



**Railtalk** Magazine *Xtra*

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## Content

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## Submissions & Contributions

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

### Photographic Contributions

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

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

## Welcome to Issue 166Xtra

I can't believe that it is about 4 months since my last trip into Europe and with the borders slowly opening, I'm hopeful that it won't be much longer until the next one, as I'm sure many of you are. Many museums and preserved lines all over Europe are extending their season until November in order to gain valuable revenue and I really wish all of them every success in recovery from these current times.

Once again, I must thank once again all of our contributors for keeping us topped up with either current or archive photos this month, please keep them coming.

In the news this month is that Russian Railways, the Engineering Centre for Railway Transport and Knorr-Bremse have formed a partnership to develop high speed trains which could link Russia's largest cities at speeds up to 400 km/h. It is envisaged that the first of the very high speed trains could enter service in 2026. The partnership announced covers the provision of engineering, consulting and design services, and the development of operational and repair documentation for high speed rolling stock and its production in Russia. The ECRT rolling stock engineering innovation centre was established last year by RZD, Sinara Transport and Siemens Mobility with the aim of developing a trainsets capable of speeds up to 400 km/h. Knorr-Bremse will bring its experience of rolling stock subsystems to help define the technical specifications for the future trainsets.

An interesting development in contactless travel from Eurostar where a walk-through facial biometric verification system is to be tested which would enable passengers to complete ticket checks and border exit processes at London's St Pancras International station without contact with people or hardware. Passengers opting the use the accelerated pre-boarding option would use the Eurostar app to scan their passport, with a facial biometric check using technology from iProov then authenticating their identity against the document and sending them a message confirming that their identity document has been secured. A walk-through facial biometric verification

system is to be tested which would enable Eurostar passengers to complete ticket checks and border exit processes at London's St. Pancras International station without contact with people or hardware. On arrival at London the passenger would enter a contactless travel corridor, where they would use the app to take a 'selfie' style image of themselves. The app would then verify that they are the same person as in the booking and travel document, that they are a real person rather than a photo, video or mask, and that they are authenticating in real time. This is intended to protect against attacks using deepfake images. The system works by verifying the passenger's photo against the travel document, rather than by recognising them from stored data, which is intended address potential privacy concerns.

And from Belgium, rail freight operator Lineas has awarded Voith with a contract to overhaul its fleet of 30 Siemens/Vossloh class 77 diesel-hydraulic shunting locomotives. The work will be scheduled for completion before the end of 2024. The agreement covers a major overhaul of the locomotives, with a predefined basic scope of diagnosing improvements to increase reliability, reducing operating costs and optimising downtime, as well as potentially performing necessary upgrades. In addition, the deal includes options for variant-specific components and for use of Voith's L4r4 turbo transmissions. "This is the first step towards a long-term partnership between Voith and Lineas," says Mr Vincent Delfosse, asset maintenance manager at Lineas. "Thanks to Voith, we have the support of a strong and reliable service partner with extensive experience in diesel locomotive technology that can provide us with qualitative maintenance services tailored to our needs."

Until next month

**David**

### This Page

On June 6th, NS ICM Nos. 4241 and 4237 head through Groenekan working a service from Enschede to The Hague CS with train No. 1754. [Erik de Zeeuw](#)

### Front Cover

On the Kronprinz Rudolf Bahn, part of the St. Valentin - Kleinreifling - Selzthal line, nearly all passenger services are operated by modern EMU, but there is still one old push-pull formation in use on weekdays. On June 2nd, Class 1144.092 carrying a special livery, is seen hauling Regional Express No. 3607 from Linz to Kleinreifling, following the river Enns next to Losenstein. [Thomas Niederl](#)





The Novara Shuttle from Novara CIM to Rotterdam is seen hauled by SBB/LTE No. 193.528 'Rotterdam' and driven by Arjen Verlaan. This locomotive seen here passing Glessenburg on June 7th is decorated in a Dutch livery with windmills and bulb fields. *Erik de Zeeuw*

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## With Thanks

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

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Commonwealth Bulk Handling Groups Nos.CBH002 and CBH025 scare the pigeons off as they clatter over the crossover at Midland with a long train of loaded grain hoppers for Kwinana. *Colin Gildersleve*







Pacific National's Nos. NR97 and NR34 arrive at Flashbutt yard Midland with a short rail train from Forrestfield. NR34 carries the slogan 'Moving Australia's economy, Real trains not road trains, Safer, Greener, Smarter'. *Colin Gildersleve*





## RCG transports rail track for the construction of the largest underground railway in Milan

Rail track transported by the Rail Cargo Group from Austria are making it possible to establish the first large urban transport infrastructure in Milan.

The first shipment from Leoben Donawitz to Milan via the Rail Cargo Group's logistics centre in Desio already began on 15th May.

A total of 600 tonnes of rail tracks are being carried in three wagons per week over a period of four weeks, thus enabling the construction of the new Milanese underground line number 5.

The 18-metre long panels, each of which weighs around one tonne, were handled with the help of flat wagons belonging to the Rail Cargo Group's

fleet. This has made it possible to avoid using special trucks of the appropriate length, which are difficult to find on these international routes.

The Rail Cargo Group regularly handles rail transport to Italy that measures a length of up to 108 metres.

The reliable logistics system at the Desio logistics centre is the vital link between the rail manufacturer and the construction company. It facilitates enables smooth delivery and unloading in Italy.





OBB Class 1142.626 with the all stations stopping service No. R4415 from Obertraun to Linz Hbf reaches the halt of Hallstatt, which has become a very famous destination for tourism. *Thomas Niederl*



# Belgium

SNCB Class 21 No. 2137 stands at Bruxelles-Midi/Zuid with a rush hour service. *Class47*



# Belgium

SNCB AM EMU No. 644 sets down its passengers at Welkenraedt.  
*Class47*



# Czech Republic

OBB Class 1116.273 stands at Breclav with a service to Wien. *Class47*



## The train with medical supplies arrived from China into Pardubice



On May 30, 2020, a complete container train loaded with anti-epidemic materials and medical supplies was dispatched from Xi'an City (Shaanxi Province, Central China). The train was composed of railway wagons held by AO Kedentransservis and PAO TransContainer. The train was heading to the Czech Republic, to Pardubice.

The transport was organized by ČD Cargo Logistics as, AO Kedentransservis, PAO TransContainer, AO Economou Shipping and PKP Linia Hutnicza Szerokotorowa on the basis of an order from the Ministry of the Interior of the Czech Republic. Forty six 40ft containers with disposable medical clothing, masks, gloves and other medical supplies arrived at the terminal in Pardubice on June 14, 2020. The delivered goods are intended for hospitals in Prague and Pardubice and for redistribution to other

regions. The train was transported along the lines of the Railway Administration by ČD Cargo.

The transport was carried out on the basis of an already ongoing project of permanent transport through the territory of Kazakhstan, the Russian Federation, Ukraine and Poland, which was launched in December last year. The delivery time of the goods by container train from the forwarding station to Pardubice was 15 days. Currently, two more complete container trains with medical supplies are heading to the Czech Republic. They are expected to arrive by June 30th at the latest.

Photos: ©Ladislav Seidenglanz and Diana Melniková





## ČD Cargo plays a key role in managing the bark beetle calamity

Despite the limitations related to the emergency situation caused by the COVID-19 pandemic, ČD Cargo was able to ensure sufficient capacity for the removal of calamitous wood from bark beetle-infested localities. In the period from January to April, ČD Cargo managed to increase the number of ported wagons to remove bark wood to 118% of the 2019 average, and the company thus makes a significant contribution to the fight against the spread of the bark beetle calamity in the Czech Republic. It is the accelerated export of infested wood for processing that is the basic precondition for success in the fight against the uncontrollable spread of bark beetles. The bark beetle calamity is one of the biggest persistent threats to the Czech landscape and the environment. In the fight against the uncontrollable spread of bark beetles, it is absolutely essential that the felled trunks do not remain lying in the affected localities for a long time. Thanks to its capacity, rail transport is a very efficient way of moving calamitous wood from infested areas to processors.

