives were also seen by Radek Nekola, Member of the Supervisory Board and David Votroubek, Member of the Presidium of the Federation of Train Drivers.

“I am pleasantly surprised by the production status of the innovative multi-system locomotive,“ said Zdeněk Škvařil. “We are honored to be the first carrier to deploy this modern interoperable locomotive on its freight trains in the Czech Republic.“

“We are very happy to celebrate this important milestone with such a large delegation of key stakeholders, “ said Michael Fohrer, President of Central and Eastern Europe and Israel in Bombardier Transportation. “We are now taking the final steps to complete the locomotives - and we look forward to introducing them into regular operations with the help of ČD Cargo.“

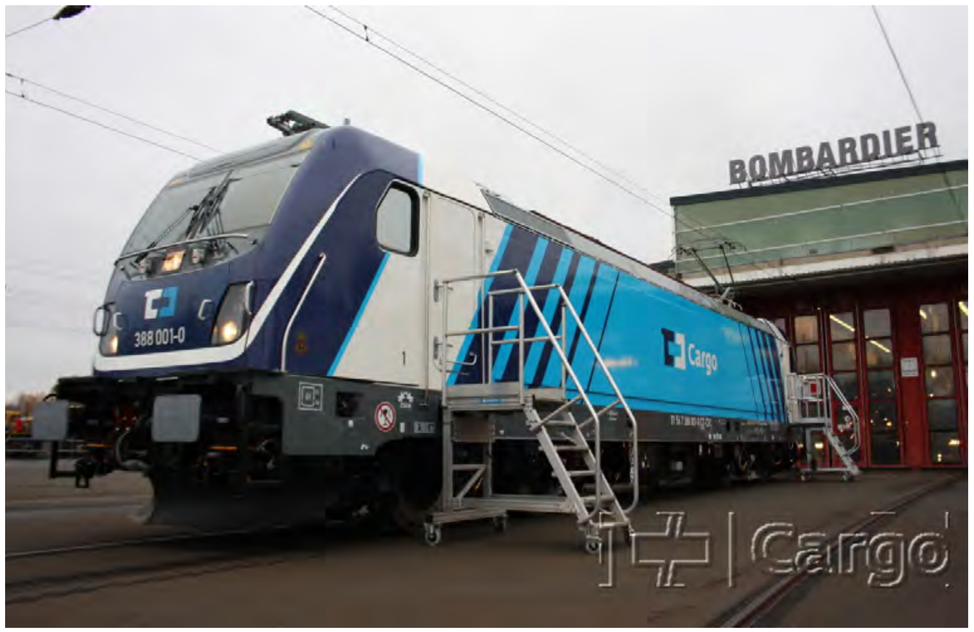


Photo: ©CD Cargo

Czechia

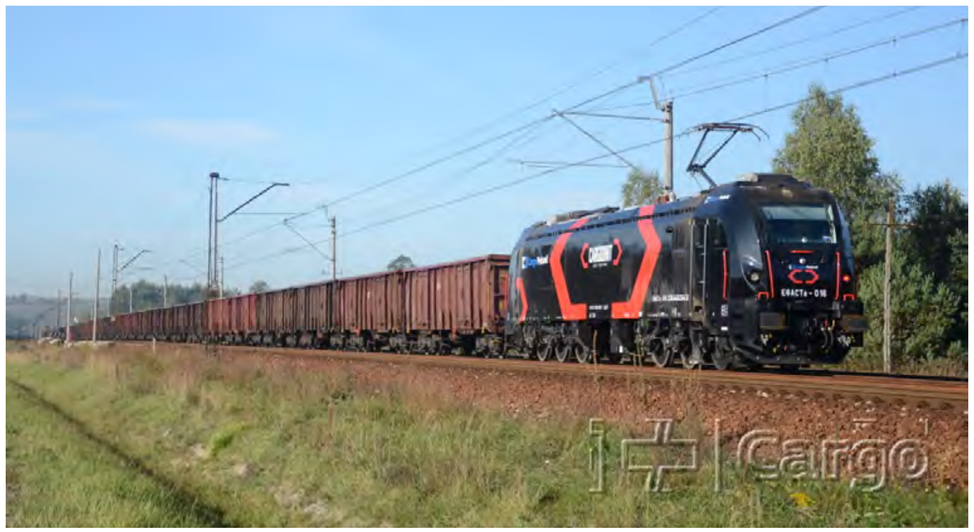
Class 740.614 approaches Praha Liben with a rake of cement tanks. *Class47*

CD Cargo Poland modernizes its locomotive fleet

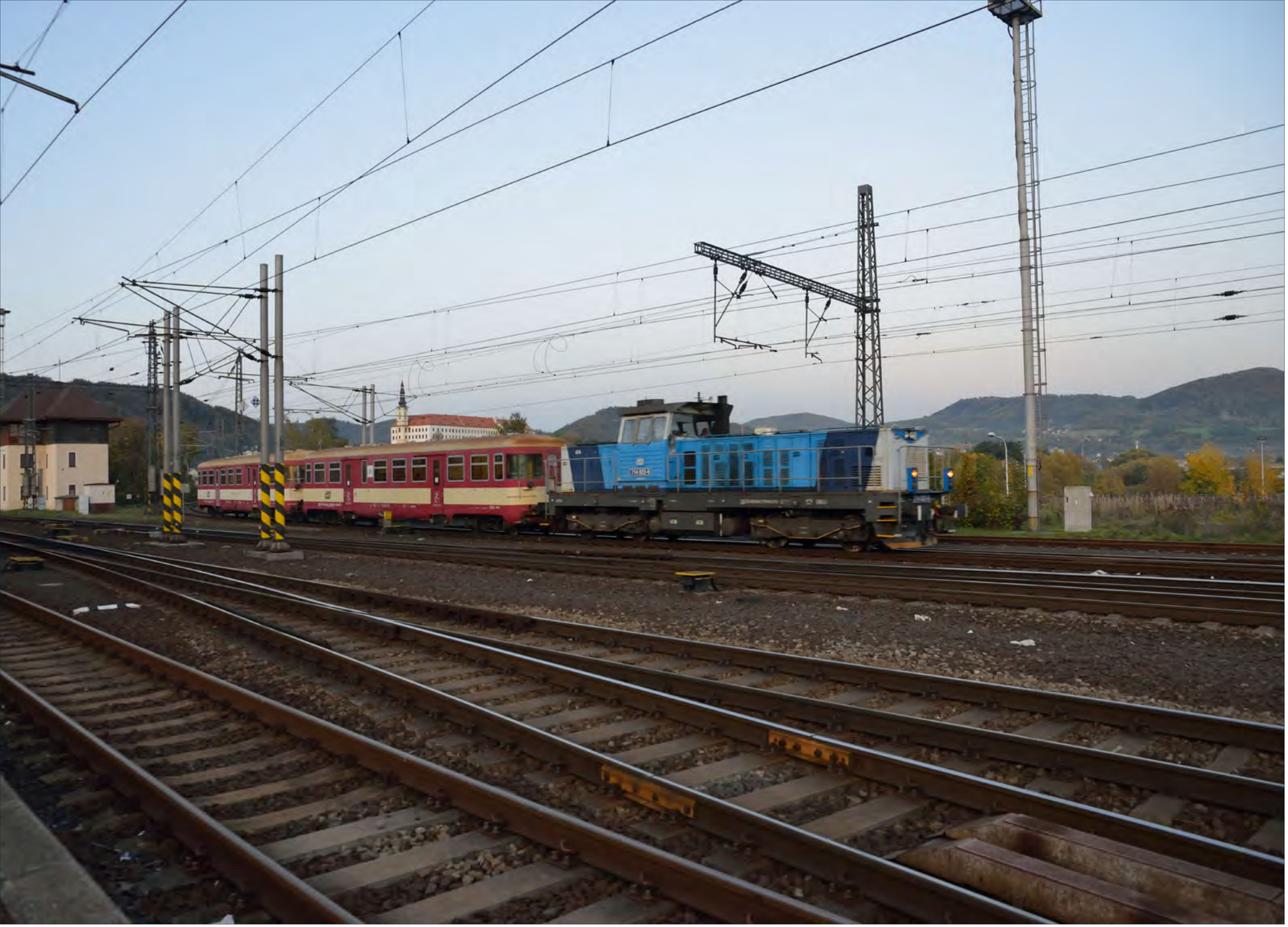
A 100% subsidiary of CD Cargo operating on the Polish market - CD Cargo Poland - is modernizing its locomotive fleet. Modern six-axle E6ACT locomotives called “Dragons” are used for heavy coal trains from Silesia to the Kozienice power plant.

CD Cargo Poland has already rented three of these locomotives from the Industrial Division, including the most modern E6ACTa-16 locomotive made in NEWAG Nowy Sącz meeting all the requirements of the TSI.

Photo: ©CD Cargo



Czechia



CD Class 714.023 arrives into Decin hl.n. with a terminating service. *Class47*

CZ LOKO has been awarded the title 'Safe Enterprise', so far just for its Jihlava establishment

The joint-stock company CZ LOKO establishment in Jihlava,has been ranked among the few Czech companies that fulfilled the criteria for the title Safe Enterprise. The award was awarded in October by the State Labor Inspection Office.

"Since October 2016, when this idea was first heard, we have done a great deal of work in asset management. The title awarded is just proof of that. Gradually we will extend the standards to other establishments, the next one will be Česká Třebová, " says Michal Krauman, Head of the Integrated Management System CZ LOKO.

The Safe Enterprise program has existed in the Czech Republic since 1996 and currently only 81 companies hold the certificate. The title confirms that its holders take the safety and health of their employees seriously and are as important to them as economic indicators.

The Safe Enterprise award is only valid for three years and must continue to be defended. A supervisory audit is performed once a year. At the same time, the company is under increased supervision of occupational safety inspectors. This leads companies to further develop and build the established occupational health and safety management system.

Denmark

In the north of the Jutland peninsular is a private local railway operating from Vemb via Lemvig to Thyboroen. This is the last line where the famous Y-Togs are in regular service. Unit Ym 14 is seen here in the station of Ramme working the train No. 4061 to Vemb.
Thomas Niederl

Denmark

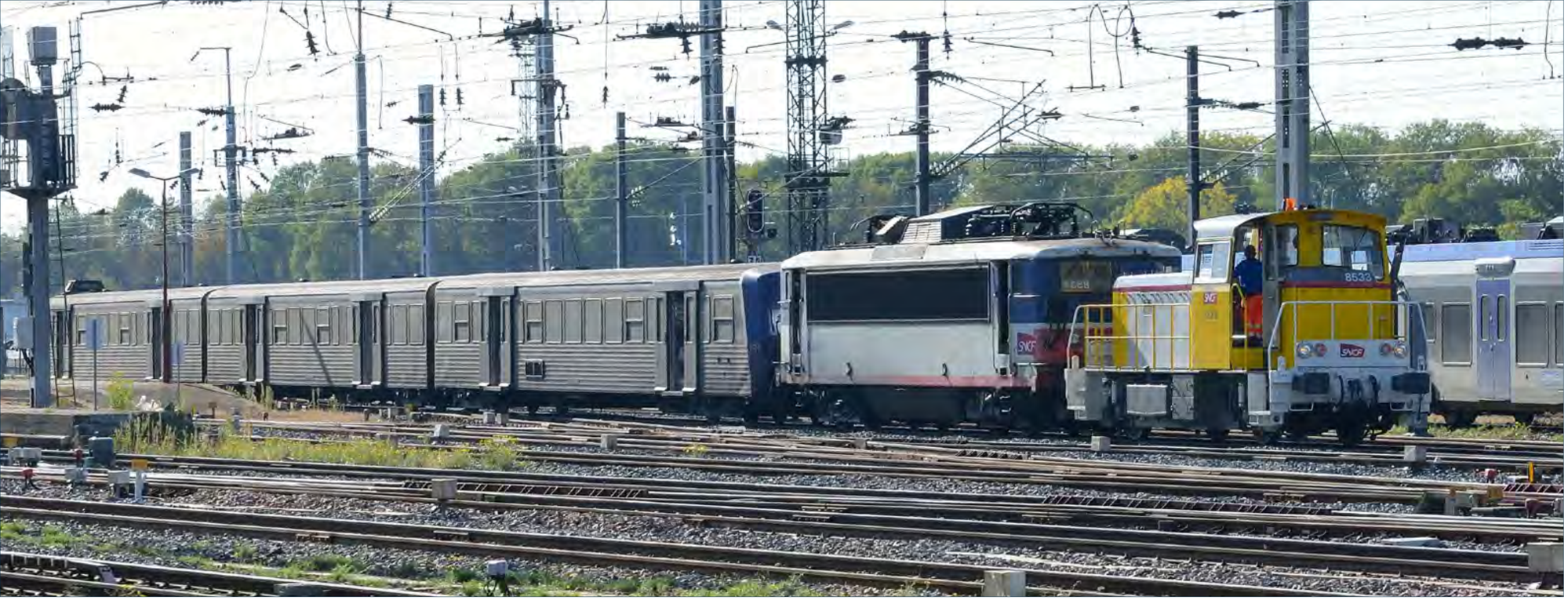
No. MG5862 is one of the notorius Ansaldobreda IC 4 units. On October 2nd, the unit is working train No. R1528 from Kalundborg to Oesterport and will pass the halt at Lejre in a few seconds.
Thomas Niederl

Denmark

Some services on the Kalundborg Line are operated by push/pull trains, hauled by ME Class locos. On October 2nd, ME No. 1504 has just called at Lejre, and continues to Holbeak with train No. R2553. *Thomas Niederl*

Denmark

On October 2nd, DSB ER Nos. 2137 and 2006 approach Roskilde station with stopping service No. R4320 from Slagelse to Oesterport. *Thomas Niederl*



Alstom-Bombardier consortium awarded contract to renew the metros of the Île-de-France region

The Alstom and Bombardier consortium has been awarded the contract to design and manufacture the new generation of metros for Île-de-France Mobilités and RATP[1]. The confirmed part of the contract covers the delivery of 44 trains for a sum of over 530 million euros. This may be supplemented by an options exercise for a total of up to 410 trains. The respective share for Alstom and Bombardier amounts to approximately 265 million euros, or 50% of the total.

Initially, the new trains will be deployed on three Paris metro lines (3bis, 7bis and 10) and their entry into service will take place between 2024 and 2026. The options will then be used to equip 5 other lines (13, 12, 3, 8 and 7).

“I am honoured that Île-de-France Mobilités and RATP have chosen to trust us to renew travelling comfort on the historic lines of the Paris metro. Together, we want to turn the region into the world’s showcase for the cutting-edge technologies of the French rail sector,” says Jean-Baptiste Eyméoud, President of Alstom in France.

“The combined expertise of our two companies makes it possible to offer RATP and Île-de-France Mobilités a metro equipped with the latest on-board technologies that is part of tomorrow’s modern mass transportation. Passengers will appreciate the special attention paid to the interior atmosphere, level of comfort and quality of on-board services. In addition to optimal performance and reliability, the MF19’s innovation lies in its modularity and scalability adapted to the existing Paris network,” says Laurent Bouyer, President of Bombardier Transport France.

Based on Alstom’s and Bombardier’s steel-wheeled metro solutions, the new trains will benefit from the latest technological developments to increase comfort, availability, accessibility and passenger information, as well as facilitate maintenance.

The fleet will consist of 30 five-car trains for line 10 (76m long) and 14 four-car trains for lines 7bis and 3bis (60.86m long). These first 44 trains will have a driver’s cabin. Each train will be in “boa”[2] configuration with modern passenger information systems, large bay windows and themed, 100% LED lighting. The trains will also offer a pleasant, safe travel experience, with a heating and air conditioning system, USB sockets for charging mobile devices, video protection cameras throughout the entire train, etc.

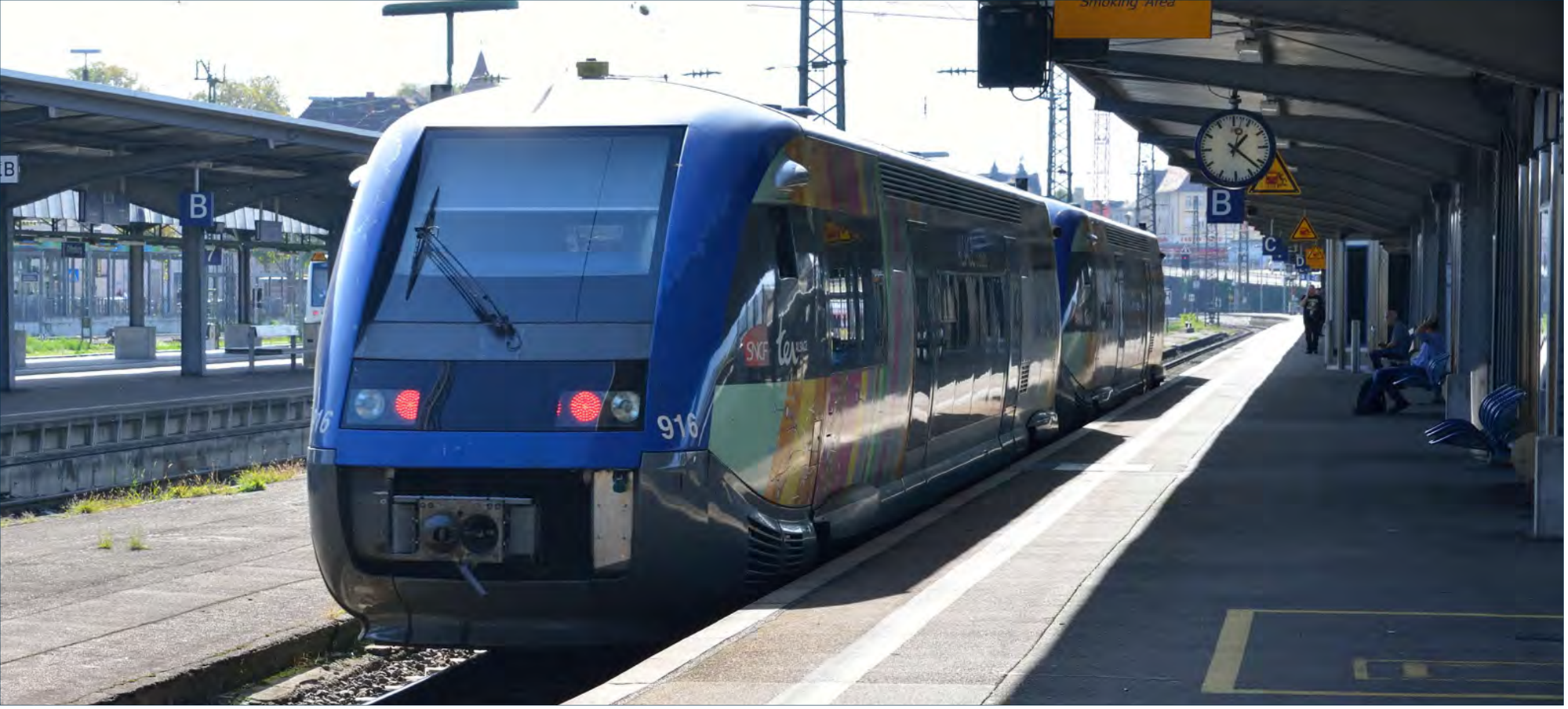
The environmentally friendly new metros will be eco-designed (20% recycled materials used in their production), making them 98% recoverable at the end of their lifespan. They will consume 20% less energy than the trains currently in service (MF77) thanks in particular to 100% electric braking and 100% LED lighting. These new trains will also make it possible to reduce maintenance costs by 15% compared to the MF01. 2,300 people at Alstom and Bombardier, including 700 engineers, will work on the project as part of the consortium. The two sites of Valenciennes (Alstom) and Crespin (Bombardier) will respectively assemble the complete trains to address the challenge of industrial capacity. Each site will be in charge of studies, design, train assembly, testing/validation and certification.
Alstom’s sites will develop and produce the engines (Ornans), traction chains (Tarbes), on-board electronics (Villeurbanne) and IT safety systems (Aix en Provence). Bombardier’s site at Crespin will be responsible for designing the mechanical components of the trains, such as body shell design and the design and production of the bogies, as well as the air conditioning system and all components contributing to the design of the interior layout to ensure passenger comfort, such as lighting, seats, configuration of space and panelling equipment.
In total, this project will involve 9,000 jobs in the French rail sector.

[1] The order award is subject to contract and final confirmation.
[2] Trains with open interior circulation

SNCF shunter No. 8533 is seen moving BB No.25602 and its stock at Strasbourg on October 14th. *Class47*

SNCF BB No. 22259 carries out a spot of shunting at Strasbourg, in preparation for the evening rush hour. *Class47*

France



A pair of SNCF Ter Alsace DMUs with No. 916 leading stand at Offenburg having just arrived with a service from Strasbourg. *Class47*

Alstom to construct the new metro for the Métropole Aix-Marseille-Provence

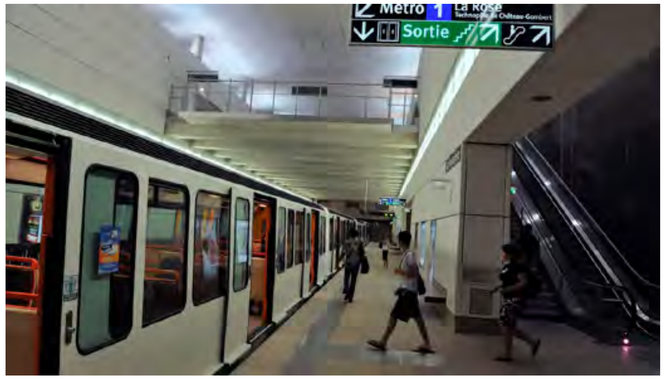
Alstom is to carry out the renewal and automation of Marseille metro for the sum of 430 million euros financed by Métropole Aix-Marseille-Provence. As part of this contract, Alstom will develop, supply and install the operating system and equipment for the automatic operation of the network's two lines. Alstom will also commission 38 new rubber-tyred metros (4 cars) and modernise all the audiovisual passenger information inside the stations. The new trains are scheduled to enter service in early 2024. The trains will run in semi-automatic mode with drivers until mid-2025 on line M2 and until 2026 on line M1, before switching to full automation.

"It is a great honour for us to contribute to modernising the mobility offer of Métropole Aix-Marseille-Provence. Our metro experts are already at work on several of our French sites to get started quickly with developments," says Jean-Baptiste Eyméoud, Senior Vice-President France at Alstom.

The new trains, based on Alstom's rubber-tyred metro solutions, will incorporate the latest technological developments to increase comfort, availability, accessibility and passenger information, as well as facilitate maintenance. Each 4-car train, 65 metres long and in "boa"[1] configuration, will be able to carry up to 500 passengers[2]. The sleekly designed trains will feature large bay windows, a highly efficient air conditioning system and modern passenger information systems, providing a pleasant on-board experience. Alstom called on Marseille designers Ora-ïto and Fabien Bourdier for the design and the sound conception of the new trains.

Three designs were proposed to the Metropole Aix-Marseille-Provence, which chose to set up an Internet consultation to give residents the opportunity to give their opinion on the design they would like to see selected. The new metros for Marseille are environmentally friendly and will be eco-designed, enabling them to be 96% recoverable at the end of their lifespan. They will consume 25% less energy than the metros currently in service, thanks in particular to electric braking, LED lighting and other optimisations.

For the automation system, Alstom will provide its Urbalis 400 solution, already deployed on more than 1,500 kilometres of metro lines worldwide. The Marseille metro will benefit from a proven, continuously improved system (on-board computers equipped with the latest technology, vital computers that are over 99% available, beacon tracker, etc.).



Alstom currently equips 25% of the CBTC[3] metro automations in service (60 lines, including 28 fully automated lines).

In total, more than 400 people in France will work on this project, including more than 60 in Métropole Aix-Marseille-Provence. Jobs will also be generated at our suppliers in France, but also in the Métropole for the installation and deployment of the signalling system.

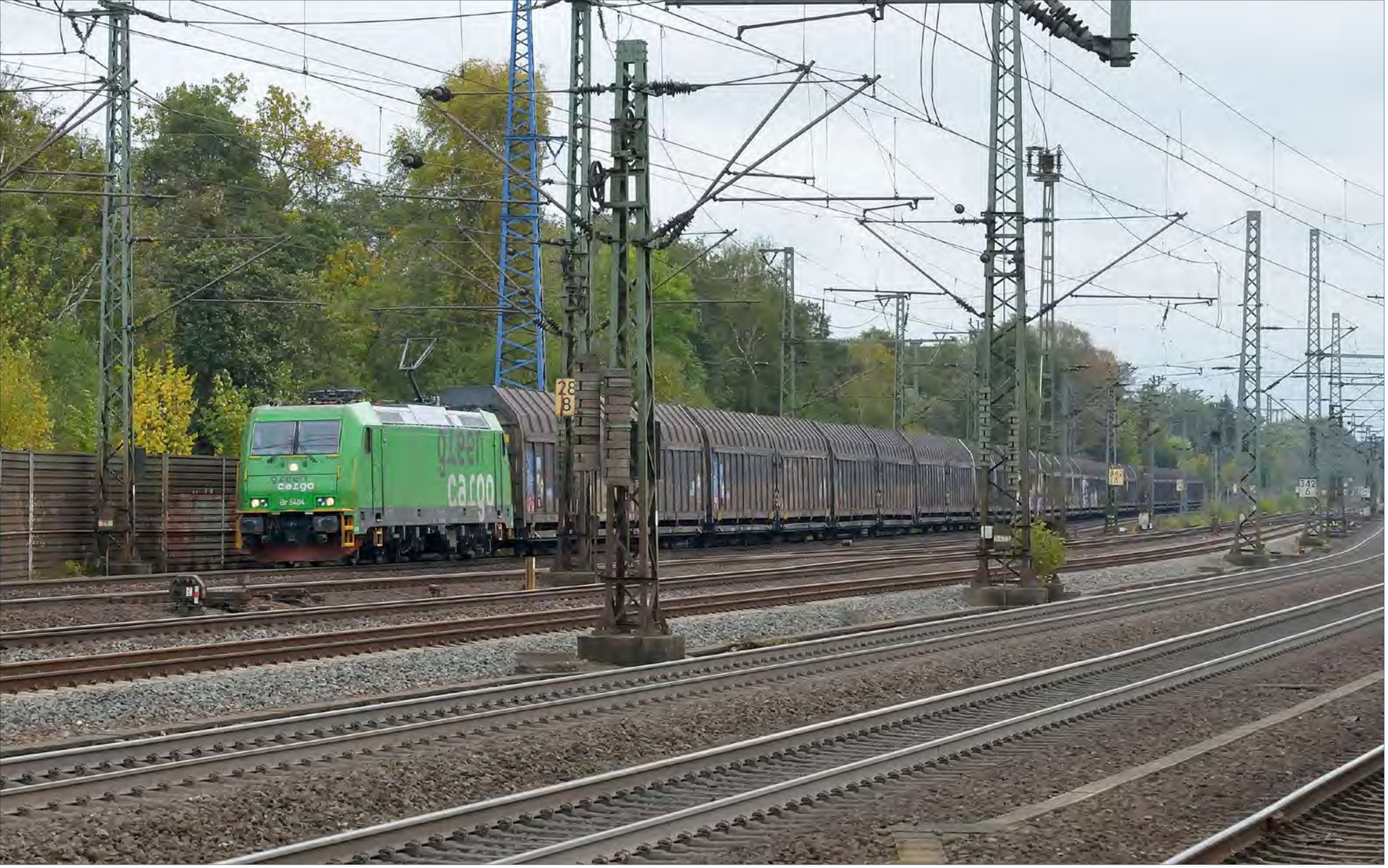
Alstom will draw on the excellent skills of six of its French sites: Aix-en-Provence for the project management, Valenciennes for the design, interior layout, assembly, tests and validation of the trains, Ornans for the engines, Le Creusot for the bogies, Villeurbanne for the on-board electronics, passenger information, predictive maintenance and signalling system equipment, and Saint-Ouen for the coordination of the artistic design, development and integration of the signalling system.