ČD Cargo has been responding to the development of the situation in the area of calamity wood since the very beginning of the bark beetle calamity, and the ability to allocate wagons for the commodity wood has been growing significantly since 2015. In the course of the year from January to April 2020, ČD Cargo was able to maintain transport at the level of 2019, despite the limitations caused by the COVID-19 pandemic. In the number of delivered vehicles, it increased to 118% compared to the 2019 average. On average, ČD Cargo now loads bark beetle-infested logs into 1,628 trucks per week. In the month of April itself, when the entire market was hit by an emergency, the share of cars delivered on time was 98%. ČD Cargo was

thus able to ensure the transport of a comparable volume of infested wood from the affected localities at the level of last April by strict compliance with hygienic measures and internal safety standards. This was achieved despite the limited operation of key wood processors (approximately 10 sawmills in the Czech Republic, Germany and Austria), whose operations were limited by a pandemic and related measures. ČD Cargo is the only railway carrier that serves all calamity places affected by bark beetles in the Czech Republic. Despite the currently high share of delivered vehicles, the company ČD Cargo is continuously working on expanding and adapting the vehicle capacity for the growing volumes of timber transport so that it can meet the needs of resolving the bark beetle calamity as much as possible.

“ČD Cargo is aware of its absolutely fundamental role in managing the calamity situation and we strive to communicate the communication of their long-term plans and needs to our customers, incl. at least partial transport guarantees. Unfortunately, we are currently working in disaster areas without long-term contracts, only with a five-day order for cars. Even so, we are constantly striving to increase our transport capacity,” says Ivan Bednárík, Chairman of the Board of ČD Cargo.

Already in 2018, the company increased the number of wagons by 500 and the number of specialized wagons intended exclusively for timber transport - Laaps, Roos increased from 500 in 2015 to 760 in 2018. In the same year, the company concluded contracts that gradually expand rolling capacity by 1,000 cars. It involves a comprehensive reconstruction of 500 inoperable Eas cars (72 m3) and the purchase of 500 new high-walled Eanos trucks (82



m3). Deliveries of new cars have already begun and should be completed in March 2021.

“ We are ready to lease additional vehicle capacity on the market, provided that the volume of transport is guaranteed and planned and at the appropriate price level. However, an increase in investment is not possible without guaranteed conditions for long-term future cooperation, also with regard to the economic side of these transports. It should be borne in mind that for ČD Cargo, domestic transport of logs has long been the least profitable transport commodity. As a company with social responsibility, we are now de facto implementing a service in the public interest, where we transport lying timber from the affected sites, regardless of economic profitability, and spend considerable resources to adapt the fleet to meet volume requirements for this transport,” comments carrier ČD Cargo Ivan Bednárík.

# Test drives of ČD Cargo's TRAXX locomotives

On Tuesday June 23rd, trial operation of ČD Cargo locomotive series 388 on the lines of Správa železnic began. For the first time ever, engine No. 388.001 engine set off from Ústí nad Labem to Klášterec nad Ohří and back. So far, the locomotives have been tested separately.



“One locomotive must travel 40,000 kilometres in trial operation in freight transport and ten thousand kilometres in passenger transport,” said Tomáš Tóth, Executive Director of ČD Cargo. That’s why it will be possible to see the new locomotives also at the head of the Czech Railways trains.

Photo: © Petr Greňo

Czech  
Republic

CD Class 151.020 speeds through Pečky with a Praha hl.n. bound service. *Class47*



A CD Cargo Class 363 crosses the river at Usti nad Labem with a rake of empty coal containers. *Class47*



## TBZ in Hungary

All four locomotives of ČD Cargo's 753.6 series have already completed technical and safety journeys in Hungary, specifically in the section Komárom - Győrszentiván and back. The transport of the final two locomotives numbers 753.717 and 753.718 back to the Czech Republic took place on June 22, 2020.

The locomotives are now deployed for performance in the district of PJ Prague, but in Hungary they can be deployed in connection with the continuing expansion of ČD Cargo to other countries.

Photo: © Peter Melicher captured their journey at Šaľa station.



## CZ - ITA new direct connection to Italy

On Friday, May 29, at 3 o'clock in the morning, a new direct train of ČD Cargo connecting the Czech Republic with Italy, the CZ-ITA train, or if you want "Čita", departed from Brno-Maloměřice railway station.

The forwarding station of the new train is Brno-Maloměřice, in Břeclav the train picks up other consignments mainly from northern Moravia and Poland and then continues, of course on a ČD Cargo license via Austria to the Tarvisio border crossing station and further to the destination station Udine.

The CZ-ITA train will manage this route in about 20 hours. For now, it is possible to use two departments per week from Brno and Udine.

The train is intended for both conventional and container transport.

Photo: © CD Cargo



## ČD Cargo on its own license in Slovakia

On June 20th, Slovakia became another country in which ČD Cargo carries out transports on its own license.

At 02:30, a train with LKW Walter semi-trailers crossed the state border at Lanžhot, heading from Rostock to a transshipment point in Curtici, Romania. At the head of the train to the Slovak-Hungarian border crossing station Rajka was the locomotive 230.096 of ČD Cargo. On the return journey on June 21st, the train was transported by locomotive No. 230.056 through Slovakia.

In the recent past, ČD Cargo provided Slovak transport through Carborail, a company with ČD Cargo's ownership interest. Now, after the sale of a stake in this company and after completing the process of obtaining a license and other necessary documents,



transport will be provided through a 100% subsidiary of ČD Cargo, CD Cargo Slovakia.

It should soon become a holder of a license for Hungarian lines. ČD Cargo continues its expansion into foreign markets, from which it expects an increase in sales, as well as a strengthening of its position in the Central European market.





## Top marks for environmental protection

The coronavirus pandemic may have nudged environmental protection and the surrounding debate into the background for now, but DB Cargo has defied these times of crisis to transport goods reliably while using its Eco Solutions to outgreen other modes of transport. The CDP (Carbon Disclosure Project), an international rating agency, has once again confirmed this fact for Deutsche Bahn AG as a whole, awarding the company a top grade of "A". The A rating singles the DB Group out as one of the greenest companies in the transport and logistics sector worldwide. CDP is the world's most prestigious climate protection rating agency. In 2019, it reviewed the climate protection activities, climate change strategies and reporting transparency of 8,400 companies around the world. Participating companies currently account for over 50% of global market capitalisation. The international non-profit organisation also has the most extensive collection of company climate data.

### Eco Solutions

Environmental and climate protection take pride of place at DB's freight operating company, too. For instance, DB Cargo offers the DBeco plus and DBeco neutral products to its customers. DBeco plus lets customers carry out their transports CO2-free to actively contribute to climate protection. It works by fully covering the electricity needs of transport with renewable energy.

Customers who use DBeco plus protect the climate in two ways at once: They get CO2-free transport, and 10% of the proceeds are used to promote the expansion of renewable energy sources, such as a hydrogen hybrid power plant. The technical inspection association TÜV-Süd checks the process all the way through, and DB Cargo awards a TÜV certificate to its customers to certify the emissions they have avoided. DBeco plus is available on all electrified routes in Germany and Austria.

However, it is not always possible to avoid CO2 emissions altogether. That's where DB Cargo's DBeco neutral comes in. It compensates for unavoidable emissions, such as those generated by pre-carriage and onward carriage by truck. Climate protection certificates offset the carbon emissions generated by transport. The certificates meet today's strictest standards for climate protection projects, CDM Gold. The compensation projects not only help cut CO2 emissions; they also promote sustainable development in the project regions. They have been used to encourage the use of efficient wood-burning cookers in Rwanda, for example.