[1] Trains with inter-car circulation

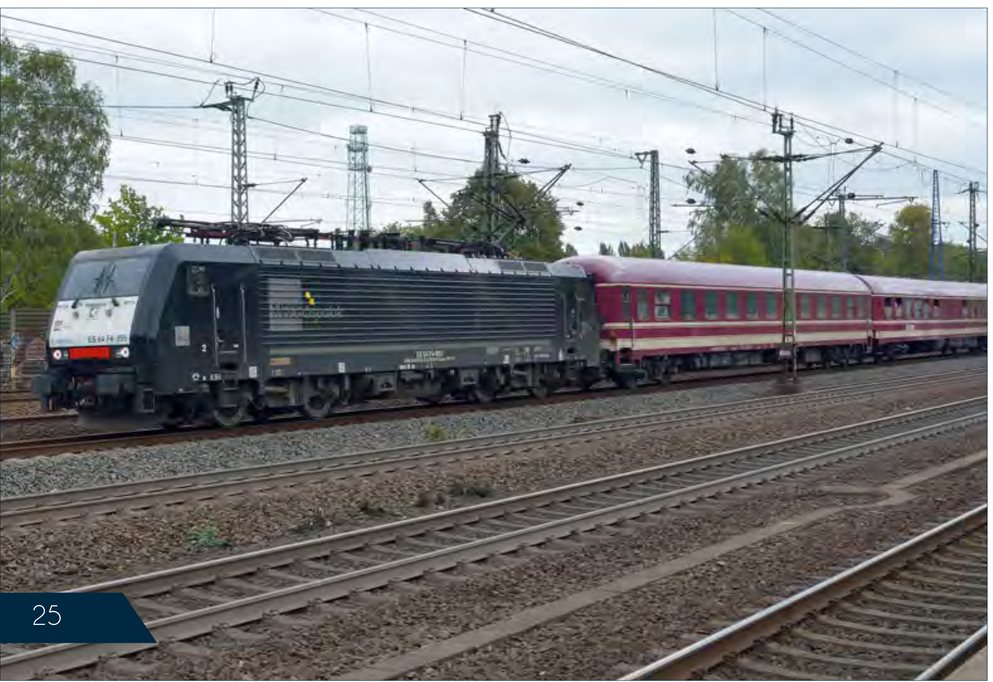
[2] 4 passengers / m2

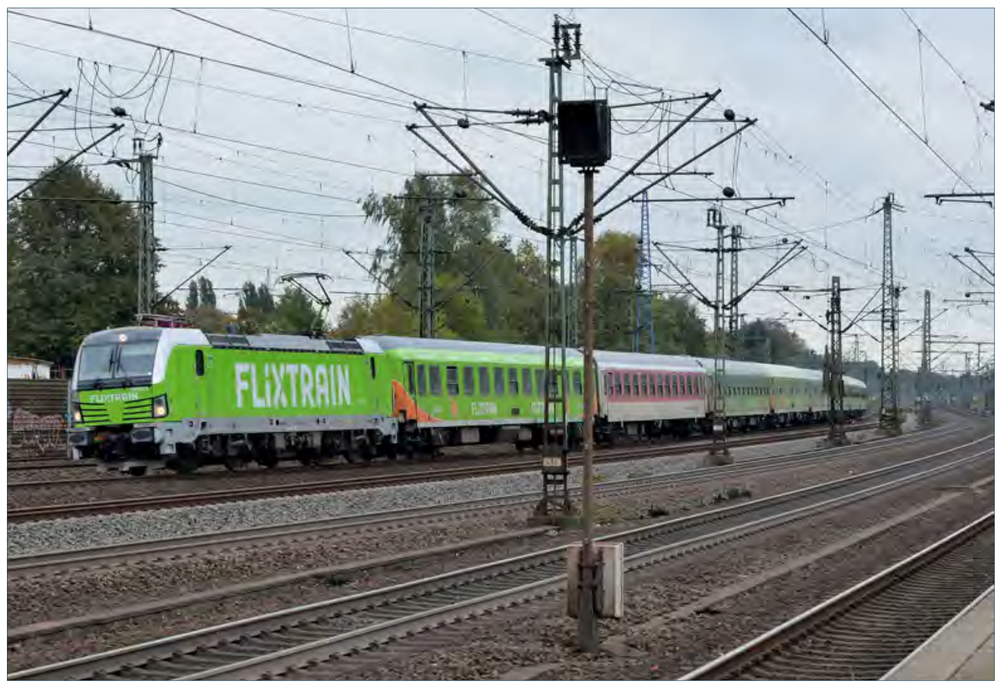
[3] Communication Based Train Control: automatic control system based on continuous radio communication between the train and the control centre

Germany



Green Cargo's No. Br5404 hauls a rake of Cargowagons through Hamburg Harburg on October 11th. *Class47*





Heading for Hamburg Hbf, Flixtrain liveried Vectron Class 193.990 speeds its assortment of carriages through Hamburg Harburg. *Class47*

Dispolok Class 189.095 hauls a 'Euro-Express' charter through Hamburg Harburg. *Class47*

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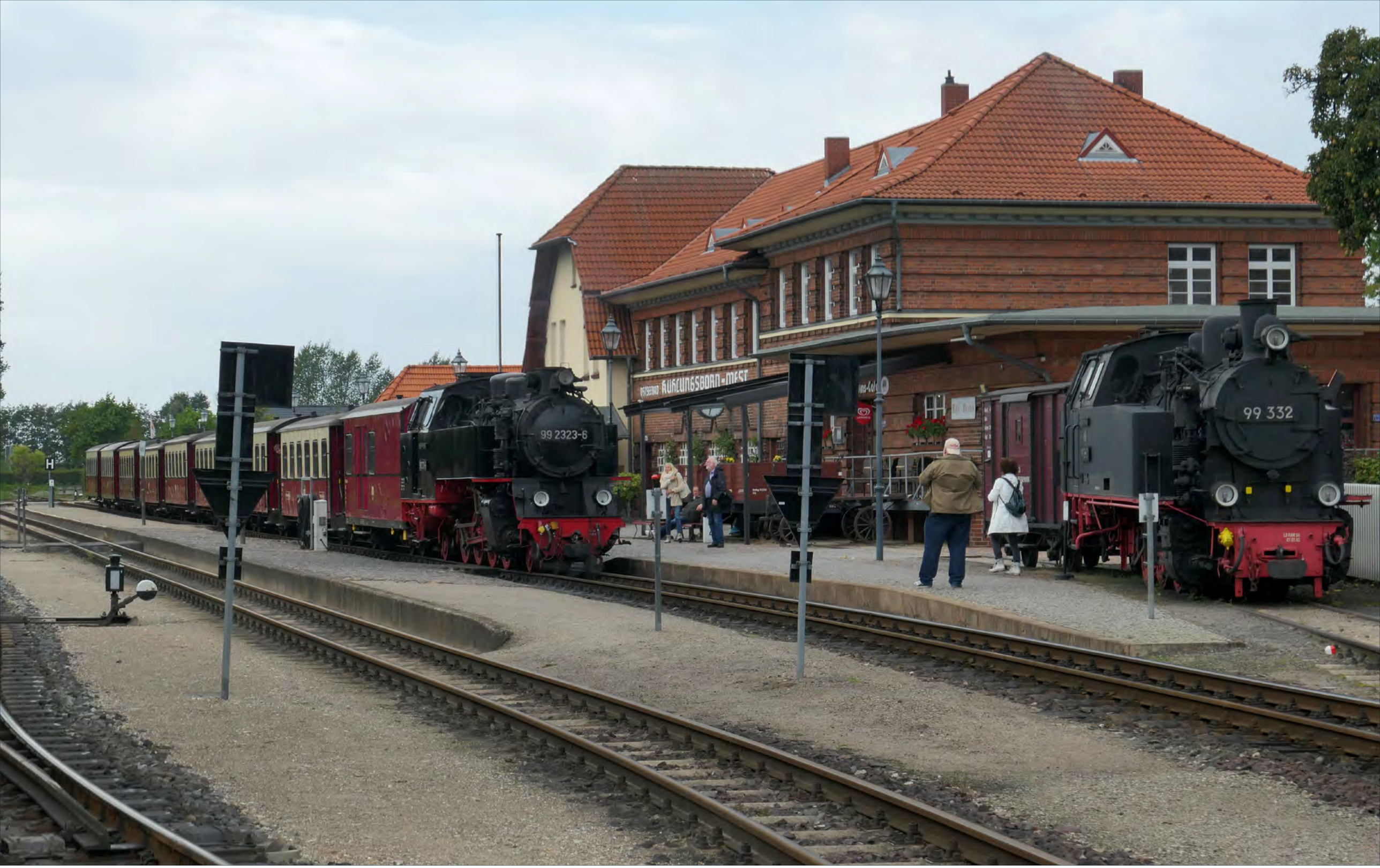
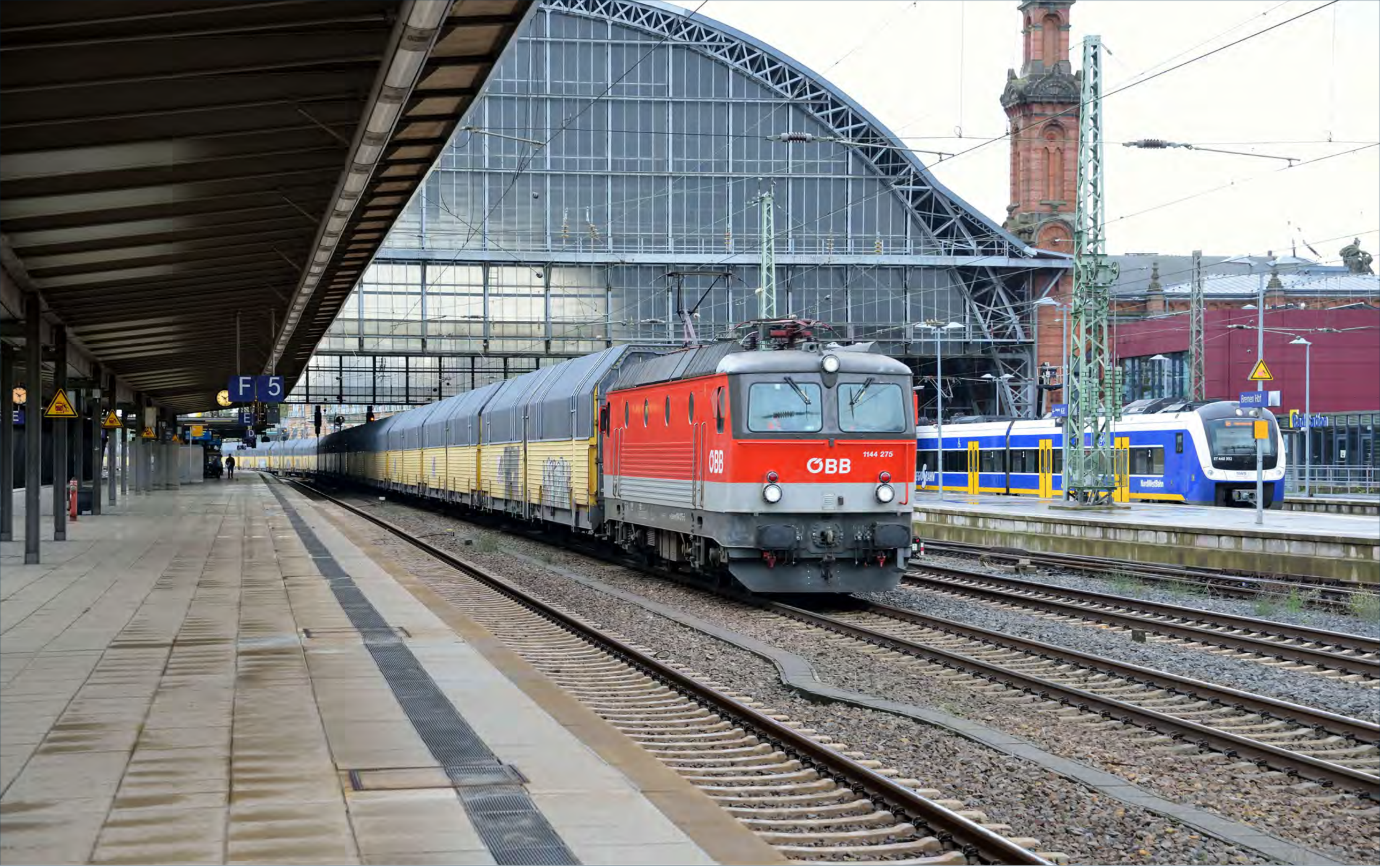
Germany

Class 245.214 stands at Husum whilst working a service to Westerland(Sylt). *Steamsounds*



Mecklenburgische Bäderbahn – MBB dampflok No. 99.2323 waits at Kühlungsborn West whilst No. 99.332 is seen on display outside the museum. *Steamsounds*

Class 246.006 stands at Cuxhaven with train No. RE14510 for Hamburg Hbf. *Steamsounds*



On October 11th, OBB Class 1144.275 is seen hauling a car train through Bremen Hbf. *Class47*

Mecklenburgische Bäderbahn – MBB dampflok No. 99.2321 runs through the streets at Bad Doberan. *Steamsounds*

Germany

EBS Class 132.334 speeds through Hamburg Harburg hauling a rake of fuel tanks. *Class47*

Green light for S4 from Altona to Bad Oldesloe

The federal government and the states conclude financing agreements

Hamburg's first mayor Peter Tschentscher, Schleswig-Holstein's Prime Minister Daniel Günther, Federal Transport Minister Andreas Scheuer and Bahn-Chef dr. Richard Lutz have signed in Berlin the financing agreement for the construction of the rapid-transit railway line S4 (east). The future S4 (East) connects Hamburg-Altona with Bad Oldesloe in Schleswig-Holstein. Through the new catchment area, around 250,000 people will be connected to the Hamburg S and U network via the new line. Because the S-Bahn will run on its own tracks, the goods and long-distance traffic between the two federal states gains significantly in capacity. For both passenger and freight transport between Hamburg and Lübeck this means more reliability and punctuality as well as the potential to shift traffic from road to rail.

The total costs for the S4 (East) amount to approx. 1.847 billion euros. The financing agreement signed stipulates that the federal government will contribute approximately € 1.557 billion to around 84% of the costs. 70% of the countries' share of around 290 million euros is in Hamburg and 30% in Schleswig-Holstein. Deutsche Bahn will contribute 20 million euros to the project. Due to the importance of the Hamburg-Lübeck route for the pan-European transport infrastructure, the Länder are also seeking co-financing from the European Union (EU).

Hamburg's first mayor Peter Tschentscher said at the signing: "The future S4 between Altona and Bad Oldesloe creates a fast and comfortable rail connection for up to 250,000 citizens in Hamburg and Schleswig-Holstein. This relieves the strain on the road and improves mobility for all. "By 2035, more than 50 kilometers of new S-Bahn and U-Bahn routes are to be built in Hamburg, including in particular the S4 and the planned subway line 5." The improvement our mobility is the central theme of Hamburg politics in the next decade, "said Mayor Tschentscher. "The S4 is a major project that will significantly improve commuter traffic between Hamburg and Schleswig-Holstein and relieve Hamburg's main station. Together with the German government and Deutsche Bahn, we have found a good solution for financing this important North German mobility project. "

Photo: S-Bahn trains of the most modern generation will run on the S4 between Hamburg and Bad Oldesloe. ©DB

Schleswig-Holstein's Prime Minister Daniel Günther was pleased to see that "on one of the most important railway connections in Schleswig-Holstein, a noticeable improvement will now finally come from a new S-Bahn system." Günther pointed out that the state of Schleswig-Holstein lengthy negotiations and by future changes in the law could have achieved a very good result. Of the total cost of 1.847 billion euros, the country would take only 5.1 percent. "This will give us a new transport system that will benefit many people on the railway line between Hamburg and Lübeck," said Günther. Jungfernstieg and Landungsbrücken in Hamburg can be reached from Bad Oldesloe via Bargteheide and Ahrensburg. Schleswig-Holstein wants to finance its share through the IMPULS program, which has a total investment volume of around 3.1 billion euros. The program, which has existed since 2015 and has since been extended several times, is aimed at the rehabilitation and modernization of the infrastructure in Schleswig-Holstein. "

Federal Transport Minister Andreas Scheuer: "Mega investment in the north. Our commitment: Around 1.5 billion euros for the new S-Bahn line 4. Public transport in and around Hamburg is becoming more direct, easier and more punctual. We relieve the central station and we create more space for long-distance and freight traffic. With federal funds, Hamburg and Schleswig-Holstein can now start the project together with Deutsche Bahn. A huge win for commuters and travelers."

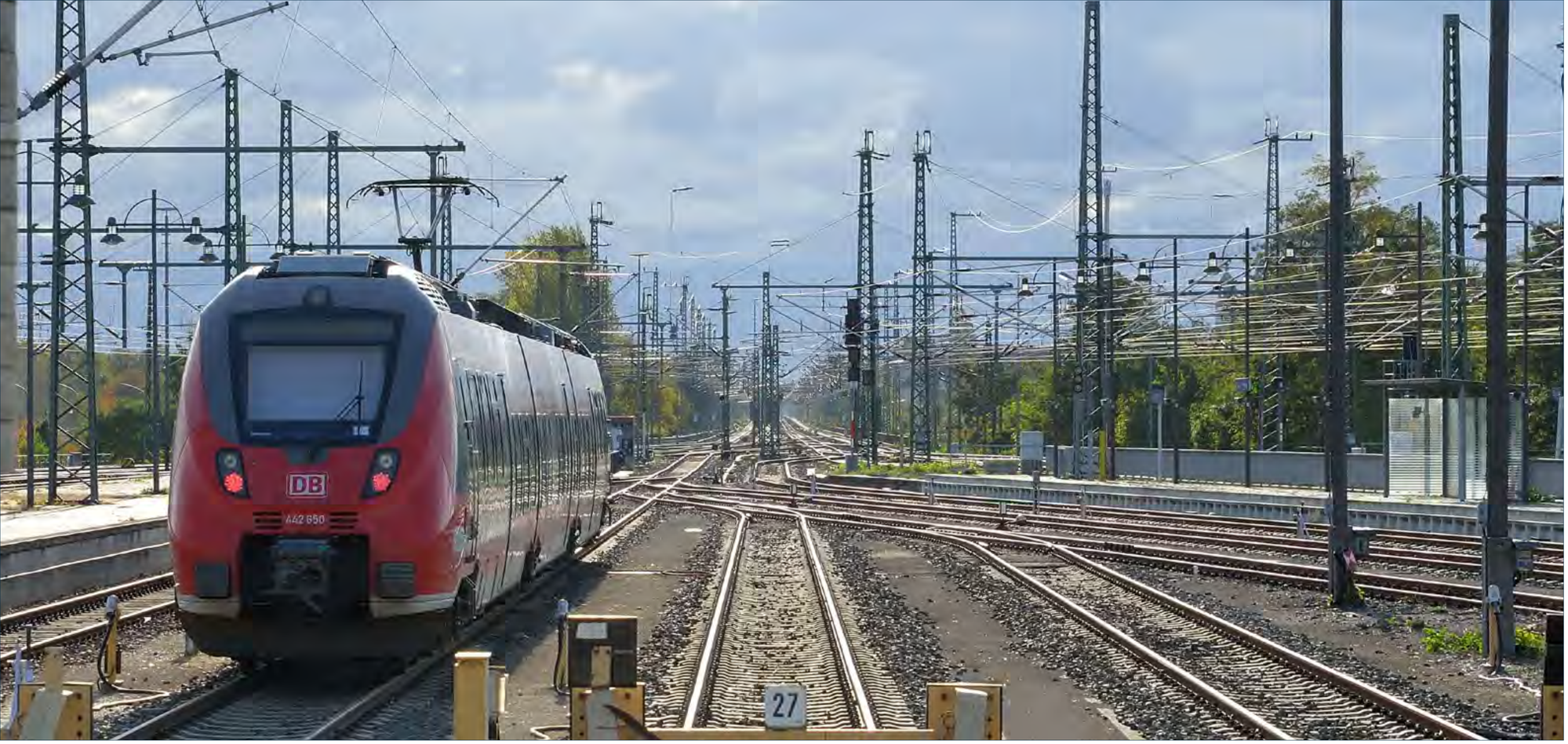
Dr. Richard Lutz, CEO Deutsche Bahn AG: "With the S4 we are creating a strong track between Hamburg and Schleswig-Holstein. 250,000 people will benefit from the fast and environmentally friendly connection. At the same time, we relieve the burden on Hamburg's main railway station significantly and thus ensure more reliability in train traffic for all travelers. With the financing agreement reached today, the first milestone has been reached. Now we want to build and roll up our sleeves! "

There are expected to be 100,000 passengers per weekday on the S4 (East). After completion of the first planning approval process, construction could start in 2020. A partial commissioning of the route from Hasselbrook to Rahlstedt is planned for 2025. The total commissioning could take place at the earliest 2027/2028. The construction period is also dependent on which restrictions of the current rail traffic are possible.

The total length of the S-Bahn line from Hamburg-Altona to Bad Oldesloe is approximately 36 kilometers. The project comprises a double-track new line construction on a length of approx. 17 kilometers (to Ahrensburg) and a single-track new construction from Ahrensburg to Ahrensburg-Gartenholz. One third of the extension (about 7 kilometers) is located in Schleswig-Holstein, two-thirds (about 13 kilometers) run in the Hamburg area: from Hasselbrook to the border between Rahlstedt and Ahrensburg. In Hamburg, four new S-Bahn stations are planned: Claudiusstraße, Bovestraße, Holstenhofweg and Pulverhof. In Schleswig-Holstein, the suburban train station Ahrensburg-West is to be rebuilt.

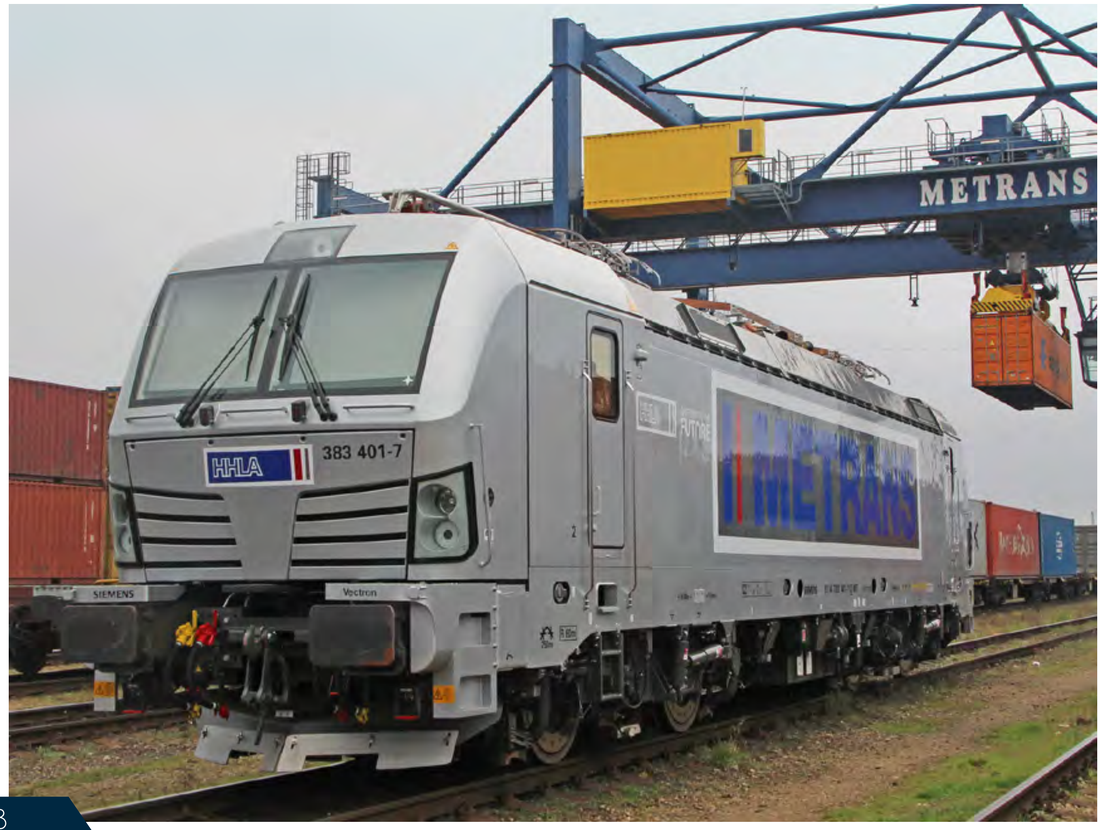
According to the current state, the S-Bahn will travel in the future to Ahrensburg every 10 minutes, to Bargteheide every 20 minutes and to Bad Oldesloe every 60 minutes.

Germany



DB Regio Class 442.650 rests between duties at Dresden Hbf. *Class47*

NEW VECTRON LOCOMOTIVES FOR METRANS



Metrans, a subsidiary of Hamburger Hafen und Logistik AG, has received the first Vectron MS locomotive at the Metrans container terminal in Prague. The vehicle is part of an order of ten multi-system locomotives. They are being manufactured in the Siemens Mobility factory in Munich-Allach and will be delivered in full by spring 2020. Metrans will deploy the new Vectron locomotives in transnational freight traffic across Central and Eastern Europe.

"We are very happy to have received the first of ten Vectron locomotives from Siemens Mobility at our location in Prague. The expansion of our locomotive fleet to nearly 100 vehicles highlights our commitment to grow with the transport flows of the future. The flexibility of the Vectron locomotives makes it possible for us to deliver on our promises to customers even faster and more reliably," said Martin Horinek, Chief Operational Officer of the Metrans Group, on the vehicle's arrival. "We are delighted to be handing over this Vectron locomotive to Metrans exactly on schedule. However, our work does not end with the production and handover of the locomotive. We see the reliability of vehicles in their daily operations as an essential condition for our customers' satisfaction. We offer the availability of spare parts with guaranteed delivery within 24 hours and an experienced local service team. That is why we appreciate Metrans's decision to cooperate closely with us on the maintenance of the progressively supplied locomotives," said Roman Kokšal, CEO of Siemens Mobility Czech Republic, in Prague.
The new locomotives for Metrans reach a maximum output of 6.4 MW and a top speed of 160 km/h. They are also set up with the required national train control system as well as the European Train Control System (ETCS). The locomotives are allowed to operate in Austria, the Czech Republic, Germany, Hungary, Poland and Slovakia. Future upgrades for operation in Bulgaria, Croatia, the Netherlands, Romania, Serbia and Slovenia are also possible.

HSB dampflok No. 99.234 heads away from Eckerloch, climbing towards the Brocken. *Steamsounds*

DB launches new services at 16 future stations

Travellers and visitors expect digital offers, new waiting areas and an attractive station environment • DB invests 17 million euros • Starting at Wolfsburg Central Station

Deutsche Bahn wants to increase the satisfaction of its customers at the station with new services. Travellers and visitors can look forward to innovative offers, better service and better information over the coming months at 16 selected future stations. The starting point is the main railway station at Wolfsburg. For more than two years, DB is providing around 17 million euros for the Zukunftsbahnhöfe, including Ahrensburg, Berlin Bornholmer Strasse, Berlin Südkreuz, Coburg, Cottbus, Freising, Hamburg Sternschanze, Halle (Saale) central station, Haltern am See, Heilbronn central station, Hofheim , Münster (Westf.) Main Station, Offenbach Marktplatz, Renningen and Wernigerode.

“For a strong track, we create modern train stations where every guest feels welcome. At Zukunftsbahnhöfe we try to find out how we can best meet customer requirements. What arrives good, can become the standard at railway stations in the future, “says Bernd Koch, CEO of DB Station & Service AG.

Central to this is the close cooperation with the cities, municipalities and local partners. “The main station is for many travellers their first stop in Wolfsburg. I’m glad that he now gets a new face, “said Lord Mayor Klaus Mohrs. “The future station is a first step for the further development of the Nordkopf to a district of the future.”

In future, customers in Wolfsburg will experience a new waiting pavilion with standing workstations, elevators that digitally report whether maintenance will be necessary, and waste bins with sensors that transmit the filling level. A moss wall should contribute to the improvement of the climate. In Wolfsburg, the “new voice of the stations”, Heiko Grauel, can be heard for the first time.

Testing at other stations includes self-service bicycle repair stations, charging station or bench seats, color codes or guidance via app, better shopping and e-scooter parking.

All future stations are operated with 100 percent green electricity. In the future, free Wi-Fi will also be available and improved digital traveler information. The future stations can be happy to say the opinion on bahnhof.de/zukunftsbahnhof or by QR code in the station.

What awaits travellers and visitors at Wolfsburg Central Station

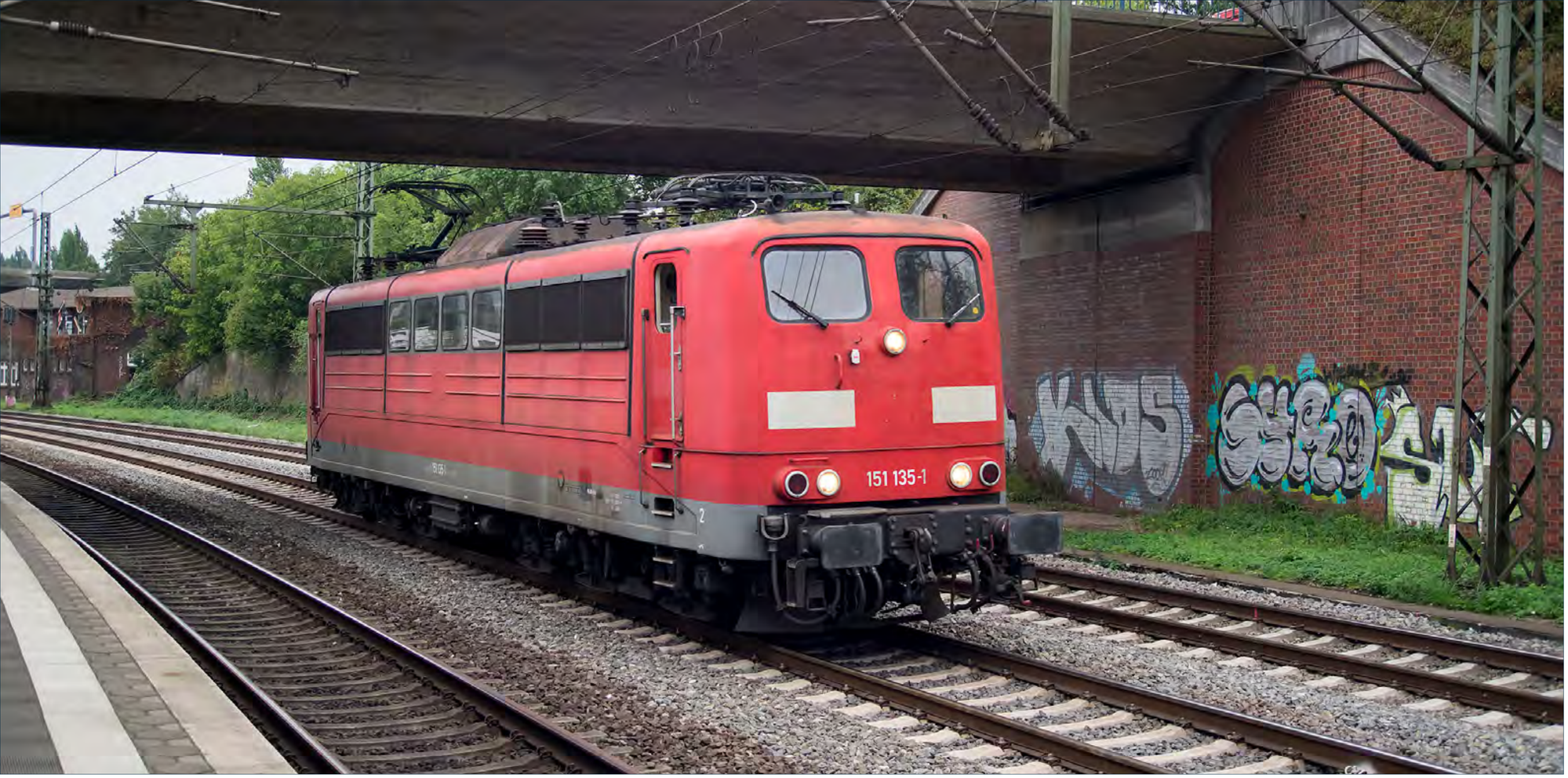
1. Feel good: A new residence pavilion on the platform on track 4/5 offers seating as well as standing workstations. On the forecourt, a station garden with leafy seating was created. The station Wolfsburg gets from 2020, among other things, a new restaurant area in the west wing and on the forecourt.

2. Digitization : Dustbins have sensors that transmit the level. Elevators digitally report whether maintenance is needed soon. The free Wi-Fi will be expanded in 2020. For the first time in Germany the new voice of the stations will be heard in Wolfsburg.

3. Accessibility : People with visual impairments can also use a new guidance system from the end of 2019: The mindtags.net app informs via voice output in the smartphone about conditions at the station and in the surroundings and points out possible obstacles.

4. # Green : On the wall above the bookstore in the station concourse hangs a 35-square-meter moss wall, which is supposed to improve the station’s climate. Wolfsburg Central Station has been operated with 100 percent green electricity since January 2019.

Photo: The moss wall at Wolfsburg Hbf. ©DB

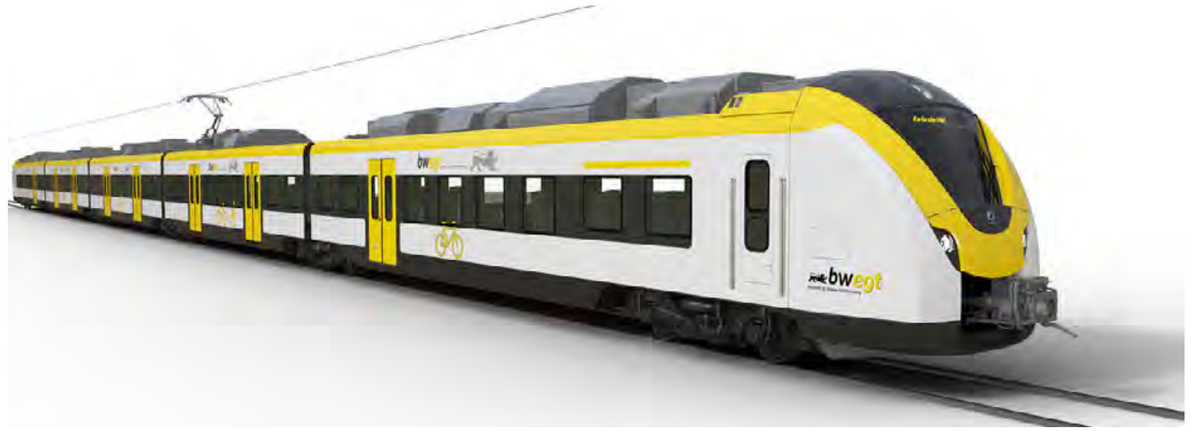


Germany

Former DB Class 151.135, now in private ownership, runs light engine through Hamburg Harburg. *Brian Battersby*

Alstom to deliver 19 electric regional trains in Germany

Alstom will deliver 19 Coradia Continental electric regional trains to the state of Baden-Württemberg. The contract, signed with DB Regio, is worth approximately €120 million. The trains will be built at Alstom's site in Salzgitter.
Beginning in December 2022, the new trains will be gradually deployed on the routes from Karlsruhe to Heilbronn, Achern, as well as via Freudenstadt to Herrenberg.



The new trains have been designed to optimise passenger experience while meeting the region's operational requirements. In addition to high-performance WiFi, they will include spacious multi-purpose areas in each car and a large capacity for bicycles. The trains are specifically designed to cope with the steep gradients that punctuate the tracks running through the Black Forest.

"Passengers in the Karlsruhe region can look forward to modern, proven and reliable trains. Our trains not only satisfy passengers, but are also known for outstanding reliability and availability, thus offering absolute planning security for operators," says Jörg Nikutta, Managing Director of Alstom in Germany and Austria.

The Coradia Continental is part of Alstom's Coradia range of modular trains that benefits from more than 30 years of know-how. To date, over 2,800 Coradia trains have been sold and 2,400 are currently in service in Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and Canada.

The new vehicles will be procured by DB Regio AG on behalf of the Ministry of Transport of the state of Baden-Württemberg as the responsible public transport authority for this network. After delivery of the vehicles, they become the property of the Landesanstalt Schienenfahrzeuge Baden-Württemberg (SFBW) and are leased by DB Regio for the term of the 13-year transport contract.

Germany

On the Rügensche BäderBahn, dampflok No. 99.4801 waits departure time at Baabe with a service to Binz. *Steamsounds*

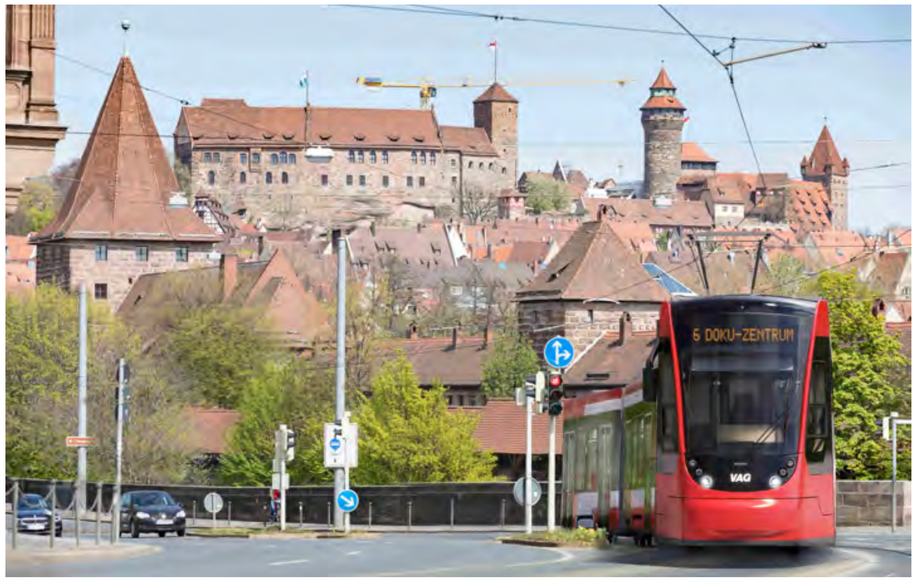
VAG orders 12 trams from Siemens Mobility

VAG Nürnberg orders 12 Avenio trams
Option for up to 75 additional trams
Innovative interior concept for enhanced passenger comfort

VAG Verkehrs-Aktiengesellschaft Nürnberg has ordered 12 four-section Avenio trams. The contract includes options for a total of up to 75 additional trams. The trams will serve on possible new lines or be used to expand VAG's existing offering. Commissioning is planned for the end of 2022.
"We have a long-standing partnership with VAG Nürnberg, and together we've implemented Germany's first fully automated metro system. We've also initiated, for the first time worldwide, mixed operations with automated and driver-operated metros on the same route, making us forerunners in applying digital technologies. I'm especially pleased that, with our Avenio, we are now also delivering a state-of-the-art tram fleet to Nuremberg," said Sabrina Soussan, CEO of Siemens Mobility.

The Avenio's interior concept allows quick entries and exits and thus shortens dwell times at the stops. Passengers can easily move to seats and standing spaces throughout the tram without any steps. Large windows and LED lighting ensure pleasant lighting conditions in the interior. Passengers with restricted mobility in wheelchairs or with walkers have spacious multifunctional space available directly at the door for parking or sitting. A folding entry ramp is provided at the second door. An air duct system ensures a pleasant interior climate throughout the year. The modular tram is 90 percent recyclable.

The Avenio utilizes a large share of the recovered braking energy for heating or feeds it back into the power grid. Energy-saving LED lighting is used exclusively. In addition, WLAN is available on board for passengers.



First order for Vectron Dual Mode

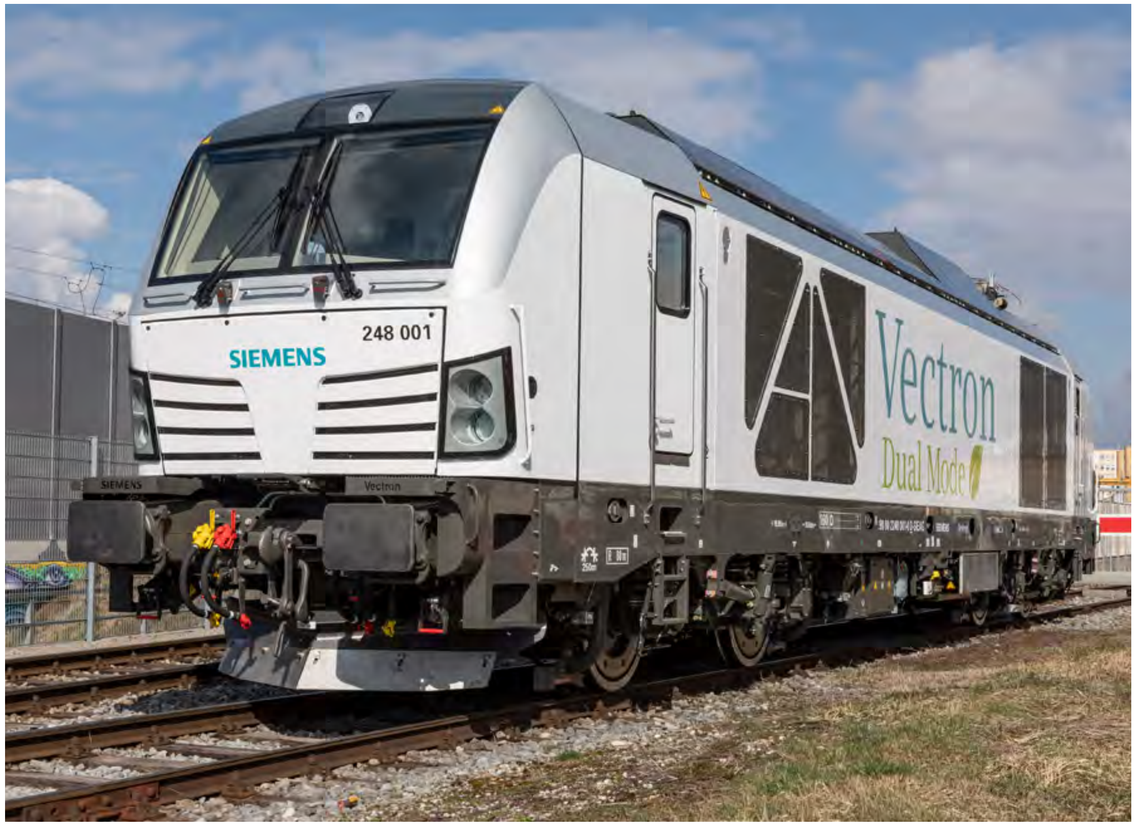
Railsystems RP GmbH orders two locomotives from Siemens Mobility
Sustainable concept: a combined diesel and electric locomotive
Delivery at the end of 2020

Railsystems RP GmbH has ordered two Vectron Dual Mode locomotives from Siemens Mobility, marking the first order for the new locomotive that can be operated either as a diesel or electric unit. Siemens Mobility first presented the concept at the InnoTrans 2018.

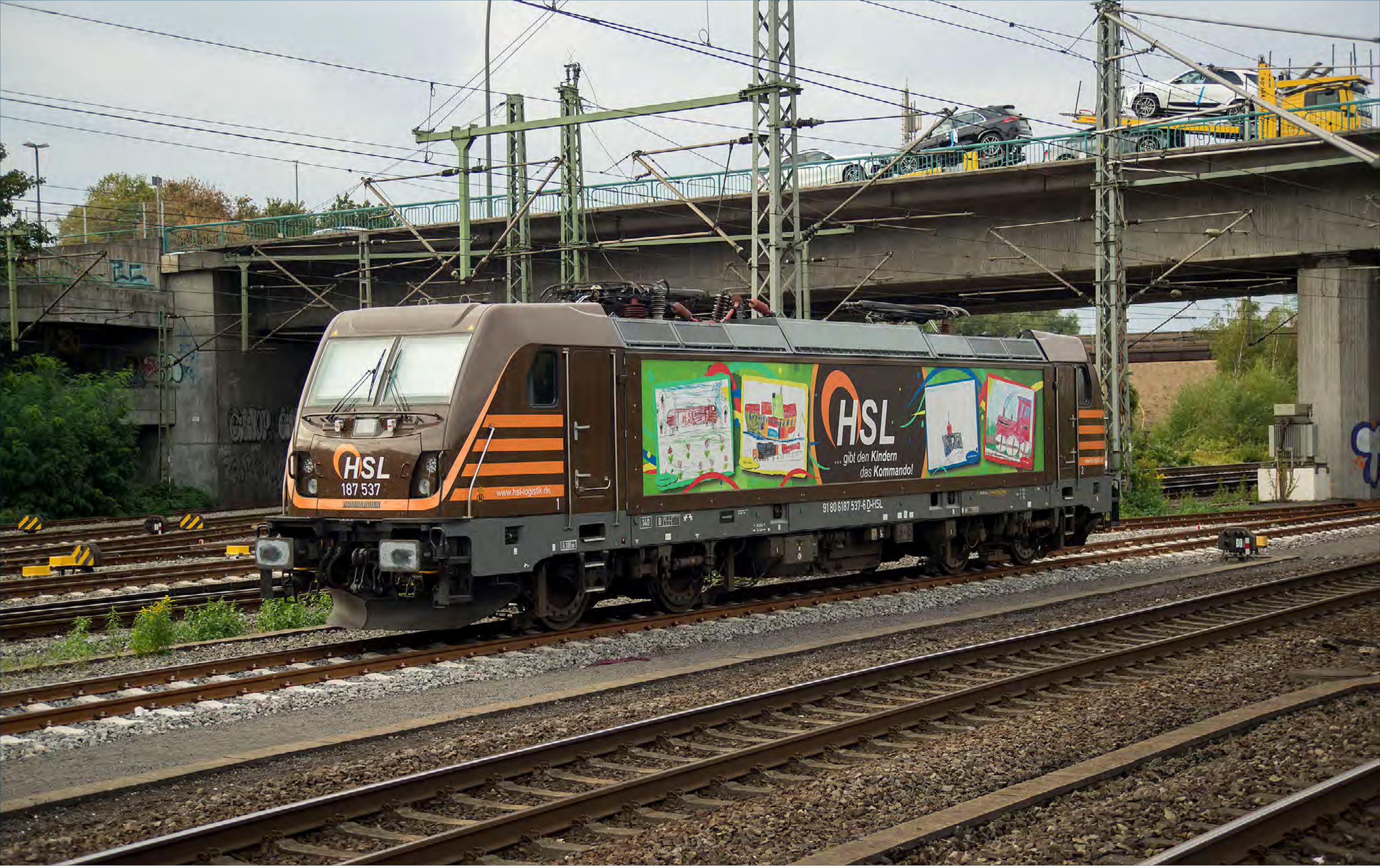
"With the Vectron Dual Mode, Railsystems RP GmbH is getting a locomotive that combines the best of two worlds: On electrified routes, the Vectron Dual Mode is powered by electricity to save fuel and reduce maintenance costs. On rail routes without overhead wires, the Vectron can shift to diesel operation without the operator having to change locomotives," said Sabrina Soussan, CEO of Siemens Mobility.

The Vectron Dual Mode enables operators to increase value sustainably over their entire lifecycle. The locomotive can also operate through gaps in the electrified sections, eliminating the need to change locomotives. At the same time, conurbations and major cities, where there is often an electrified rail network, are spared emissions. The Vectron Dual Mode is specifically designed for freight service in Germany and is based on proven Vectron components. It operates on a 1,435 mm track gauge and weighs 90 tons.

The locomotive is designed for the 15-kV-AC voltage system and is equipped with the PZB train control system. Regardless of whether it operates on electricity or diesel, traction power at the wheel rim is 2,000 kW. The locomotive's diesel tank has a capacity of 2,600 liters. The Vectron Dual Mode has a top speed of 160 km/h.

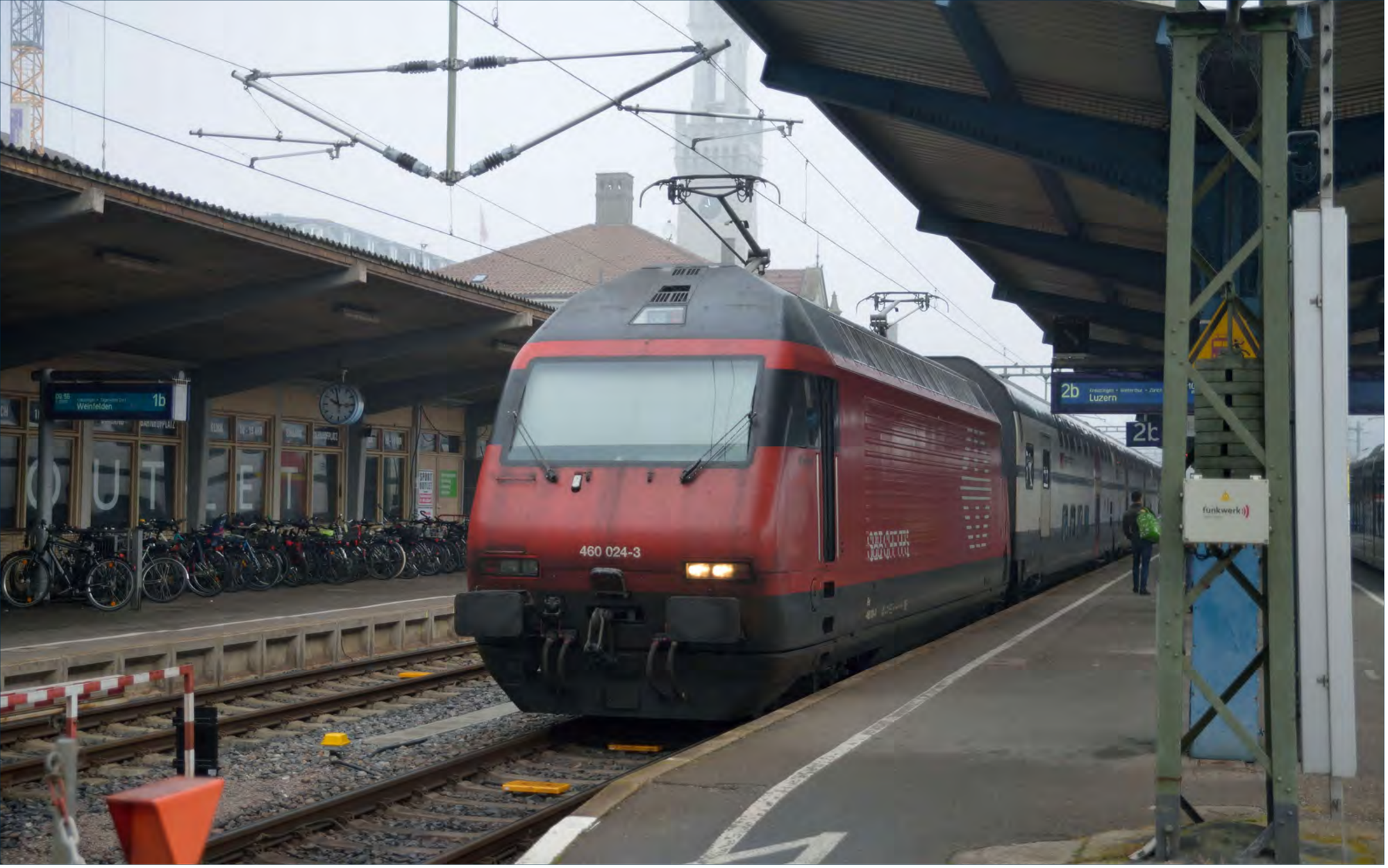


Class 193.827 stands at Düsseldorf Hbf with a Flixtrain service from Hamburg Altona to Köln Hbf. *Steamsounds*

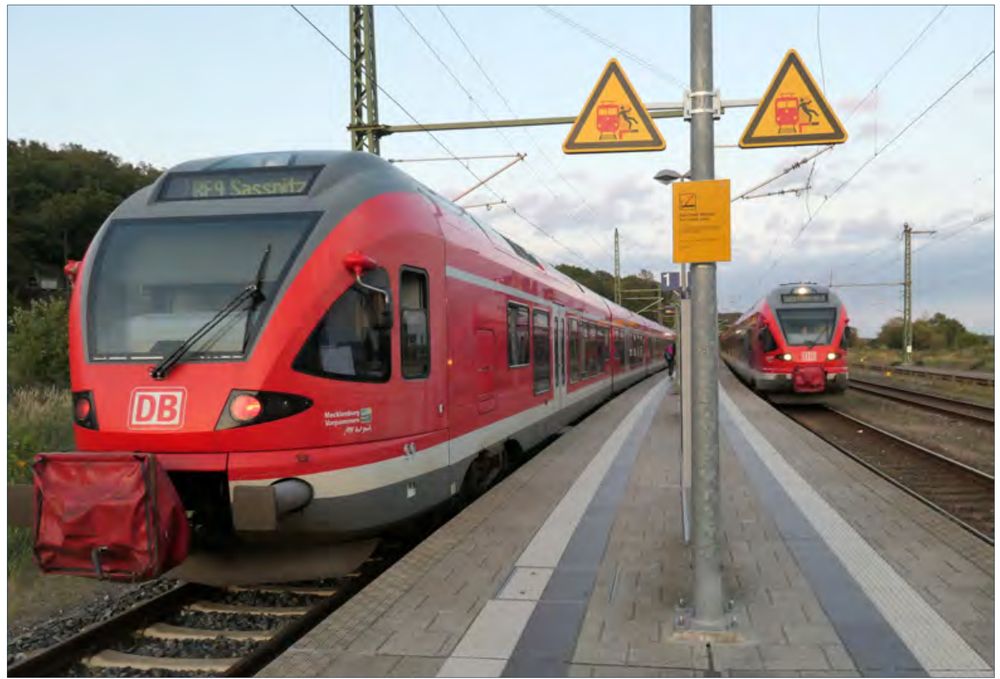


HSL's Class 187.537, in its unusual livery, is seen stabled at Hamburg Harburg. *Brian Battersby*

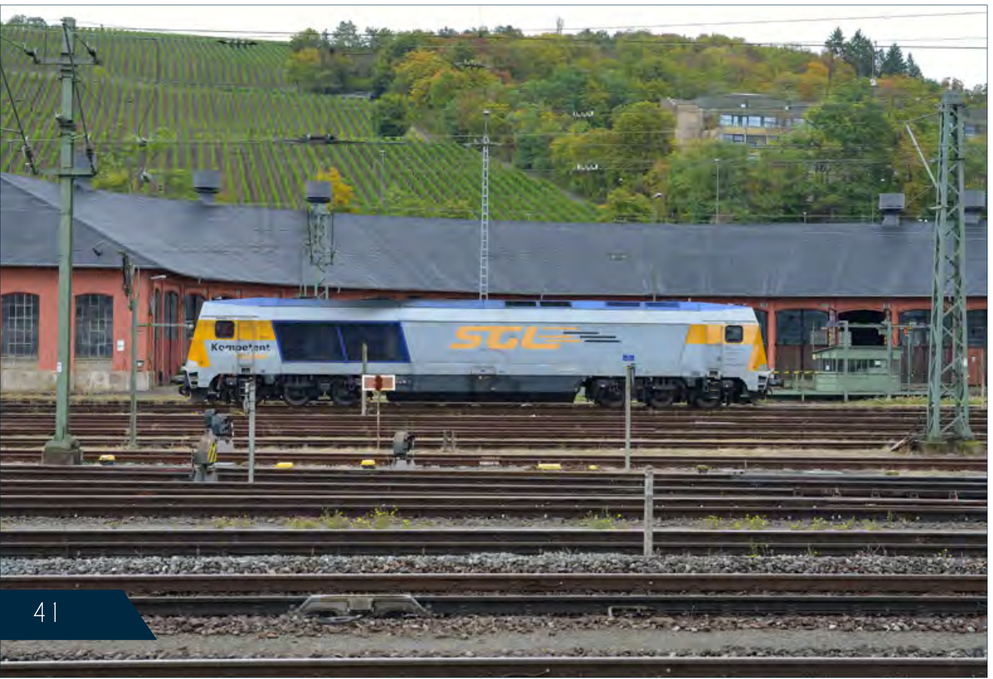
Germany



SBB Class 460.024 stands at a misty Konstanz working a service over the border to Luzern. *Class47*

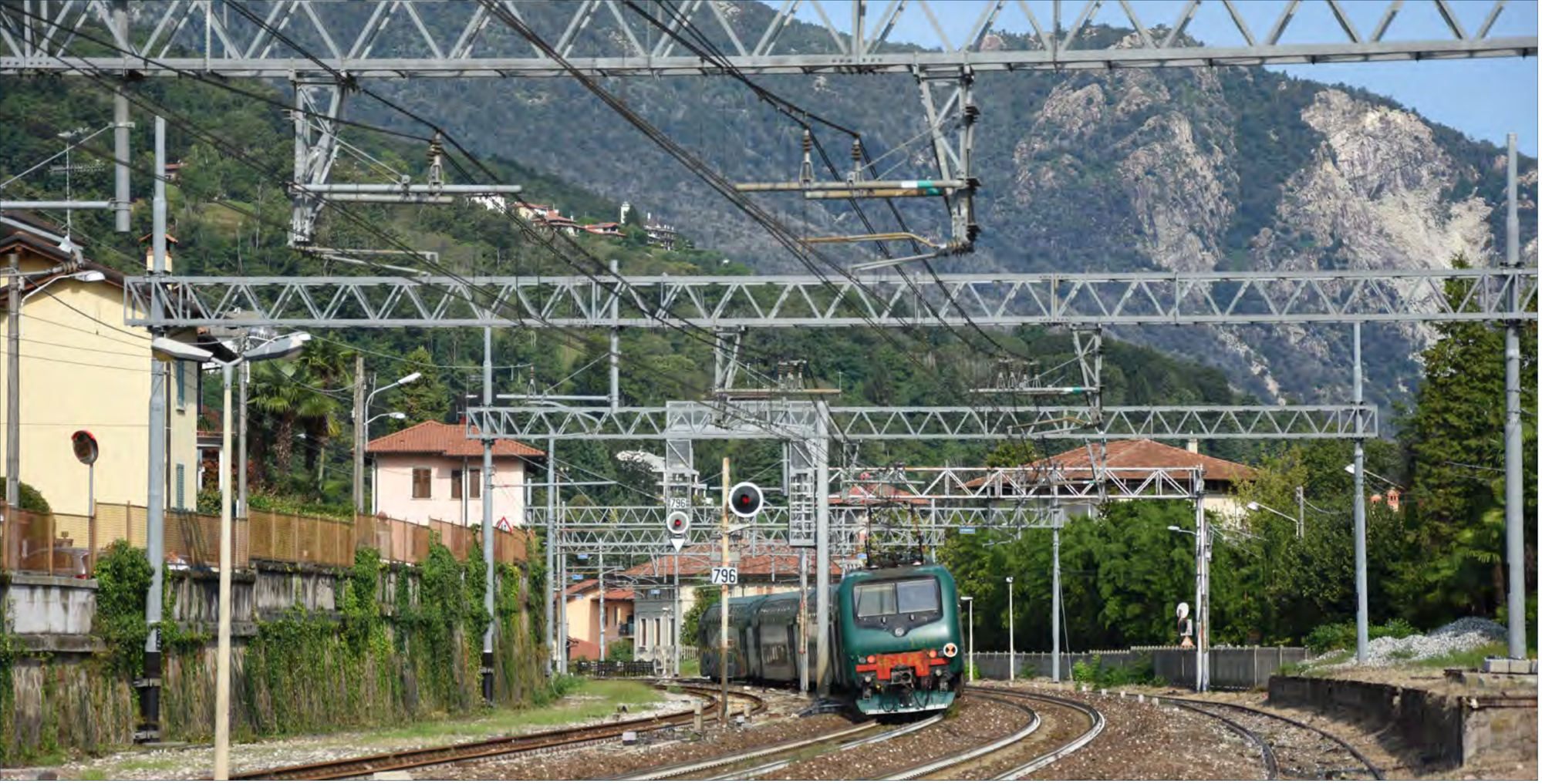


A pair of DB Regio EMUs working RE9 services pass at Lietzow. *Steamsounds*



SGL's Voith Maxima 30CC No. 1283.052 is seen stabled at Wurzburg. *Class47*

DB shunters Nos. 362.559 and 362.560 are just two of the many locos seen stabled at Halle Steintorbruke. *Brian Battersby*



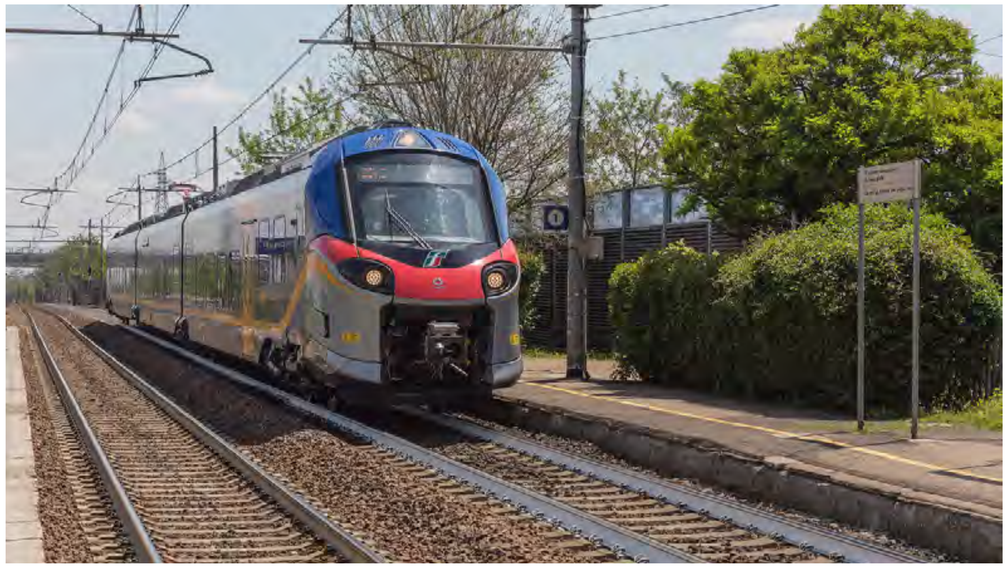
An unidentified Class E464 propels a service to Domodossola out of Stresa. *John Sloane*

Alstom begins delivery of new regional trains to Veneto and Liguria in Italy

Alstom has delivered the first Coradia Stream “Pop” trains destined for operation in Italian regions of Veneto and Liguria. The trains are part of the framework agreement signed in 2016 between Alstom and Trenitalia for a total of 150 new medium-capacity regional trains. Veneto will receive a total of 31 trains, Liguria 15. Deliveries will continue at a rapid pace into 2020.