### Greener living facts

Yet even the most efficient transport is pointless if goods are moved unnecessarily. After all, the only way to effect real change is to act together, and that starts with each individual. This crisis in particular has shown DB Cargo to be a reliable partner for the supply of basic goods, especially food. However, considering that the average German throws away 80 kilograms of food worth roughly EUR 230 every year, huge potential CO2 savings remain untapped. This food, which is essentially produced for the waste bin, is the world's third largest source of greenhouse gases. It is responsible for 3.3 billion tonnes of unnecessary CO2 each year. Consumers can apply some very simple fixes to turn this trend around. First and foremost, of course, they can try to shop more selectively and waste less.

## New Siemens Mobility Mireo receives authorisation

### Siemens Mobility Mireo receives initial approval in just 38 months

#### Start of operations for Mireo and Desiro HC in the Rhine Valley network planned for timetable change on June 14, 2020

In February 2017, the Ministry for Transport in the state of Baden-Württemberg ordered 24 Mireo trains and 15 Desiro HC double-decker trains to be operated by DB Regio. This marked the first order for the new Mireo regional multiple-unit trains developed by Siemens Mobility. The Mireo has received initial approval from the German Railway Authority in time for the timetable change in June 2020. Plans call for gradually incorporating the Mireo trains in regional service (RB) on the Offenburg – Freiburg – Basel/Neuenburg (Rhine) route beginning with the timetable change in June 2020. Baden-Württemberg's Transport Minister Winfried Hermann said: "The new trains for the Rhine Valley Railway make regional rail transport in the region even more attractive and offer an incentive to make greater use of rail, a climate-friendly means of transport. This is another building block in the state's policy of developing Baden-Württemberg into a pioneer of sustainable mobility."

"We are pleased that from mid-June, our passengers will be able to get to

their destination in new trains much faster than before in local transport. We connect North Baden from Karlsruhe to Switzerland with an attractive transport concept," says David Weltzien, Chairman DB Regio Baden-Württemberg.

"The new Mireo train, which combines economic viability with sustainability over the entire life cycle of the train, is a successful project for Siemens Mobility. The train received its initial approval from the authorities on schedule and Siemens Mobility has already been awarded a total of seven Mireo fleets and six Desiro HC fleets since its launch. We are delighted that our Mireo and Desiro HC trains will improve passenger experience and the capacity of the Rhine Valley Railway." says Sabrina Soussan, CEO of Siemens Mobility.

#### The new Mireo train for the Rhine Valley

Along with the 24 Mireo trains, 15 new, comfortable and energy-saving Desiro HC (double-decker) trains from Siemens Mobility will also operate as a regional express on the Karlsruhe – Offenburg – Freiburg – Basel route. These additions will completely restructure the rail offerings in the Rhine Valley: there will then be a clear distinction between express service between the region's major cities and a regional or commuter system similar to the

S-Bahn, stopping at all stations. The Mireo has been designed as a scalable articulated train. All technical components are installed either beneath the floor or on the roof, making every centimetre of the interior space available for the passengers' comfort. The three-car trains have 200 seats and a generous number of multipurpose spaces. The double-decker Desiro HC is particularly characterized by its already proven reliability and very high availability and is very popular with passengers because of its large capacity and comfort. Siemens Mobility has designed the Mireo and Desiro HC trains to be especially ecofriendly. The trains weigh approximately 25 percent less thanks to their lightweight construction. The design ensures optimized aerodynamics and energy efficiency for each of the components. Both the Mireo and Desiro HC make optimal use of the energy used and, thanks to modern design principles, achieve a reduction in energy consumption of up to 25 percent compared to vehicles on the market with the same capacity and are also designed to be maintenance-friendly. Both the Mireo and Desiro HC trains were intensively tested at the Siemens Test and Validation Center in Wegberg-Wildenrath before being commissioned. When the trains are in passenger service, they will collect all data relevant for diagnostics, maintenance and train control and transmit it to the trackside control center. This predictive monitoring will enable the operator to plan maintenance in advance and prevent breakdowns.



## DB Cargo expands shuttle service between Duisburg and Antwerp

More space for additional load units: DB Cargo and Kombiverkehr are expanding their shuttle service between the port of Antwerp and Duisburg. From now on, up to 90 TEU can be transported per train rather than the previous 60 TEU. This means that in a 12-month period up to 9,000 additional containers, trailers and swap bodies will be transported by environmentally friendly rail, reducing road traffic by around 10,000 trucks. This is more important now than it ever has been, as long-duration construction work on a ring road around the Belgian city of Antwerp (Oosterweel Link) will hugely

restrict the road in the coming years.

Starting in autumn 2020, additional trains are set to run from Antwerp to Germany's Ruhr district. Moreover, DB Cargo plans to integrate the western ports of Rotterdam and Antwerp more strongly into its network by the end of the year. This is an important building block for more growth in rail freight transport.

Shipowners, freight forwarders and the shipping industry as a whole benefit from the railways thanks to a dense network and fast transit times. In just five hours, with the option of late loading in Antwerp or early collection of consignments in Duisburg, customers can send their goods further on their way within Kombiverkehr's network. In Germany, this could be to Ludwigshafen, Munich or Leipzig, or Europe-wide to Poland, the Czech Republic, Austria, Italy, France, Scandinavia or even Turkey.



## Travel and dine cheaper: Deutsche Bahn passes on VAT reduction to customers

**Prices for long-distance tickets and BahnCards will decrease by around 1.9 percent on July 1st**

**2.5 percent discount in on-board catering**

**On-board restaurants will be open again from mid-July after the Corona break**

From July 1st, rail travel will be even cheaper: Deutsche Bahn will pass on the value-added tax reduction as part of the Corona stimulus package to its customers. For the second time this year, rail customers will benefit from a price reduction for long-distance tickets. From July 1st, prices for Super Sparpreis-, Sparpreis- and Flexpreis-Tickets as well as BahnCards and season tickets in long-distance transport will decrease by December 31st by the VAT effect of 1.9 percent. The cheapest entry price will be reduced again and will be 17.50 euros from July 1st without a BahnCard discount. You can save an additional 25 percent with the BahnCard. The BahnCard 25 sample (2nd class) will also be available from July 1st for EUR 17.50. DB is also passing on the VAT reduction in the on-board bistros of the ICE and Intercity 1 trains. Customers receive a 2.5 percent discount on the entire bill. In the Intercity 2

trains with mobile food and beverage sales, there is a discount of 10 cents per item.

DB long-distance transport chief Michael Peterson: "Germany is once again keen to travel, and we are doing everything we can to win people over to environmentally friendly rail. We will reopen the on-board restaurants from mid-July and pass on the VAT reduction to our customers there as well. This will make the train even more attractive this summer, especially for tourists who like to start their vacation in our on-board restaurants and bistros."

A calculation example for VAT reduction on long-distance tickets: A ticket costs 107 euros including 7 percent VAT. That means: 7 euros are due on VAT, the net price of the ticket is 100 euros. After a reduction in VAT by two percentage points, the net ticket price of EUR 100 is no longer 7 percent but 5 percent VAT. This is now 5 euros. The gross price for the ticket is then 105 euros. The price difference of 2 euros corresponds to a price reduction of around 1.9 percent.



Germany



## ŠKODA TRANSTECH HAS DELIVERED THE LATEST FORCITY SMART ARTIC TRAM TO THE GERMAN CITY OF SCHÖNEICHE

Škoda Transtech, a part of the Škoda Transportation Group, has received homologation for the third ForCity Smart Artic tram. The vehicle is serving passengers in the German city of Schöneiche. .

In October 2018, the Schöneiche transport company bought two ForCity Smart Artic trams that had been previously operated in Helsinki. Last year, the transport company ordered a third tram. It was manufactured at the Škoda Otanmäki plant in Finland.

“We are pleased to have obtained all the permits necessary to operate in Germany and the latest tram from the Škoda ForCity Smart Artic series is serving passengers in Germany. It is a 100% low-floor vehicle that provides a comfortable and reliable ride. Škoda Transtech developed it in close cooperation with the transport company in Helsinki,” says Zdeněk Majer, Chairman of the Board of Škoda Transtech and Senior Vice President of the Škoda Transportation Group.