14 Coradia Stream trains are already in passenger service in Emilia Romagna, the first region to have placed a firm order under the 2016 agreement.

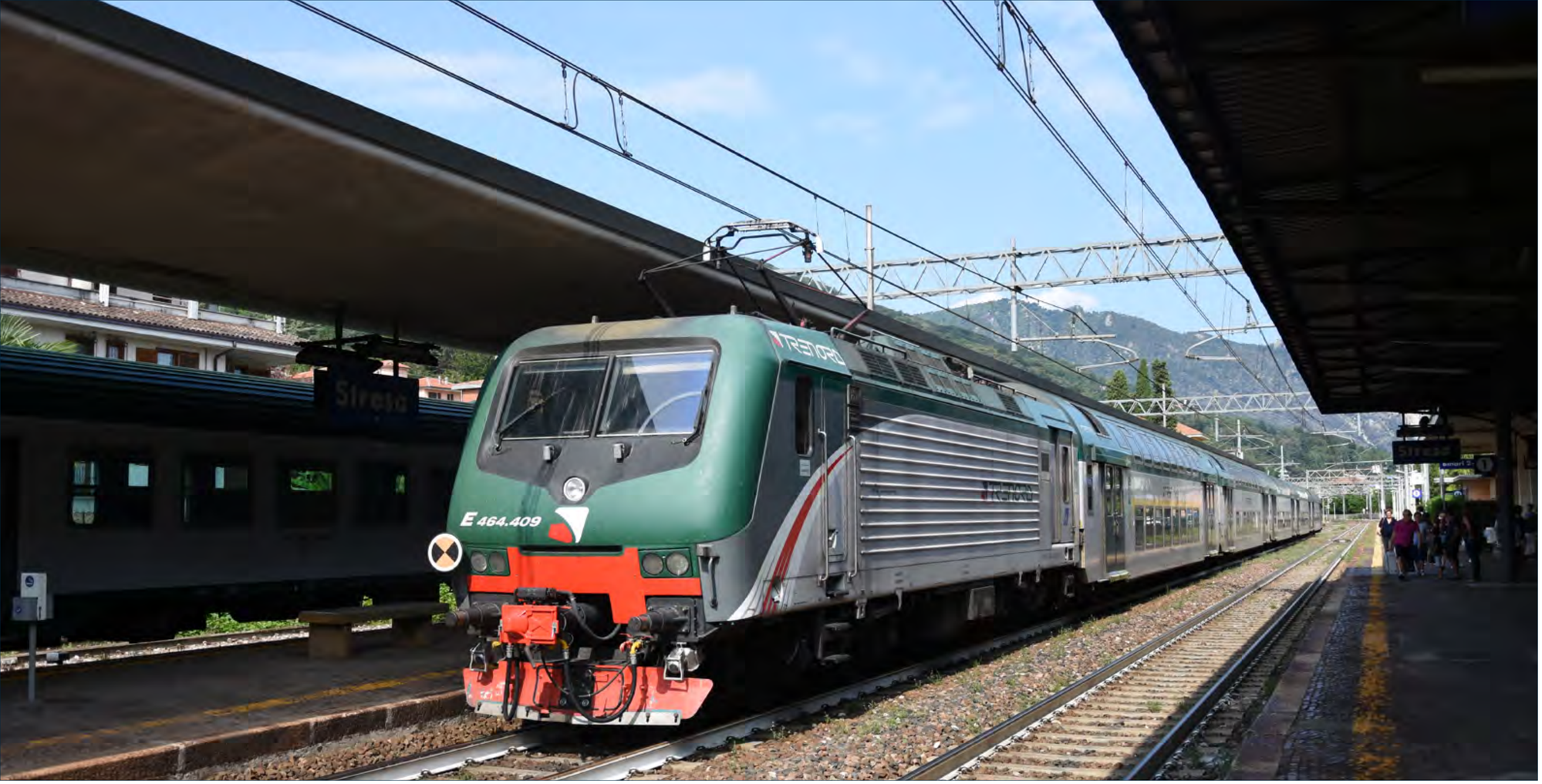
The new trains are part of a wider relaunch plan initiated by Trenitalia (FS Italian Group) to develop regional transport. This plan foresees a total investment of around €6 billion for 600 new trains, leading to the renewal of 80% of the fleet within 5 years. Due to the number of trains and its value, it is an unprecedented project for Italy.



The Coradia Stream, dubbed “Pop” by the Italian customer, is a single-deck electric multiple unit (EMU) designed for regional lines. It represents the latest generation of the Coradia family of trains. It can transport 300 passengers seated, has a top speed of 160 km/h, and offers easy accessibility thanks to its low floor. Designed to be eco-friendly, Coradia Stream consumes 30% less energy than previous train generation.
“Over the past 15 years, more than 412 regional trains have been designed, produced and put into commercial service by Alstom in Italy. To these figures, we will gradually grow the Pop fleet. We are proud to have been chosen by Veneto and Liguria, and to support Trenitalia in this major project to improve regional and intercity transport throughout the country,” said Michele Viale, Managing Director of Alstom in Italy and Switzerland.
The Coradia Stream trains are manufactured by Alstom in Italy. Project development, most of the manufacturing and certification are performed at Alstom’s site in Savigliano (CN). Design and manufacturing of the traction systems and other components takes place at the Sesto San Giovanni (MI), and the on-board signalling systems are delivered by the Bologna site.

Photo: Coradia Stream ‘Pop’. © Alstom/G. Ricciardi

SBB Class 610.012 calls at Stresa whilst working a service to Milano Centrale. *John Sloane*



Trenitalia Class E464.409 calls at Stresa whilst working a service to Domodossola. *John Sloane*

Alstom to supply 31 regional trains for the Region of Lombardy

Alstom has signed a contract with the Italian operator FERROVIENORD[1] for the supply of a first batch of 31 regional trains to Lombardy Region for a total value of €194 million. This contract is the first within a framework agreement also signed today with FNM[2] S.p.A. The trains will be delivered gradually from 2022 onwards. The agreement provides the possibility, within 8 years, to purchase 30 additional trains (up to a maximum of 61) and includes options for preventive and corrective maintenance service. The signing follows the award to Alstom of the tender called by FNM in 2017, subsequent to the approval of the purchase of 176 new trains by Lombardy Region, which allocated €1.6 billion to the global programme.

“We are pleased to embark on a new journey towards increasingly modern and sustainable local transport with FNM. In the last ten years, Alstom has delivered 44 regional trains in Lombardy. Our trains already move thousands of passengers every day in the region. The new generation of Coradia Stream represents the best solution for meeting the increasing needs of both the region’s travellers and the operator,” said Michele Viale, Managing Director of Alstom Italy and Switzerland.

The train ordered by FERROVIENORD, named « Donizetti » by the customer, is part of the Coradia Stream family, the latest electric, single-deck trains designed and produced by Alstom for regional transport. They have four traction motors and a maximum speed of 160 kph. They represent the fourth-generation of a model that is already in commercial service in ten Italian regions, and are produced in conformity with the Technical Specification for Interoperability (TSI). The spacious cars of the trains offer ample seating for the medium-length journeys, typical of regional and inter-regional services, whereas their single seats and easily accessible vestibules are ideal for the shorter journeys, typical of suburban traffic. The seats are equipped with power sockets for PCs, tablets and cell phones. The lighting is optimised by the large windows that let in more natural light, and passenger circulation is facilitated by wide corridors that are also suitable for people with reduced mobility. Minimal levels of noise and vibrations ensure a quiet and comfortable journey. Cars temperatures are adjusted by a higher-power air conditioning system. Also, these trains are equipped with an information system integrated with the ground infrastructure and offers an audio-video information and entertainment service with 32 LCD screens visible from all parts of each carriage and the predisposition for Wi-Fi network. Passenger safety is guaranteed by a digital camera video-surveillance system and monitors. The new trains satisfy the criteria of environmental sustainability and are 96% recyclable. They consume 30% less energy than their predecessor. No solvents or other toxic chemical substances are used in their production. The air conditioning and ventilation systems are regulated on the basis of the number of passengers, and the door closure is programmed in such a way as to avoid any thermal dispersion. Eco mode is activated when necessary. The LED passenger lighting is automatically regulated on the basis of the amount of light outside the train.
The Coradia Stream trains are manufactured by Alstom in Italy. Project development, most of the manufacturing and certification are performed at Alstom’s site in Savigliano (CN). Design and manufacturing of the traction systems and other components takes place at the Sesto San Giovanni (MI), and the on-board signalling systems are delivered by the Bologna site.
[1] FERROVIENORD, controlled 100% by FNM operates 331 km of railway network and 124 train stations in Lombardy. Also, it manages and maintains the networks, provides for its developments and for new activations.
[2] FNM is the leading integrated transport and mobility Group in Lombardy. It represents the most important non-state Italian investor in the sector. FNM S.p.A. is a joint-stock company listed on the stock exchange since 1926. The majority shareholder is the Lombardy Region, which holds 57.57% of the share package.

Italy/Sardinia

FS Trenitalia No. D445.1055 approaches Siliqua whilst working Regionale train No. 12912 14:18 Cagliari - Iglesias.
Laurence Sly

Italy/Sardinia

On October 1st, an ATR 365 DMU departs Sasari whilst working Regionale train No. 7482 to Cagliari. *Laurence Sly*

Italy/Sardinia

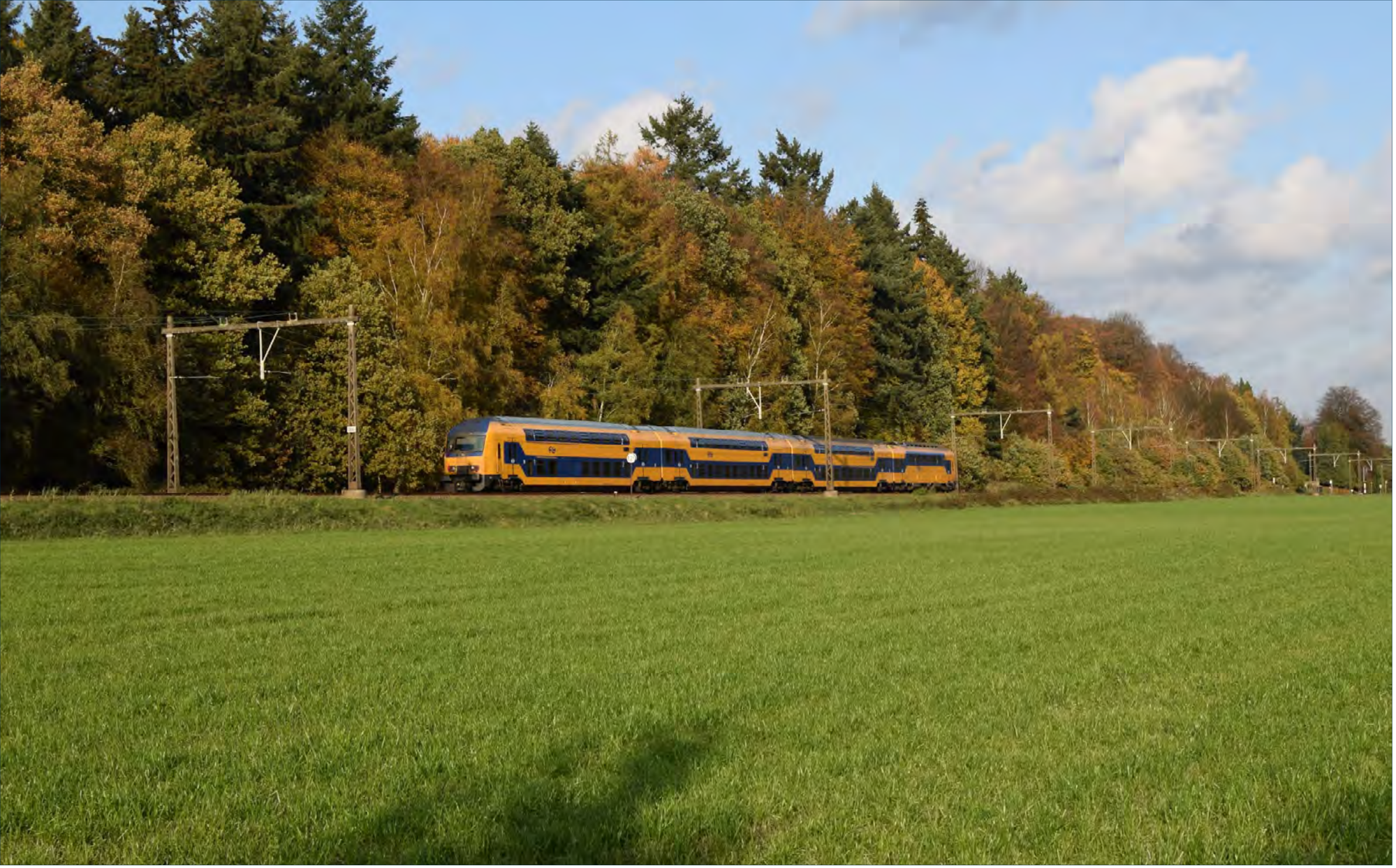
FS Trenitalia No. D445.1076 departs Elmas whilst working the 17:20 Cagliari - Oristano service on October 3rd. *Laurence Sly*

Italy/Sardinia

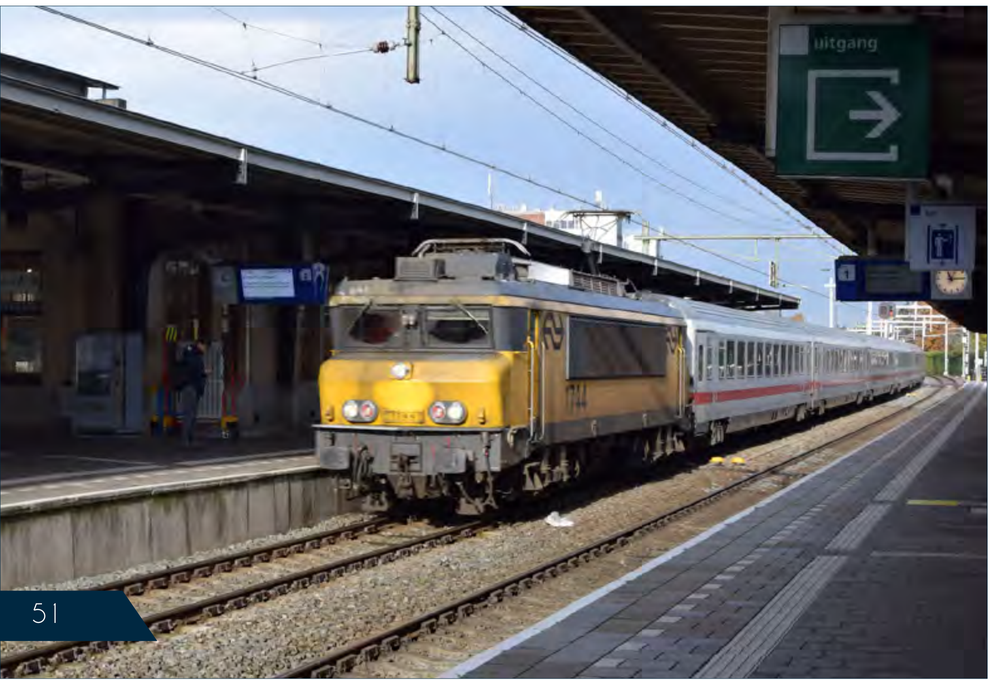
ALn 668.3230 and another ALn 668 working the 14:10 Carbonia - Cagliari service, approaches Siliqua on October 4th. *Laurence Sly*

No. D445.1055 departs Siliqua whilst working the 14:18 Cagliari - Iglesias service on October 4th. *Laurence Sly*

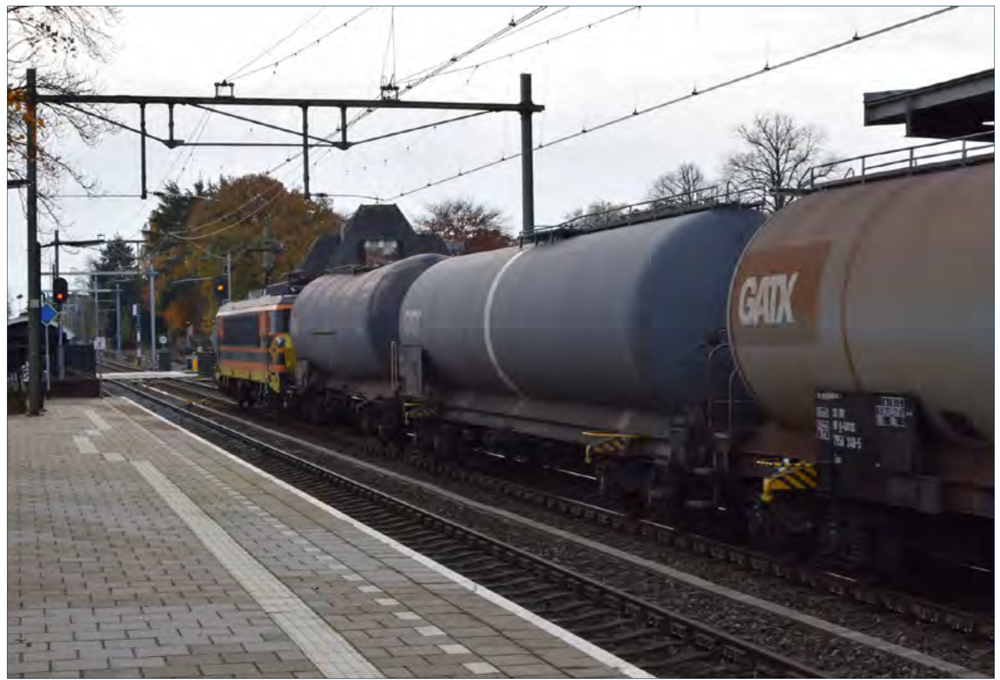
Netherlands



On November 9th, a NS DDZ4 set is seen near Ellecom with a service from Zwolle to Roosendaal. *Erik de Zeeuw*



On November 14th, a Railfeeding service runs through Bussum-Naarden with a rake of tankcars to Bad Bentheim (Germany). *Erik de Zeeuw*

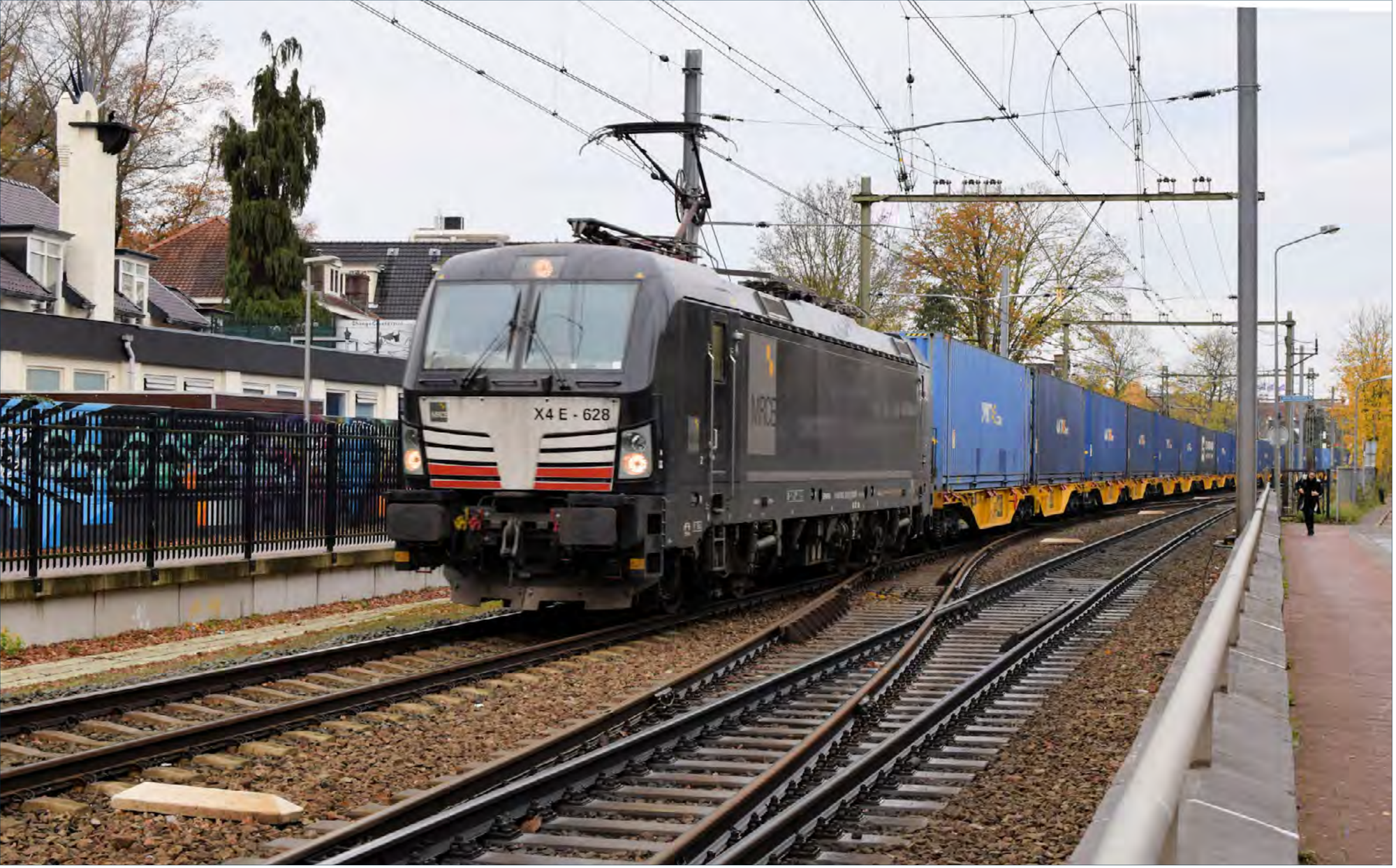


NS Class 17 No. 1744 runs through Bussum-Naarden station with an international train to Germany, November 14th. *Erik de Zeeuw*

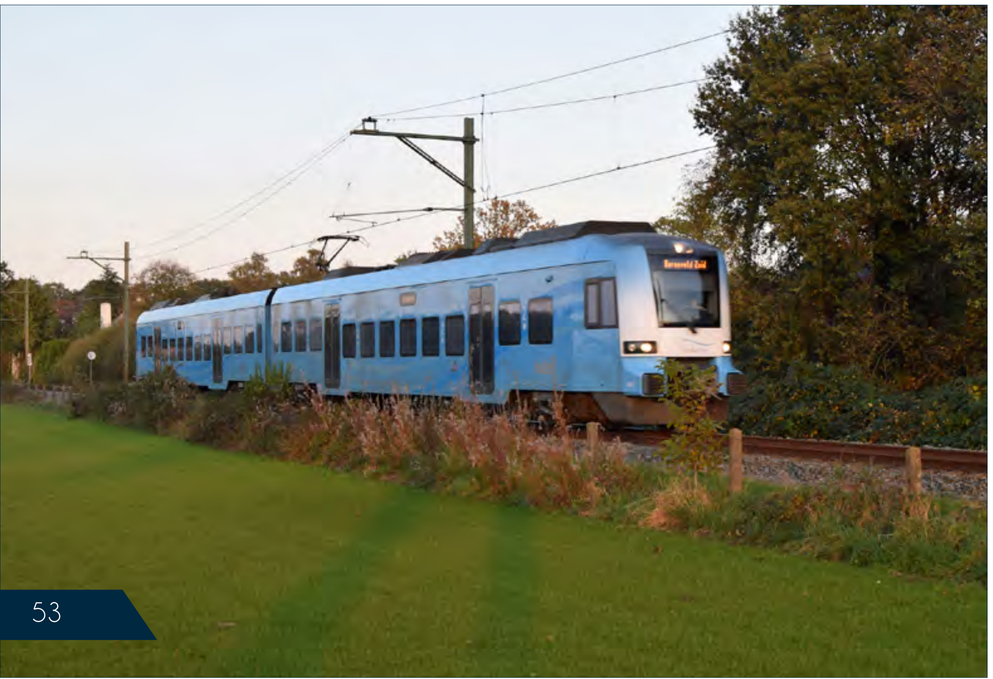
Netherlands

On November 17th, Railexperts No. 1251 and BHS No. 2454 (both ex NS) pass Delft on their way to Rotterdam for track cleaning at HSL. (Note the Dutch Sint Nicolaas hats on the front).
Gerard van Vliet

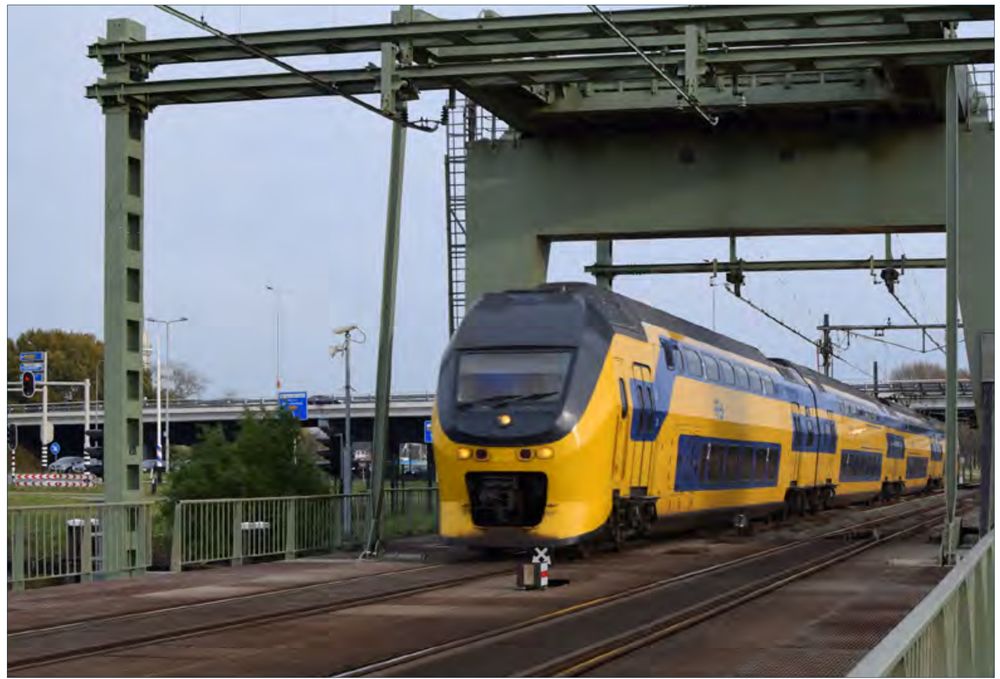
Netherlands



On November 14th, Rail Force One No. X4E-628 (Class 193.628) runs through Hilversum with a container shuttle from Moerdijk (Netherlands) to Kąty Wrocławskie (Poland). *Erik de Zeeuw*

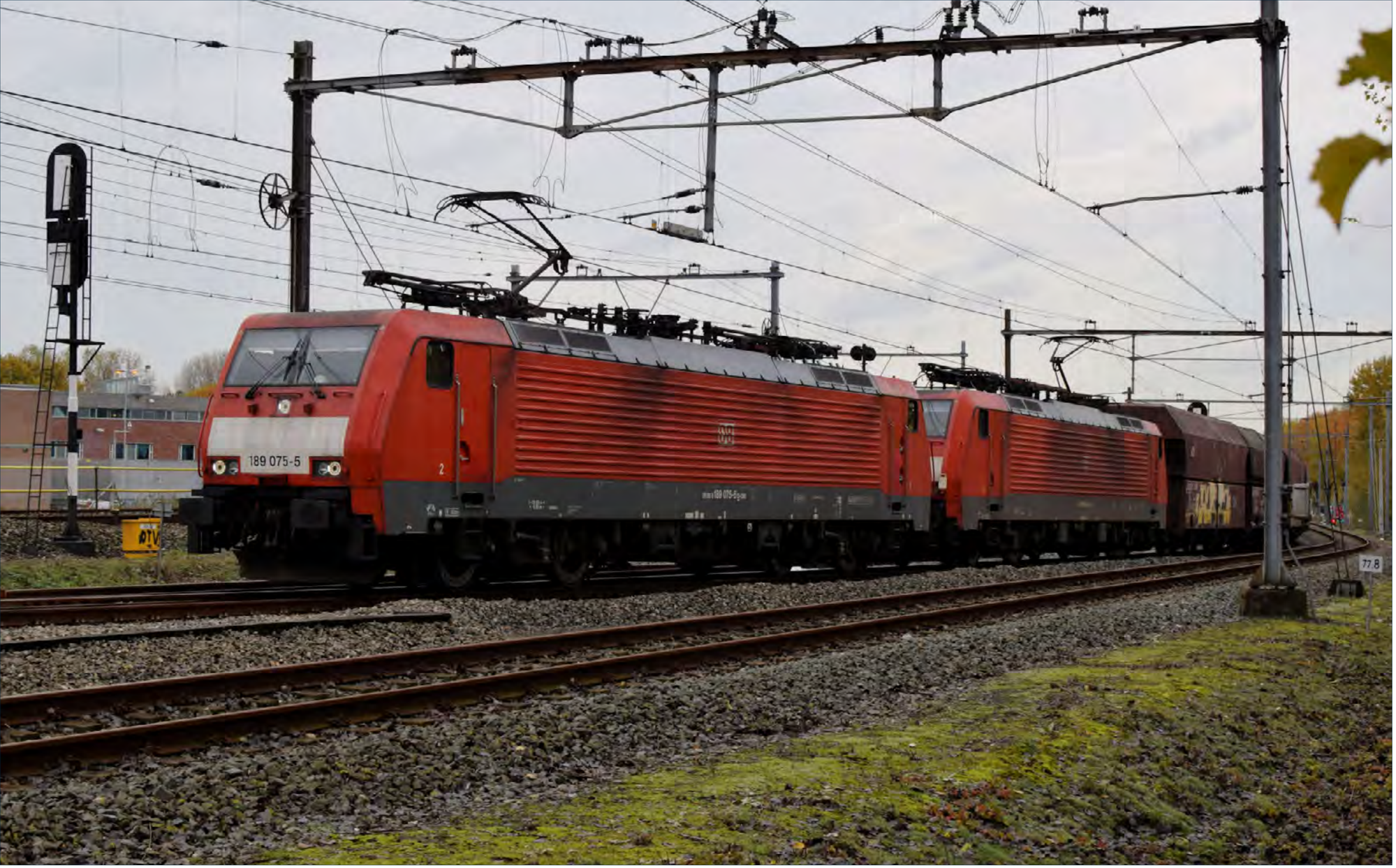


On November 16th, an NS DD IRM trainset runs over the Nauernasche Canal Bridge in Krommenie working a service from Utrecht Central Station to Enkhuizen. *Erik de Zeeuw*

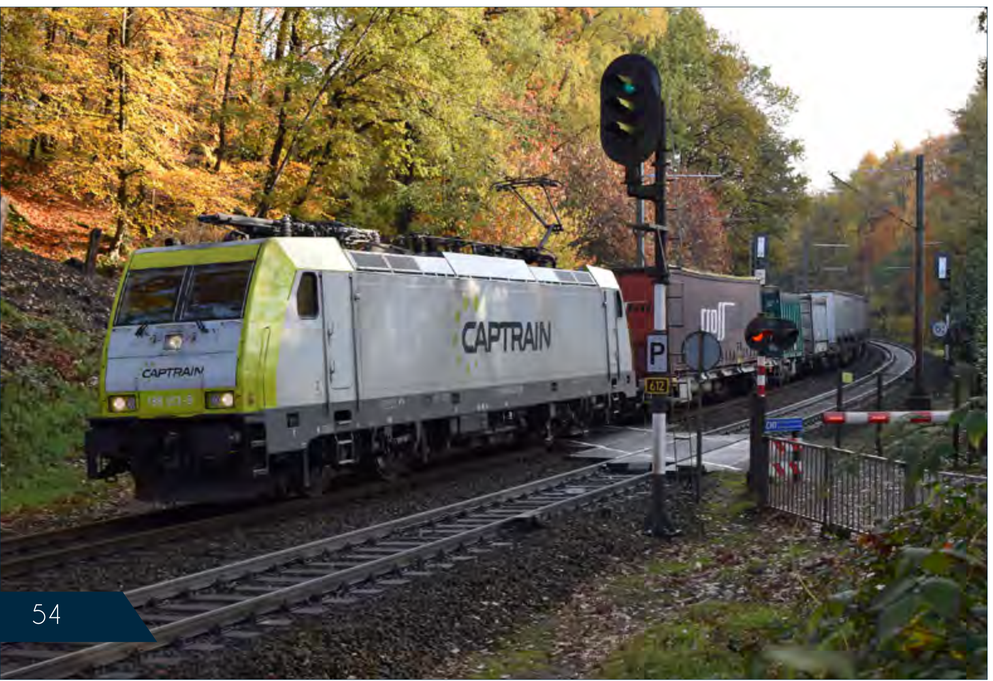


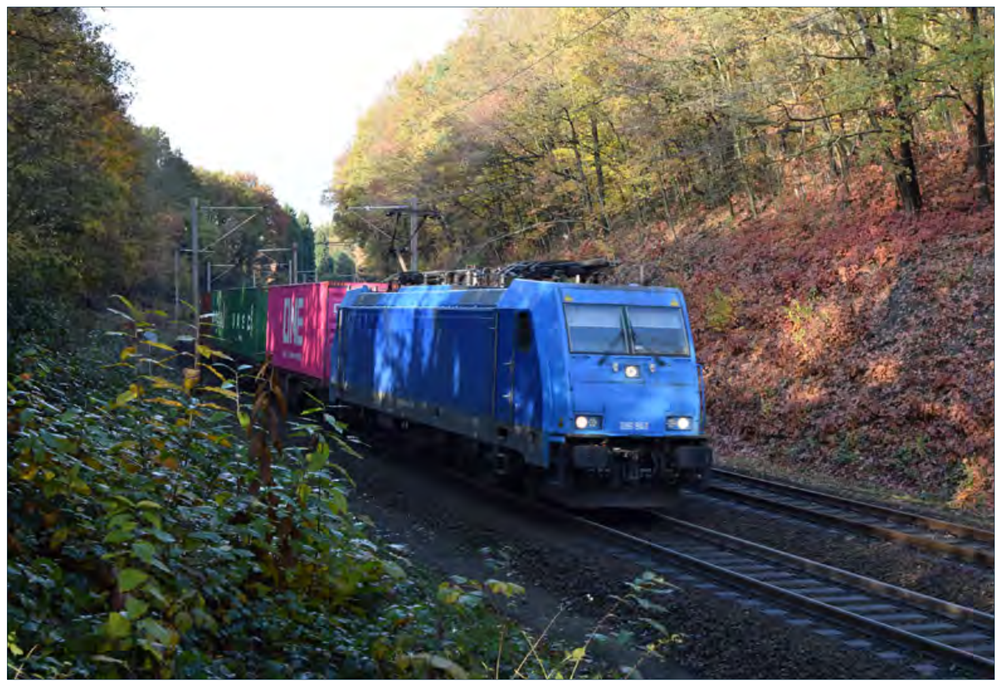
On October 30th, a Connexion trainset ('Protos' built by Fahrzeugtechnik in Dessau) is approaching Barneveld station working a service from Amersfoort to Barneveld South. *Erik de Zeeuw*

Netherlands



A pair of DB locomotives set a 5000 ton coal train to Germany in motion at the West Port in Amsterdam on November 14th. *Erik de Zeeuw*





LTE No. 186 941 departs Venlo with a container-shuttle to Mannheim & Wörth (Germany) on November 19th. *Erik de Zeeuw*

Captrain's No. 185.152-5 working a mixed cargo service from Gallarate (Italy) to Geleen-Lutterade (Netherlands) arrives in Venlo on November 19th. *Erik de Zeeuw*

Netherlands

DB Cargo's No. 1604 hauling train No. 61604 from Tata Steel at IJmuiden, heading to Kijfhoek, passes Delft on November 20th.
Gerard van Vliet

Netherlands

On November 19th, Rail Force One No. 193.623 ‘Sharky’ returns light engine into Venlo from a working to Germany. *Erik de Zeeuw*

CP EMU No. 3408 stands at Porto Campanha working a service to Porto Sao Bento on November 12th. *Andy*

The ‘A’ half of No. 2TE116.1649 sits at Yegorshino with a stopping train to Yekatarinburg. *Mark Torkington*

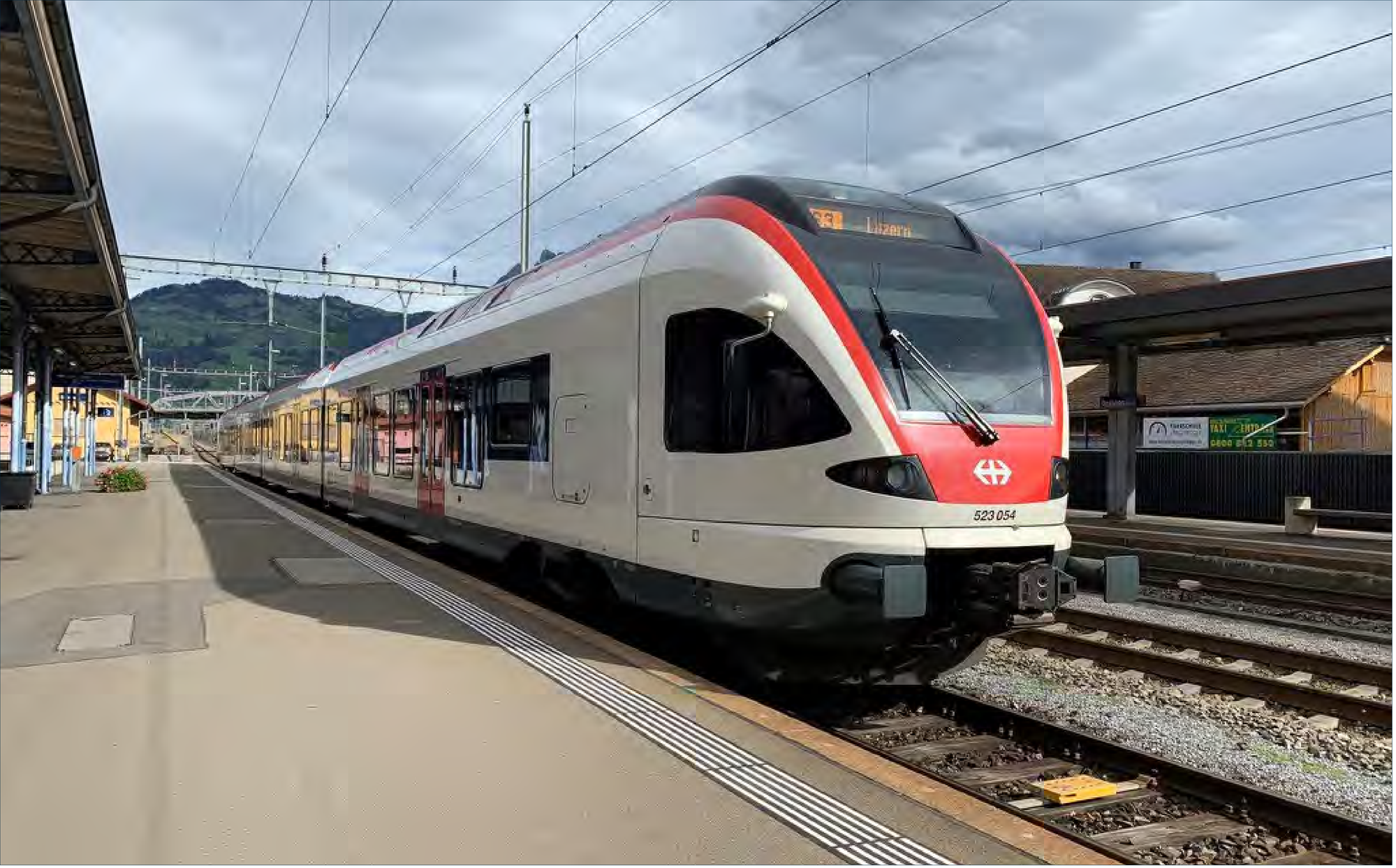
No. TEM18D.054 waits time at Alapayevsk with a stopping train down the line towards Predturye. *Mark Torkington*

Russia

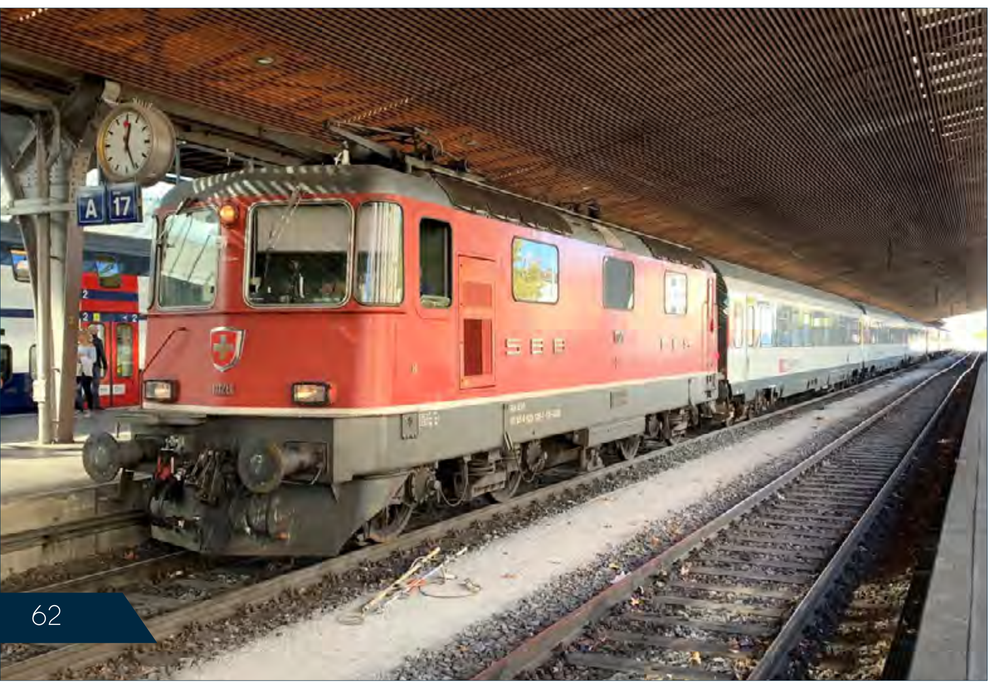
No. Tu4.2129 is seen at Mirnyi on the Pishchalskoye peat railway with the afternoon workers train. *Mark Torkington*

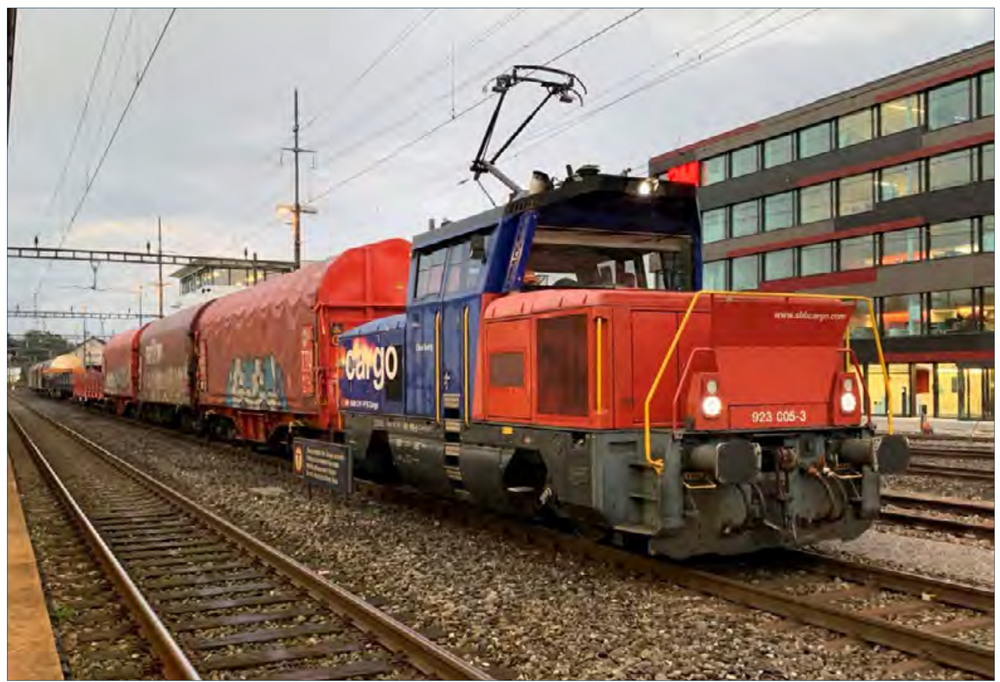
SBB Class 460.062 stands at Speiz whilst working a service to Basel. *John Sloane*

Switzerland



SBB Class 523.054 waits to depart Brunnen on October 20th with S3 train No. 21348 13:04 Brunnen - Luzern. *Keith Hookham*



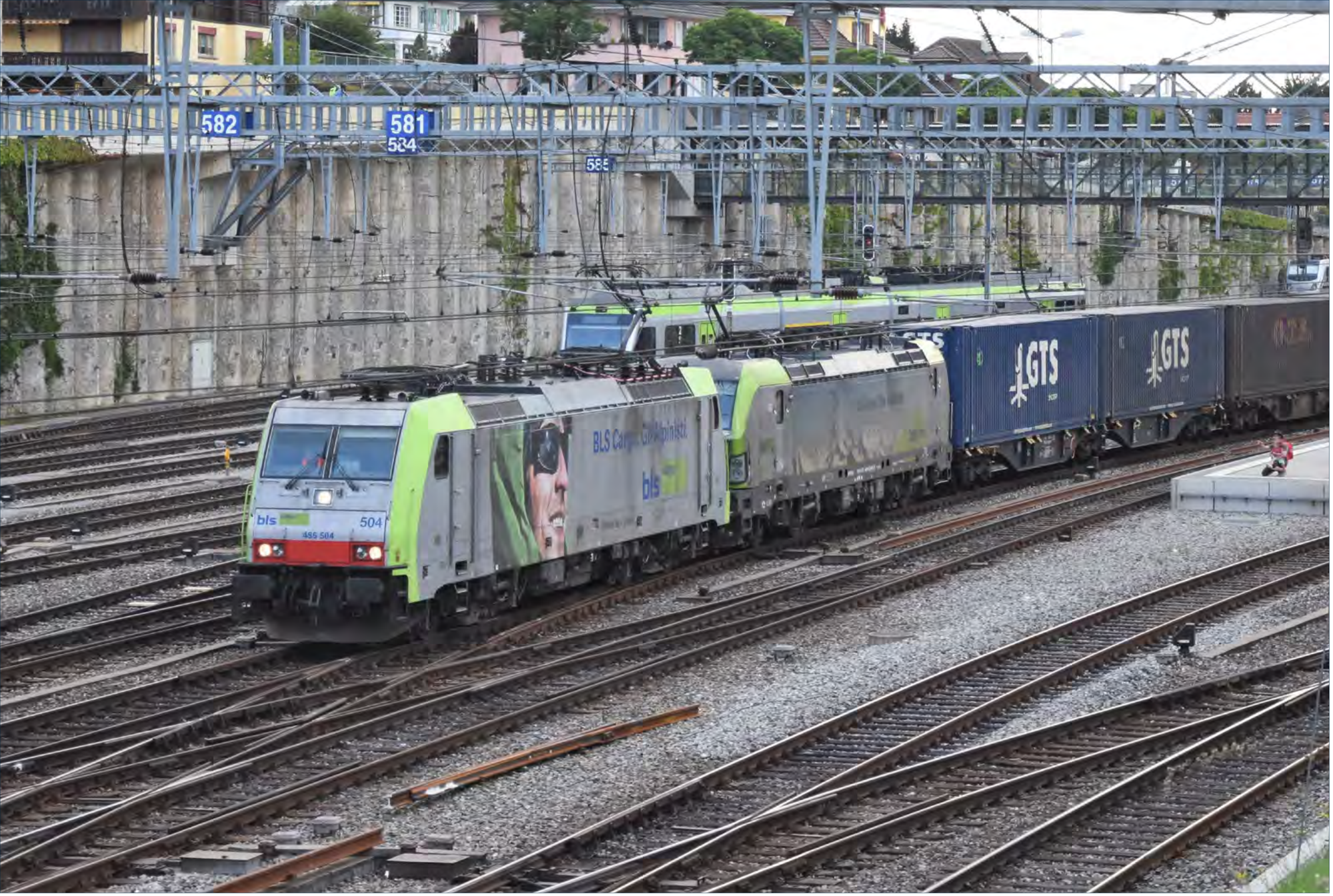


SBB Class 923.005 stands at Langenthal waiting to depart on the morning of October 8th. *Keith Hookham*

SBB Re 4/4ii No. 11128 arrives at Zürich HB working train No. IR1969 11:13 Basel SBB - Zürich on October 17th. *Keith Hookham*

SBB Class 420.243 arrives into Speiz with a pick-up freight from Interlaken. *John Sloane*

Switzerland



BLS Nos. 485.504 and 475.409 depart Speiz with an intermodal working. *John Sloane*

Alstom to maintain SBB's digital train control system in Switzerland

Alstom has signed a second ten-year maintenance contract for ETCS[1] equipment belonging to SBB, the Swiss national railway company. In the years 2003-2008, Alstom installed ETCS onboard equipment on around 500 vehicle types as part of the first wave of a Swiss federal programme to comply with ETCS. The support contract concluded at the time is now being extended for a further ten years, including a five-year option. The value of the contract comes to over €25 million.

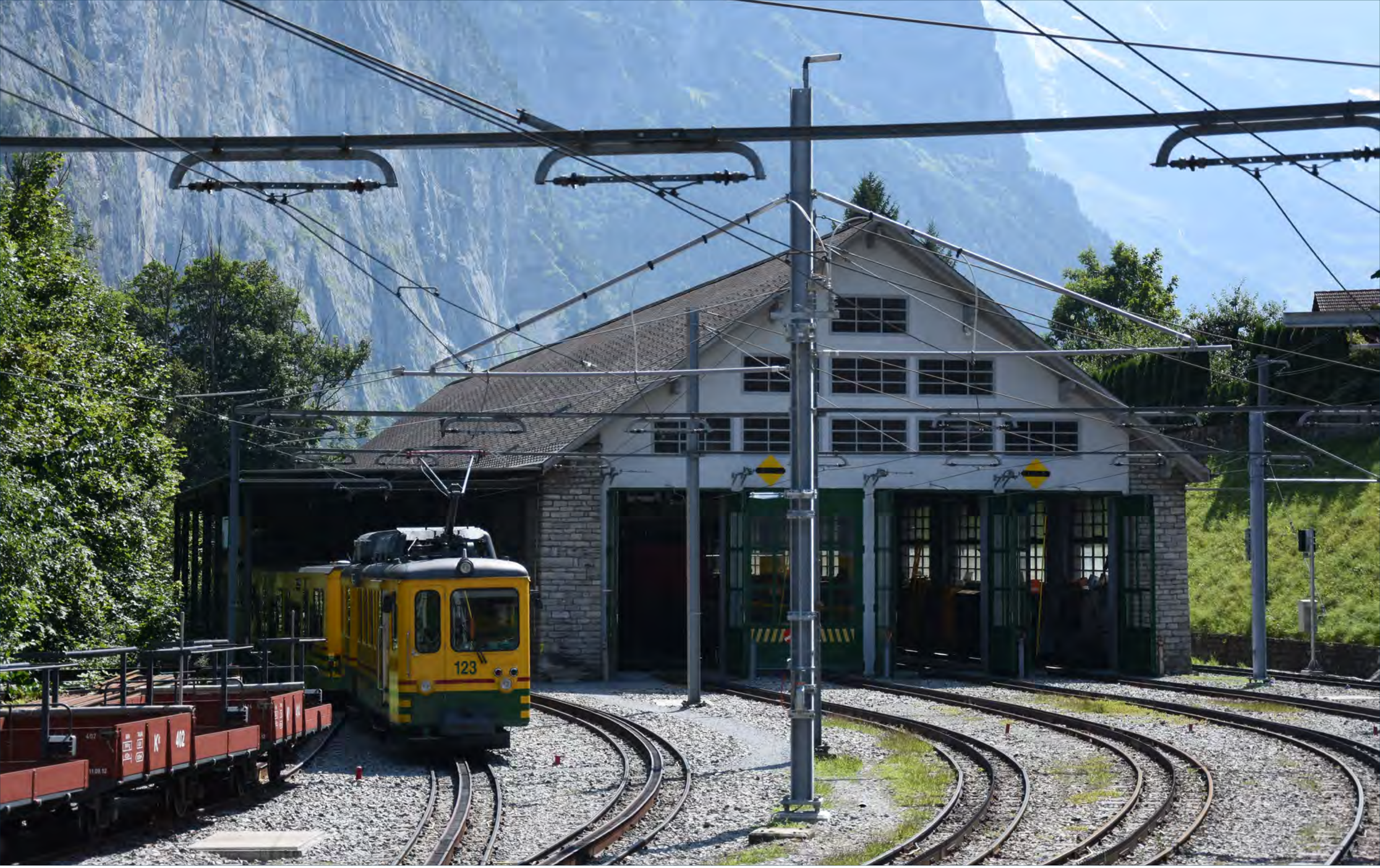
"We are very pleased with the confidence that SBB has placed in us with this contract extension. Our aim is to ensure the availability of spare parts and of the large SBB fleet, thus making an important contribution to the smooth operation of rail traffic in Switzerland," said Cora Hentrich-Henne, Managing Director of Alstom in Switzerland.

The contract includes the logistics management for repair and calibration, as well as overhaul of on-board ETCS components, measurement equipment, obsolescence management, technical support, training and on-site assistance. ETCS (European Train Control System) is the signalling and control component of the European Rail Traffic Management System (ERTMS), ensuring that trains comply with speed limits and signal status. ETCS Level 2 increases line capacity with high safety by determining and adjusting train speed through continuous train control and monitoring via radio communication. Alstom's Atlas range offers a proven package with 100% interoperable equipment. With projects in 29 countries, the company is a world leader in ETCS vehicle systems.

Alstom's Neuhausen site in Switzerland is the direct point of contact for local customers. Alstom's worldwide centre-of-excellence for signalling technology in Charleroi, Belgium, acts as the hub for testing, service and maintenance.