The Škoda Transportation Group is thriving in the tram market in Germany. Last year, it won a tender to supply trams to the Bonn transport company. The Pilsen company will deliver a total of 26 modern vehicles from the ForCity Smart platform to the German city.

In addition, in 2018 it won another contract to supply modern trams to the Rhein-Neckar-Verkehr transport company. A total of eighty trams within the basic delivery will be in operation in the coming years on lines between the cities of Mannheim, Ludwigshafen and Heidelberg. ForCity Classic trams will likewise operate in another German city, Chemnitz.

The ForCity Smart Artic single-direction, three-car unit has a gauge of 1,000 mm, is 27.4 m long and entirely low-floor. The tram offers access to wheelchair users and parents with baby carriages. The all-wheel drive and sturdy construction of the chassis and axles allow trouble-free operation under demanding climatic conditions.

Škoda Transtech is the largest manufacturer of rolling stock in Scandinavia. The company was founded in 1985. In 2015, it became a member of the Škoda Transportation Group and in 2018 was completely taken over by the Škoda Transportation Group. Its main products include double-decker electric railcars (operated as PushPull trains), trams and engineering products. It currently employs more than 700 people.

## Stadler takes on digitalisation specialist and expands engineering portfolio

With its complete takeover of VIPCO GmbH in Mannheim, Stadler expands its portfolio with a new engineering subsidiary in Germany with around 50 employees. The new Stadler Mannheim GmbH will mainly focus on the development of software and hardware components for train control systems and the retrofitting field. Stadler continues to invest in the consistent development of company competences in the train control and railway digitalisation field. With the newly named Stadler Mannheim GmbH with facilities in Mannheim, Kassel and Halle the company gains acknowledged and long-standing expertise in the field of modern software and hardware components for the railway industry.

For over 20 years the team of around 50 engineers has been among the pioneers and impulse givers of new applications and technologies, which are employed everywhere where electronics face extreme environmental conditions. In particular, the Stadler Mannheim team will continue to drive the development of hardware and software components forward in the fields of train control and automation as well as communication and diagnosis

systems for the whole Stadler Group. Aside from the development of new systems for new rolling stock, one focus will be on the retrofitting of trains in order to extend the life span and comfort of trains.

“We are really pleased to have gained in the number of highly competent experts in Germany through the Stadler Mannheim GmbH team. This step helps us follow our path to focus more on expanding our in-house expertise in elementary fields for the railway industry such as further digitalisation and modernisation of vehicles”, says Jure Mikolčić, CEO of Stadler Germany.

“After long-standing and very successful collaboration in many projects, we are proud to now be part of Stadler and be able to further develop and incorporate our technologies within the company”, adds Albrecht Teich, Managing Director of Stadler Mannheim GmbH.



# Germany

Oui branded TGV No. 4714 stands at Saarbrücken with a service to Paris.  
*Class47*



## “Focused! 100 Years of the Deutsche Reichsbahn ”: DB Museum focuses on an open-air exhibition

The DB Museum in Nuremberg will be showing a new open-air special exhibition from June 25, 2020. “Focused! 100 Years of the Deutsche Reichsbahn ” presents 13 steam, electric and diesel vehicles from the years between 1920 and 1945 on the open-air site and in vehicle hall II. In addition, the exhibition offers countless contemporary photos from the German Locomotive Image Archive (DLA) and thus a multifaceted look back the world of the Reichsbahn era.

Museum director Dr. Oliver Götze: “The founding of the Deutsche Reichsbahn was a milestone in German transport history - comparable only to the Eagle’s journey or the railway reform. We celebrate this anniversary in a variety of ways: with vehicles that have not been seen for many years, with exceptional visual access and, above all, with extensive accompanying offers that make visiting the exhibition in the open air a special experience, especially now during the Corona pandemic . “

### On the trail of the first train spotters

In 1920 a new railway age began in Germany. For the first time, a national railway company is formed from the railway companies of the individual countries -

the Deutsche Reichsbahn. The exhibition in the DB Museum commemorates the foundation. On the one hand, it focuses on the locomotives and their diverse development in Germany until the end of the Second World War, on the other hand, museum guests can follow the traces of the first train spotters. Between 1929 and 1945, photographers who are enthusiastic about railways shun neither expense nor effort and create a unique image memory: the German locomotive image archive. It stands for a widespread passion and its beginnings, railway photography.

### 13 railway vehicles show the big issues of the time

The original vehicles stand for the major progress topics of the time: “Electrification”, the development of standard locomotives, pressure to progress and the development of high-speed traffic. Vehicles from private and regional railways show the difficulties in transitioning to modern railways. For the first time in around 15 years, the E 75 59/175 059-5 can be seen again in the DB Museum. A fire severely damaged the vehicle in 2005; Upgrading took place in the Meiningen steam locomotive plant until 2019. And thanks to a glass pane inserted in the locomotive box, visitors can take a look at one of the two

motors. The E 19 12 is a express train locomotive in the delivery condition reconstructed by the Deutsche Bundesbahn in 1985 with the National Socialist emblems. A shading and commented cover of the swastikas shows the vehicle as a testimony to the dictatorship and the long forgotten history of the old Federal Republic. The challenge of dealing critically with relics from the Nazi regime was taken into account.

The multi-purpose electric locomotive E 44 001 traces the traces of the old master photographers of the German locomotive picture archive. They developed 14 standard perspectives to professionally depict a locomotive in the picture. All perspectives can be tried out around the free-standing E 44 001.

Other vehicles on display: E 91 99, 05 001, 38 2884, SVT 877, V 36 108, 78 510, EP 5, 50 622, LBE double-decker car, E 94 279 (planned addition in summer)

### Wooden towers allow fascinating photo perspectives

Four wooden towers erected for the exhibition provide visitors with exciting perspectives on the historic vehicles. At around two meters in height, new perspectives and

perfect photo opportunities open up. The resulting photos can be shared on the social networks under the hashtag #trainspotting and are visible live on three monitors in the vehicle hall. In this way, museum guests can actively help shape the exhibition.

### Extensive accompanying program with megaphone tours and workshops

The exhibition offers an extensive accompanying program in the open air, which is aimed at railway fans, amateur photographers and families alike. On Saturday and Sunday, in dry weather, megaphone tours take place across the open air at 5 p.m. In September, photo enthusiasts can follow the traces of the old masters at workshops with the Nuremberg photographer Uwe Niklas (12.09. And 26.09.). And on weekends, rides on the hand lever trolley (always on Sundays) and the bobby train course ensure fun for young and old. Lectures, special tours and free rallies round off the versatile accompanying program. The extensive hygiene concept of the DB Museum is of course also applied to the areas of the new special exhibition.



Germany

DB Class 423.250 is seen at Duren with a service to Blankenberg. *Class47*



## Alstom offers artificial intelligence solution to ensure passenger distancing and safety in trains and stations

Alstom has launched a new version of Mastria, the world's first multimodal supervision and mobility orchestration solution, that uses AI to provide operators and transport authorities with enhanced passenger flow management tools. The solution allows operators to adapt, easily and in real time, their offer to the various social distancing and public gathering requirements that have arisen due to the Covid-19 pandemic. Thanks to big data and machine learning, Mastria gives operators higher visibility on passenger distribution and flow in trains and stations, as well as enhanced predictive capabilities. This equates to the ability to anticipate and control passenger density and operations in real time, adapting train frequency, capacity and the required number of trains, as well as passenger flows into stations, among other things. Matching the supply of trains with the demand optimises operating conditions, including costs, and is especially useful for managing fluctuating demand peaks, such as during rush hours or special events, or special mobility restrictions, as in the case of Covid-19.

The new implementation of Mastria aggregates information on passenger demand from train weight sensors, ticketing machines, traffic signalling, management systems, surveillance cameras and mobile networks in order to offer a real-time picture of passenger flows. From this point, Mastria processes the information and provides operators with the information and recommendations necessary to ensure and anticipate specified levels of occupation, as a percentage of maximum capacity, at all times. It can

suggest increasing trains frequency, redistributing the flow of people to particular stations, readjustments to other transport systems that impact the subway, restricting entry to stations or even managing the distribution of passengers on the platform to align them with cars with more space on a given train. Mastria's powerful prediction algorithms anticipate these situations, allowing proper planning of the entire system.

“To predict is to prevent”, says Stephane Feray-Beaumont, Vice President Innovation & Smart Mobility of Alstom Digital Mobility. “The ability of this tool to analyse millions of pieces data in real time makes it an indispensable ally for operators at all times, but especially in the current context. Simply put, it matches transport offer to demand, no matter the conditions. All experts agree that public transportation, and particularly rail, will continue to be the backbone of urban mobility. Artificial intelligence will be our best travel partner in this new era of mobility.”

### The Panama experience

Alstom implemented Mastria for Panama Metro at the end of last year. The objective was to analyse traveller flows and offer a way to avoid the saturation that appeared at unpredictable times and only in certain stations. In only three months, and thanks to deep learning techniques (artificial neural networks that allow self-learning algorithms), localized saturation could

be predicted up to 30 minutes before it could be visibly observed, thereby allowing remedial action that reduced waiting times in stations by 12%. Currently, in response to the Covid-19 situation, the same technology is being used to adapt the operational actions that maintain the train's load to 40% of its maximum capacity, as recommended by the country's health authorities. Using various data sources, such as user travel information and the weight of cars, new features have been developed: real-time monitoring of passenger density and flows in stations and trains, with new predictive alerts, simulation of opening and closing access to the stations and analysis of the distribution of passengers throughout the length of the trains.

### Mastria technology

Mastria is based on four main standard functions: multimodal supervision, traffic management, coordination of operations and predictive analysis. These functions are highly configurable and can be combined according to the needs of operators and the global mobility network environment. Mastria ingests data from external information and control systems through secure network connections. It is flexible and scalable, and adaptable to different transport networks of any size. Mastria can be extended to include new lines or additional means of transportation. Numerous pilot implementations of Mastria's artificial intelligence technology have already produced results in Paris, Florence, Zaragoza and Panama.

Bord na Móna 3ft gauge No. LM 403 heads a rake of empties out onto the bog, where it will be loaded with milled peat for Shannonbridge power station. *Paul Quinlan*







Seen at Cagliari, Trenitalia Class D445.1053 working the 14:05 to San Gavino and D445.1076 with the 14:18 to Iglesias. *FrontCompVids*





At Messina Centrale, Class E464.108 is seen stabled whilst E464.343 waits departure time with the 07:26 Roma Termini - Palermo Centrale. *FrontCompVids*







Trenitalia Class E464.309 is seen on rear of the 16:00 from Messina Centrale (No. E464.334 was on front). *FrontCompVids*



On June 11th, a very nice combination of HSL Logistik locos visited the Netherlands. First Class 186 365 went solo from Rotterdam to Almelo, where it coupled to Class 186.364 'The Waverider' and its tanker train. The pair are seen here in the early afternoon at Eempolder near Soest, on its way to Botlek in Rotterdam. *Mathijs Kok*



On June 5th, Strukton's No. 1824 'Nicole' is seen with two new Class 1700 locos which are for the most part painted in the Strukton livery, same as No. 1824. Here Nos. 1824, 1740 and 1736 are seen near Soestduinen, on their way to Amersfoort, five minutes beyond. *Mathijs Kok*



On June 5th, the first three Stadler 'Winks' for Arriva arrived in the Netherlands. Strukton loco No. 303008 was used for the delivery, seen here approaching Amersfoort. *Mathijs Kok*





# Netherlands

Brand new Stadler 'Winks' Nos. 601, 602 and 604 stand in Amersfoort awaiting test runs.

*Mathijs Kok*



▶ An impressive maintenance train hauled by Volkerrail No. 203-2, behind it: a set of Gottwald cranes, an Eiffage construction train and a Volkerrail Tamper, photographed near Soest on June 1st. *Mathijs Kok*

▶ DB Cargo No. 6433 is seen hauling a ballast train near Soest on June 1st. *Mathijs Kok*

▶ On May 30th, Captrain Class 186.155 with an empty coal train is seen near Utrecht Lunetten, running wrong line due to a points failure. *Mathijs Kok*



On May 26th, DB Cargo No.186 259 runs through Willemsdorp with an empty acetic acid train from Burghausen (Germany) to Antwerp (Belgium).

*Erik de Zeeuw*

On May 28th, DB Cargo No.6413 rolls off the Moerdijk Bridge with a rake of tankcars.

*Erik de Zeeuw*

DB Cargo No.6432 'Hendrikus' gives throttle on the way to the next shunting job at Moerdijk on May 26th.

*Erik de Zeeuw*



▶ In the evening sun, BoxXpress No.193.835 heads off the Moerdijk Bridge with the Munich shuttle to Rotterdam on May 28th. *Erik de Zeeuw*

▶ independent Rail Partner No. 2212 passes the Rail Service Center in Rotterdam with a rake of tank cars on June 3rd. *Erik de Zeeuw*

▶ On June 3rd, RTB Cargo No. V155 heads out on a long journey from Maasvlakte West to the Euromax Terminal on Maasvlakte 2. *Erik de Zeeuw*



On May 19th, DB Cargo Class 186.491 is seen near Hulthen with a container shuttle from Duisburg (Germany) to the Combinant Terminal in Antwerp (Belgium). *Erik de Zeeuw*

It's raining cats and dogs as Lineas Class 186.505 passes the Container Exchange Point in Valburg with a unit cargo from Cologne-Gremberg (Germany) to Antwerp-North (Belgium) on May 24th. *Erik de Zeeuw*

Strukton Class 303.001 'Carin' has just left the West Port in Amsterdam on May 30th with a ballast train on May 20th. The wagons will be uncoupled in Crailoo and the locomotive will go on to Amersfoort. *Erik de Zeeuw*



▶ 'Rail Force One' Class 193.627 in its Raillogix design with a lightly loaded container train is seen near Utrecht Lunetten on May 30th. *Mathijs Kok*

▶ A pair of NS Class 1700 Locomotives Nos. 1745 and 1744 are seen near Soest on June 1st. *Mathijs Kok*

▶ An unusual light engine movement of Rail Feeding's Nos. 24, 18, 17 and PB01 pass near Soest on June 1st. *Mathijs Kok*



RhB Ge 6/6 II No.704 'Davos' passes southwards through Filisur, on the long climb to the Albula tunnel..

*Paul Quinlan*



U.S.A.



A westbound BNSF freight eases across the Keddie Wye over the Spanish Creek in Northern California.

*Andy Pratt*



A short Union Pacific automotive freight weaves its way westbound through the Feather River canyon in Northern California towards the Pulga Bridges.

*Andy Pratt*



An eastbound BNSF automotive freight runs over the trestle leading to the Tobin Bridges on the Feather River route, Northern California.

*Andy Pratt*





Norway



## Alstom obtains certification of latest ETCS standard

Alstom has received full certification[1] of the latest interoperability standard for rail, ETCS[2] Baseline 3 Release 2. Ahead of the large-scale rollout of the solution in Norway, Alstom has also been certified by Belgorail[3] to implement its world-first data fusion algorithms using both satellite navigation and inertial movement to accurately and safely measure the location and speed of trains. Initially created to enable a standardised European cross-border rail traffic, the use of ETCS is set to safely increase speed, reliability, and capacity. ETCS includes continuous radio-based automatic train protection, thus optimising higher-speed operation and supporting network interoperability, while reducing maintenance costs for the operator. The latest standard includes higher radio capacity and other evolutions to better address railways needs.