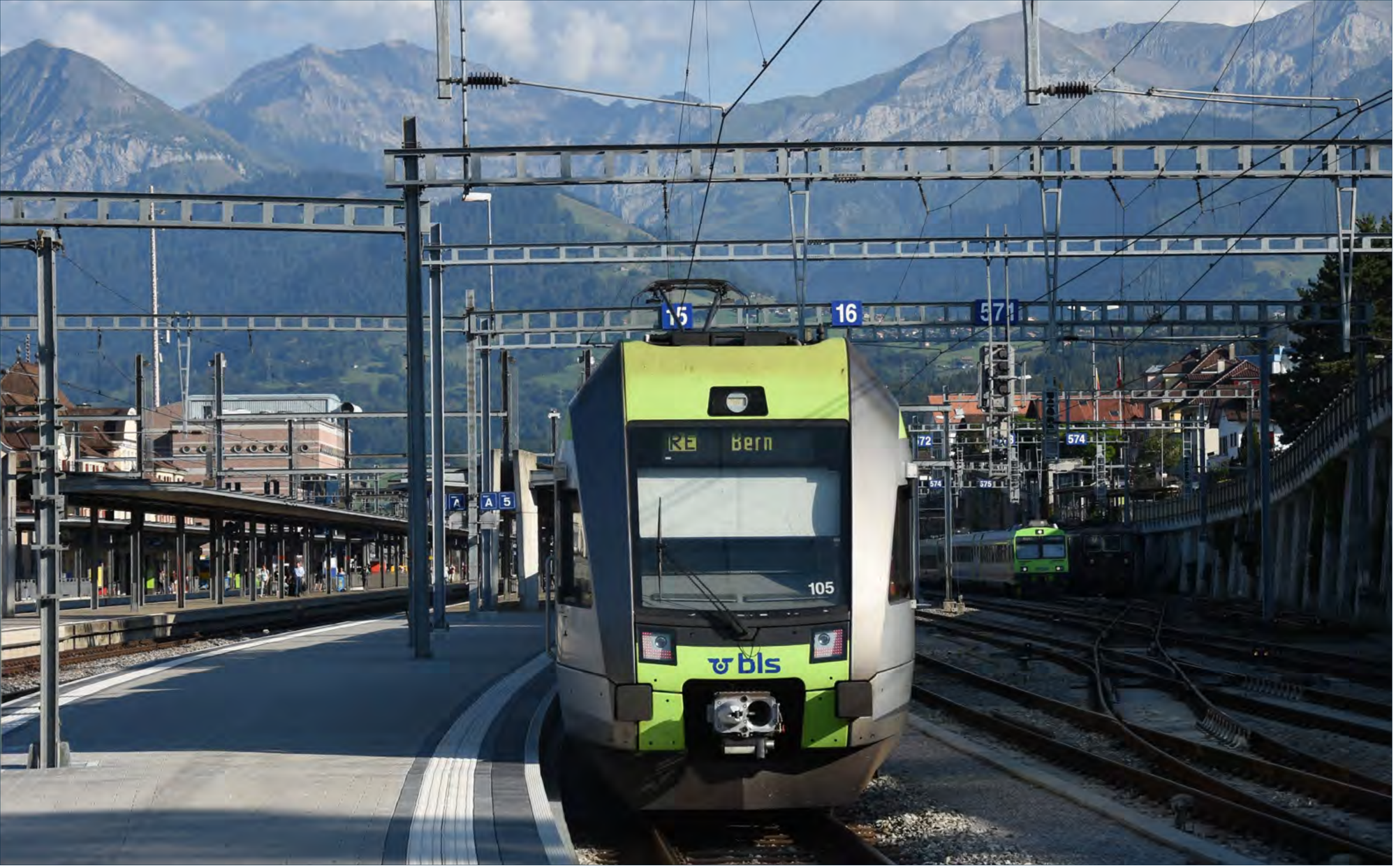
[1] European Train Control System (ETCS) is the signalling and control component of the European Rail Traffic Management System (ERTMS)

BOB unit No. 323 and Zillertalbahn No. 150.101 are seen at Interlaken Ost working services to Lauterbrunnen and Luzern respectively. *John Sloane*

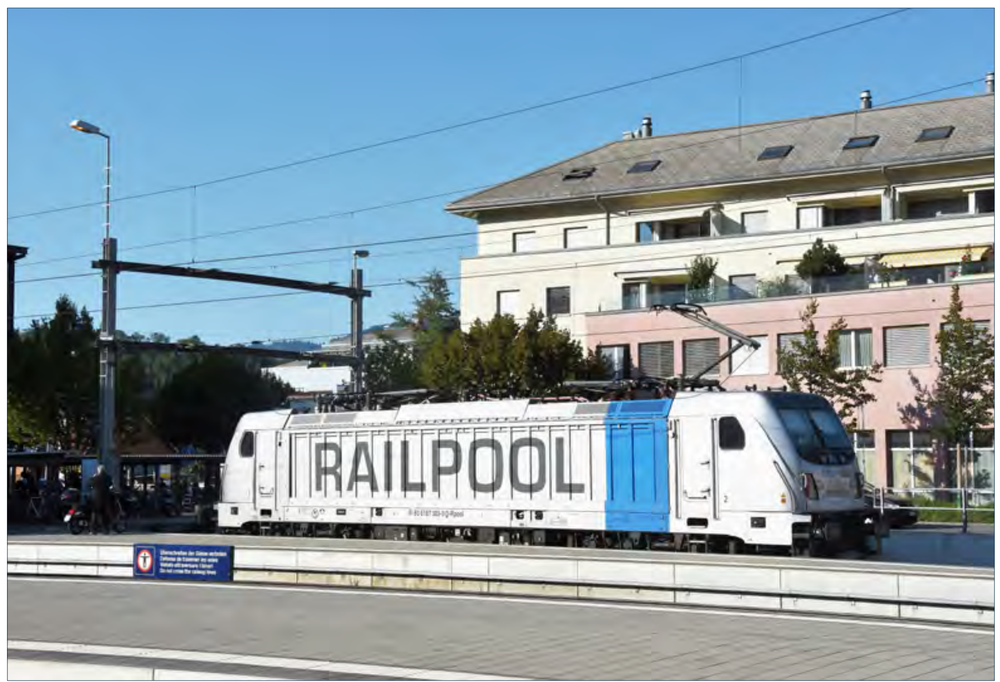


Wengernalpbahn EMU No. 123 is seen stabled at Lauterbrunnen depot. *John Sloane*

Switzerland



BLS EMU No. 535.105 calls at Speiz whilst working a Brig to Bern service. *John Sloane*

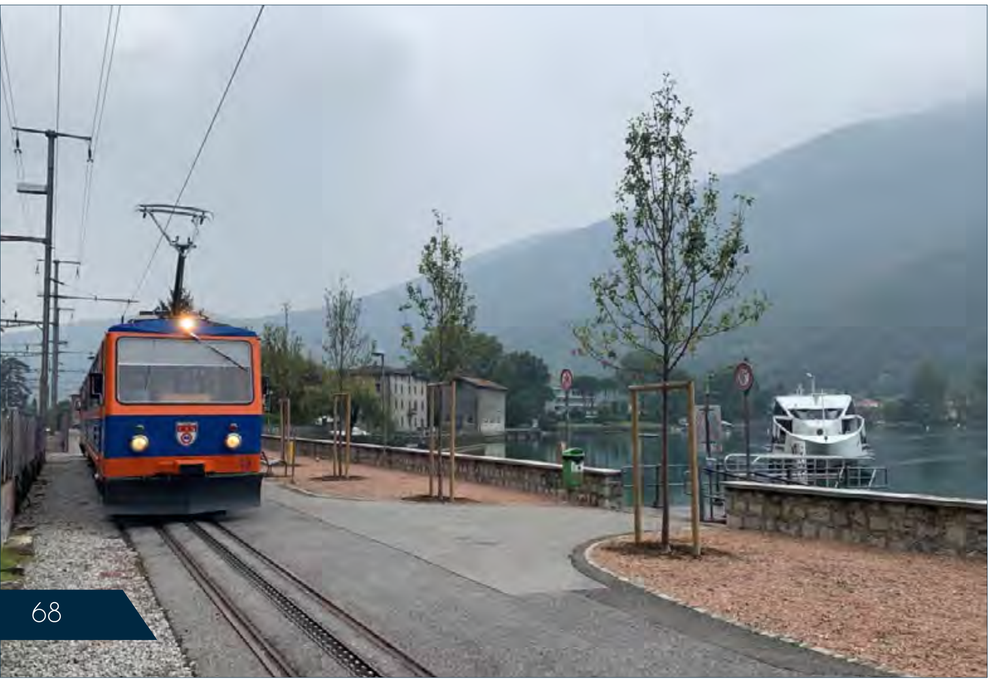


Railpool's Class 187.003 is seen stabled at Speiz station. *John Sloane*

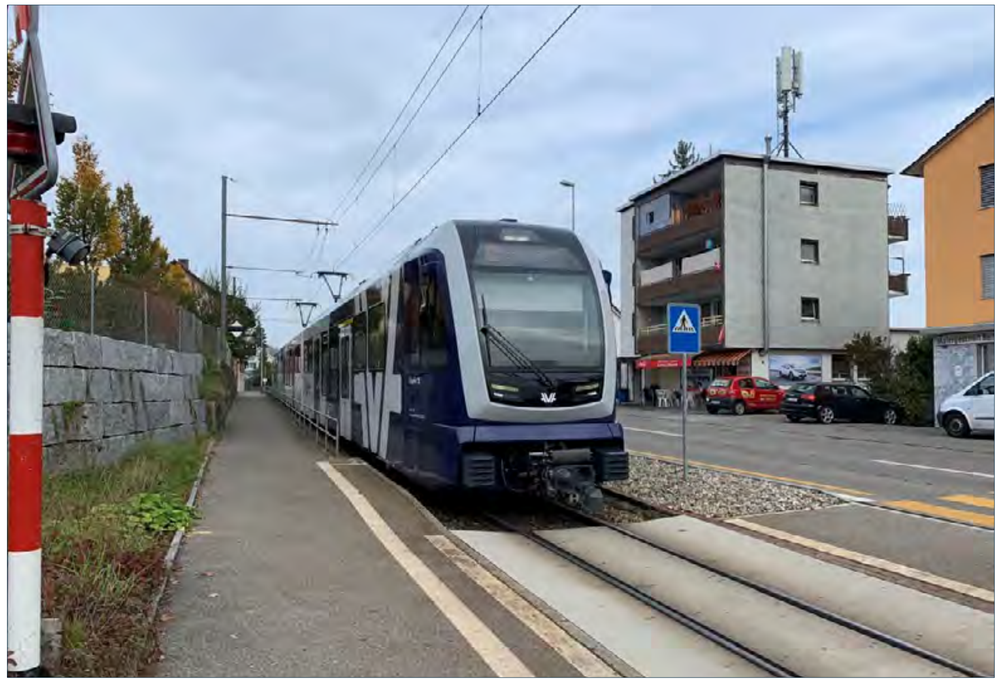
Wengernalpbahn-WAB No. 253 is seen at Lauterbrunnen working a service to Kleine Scheidegg. *John Sloane*

Switzerland

SBB EMU No. 560.290 stands at Aarau working S29 train No. 8935 09:34 Aarau - Turgi. *Keith Hookham*

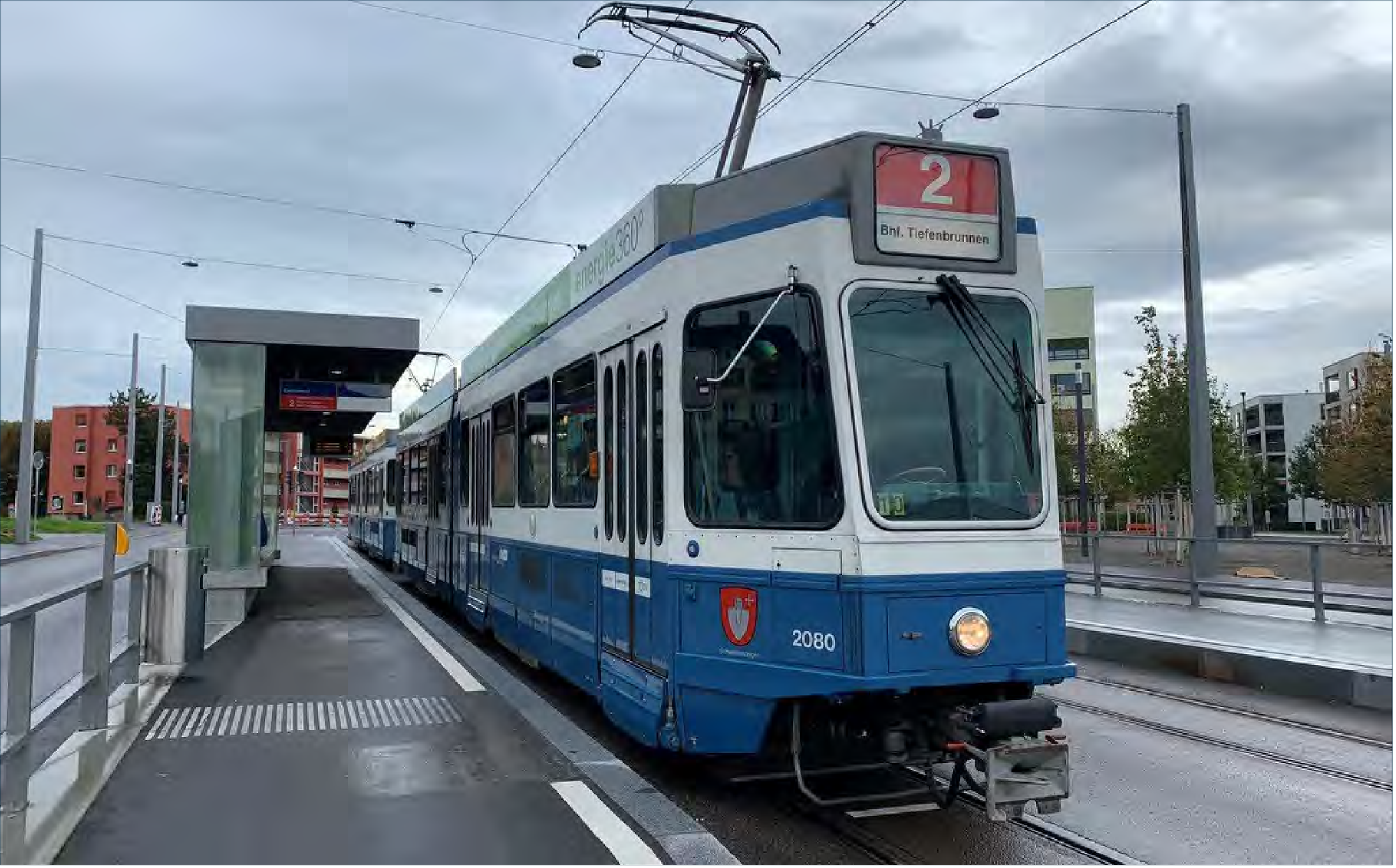


Welle unit No. 72 arrives at Unterentfelden Oberdorf working S14 service No. 446 16:12 Aarau - Schöftland on October 20th. *Keith Hookham*



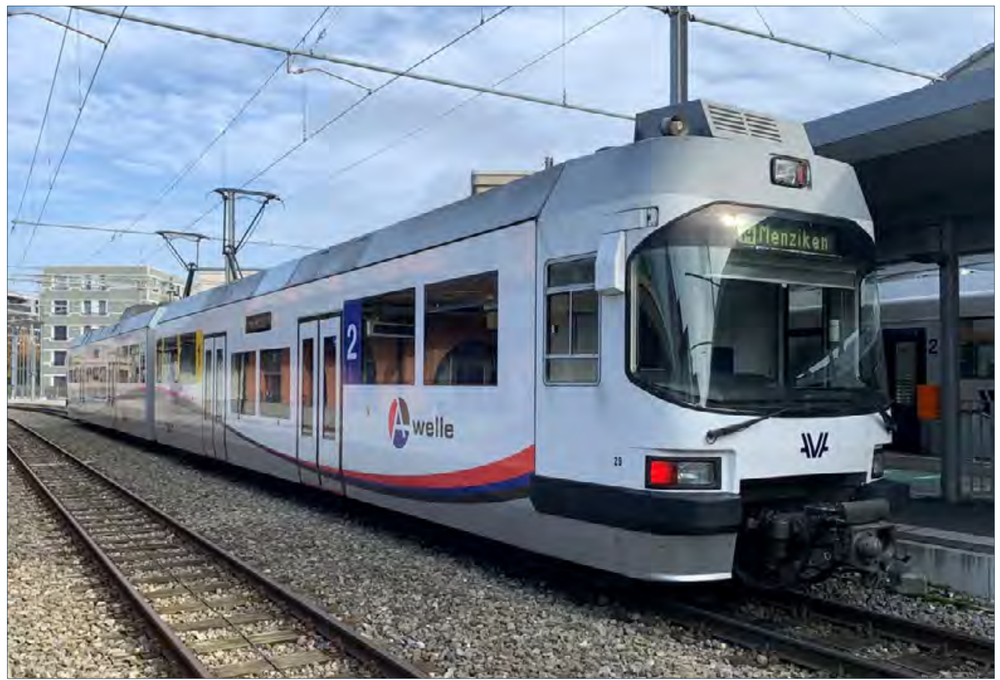
Monte Generoso Bahn No. 13 stands at Capolago Lago on October 9th with the once a day train No. R12 10:15 Generoso Vetta - Capolago Lago which connects in with the boat that can also be seen in the photo. *Keith Hookham*

Switzerland



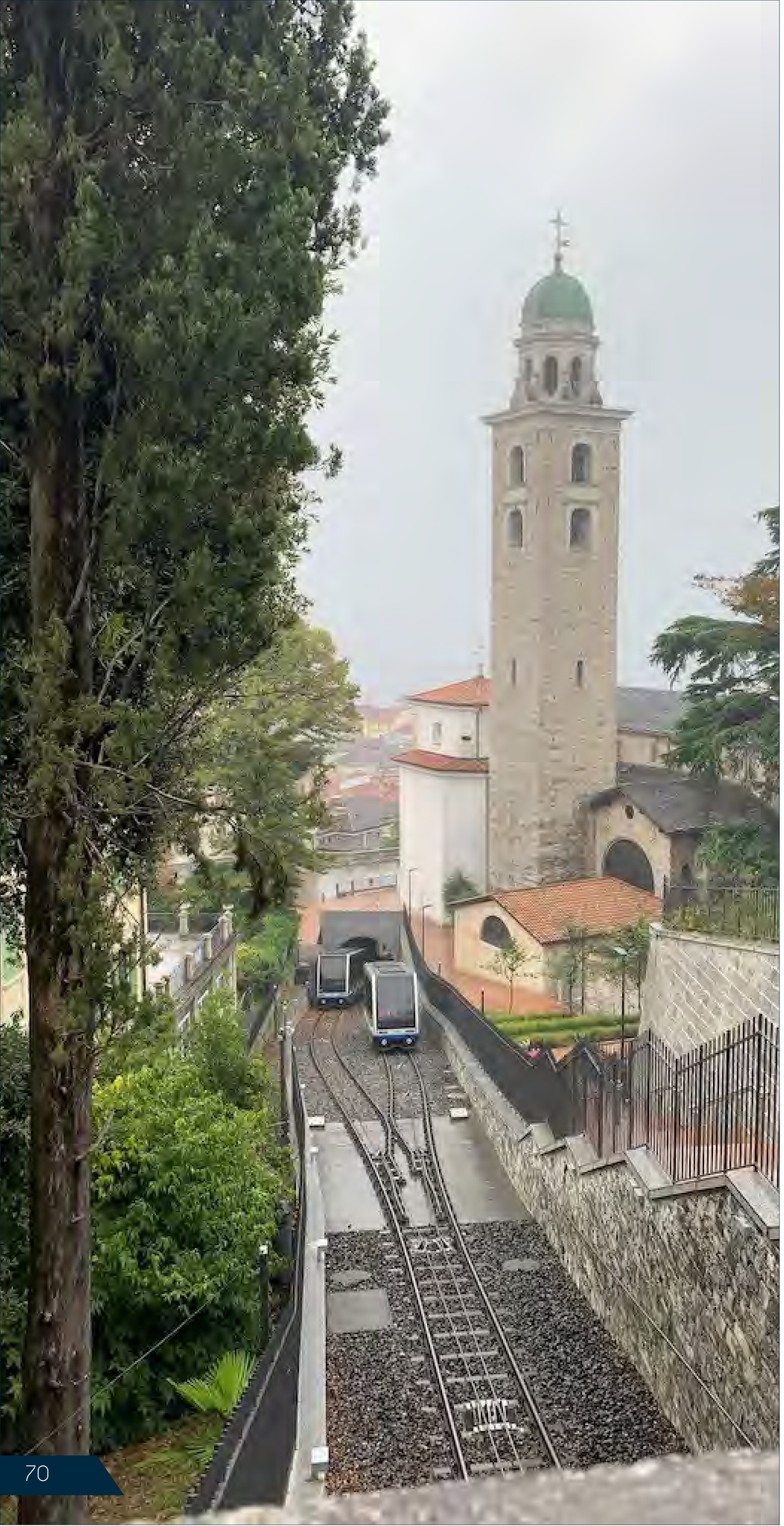
ZVV Zürich trams Nos. 2080 and 2313 are seen before departing Schlieren Geissweid which is the new terminus for line 2 on October 18th. *Keith Hookham*

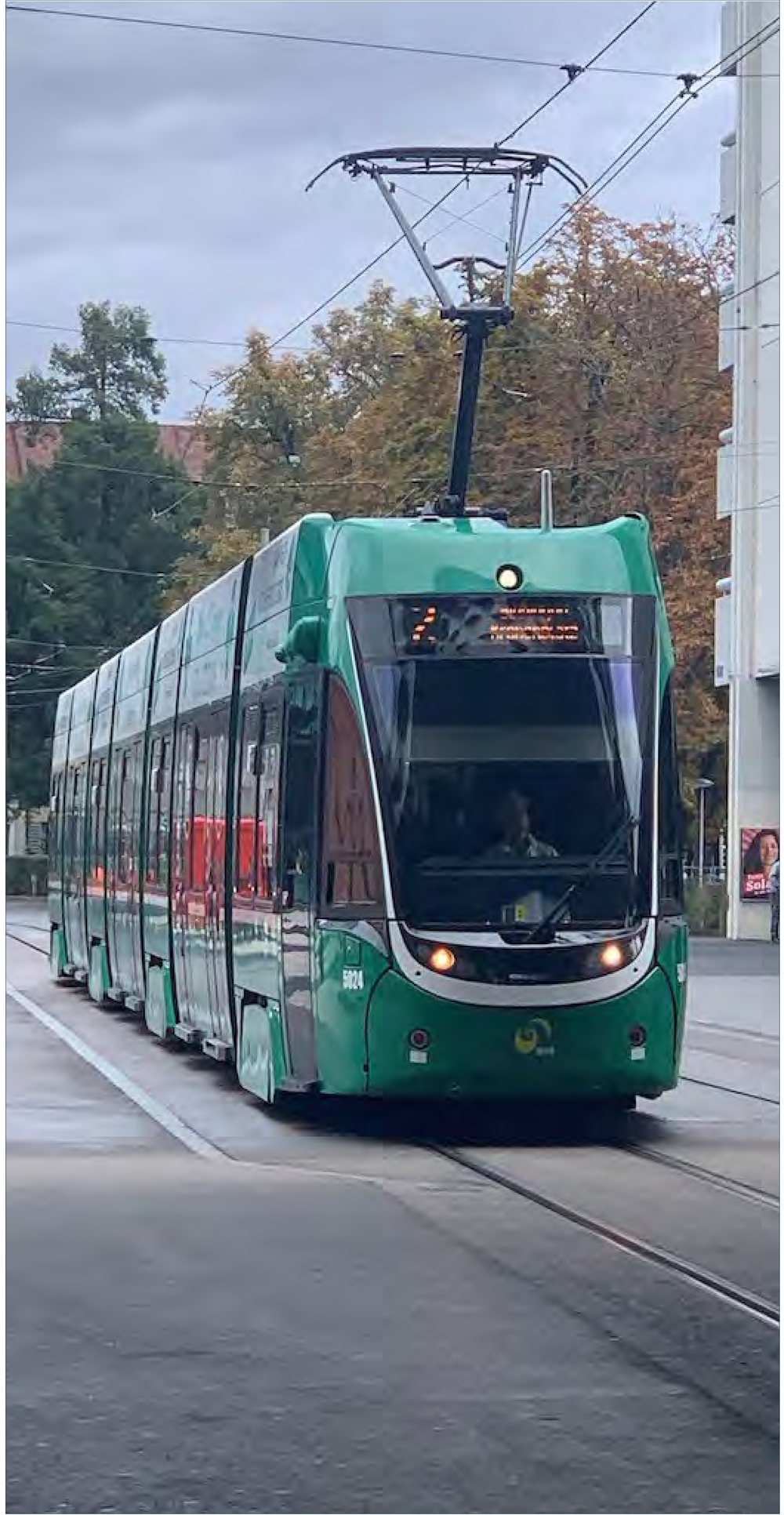
Welle unit No. 29 stands at Aarau on October 20th before working to Menziken on S14 service No. 241 15:26 Aarau - Menziken. *Keith Hookham*



SZU unit No. 512 arrives at Zürich Schweighof working S10 service No. 12882 16:27 Zürich Triemli - Zürich HB on October 18th. *Keith Hookham*

Switzerland



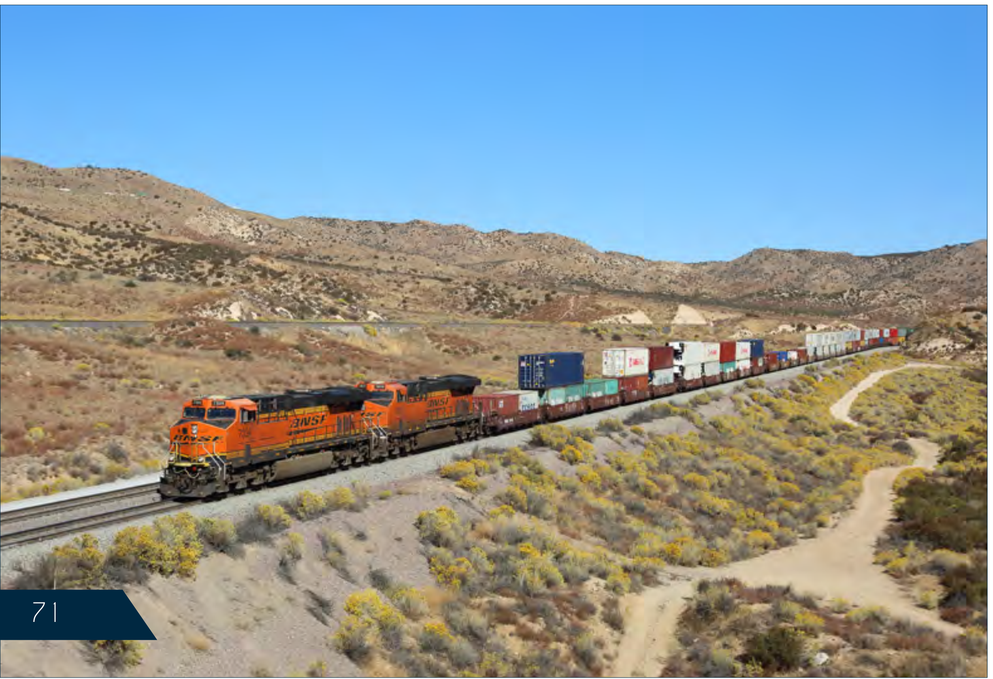


BVB tram No. 5024 is seen arriving at Basel Messeplatz working service a line No. 2 service.
Keith Hookham

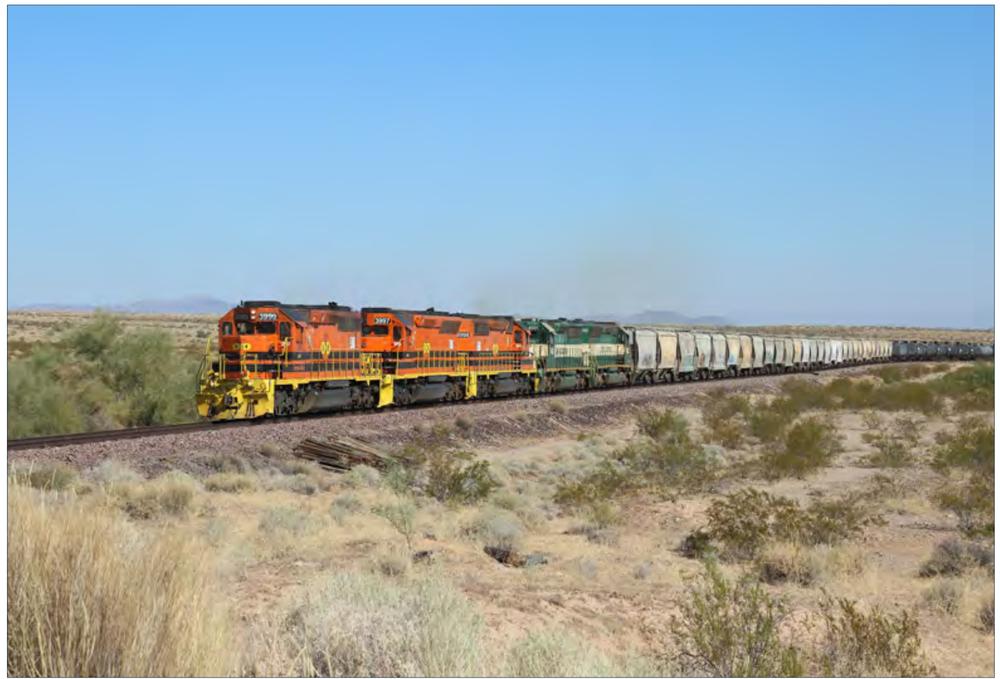
Funiculars Nos. 1 and 2 can be seen here at Lugano. These transport customers from the railway station to the town centre below.
Keith Hookham

U.S.A.