The new odometry system based on data fusion, which Alstom is currently implementing in Norway, is applicable to all types of trains and all environments, including the harshest weather conditions. By 2026, 450 trains will be equipped with the new standard and in commercial service across Norway. Tests for the first locomotive equipped with the new solution will begin in June this year.

“In a decisive move towards digitalisation in rail, Norway has chosen to equip the whole country with the latest version of the European interoperability standard, demonstrating the country’s leading strategy for a greener future. We are immensely proud to be participating in this, and even more so with a world-first technology for which we have just obtained certification,” says Rob Whyte, Managing Director Alstom Nordics. Alstom’s data fusion innovation obviates the need for the external radar components for localisation and speed measurement that are used today. Data fusion is the process of

aggregating multiple data sources to produce more consistent, accurate, and useful information than that provided by any individual data source. In this case being built as a hybrid, with both inertial and satellite sensors for the first time, its equipment is installed within the train, and thus remains unaffected by weather conditions.

The algorithms used manage to maintain precision in covered areas such as tunnels. Alstom is the worldwide number one in on-board ERTMS equipment via its Atlas solution, representing 70% of the on-board systems in service in ERTMS Level 2.

Today, across 30 countries, trains under Atlas supervision have covered over 250 million kilometres, including Deutsche Bahn’s high-speed ICE3 fleet recently equipped in Germany. In total, Alstom has been contracted to equip 9000 trains with Atlas Onboard solutions, of which 1,100 vehicles will be equipped with the Baseline 3 Release 2 solution.

[1] ISA and NoBo Certifications

[2] European Train Control System

[3] A leading railway certification and testing organisation



Italy



## Agreement between Alstom and Snam for the development of hydrogen trains in Italy

Alstom, a global leader in integrated solutions for sustainable mobility, and Snam, one of the world’s leading energy infrastructure companies, have signed a five-year agreement to develop hydrogen trains in Italy.

The agreement, after the conclusion of the first phase dedicated to feasibility studies planned in Autumn, aims to develop, already at the beginning of 2021, railway mobility projects including both hydrogen-powered trains and the related technological infrastructure, as well as management and maintenance services.

As part of the agreement, Alstom will manufacture and maintain newly built or converted hydrogen trains, while Snam will develop the infrastructures for production, transport and refuelling.

This co-operation stems from the joint commitment of the two companies on hydrogen: Alstom has launched the Coradia iLint, the first fuel cell train in the world, which has successfully been in service for one year and half on a regional route in Germany, while Snam has been one of the first companies in the world to experiment a 10% hydrogen injection into the natural gas transportation network.

Marco Alverà, CEO of Snam comments: “This move is a further contribution to the decarbonisation of transport and to the development of hydrogen economy in Italy. Hydrogen produced from renewables will become competitive with fossil fuels in a few years and will play a key role in the energy transition, particularly in industry, heating and heavy transport. It will be a pillar of the European Green New Deal and post-Covid investments. Snam is investing and innovating to make its network compatible with

hydrogen, to encourage the development of new technologies and create an Italian supply chain. Our country has the opportunity to be among the world leaders in the sector, reaping the environmental and economic benefits of this climate leadership”.

“We believe in hydrogen. This is the reason why we have signed a partnership with Snam. Coradia iLint, the first hydrogen powered train, is already in passenger service between the towns of Cuxhaven, Bremerhaven, Bremervörde and Buxtehude in Germany. We hope that Coradia iLint hydrogen trains will soon become a reality in Italy, too. Thanks to a partner like Snam we will be able to respond to the market by offering a full-fledged solution” - says Michele Viale, Managing Director of Alstom Italy and Switzerland.

Switzerland

## 20 additional Capricorn trains for the Rhaetian Railway

The Rhaetian Railway (RhB) will order 20 additional “Capricorn” trains worth 172.9 million Swiss Francs from Stadler. This option call follows the original order of 36 trains which took place in 2016. With the 20 additional vehicles, RhB continues the modernization and harmonization of its fleet.

As part of its new “Strategy 2030”, RhB will order additional “Capricorn” trains from Stadler. Already in 2016 RhB had ordered 36 trains, which at the time was the largest purchase of rolling stock in its history. To continue the modernization and harmonization of its fleet, RhB now orders 20 additional “Capricorns” worth 172.9 million Swiss Francs.

The four-car trains are operated on the narrow-gauge network of RhB in the Swiss canton of Grisons. Their maximum speed is 120 kilometres per hour. Each train is 76.4 meters long and offers 164 seats, 35 of them in the first class. The view from the driver’s cab is broadcasted to the passenger area, adding a special experience to the passenger journey.

The “Capricorn” trains are used as separable multiple units. A train can be divided into two sections in transit. The two partial trains then continue to different destinations. When travelling back in the opposite direction, the two parts are coupled together again to continue their journey. This will allow the half-hourly cycle on the single-track line between Landquart and Klosters to be completed without costly line extensions. The “Capricorns” are equipped with automatic coupling to ensure smooth operation of the separable multiple units.

Ansgar Brockmeyer, Head of Sales at Stadler, said: “The Rhaetian Railways and Stadler have been working together over decades already. We’re proud that they have decided to modernize their fleet with our robust and high-quality trains and that we can now deliver a total of 56 ‘Capricorns’ to the Grisons.”

U.S.A.

## WABTEC TO IMPLEMENT PTC SYSTEM FOR VIRGIN TRAINS USA

Wabtec has secured agreements worth \$120M to implement signalling and train control systems for Virgin Trains USA. The project is a unique high-speed signalling and train control application for the North America market.

“This is a great opportunity to work on one of the most unique rail projects in the United States,” said Rajendra Jadhav, President of Wabtec’s Signaling, Communication and Wayside business. “Virgin Trains USA is the only privately owned and operated intercity passenger rail service in the country. Our PTC solution provides a robust path for Virgin Trains to meet its project schedule and goals.”

Under various contracts, the PTC implementation will be executed in two phases: In the first phase, Wabtec will install its Interoperable Electronic Train Management System (I-ETMS®) PTC safety overlay on Virgin Trains USA’s 67-mile rail corridor between Miami and West Palm Beach, Florida, including a back-office system and fitment of both freight and commuter locomotives. Phase two entails the installation of I-ETMS along the West Palm Beach to Orlando rail corridor. Wabtec will conduct the complete design, material integration, construction, system integration, project management, and train control implementation and deploy a wireless crossing activation system for high-speed trains.

In total, Wabtec will equip 90 freight and commuter locomotives with its I-ETMS train control technology.

Separately, Wabtec will deliver signal design and implementation services for the phase two portion of the project.

“Safety is our number one priority and PTC is a critical part of that mission,” said Michael Cegelis, Executive Vice President, Rail Infrastructure, Virgin Trains. “Wabtec’s PTC technology has an impressive track record in the rail industry, and this was the right solution to support the safe operation of our growing rail network. In addition, the simplicity of accommodating new and modified infrastructure to the system, and train operational efficiencies were features that were influential in selecting the I-ETMS technology.”

As an on-board geographic database and global positioning system, I-ETMS provides an additional safety overlay by continuously calculating warning and braking curves based on all relevant train and track information including speed, location, movement authority, speed restrictions, work zones and consist restrictions. Intended to help prevent track authority violations, speed limit violations and unauthorized entry into work zones, I-ETMS provides significant enhancements to rail safety.



Czech  
Republic

## The Station at Vysočany will be changed beyond all recognition

In next four years, another section of line between Lysá nad Labem and Prague will gain corridor parameters. Správa železnic has started reconstruction of its part from Mstětice to Praha-Vysočany. Thanks to it, the metropolis will get a new three-track section, including the Praha-Rajská zahrada stop, where there will be a transfer to the metro. The station in Prague's Vysočany will undergo a fundamental transformation as well.

“Railway line 232 plays an important role especially in Prague's commuter transport. In recent decades, some stations have undergone partial modifications, a relatively recent novelty is the lately completed full reconstruction of the railway station in Čelákovice, where, among other things, an island platform was created, which is, thanks to underpasses, accessible from both sides of the tracks. The reconstruction of the adjoining section to Lysá nad Labem began last year as well,” describes Jiří Svoboda, Director General of Správa železnic.

Subterra CEO Ondřej Fuchs added: “The construction is extremely important to us, especially in the current rather turbulent times. For example, we will realise not only the railway substructure and superstructure, but also the operation building and electro-relocation in the Praha-Vysočany railway station. Therefore, three of our four divisions will take part on the construction. The Prague location, where we have the opportunity to demonstrate our modern yellow fleet, is a nice bonus, of course.”

The reconstruction will occupy a section almost 15 kilometres long. The current maximum line speed of 100 km/h will increase to 160 km/h after the installation of ETCS. The Praha-Vysočany station in particular will undergo a big change, in which the station building stands historically in the middle between the two original lines. The project envisages a change in the configuration of the track, a total of two islands and one external platform will be created there. Passengers can get there thanks to a combination of fixed stairs, escalators and elevators. In addition, the platforms are going to be connected to another underpass from the streets Krátkého and bratří Dohalských. The existing station building is awaiting a demolition; it will be replaced by a new check-in hall, which will be built at the level of an extended underpass from the street Paříkova.

The function of the existing junction point Skály will also be changed; it will become a passing point. Thanks to the insertion of connectors among all tracks, a regular three-track electrified section to Vysočany will be created, which will be able to be

used by trains in both directions of Lysá nad Labem and Neratovice as well. There will be also a new stop at Praha-Rajská zahrada, located in the immediate vicinity of the line B metro station in the same name. The way to the trains will be provided by a footbridge, which will be built as a follow-up investment by the Capital City of Prague. It will bridge the busy street Chlumecká, thanks to the extension across the entire track; it will also be used by residents from the area called Na Hutích.

An island platform was built in the Praha-Horní Počernice station several years ago. In the direction of Lysá nad Labem, at the main track number 1 in front of the station building, there will also be an external platform now with a boarding edge at a standard height of 550 millimetres, which will be 200 metres long. Three passing loops will be available to pass stopping and freight trains.

At the same time, the only existing railway stop in Zeleneč will be modified. A new underpass will be built between the reconstructed platforms, which will not become barrier-free due to the cramped spatial conditions; people with reduced mobility will use a subsequent crossing. The Mstětice station will be rebuilt as a part of another construction.

The total investment costs of the construction entitled Optimisation of the railway section Mstětice (excl.) – Praha-Vysočany (incl.) amount to CZK 5,407,803,659 without VAT. The project is co-financed by the European Union from the Connecting Europe Facility (CEF). The total amount of eligible costs of the project is CZK 4,277,475,619. The EU support rate is 83.07% of eligible costs, the amount of the financial aid amounts to a maximum of EUR 131,496,521, i.e. approximately CZK 3,553,298,990. National funding is provided by Státní fond dopravní infrastruktury.

The contractor is a construction company Společnost Mstětice-Vysočany, which consist of Subterra (company administrator), OHL ZS, Eurovia CS and Elektrizace železnic Praha. The completion date is February 2024.

Sweden

## AB Transitio orders twelve more double-decker trains for Mälardalen

AB Transitio has ordered twelve more double-decker trains from Stadler. The order is worth 133.3 million Swiss francs. Transitio is thereby exercising an option from a contract that has been in place since 2016. The newly ordered trains will be delivered in autumn 2021 in accordance with the contract. They will then run in the Lake Mälaren region, west of the Swedish capital Stockholm.

Transitio and Stadler had already signed a contract in 2016 for the supply of double-decker trains for various regions in Sweden. 33 trains were initially ordered for Mälardalen, and eight more trains were added for Uppsala Länstrafik in a first call-off order. The second call-off order that has just been placed comprises twelve trains for Mälardalen. This means that Transitio has ordered a total of 53 KISS trains from Stadler so far.

The four-car double-decker trains have one class that is designed for comfort. They offer passengers plenty of legroom and a feeling of spaciousness.

Stadler has adapted the car bodies of the trains for Mälardalen to the Swedish clearance gauge. The trains can reach a maximum speed of 200 kilometres per hour. Double-walled car transitions, underfloor heating and good insulation help to make the trains particularly durable in winter.

Ansgar Brockmeyer, Head of Sales at Stadler, says: “Just like the trains that have already been in passenger service since December 2019, the newly ordered vehicles will correspond to the Scandinavian design line developed jointly with Transitio. The fact that we have received a follow-up order from Transitio so soon after the new double-decker trains started passenger operations is a great vote of confidence and recognition of the quality of the new trains.”



India



## FS Italiane in India with Italferr to design the Kanpur and Agra subways In partnership with the Spanish company Tyspa

FS Italiane, with its engineering company Italferr and in partnership with the Spanish company Tyspa, has been awarded the design activities and supervision works of the underground lines of Kanpur and Agra, two of the largest industrial cities in Northern India.

The contract, entered into with Uttar Pradesh Metro Rail Corporation (UPMRC), has a 5-year duration and a total value of over 43 million euro – with the Italferr share being over 19 million euro – and foresees the planning of four corridors (for a total length of over 62 kilometres) between Kanpur and Agra, including 57 stations and four depots.

This is FS Italiane's most important contract in India, with which the engineering company confirms its place as a leader not only in the high-speed sector but also in the international metropolitan public transport panorama, becoming one of the main players in the Indian engineering market.

The entire operation, worth some 2.4 billion euro, is financed with funds from the Indian government and the European Investment Bank.

Specifically, the new Kanpur metro line shall unfurl along two main corridors. The first is from Kanpur to Naubasta and the second from the Agricultural University, having an overall length over 32 kilometres, 30 stations and 2 depots. The Agra metro line will also include two corridors connecting Sikandra to Taj East Gate and Agra Cantt to Kalindi Vihar respectively, for a total distance of over 30 kilometres with 27 stations and 2 depots.

FS Italiane has already been present in India with Italferr for some years, even having a branch in New Delhi that will be transformed into a company in the coming months.

FS Italiane has been present in India since 2016, dedicated to realising strategic works, including the design and supervision of the construction of

the Anji Khad Bridge – the first cable-stayed bridge with the utmost technical prestige – as well as project management consulting for the development of two new metro lines in Mumbai. As of 2017, Italferr also took on the quality and safety inspection activities for the Eastern Dedicated Freight Corridor – Khurja-Dadri Section project, one of the peak freight corridors for the Indian railways.

Stable growth in the Indian subcontinent market continued throughout 2019, with the award of the design of and support in the construction of

the two lots for the railway line between Rishikesh and Karanprayag (at a length of 125 kilometres) in the state of Uttarakhand. Italferr was additionally granted responsibility for the general consultancy activities of the most important project in the Delhi region, pioneering the “Regional Rapid Transit” programme, which concerns the development of a railway service in the city that reaches a speed of 180 kilometres per hour.



Sweden

## ANCALA AGREES TO BUY HECTOR RAIL GROUP

Ancala European Infrastructure Fund II is to buy Hector Rail AB including its subsidiary Hector Rail GmbH from EQT. Hector Rail AB is the largest privately-owned train operator in Scandinavia and one of the few train operators with the resources and capacity to run corridor traffic between Scandinavia and Germany. Hector Rail AB was founded in 2004. Together with its German operations, it has over 250 locomotive drivers and over 100 locomotives. Its main service is environmentally friendly and sustainable freight transport by rail, including timber, steel, energy, lime and various consumer and industrial goods via container. The company has had a strong

growth path through organic expansion of the customer portfolio in terms of new segments, geographies, partners and suppliers, and has won market shares in both the Scandinavian and German freight transport market.