BNSF GE C44-9W No. 4620 leads ES44AC No. 6114, GE ET44C4 No. 3787 and ES44C4 No. 6577 across the Colorado River near Ludlow whilst hauling a westbound container train on October 28th. *Laurence Sly*



On October 29th, BNSF GE ET44C4 Nos. 3999, 3997, 3998, and GE C44-9W No. 4001 and 4002 pass Bouse whilst hauling the AZCR Mathie Job to Parker. *Laurence Sly*



On October 26th, BNSF GE ES44DC No. 7324 and ES44C4 No. 6859 approach Hill 582 whilst hauling an intermodal train. *Laurence Sly*

U.S.A.

On October 26th, GE ES44DC Nos. 7762, 7723, 7733 and GE ET44C No. 3783 approach Hill 582 with a train of autoracks.
Laurence Sly

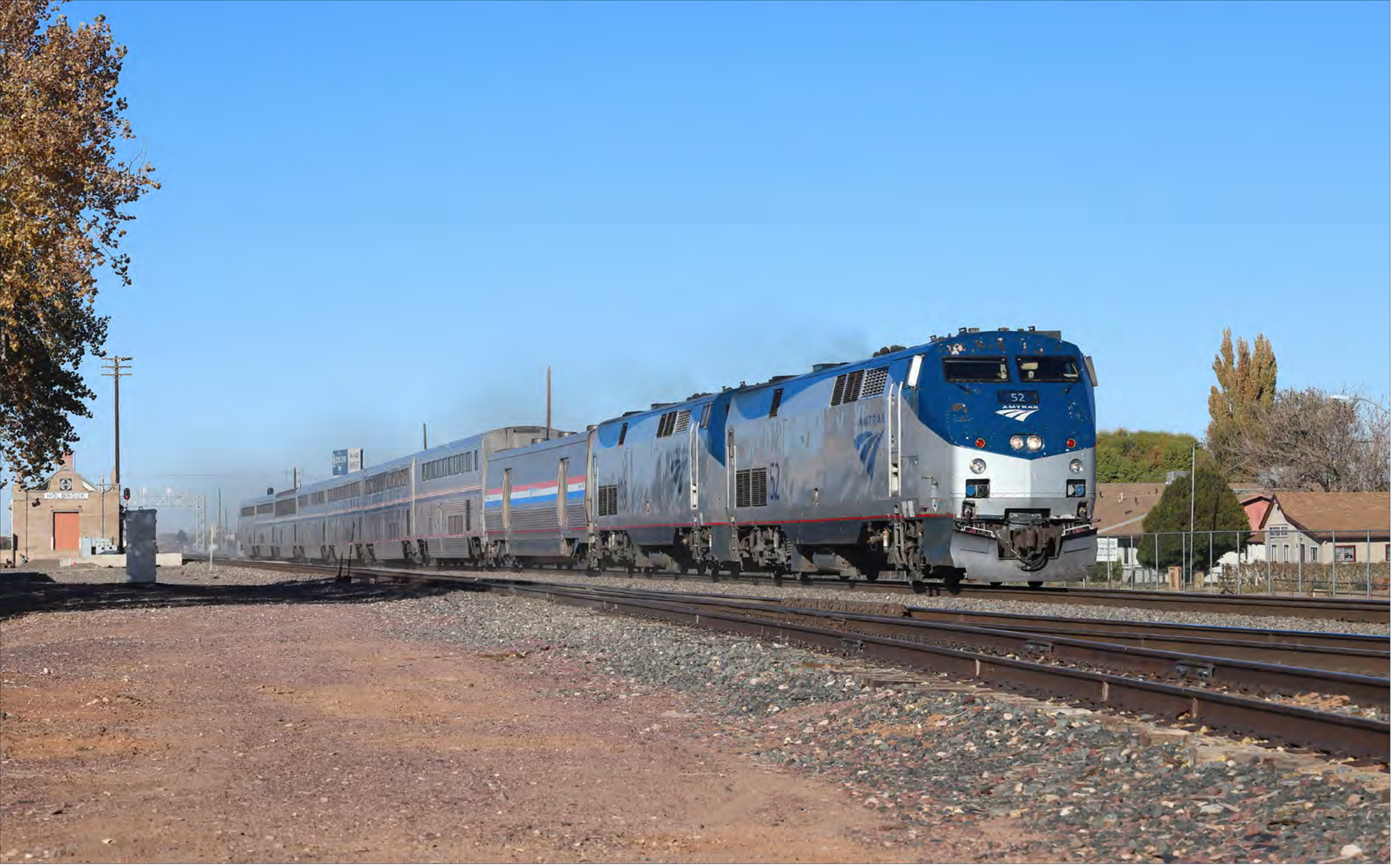
U.S.A.

On November 1st, due to a miners strike the Copper Basin Railroad were not running any ore trains. In order to prevent sabotage to the railway infrastructure by striking miners the railway ran security trains. EMD GP40-3 Nos. 303 and 302 pass E Tristan Road near Kearny whilst hauling a security train from Ray Junction to Hayden, *Laurence Sly*

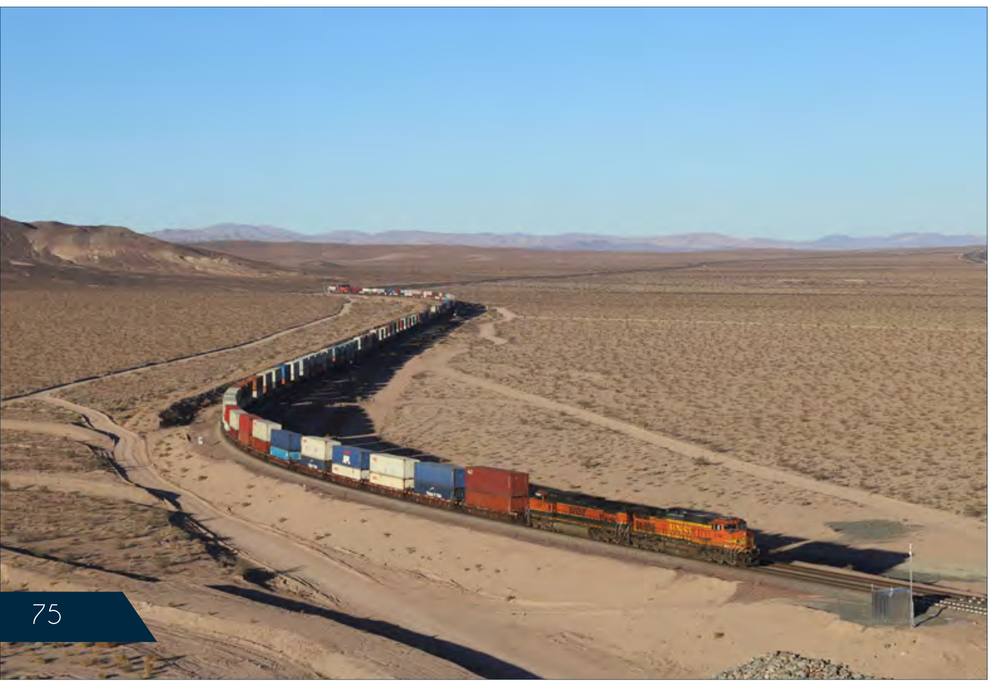
U.S.A.

On November 2nd, Union Pacific AC44CW No. 7185, SD40T-2 No. 4554, SD70M No. 3951, AC4460CW No. 6954 and AC44CW No. 6571 approach Yuma whilst hauling an eastbound manifest train.
Laurence Sly

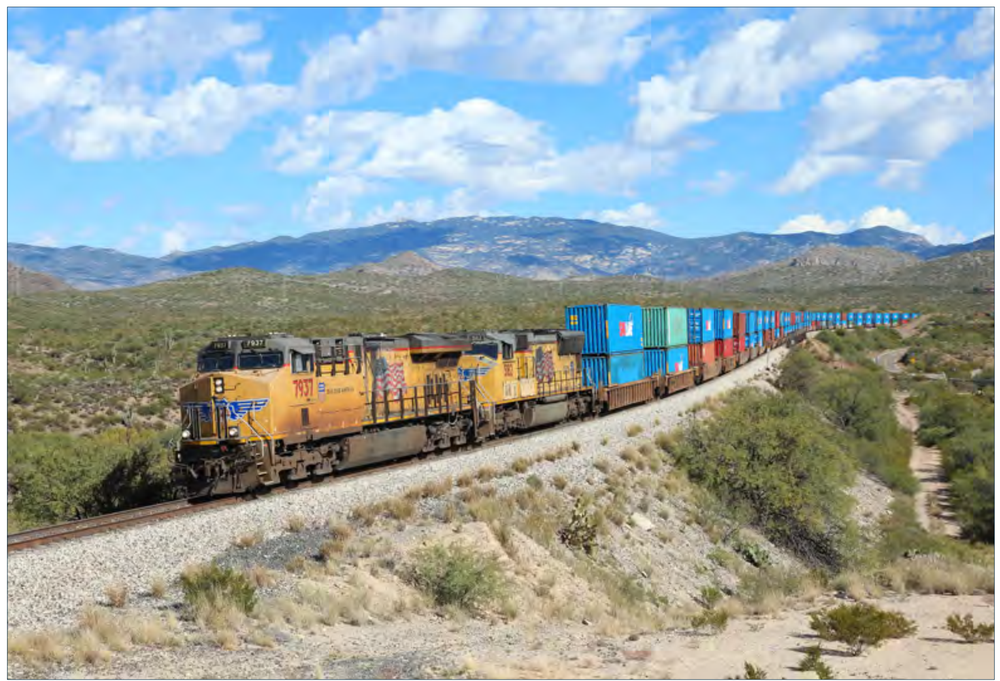
U.S.A.



Amtrak GE P42DC Nos. 52 and 199 pass Holbrook whilst hauling the Southwest Chief, 18:00 Los Angeles - Chicago on October 31st. *Laurence Sly*



Union Pacific GE ES44AC No. 7937 and SD70M No. 5182 pass Vail whilst hauling a westbound double stack container train on November 5th. *Laurence Sly*



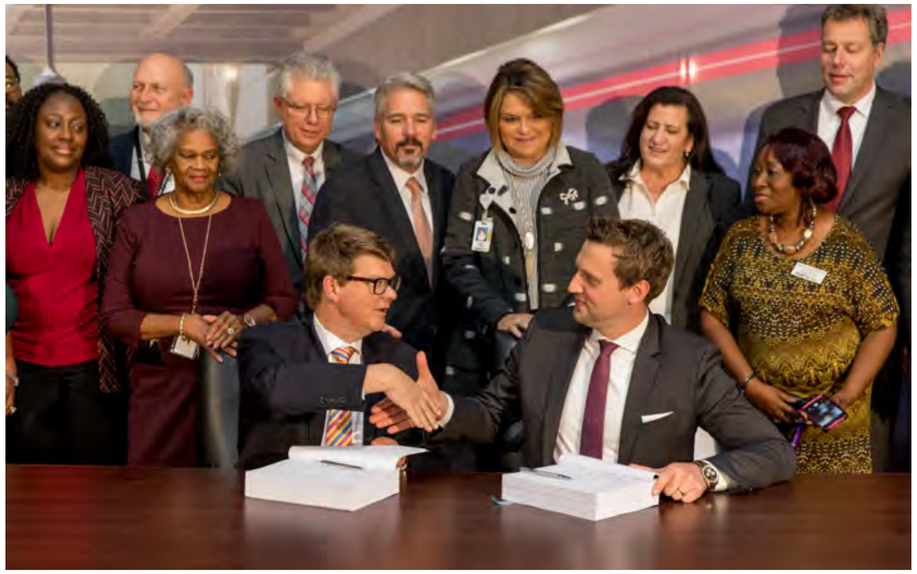
BNSF C44-9W No. 4176 and Dash9-44CW No. 1039 approach Ludlow whilst hauling an eastbound container train on October 28th. *Laurence Sly*

Norfolk Southern AC44C6M No. 4136 and GE ES40DC Nos. 7679 and 7675 approach Benson with a train of autoracks on November 5th. *Laurence Sly*

U.S.A.

MARTA confirms award for 127 METRO trains to Stadler

The Metropolitan Atlanta Rapid Transit Authority (MARTA) and Stadler have signed the contract for the delivery of 127 METRO trains with two options for 25 additional trains each. MARTA had awarded the contract to Stadler in spring of this year according to the media release from 29 March 2019. As already announced, the contract is worth over 600 million US dollars. The new trains are scheduled for service at the world's largest airport, Hartsfield-Jackson Atlanta International Airport.



MARTA and Stadler have signed the legally binding contract for 127 METRO trains in Atlanta. The contract contains two options for 25 additional trains each. Following the award decision in March 2019, the contract could now be signed. The contract volume is over 600 million US dollars. For Stadler, this is the largest single order for vehicles in the company's history. It is also the first major METRO order in the USA.

According to the contract, the first vehicles will be in passenger service from 2023.

Green-Tech for the US: Stadler and SBCTA sign first ever contract for Hydrogen-powered train

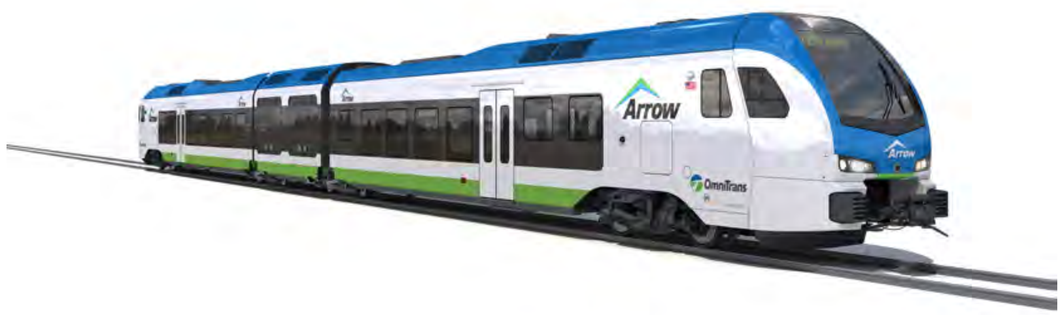
Stadler and San Bernardino County Transportation Authority (SBCTA) signed the first ever contract to supply a hydrogen-powered train, to run in the United States. SBCTA awarded the contract with an option to order four more vehicles in the future. The train of the FLIRT H2 type is planned for passenger service in 2024.

A contract signing between Stadler and the San Bernardino County Transportation Authority (SBCTA) cleared the way for the first hydrogen-powered passenger train to operate in the United States.

The agreement marks a major milestone in bringing zero-emission passenger rail technology to the U.S. The hydrogen-powered FLIRT H2 vehicle is planned to be introduced in 2024 as part of the Redlands Passenger Rail Project, a nine-mile connector between Redlands and San Bernardino's Metrolink station.

Under the agreement, Stadler will develop the first hydrogen-powered train. The ordered vehicle consists of two cars with a power pack in between. This holds the fuel cells and the hydrogen tanks. The train is expected to have seating space for 108 passengers and in addition generous standing room. The FLIRT H2 is projected transport passengers with a maximum speed of up to 79 mph (130 km/h).

«Implementing innovative solutions like this first-of-its-kind passenger train is an excellent example of how we are demonstrating our commitment to the next generation in San Bernardino County», SBCTA President Darcy McNaboe said. «The hydrogen FLIRT will help us address the commuting needs of today while preserving our environment for a better tomorrow.»



«Stadler is committed to designing and building green technology for the transportation industry. We are delighted that SBCTA shares our enthusiasm for this goal. We have an excellent relationship with SBCTA, and it is a great honor to partner with them to bring the first hydrogen-powered train to the United States.», said Martin Ritter, CEO of Stadler US Inc.

Stadler and SBCTA started their partnership in 2017, when SBCTA ordered three diesel electric multiple unit (DMU) FLIRT.

U.S.A.

After dropping off wagons at Pig Farm, Apache Railway Alcos MLW C424 Nos. 98, 81 and 99 approach Snowflake on October 31st.
Laurence Sly

Vietnam

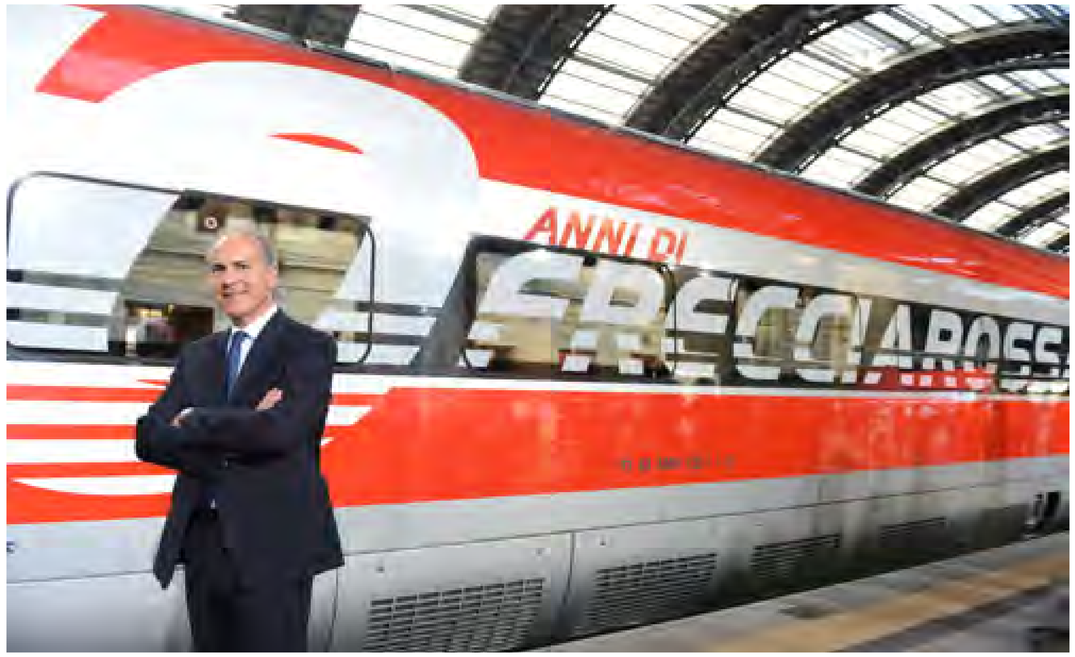
On October 15th, No. D13E.715 stands at Phan Thiet awaiting departure with train SPT1 to Ho Chi Min. *Mark Torkington*

Trenitalia awarded HS services for Madrid-Barcelona, Madrid-Valencia/Alicante and Madrid-Malaga/Sevilla connections

Trenitalia (FS Italiane Group) is headed to Spain for the Madrid-Barcelona, Madrid-Valencia/Alicante and Madrid-Malaga/Seville high-speed services.

The ILSA consortium, comprised of Trenitalia and Air Nostrum, has been selected by ADIF, the Spanish Railway Infrastructure Manager, as the first private operator to enter the Iberian market. The commercial service is set to commence in January 2022 and shall have a duration of ten years.

between Madrid and Seville. From Madrid to Alicante, rather, there will be four daily connections, which can be increased during peak summer weeks. The train chosen by ILSA is the Frecciarossa 1000, manufactured with environmentally-friendly technologies and equipped with an aerodynamic design. The five routes awarded shall be serviced by a fleet of 23 trains. The Frecciarossa 1000—as the flagship train of Trenitalia's fleet and the fastest in Europe—was designed and constructed in accordance with the international Technical Specifications of Interoperability (TSI) that allow the train to travel across several European networks. The Frecciarossa 1000 is the first high-speed train to have obtained Environmental Product Declaration (EPD) certification, having been constructed with almost 100% recyclable and reusable materials, in addition to having reduced water and electricity consumption.



"This project marks FS Group's entry into the Iberian high-speed rail market", underlined Gianfranco Battisti, CEO and General Director of FS Italiane. "We are proud to make available to Spain the know-how developed over 10 years of high speed, with 350 million passengers transported in Italy, as distinctive operators in Europe in a competitive market," continued Battisti. "The FS Italiane Group is a leading international player, ready to face challenges in the race towards the American market following the award of railway services in London and Edinburgh, in operation since 9 December in Great Britain, along with the high-speed project in Thailand.".

The ILSA consortium will offer 32 daily connections along the Madrid-Barcelona route (16 in each direction). The Madrid-Valencia route will have eight connections per day, seven of which will run between Madrid and Malaga and

Trenitalia subsidiaries are present in Great Britain with Trenitalia c2c (commuter transport) and Trenitalia UK that will operate InterCity services from London to Glasgow/Edinburgh (West Coast Partnership) as of 9 December 2019; in Germany with Netinera (passenger services); in France with Thello (international Italy-France connections); and in Greece with TrainOSE (passenger services).

Stadler sells its FLIRT to Azerbaijan for the first time

Azerbaijan Railways (ADY) and Stadler have signed a contract for the delivery of ten FLIRT multiple units. The contract is valued at a good 115 million euros. Four trains will be configured as interregional trains with diesel-electric propulsion, and three electrical multiple units will be designed respectively as interregional and regional trains. ADY has already ordered rolling stock from Stadler several times in the past. Previous orders have included sleeping cars for the international connection between Azerbaijan and Turkey, and double-decker KISS trains. Stadler has now acquired the first order from Azerbaijan for its bestseller, the FLIRT.

ADY and Stadler have signed a contract for the development and construction of ten five-car FLIRT trains in three different versions. The order value, including spare parts and depot equipment, is a good 115 million euros. Four trains will have a diesel-electric drive (DMU) to be used in interregional traffic. Six trains will be driven electrically (EMU). Of these, three will be used for interregional traffic, and a further three will be designed as regional trains for suburban transport. The order from the Caspian Sea underlines once again how Stadler can respond to individual customer needs – and demonstrates the versatility of the FLIRT. ADY has already ordered rolling stock from Stadler several times since 2014. In 2014, ADY ordered 30 sleeping cars for the Kars–Achalkalaki–Tbilisi–Baku route between Turkey and Azerbaijan. The first of these sleeper trains has already been delivered and is reviving the current political discussion about night trains. In 2015 and 2018, ADY ordered double-decker KISS trains, which are in daily service and offer high availability rates.

"We are very pleased that ADY has added the FLIRT to its fleet after several orders for different vehicles from Stadler. ADY will have a state-of-the-art vehicle thanks to the five-car trains from the FLIRT family. ADY will receive the first diesel-electric FLIRT which meets all GOST requirements", says Head of Sales Ansgar Brockmeyer.

A broad-based infrastructure project is currently under way in Azerbaijan. Many main lines are being converted from 3 kV direct current to 25 kV alternating current. The four diesel-electric FLIRT trains will be built first so that ADY can continue to operate with sufficient trains even during this changeover. According to the contract, the first trains will be delivered to ADY in 2022.

More details about the trains

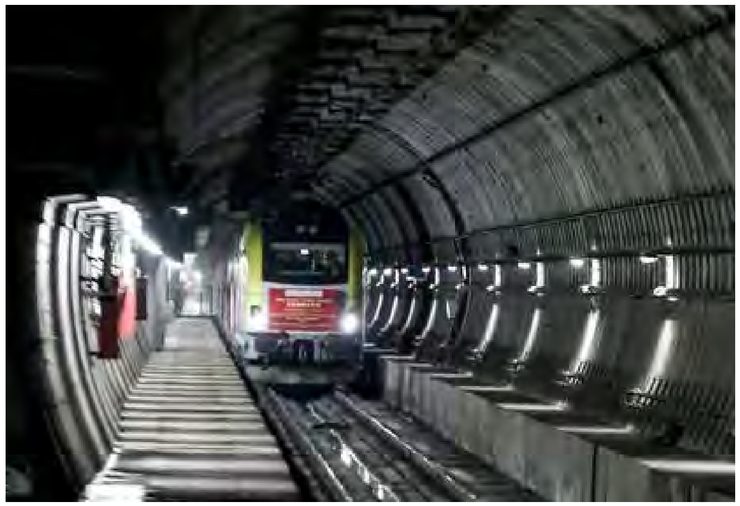
The FLIRT trains for ADY are designed for the Russian broad gauge of 1,520 millimetres. The GOST profile with a vehicle width of over 3.48 metres and a vehicle height of over 4.60 metres results in a spacious interior. The interregional trains offer a particularly high level of comfort, with a bistro and comfortable seats with electric controls in first class. The interregional DMU are 106.76 meters long and offer a seats to 271 passengers. The diesel-electric FLIRT has an additional short car body, the PowerPack, which holds the four diesel engines and parts of the drive equipment. The interregional EMU vehicles are 92.96 metres long. They provide seats for 236 passengers. Finally, the regional EMU vehicles are also 92.96 metres long. They provide seats for 255 passengers as well as sufficient standing room for short local journeys.

A train that goes down in history

The first freight train in history crosses the Marmaray tunnel under the Bosporus. On its route from the Chinese city of Xi'an to Prague, Rail Cargo Groupis responsible for the European part of the connection.

The Chinese market offers enormous potential for freight transport to and from Europe. RCG is therefore continuously expanding its long-haul connections to the Far East. A train running from the Chinese city of Xi'an to Prague shows just how topical the topic is around the "One Belt One Road" initiative, a broad-based initiative to connect China with Asia and Europe.

RCG is responsible for the European part of this train connection. "We are pleased to be able to implement this project on the European side. We are convinced that an annual volume of up to 350,000 TEU is not only realistically achievable, but also easy to implement. We are expecting four to five tons per TEU. The routes via Russia have reached an annual capacity of one million TEU between China and Europe by comparison," says Kargl. Particularly popular is the China-Europe connection via Turkey for finished electronic products from Asia such as laptops, hard disks, semi-finished TV panels, large-volume textile products and car parts from China.



While the Asia-Europaroute is particularly used for electronic products, high-quality products from Europe such as finished and semi-finished products, consumer goods such as milk powder, frozen food, pork and products from the health sector such as pharmacy products are particularly popular for the Chinese economy," says Kargl.

On November 6th this train reached Ankara, Turkey. Thomas Kargl, VD Rail Cargo Group, attends the welcome ceremony and welcomes the train together with many guests of honour. He crosses the Marmaray-Tunnel under the Bosporus on the Trans-Caspian International Transport Route. It is the first freight train in history to cross the tunnel, connecting the Asian and European parts of Turkey. And many more will follow, as the route to Ali Ihsan Uygun, Head of the Turkish State Railway, is estimated to involve a transport volume of five million tones on this new route between China and Western Europe by 2025.
Freight traffic with a future

This welcoming ceremony is a clear sign that sustainable rail freight transport is also very important for Turkey. This underground connection of the strait between Europe and Asia will not only make the railways more efficient, but above all more competitive.

Siemens Mobility delivers seven Mireo trains for DB Regio

Third Mireo order from DB Regio
Service in the Karlsruhe 7b network
Passenger comfort and sustainably increased value over entire lifecycle

DB Regio, the regional transport business of Deutsche Bahn AG, has ordered seven Mireo trains from Siemens Mobility. The trains will operate on the regional express route between Karlsruhe and Heidelberg/Mannheim via Bruchsal in the Karlsruhe 7b network. They will be built at the Siemens Mobility plant in Krefeld, Germany, and their delivery is planned for the end of 2022.

"This order marks the third Mireo order we've received from DB Regio AG in less than three years. Our Mireo trains will operate in future on the new regional "North Baden Express" line and also serve as regional trains in the Rhine Valley and on the S-Bahn system in the Rhine-Neckar region. The Mireo features an energy-efficient vehicle design and improved passenger comfort, and offers sustainable value enhancement over the entire lifecycle," said Sabrina Soussan, CEO of Siemens Mobility.

The three-car Mireo trains are offering more than 200 seats. The train has a scalable, articulated design. Its lightweight construction, energy-efficient components and intelligent network management enables the Mireo to reduce its energy consumption by up to 25% compared to the previous generation of electric multiple-unit trains. The new aerodynamic design and quiet bogies reduce the train's noise level.

The new trains are procured by DB Regio AG on behalf of the Ministry of Transport Baden-Württemberg as the responsible authority for this network. After delivery of the vehicles, these will become the property of the Landesanstalt Schienenfahrzeuge Baden-Württemberg (SFBW) and are leased to DB Regio for 13 years, the term of the transport contract.

Alstom provides its series 100 renewed cars to Line E of Buenos Aires city metro

Alstom will provide new cars for service to the enlarged Line E of Buenos Aires City metro, which represent a notable improvement for the metro cars of this line and an increase in passengers comfort.

The modernized cars of the series 100 produced by Alstom are incorporated into this line in which around more than 100,000 passengers travel per day, from the Plaza de los Virreyes station to Retiro in the centre of Buenos Aires. This modernization is in addition to the installation and validation of the signalling system in the three new stations of the E Line, completed successfully at the beginning of June.

Those metro cars are subject to a general review after 15 years to ensure their safety and efficiency. This “half-life” maintenance includes the disassembly, polishing, cleaning, profiling and painting or absolute replacement of all cars pieces and parts that are sent to Los Hornos workshop, in Las Plata. In that, full repair and maintenance’s are done by fifty professionals and workers, mostly from the same city, who works daily in the renovation of the cars that are part of the Buenos Aires metro network.

“The modernization of these series 100 cars for Line E is another proof of the enormous efforts that Alstom makes daily in its factory of Los Hornos to improve the travel´s quality of the thousands of users of the Buenos Aires city metro. To this we must add the activities that we have carried out recently in the expansion of Line E, with the incorporation of our state-of-the-art signalling system. We are proud of our customer’s trust in our experience, and we continue to bet on transforming the Argentine transport system” says Ernesto Garberoglio, General Director of Alstom Argentina.

Alstom has been present in Argentina since 1993, maintaining its presence over the years, which demonstrates a strong commitment to the country and its inhabitants. Dedicated to the transport sector on rails, it provides products and services to the metro operator of the City of Buenos Aires (Metrovías) and to the owner of the metro infrastructure (SBASE). It also has projects with Argentine Railways Infrastructure (formerly ADIFSE) and with the Railway Operator State’s Society (SOFSE) in the implementation of technological solutions for passenger and commercial transport.

The European Metropolitan Area of Lille and Alstom present the future metro and its 52-metre trains

On the occasion of the 3rd Assises des Mobilités, the European Metropolitan Area of Lille (MEL) and Alstom presented the future metro. This presentation took place at the heart of the 4-canton metro maintenance workshops in Villeneuve d’Ascq, in the presence of Damien Castelain, President of the MEL, Gilles Fargier, General Manager of Ilévia and Jean-Baptiste Eyméoud, President of Alstom France.

“I am delighted to be able to show today the future metro that all users expect. With the introduction of the new autopilot in 2021 and 52-metre trains in 2023, metropolitan trains will benefit from transport conditions that offer more comfort, fluidity and services. “, says Damien Castelain, President of the European Metropolitan Area of Lille.

“We are delighted that the European Metropolitan Area of Lille has proposed that we join the 3rd Conference on Mobility and Accessibility of the Metropolitan Area to present the future metro and the progress of this ambitious project, which is of major importance for Alstom,” said Jean-Baptiste Eyméoud, President of Alstom France.

Based on Alstom’s rubber metro solutions, the new 52-metre trains will benefit from greater comfort, enhanced accessibility and more passenger information. A train set will be able to accommodate 405 passengers in a comfort version, thanks to the absence of partitions between the 4 cars and wide inter-circulations. Passenger information will be enhanced by displays and multimedia screens. Areas will be dedicated to people with reduced mobility and an integrated video protection system will contribute to the safety of passengers on board the trains and on the platforms. Environmentally friendly, the new metro trains are equipped with high-performance traction equipment for improved energy efficiency. The Alstom solution proposed to MEL will reduce energy consumption by 20%.

The trains will be equipped with Urbalis Fluence, which first worldwide application is for the European Metropolis of Lille. It is an ultra-innovative autopilot system that will provide better performance with lower operating costs, as well as optimised traffic management and travel time.

On this project for the MEL, Alstom is mobilising many local partners. For the manufacture of the new 52-metre trains, Alstom purchases 40% of the subsystems in France, about 45% of which go to local players in the Hauts de France. Six of Alstom’s thirteen sites in France are involved in the development and construction of Urbalis Fluence, new 52-metre trains and the renovation of the VAL208s on MEL line 1: in Lille with a dedicated platform for project management, in Valenciennes for the modernisation of the VAL208 and the design, interior layout, manufacture, assembly, testing and validation of the new trainset, in Ornans for the engines, in Le Creusot for the bogies, in Saint-Ouen for the automation and development of Urbalis Fluence and in Villeurbanne for embedded computing and passenger information. On a daily basis, approximately 300 Alstom employees are involved in this project.

CAF SIGNALLING EXPANDS INTERNATIONAL CUSTOMER BASE WITH A NEW CONTRACT IN URUGUAY

CAF Signalling continues to broaden operations on foreign markets having recently won the contract for the Ferrocarril Central project in Uruguay. The whole contract amounts to a total of almost €50 million, with approximately €30 million associated with the scope of this CAF Group subsidiary.
The Construction Consortium Ferrocarril Central, consisting of Sacyr Construcción Uruguay S.A., Compañía Sudamericana de Empresas Eléctricas y Mecánicas y de Obras Públicas S.A., Nge Contracting S.A., and Berkes Construcción y Montajes S.A., entered into a contract with the consortium consisting of the companies CAF Signalling and Revenga Smart Solutions for the design, production, installation, testing and commissioning of all the communication and signalling systems for the Ferrocarril Central project. This route, which extends almost 276 Km, connects the city of Paso de los Toros, in the centre of the country, to the Port of Montevideo. Amongst other aspects, CAF Signalling's project scope includes the implementation of new electronic interlocking, a centralised Traffic Control system for the line as well as the ERTMS L1 system.

The system will enable freight train transit between both cities, but will also cater for mixed traffic on a 36 km section of the metropolitan area of Montevideo. This will reinforce the capacity and cover requirements of passenger transit in the area.

The Ferrocarril Central project is promoted by the Uruguayan Government and marks an extremely significant infrastructure milestone for the country's multiple mode transport system to become the most relevant project in the rail sector in the past few years. And as such, this is a major step within the framework of the transport infrastructures development programme Uruguay is currently implementing, the aim of which is to reinforce its logistics platform. A move that is considered to be crucial to increase both competitiveness and sustainability.

Eurostar celebrates 25 years with new environmental commitments

New initiatives building on Tread Lightly environmental programme
First plastic-free train to mark 25th birthday
Commitment to planting 'a tree for every train'

Since its earliest days, Eurostar, the cross channel high speed rail service linking the UK with mainland Europe, has championed the environmental benefits of high speed rail and encouraged the switch to sustainable modes of transport. With its long standing Tread Lightly environmental programme, established in 2007, Eurostar has reduced its carbon footprint by over 40% and now it celebrates its 25th anniversary with ambitious new commitments reinforcing its position as the most sustainable choice for short-haul European travel.

Over the last 25 years Eurostar has carried over 200 million passengers. With each Eurostar journey emitting up to 90% less greenhouse gas emissions than the equivalent flight, and less carbon emitted per passenger than a single car journey from central London to Heathrow airport, the environmental benefits of high speed rail are significant.

Plastic-free service
As a mark of its commitment to eco-responsible travel, Eurostar is running its first ever plastic-free train between London and Paris. This service, from which single-use plastics have been eliminated, is a demonstration of Eurostar's environmental ambitions for its onboard experience.

On November 14th, the train forming the 10:24 departure from London to Paris and 16:13 from Paris to London featured new wooden cutlery, recyclable cans of water, glass wine bottles, alternative paper-based coffee cups and environmentally friendly packaging for food served to customers. In the bar buffet, a new catering offer was provided by Benugo, including a range of salads, sandwiches and refreshments which will be available on Eurostar services going forward.

Third-star from the Sustainable Restaurant Association
In recognition of its commitment to serving sustainable, responsibly sourced food on board, Eurostar has now been awarded the highest rating of three stars from the Sustainable Restaurant Association (SRA), having held a two star rating since 2012. The SRA three star accreditation demands a very high standard of sustainability with ingredients that are seasonal, Fairtrade or organic, not air-freighted and sourced from farmers with high environmental and welfare standards.

Planting a tree for every train
To further reinforce its commitment to the environment and encourage consumers to choose rail over plane, from 1st January 2020, Eurostar has pledged to plant a tree for every train service that it operates across its routes. Working in partnership with the Woodland Trust, ReforestAction and Trees for All, 20,000 additional trees will be planted every year in woodlands across Eurostar's markets of the UK, France, Belgium and the Netherlands.

From the start of next year, customers travelling with Eurostar will be able to actively support the reforestation of woodland in Europe by choosing to travel by high speed rail.

Mike Cooper, CEO, Eurostar, said: "Over the last twenty five years, we have led the way in cross-Channel high speed rail, revolutionising the links between the UK and mainland Europe. We have always had a strong sense of responsibility for the environment but as the demand for sustainable travel becomes increasingly critical, we believe we can raise the bar. With our environmental ambitions and our tree planting programme we are providing an attractive, eco-friendly alternative to the airlines."

Raymond Blanc, OBE, Business Premier Culinary Director, Eurostar, said: "Working with Eurostar demonstrates that good food can be produced sustainably, even with the challenges of serving food whilst travelling at high-speed. The new three-star rating from the SRA is brilliant recognition of the efforts Eurostar put in to ensuring customers can enjoy delicious food whilst respecting the environment."

Darren Moorcroft, Chief Executive, Woodland Trust, said: "Woods, trees and hedgerows are essential for our environment, for wildlife and for people, and we need them like never before. They play a vital role in our lives, but as a country, we are not planting enough. To meet the Government's target of achieving net zero emissions by 2050 there needs to be at least a threefold increase in the amount of trees going in the ground. Eurostar's commitment to plant in celebration of its 25th birthday is a welcome one. The amount of trees being planted through this partnership will sequest around a thousand tonnes of CO_2 over their lifetime. That's 1,000 reasons to wish Eurostar a very happy birthday."

Alstom completes Recoletos Tunnel Project in record time

Alstom has completed, the record time of five months, the project to modernize the signalling of the Recoletos Tunnel, in the section of the tunnel between Atocha and Chamartín, in Madrid, Spain. The project has included the complete renovation of the signalling and protection systems (ASFA Digital), the installation of new fixed communications systems, as well as the coordination and synchronization with the other works being carried out in the infrastructure at the same time (roads and catenary).

Thanks to this comprehensive reform, the reliability of the line and its facilities will be improved, which will result in a higher quality of the service, especially in Madrid suburban network. In addition, it will ease and improve the infrastructure maintenance works, while passengers' comfort will be increased. At the same time, security measures of the tunnel will be reinforced, facilitating evacuation, if necessary.

"The Recoletos Tunnel project has been a real challenge, due to the short deadlines and system complexity. The signalling leadership and experience of Alstom teams in Spain have allow us to successfully achieve our commitment with the client. To reach this goal, a team of more than 140 people from different departments and expertise areas has been coordinated, working 24 hours a day, seven days a week, with alternate shifts", highlights Antonio Moreno, Managing Director of Alstom Spain.

Over seven kilometres in length, the Recoletos Tunnel is a key infrastructure for the Spanish railway network. This is the tunnel that supports more traffic in the entire network, with about 3,290 weekly circulations (98% are suburban trains). Last June, Adif, Spanish Railway Infrastructure Administrator, started the works for its comprehensive remodeling, including the signalling renewal, track replacement and new catenaries installation.

Alstom was awarded with the part of the project in charge of the signalling renewal between the Atocha Cercanías and Chamartín stations, including new interlocks for Nuevos Ministerios and Chamartín train stations, the installation of digital ASFA balises and other infrastructure equipment that will allow to increase the security and the number of circulations the network.

In addition to the signalling, Alstom teams have renewed and relocated the telecommunications wiring, replaced the cabin equipment of the contiguous stations with new electronic interlocks (Nuevos Ministerios) and made the necessary blockages with the collateral stations (Atocha and Chamartín), to adapt the signalling of these stations to the new one installed in the tunnel.
Recoletos tunnel, with more than 7 kilometres length, links the Atocha and Chamartin main stations through the intermediate stations of Recoletos and Nuevos Ministerios. This infrastructure, which serves the C1, C2, C7, C8 and C10 suburban lines, as well as medium and long-distance trains, supports the largest number of circulations of the entire Spanish railway network, with 470 trains and 200,000 daily passengers This strategic tunnel, that vertebrates the north and south of Madrid, was put into service in 1967.

Alstom unveils life-sized mock-up of Mumbai Metro Line 3 (Aqua Line) Rolling Stock

Alstom and Mumbai Metro Rail Corporation (MMRC) have unveiled the life-sized mock-up of the trainset for Mumbai Metro Line 3 (Aqua Line). The new, iconic and exclusive design for Mumbai meets all technical and manufacturing parameters. The mock-up provides a glimpse of the advanced features that will make daily commute substantially easier for millions of citizens in the city. Once operational, the Aqua Line will reduce vehicular congestion by offering a better alternative that will be fast, efficient and sustainable. Earlier, in August this year, the scale model of the rolling stock was unveiled by Devendra Fadnavis, Chief Minister of Maharashtra in presence of Ashwini Bhide, Managing Director of MMRC along with senior officials. At the same event, Line 3 was christened as Aqua Line, inspired by the vital flow of the sea which is an integral part of the city.

Speaking of this milestone, Alain Spohr, Managing Director, Alstom India and South Asia said, "Our objective was to create an appropriate, future-proofed design that is relevant to the people, the city and their expectations. This theme is called - Dynamic Fluidism. All technical and manufacturing parameters have been met in respect to the high interior density layout and space efficiency. We are proud to present this 'New Face of Mumbai Transportation'. Alstom is committed to support MMRC in easing the transportation challenges of Mumbai. With the project stipulating more than 80% localized manufacturing, this contract further reinforces Alstom's commitment to invest, grow and Make in India."

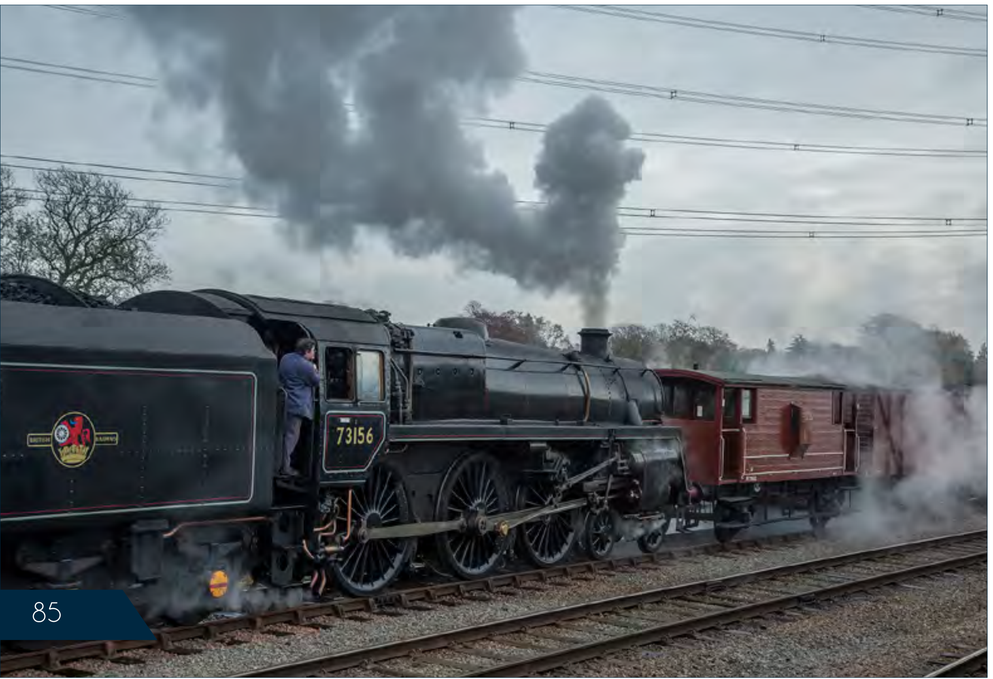
The design takes inspiration from the positive energy of Mumbai and architecture of the city--which is an amalgamation of different styles from around the world. The theme captures evolution of the city's architectural landscapes over the years. The exterior theme is a tribute to the energy flowing through the city of Mumbai - the city that never sleeps. Inspired by the vital flow of water and aspiring to be a fast, efficient and sustainable mode of travel, to become the new lifeline for the people of Mumbai. The interior colour harmony is inspired by the people of Mumbai--always on the move, who turn to the sea for peace and are soothed by its waves and breeze. This inspired the idea to use a unique blend of comfort (beige) and freshness (arctic green) to provide a relaxing and refreshing travel experience.
The trainsets for Aqua Line will be equipped with regenerative braking system aiding significant reduction in carbon emissions. The 177.2 meter-long trainsets will have higher capacity capable of ferrying around 3,000 passengers in one trip to accommodate high passenger flow. Aqua Line trainset will have safety features that include CCTV cameras, smoke detectors, emergency intercoms, fire extinguishers with large detrainment doors to quickly evacuate passengers in an emergency. The trainsets have appropriate signages, three rows of grab rails, grab handles, poles for holding and dedicated space for passengers with luggage. The design also ensures easy accessibility and comfort for the differently abled, with dedicated space for wheelchair in every car.
MMRC awarded Alstom a contract worth €315 million to supply 31 lightweight, fully-furnished modern passenger trainsets of 8 cars each (total 248 metro cars) for Mumbai Metro Line 3 (Aqua Line) in September 2018. Along with rolling stock, Alstom will also execute the power supply contract and equip Line 3 with Urbalis 400, its latest generation of CBTC signalling technology. The scope of the signalling contract (worth €100 million) includes unattended train operation (UTO), computer-based interlocking and centralised train supervision, platform screen doors, as well as the electrical and mechanical supervisory control and data acquisition system (E&M SCADA).

From the UK

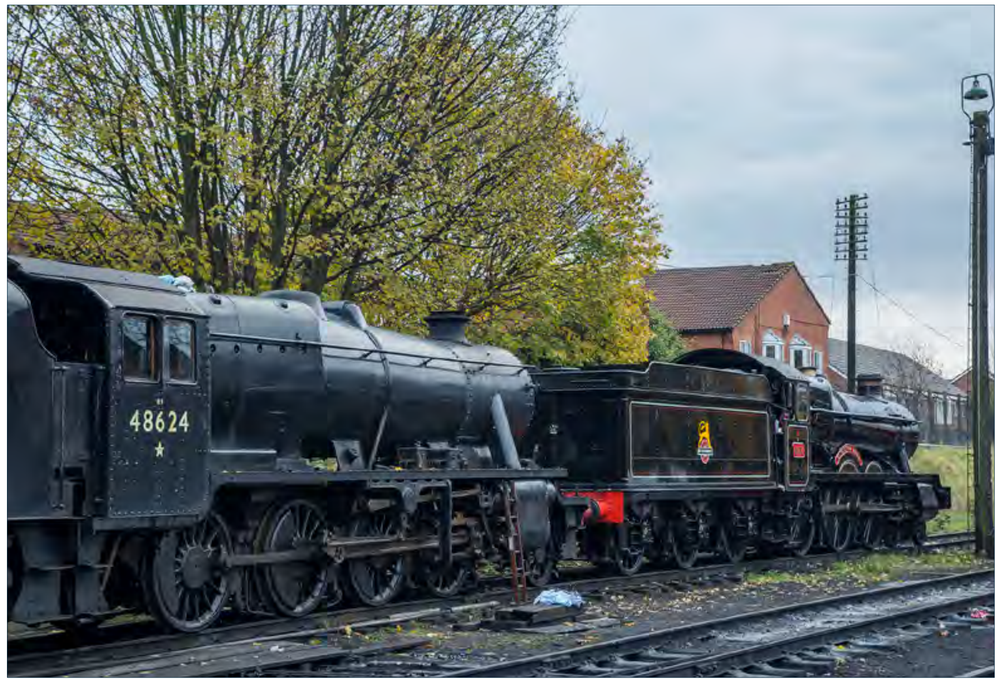
Great Central Railway

As the year draws to a close, we visit the Great Central Railway for its last mini gala of the season, 'The Last Hurrah', over the weekend of November 16th and 17th. Featuring five steam and one diesel loco in action.

GWR Modified Hall 4-6-0 No. 6990 'Witherslack Hall' races towards Rothley with a service from Loughborough. *Richard Hargreaves*



GWR 4900 Class No. 4953 'Pitchford Hall' and LMS Stanier Class 8F No. 48624 are seen in the sidings at Loughborough. *Richard Hargreaves*

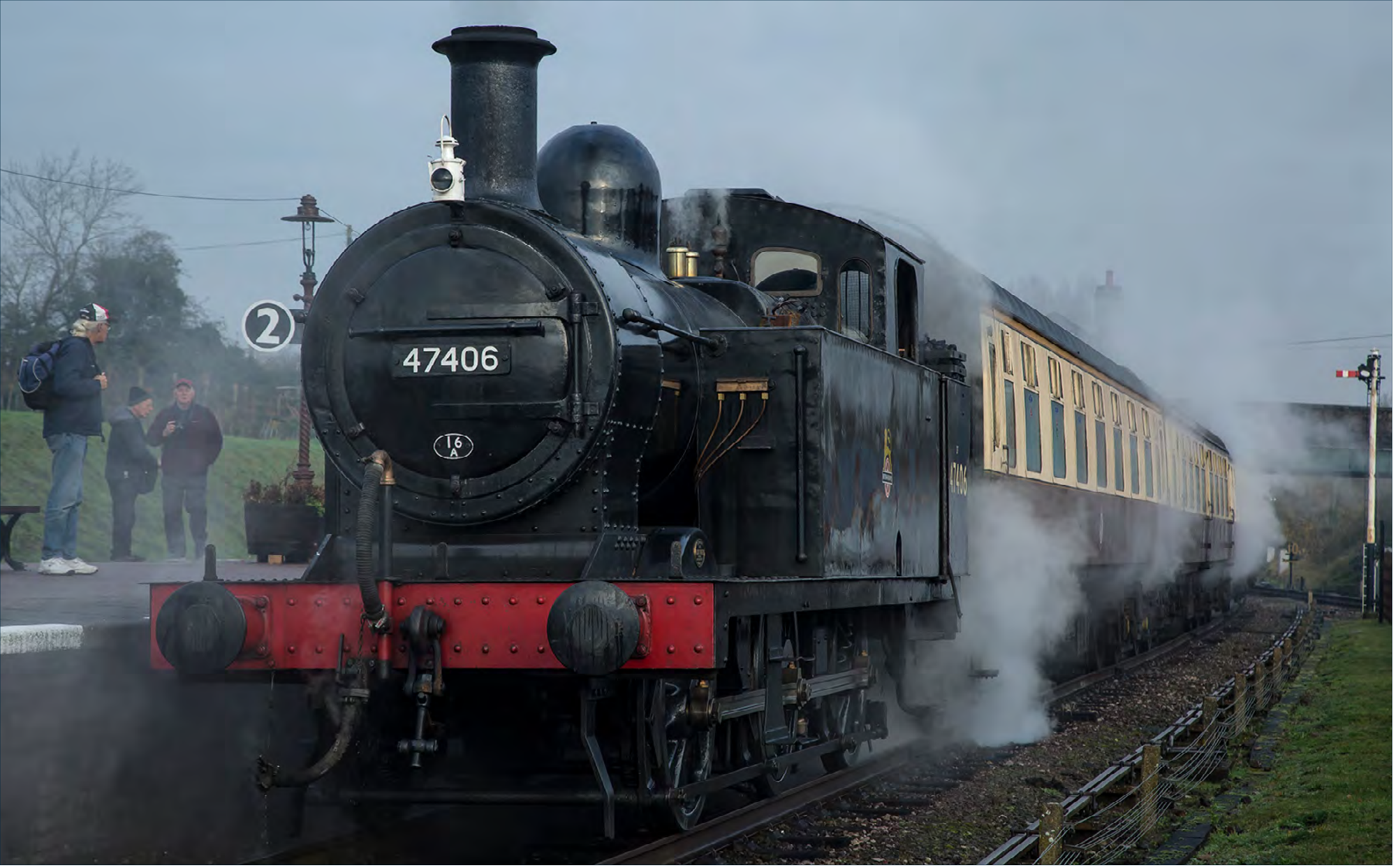


BR Standard 5 No. 73156 hauls a freight along the line near Switherland. *Richard Hargreaves*

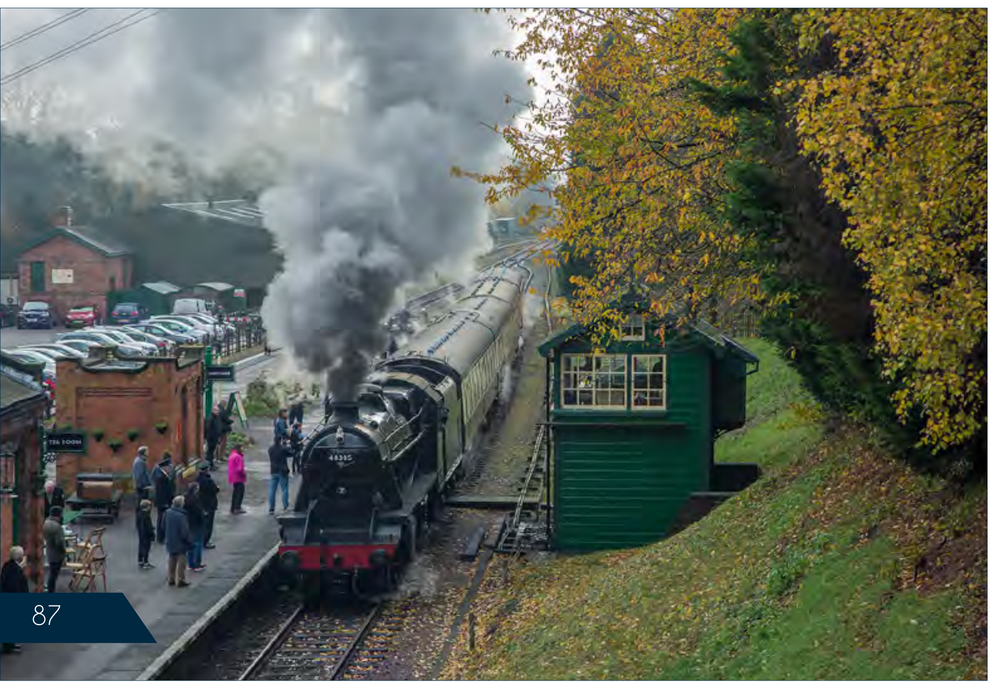
Class 101 DMU Nos. 50203 and 50266 prepare to depart Quorn and Woodhouse on November 16th working a service to Loughborough. *Richard Hargreaves*

From the UK

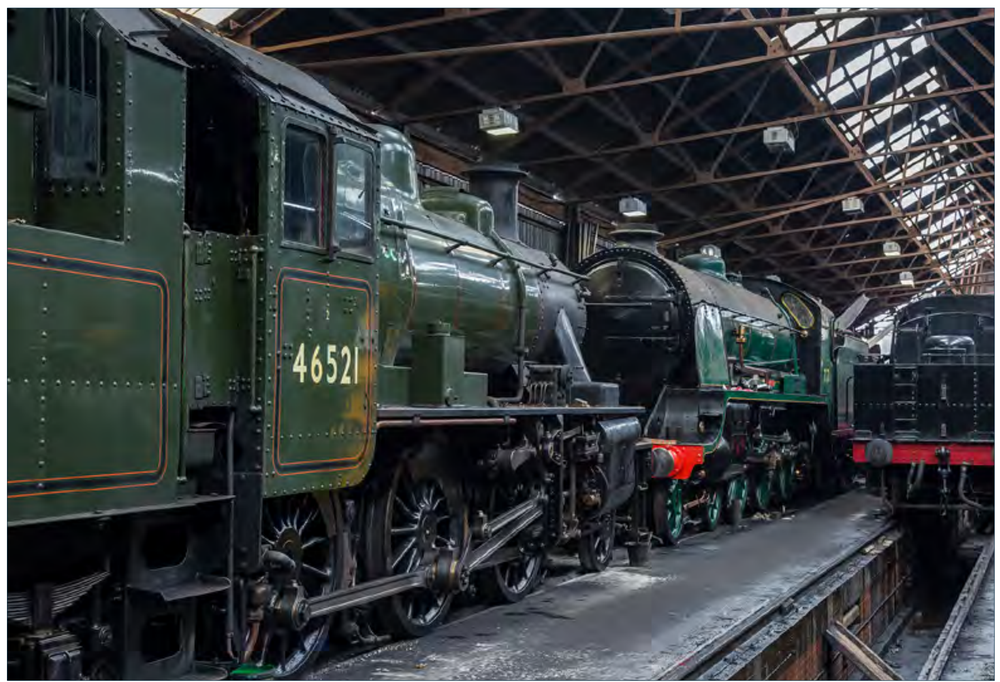
Great Central Railway



LMS Fowler Class 3F No. 47406 calls at Quorn and Woodhouse on November 16th with a service to Rothley. *Richard Hargreaves*



LMS Class 2 2-6-0 No. 46521 and SR N15 Class No. 777 'Sir Lamiel' are seen under repair inside the shed at Loughborough. *Richard Hargreaves*



LMS Stanier 8F No. 48305 pulls into Rothley on November 16th with a Leicester North to Loughborough service. *Richard Hargreaves*

Evening rush hour at Paris Gare du Nord! The scene from the road bridge overlooking the entrance to the station showing five steam-hauled suburban trains, all headed by 141TCs awaiting departure on 10th May 1969. To the left, in addition to pilot 141TC 51, a BB electric heads a local train formed of low-floor aluminium stock.
Christopher Baldwin

SNCF No. CC 7112 is seen ready to leave Tours St. Pierre depot on April 8th 1977. *John Sloane*