“The company supports the growth of the European economy by transporting important goods and materials. We continue to see strong demand for our services and look forward to entering the next growth phase with our new owners, Ancala” says Claes Scheibe, CEO of Hector Rail AB.

Ancala's European Infrastructure Fund II invests in mid-market infrastructure businesses across Europe. Spence Clunie, Managing Partner, Ancala Partners, commented: “Hector Rail delivers an essential service for its customers and the European economy. We look forward to working with the management team to help Hector's customers grow and for Hector to provide a high level of service to customers, employees and all other stakeholders.”

The takeover is expected to take place within 1-2 months.

Netherlands

## Arriva and Stadler sign contract to refit trains with ETCS automatic train protection system GUARDIA

Arriva Nederland and Stadler have signed a contract to refit 36 trains with the European Train Control System (ETCS) GUARDIA. The project will include the homologation of GUARDIA for the Netherlands, Belgium and Germany. The fleet of 36 trains includes 8 trains that have already been used on the international train line RE18 in Limburg. The regional carrier Arriva is the first in the Netherlands to order the system to make its trains suitable for the European Rail Traffic Management System (ERTMS). The first trains with the built-in system will be ready for use in 2022. Stadler will refit 36 FLIRT trains from Arriva's fleet that run in Limburg with its ETCS automatic train protection system known as GUARDIA. Eight of these trains are dedicated to cross-border operation on the RE18 train line.

For this reason, the homologation of the system in the countries served by RE18 – the Netherlands, Belgium and Germany – is a part of this contract. Arriva is the first carrier for regional transport in the Netherlands to sign a contract for the installation of the ETCS system in its trains. It is the first time for Stadler to win a contract to refit trains with its own ETCS system. The installation of GUARDIA into the trains will be carried out at Stadler's service center in the Netherlands. The assignment will be executed between 2020 and 2024. The first refitted trains will enter operation on the cross-border track in 2022.

Anne Hettinga, Chairman of the Executive Board of Arriva Nederland, said: "With this agreement, Arriva Nederland underlines the importance of values like safety and innovation. It is great to be a leader in this national and European program as a provider of regional public transport."

Jürg Gygax, Director of the Service Division at Stadler, said: "We're proud that we have been trusted with this project. Refitting trains with GUARDIA and the homologation of our ETCS system in three countries is an important milestone for both our service and signalling business. We look forward to the continuation of our long-term partnership with Arriva in the Netherlands."

ERTMS refers to the modern European standard for automatic train control, which facilitates harmonisation on throughout Europe. It is a combination of a system in the train (ETCS) and in the underlying track. It further increases the safety and efficiency of train traffic, and it facilitates the crossing of national borders. The ETCS system GUARDIA involves the installation of both hardware and software on the train. It allows the train driver to visualise the train's position, speed and additional data, with all these details transmitted to the control centre. Data such as track warrants can be obtained at the same time.



France

## RATP Dev, ComfortDelGro Transit, and Alstom sign a partnership agreement to submit tenders for Grand Paris Express

RATP Dev, ComfortDelGro Transit, and Alstom have announced that they will form a consortium to submit tenders for the Grand Paris Express transport project. The three companies will create a joint venture\* for that purpose, with RATP Dev as the majority shareholder. As global players in the transport sector, RATP Dev, ComfortDelGro Transit, and Alstom have chosen to combine their strategic areas of expertise to offer the transport authority organising the project—Île-de-France Mobilités—and residents of the Île-de-France region integrated multimodal and intermodal transport solutions that meet the highest international standards for operation, maintenance, and service. This alliance marks the emergence of a player in the region with the broad spectrum of skills and experience needed to rise to the challenges of the Grand Paris Express, one of the largest transport projects in Europe. The consortium will submit tenders for the future metro lines 16 and 17.

Catherine Guillouard, Chairwoman of the RATP group stated: "The partnership signed by RATP Dev with transport players such as ComfortDelGro Transit and Alstom is a strategic coup for the RATP group. On a daily basis and all over the world, RATP Dev, under the leadership of Laurence Batlle, proves its ability to offer high-performance, safe, and innovative transport solutions to serve the cities and regions of today and tomorrow. This alliance with ComfortDelGro Transit and Alstom underscores a shared desire to

help the Paris Greater Region develop its transport networks for the benefit of the local population and to bolster the city's reputation around the world. This is a major undertaking, and I know that RATP Dev's teams are ready for it and determined to make it a success."

Describing the tie-up as "exciting", ComfortDelGro Managing Director/Group CEO, Yang Ban Seng, said: "For a while now, we have been looking for a strong overseas rail operator to partner us in international rail projects. RATP Dev is widely acknowledged as being one of the very best out there with a wealth of experience, operating not just in France, but in a host of other countries on 4 continents. Our experience, coupled with RATP Dev's and Alstom's experiences, ensures that we don't just bring a depth of experience to our bids, but breadth as well."

Jean-Baptiste Eyméoud, President Alstom France declared: "The partnership signed with RATP Dev and ComfortDelGro Transit allows Alstom to extend its maintenance know-how in France, in particular in metro maintenance that the Group has already developed in many capitals around the world. The complementarity of the respective expertise of RATP Dev, Comfort DelGro Transit and Alstom will make it possible to offer a competitive and quality offer to the Île-de-France Region and to future Grand Paris Express travellers."

\* naturally, the joint venture is subject to the requisite administrative authorisations.



Spain

## CAF SECURES THE CONTRACT TO SUPPLY METRIC GAUGE UNITS FOR RENFE

RENFE has awarded CAF the supply of 37 metric gauge trains which will be used to replace the railway operator's existing fleet of this type of unit. The trains in this order are separated into two different sets: Firstly, 31 trains that will run on the RENFE Metric Gauge lines, previously managed by FEVE, improving rail services in Galicia, Asturias, Cantabria, Castilla y León and the Basque Country; and secondly, 6 trains - also Metric Gauge - that will replace the entire existing fleet serving the Cercedilla-Cotos line in the Madrid mountains, vehicles that have been running for over 40 years. The total volume of this operation for CAF amounts to over 250 million euros.

Accordingly, RENFE has begun an ambitious investment scheme, which, with an initial projected budget of close to 5 billion euros, will replace a significant proportion of its train fleet. These initial contracts are testament to the trust that RENFE has placed in the CAF Group, further strengthening the close relationship established between both companies since they started working together. This has also provided CAF with the opportunity to collaborate with RENFE to update its rolling stock, something which CAF will also make good use of to work on and develop new solutions which are called for given the current health problems, with a view towards guaranteeing completely safe travel aboard this new fleet.

The newly-developed CAF trains will feature cutting-edge on-board technology, accessibility and comfort, and will provide access to people with reduced mobility, as well as being fully adapted for persons with visual or hearing impairments.

### The order is separated into two sets of metric gauge trains

The first set of units consists of the supply of 31 metric gauge trains, as well as the supply of parts and the maintenance of 12 trains for a term of 15 years, which will be performed by ACTREN, a company both RENFE and CAF have a stake in. The contract includes the future option to purchase 7 additional units to extend the order.

Of the 31 trains the basic contract includes, 26 of these will be electric, while the remaining 5 trains have been initially contracted as dual-type, i.e. they can run on both electric and catenary-free lines. It should be noted that the units will be designed such that in the near future they can be converted to use battery technology, or fuel cell-related technology.

Moreover, all the trains in this contract will be prepared to integrate the dual traction module to extend their operating range beyond electric tracks. As required by RENFE, the trains will be fitted out with cutting-edge technology

in the sector, as well as with a variety of comfort and safety items to make travelling a more pleasant passenger experience.

The second set consists of 6 electric traction trains that will serve the Cercedilla-Cotos line and will represent a major qualitative step forwards in terms of comfort and travel experience compared to the units currently operating on this route, owing to the technological advances that the new units will feature. In this case, the contract also includes 15 years of first-class maintenance, which will be performed at the existing workshop in Cercedilla.

It must be reiterated that the entire fleet of vehicles that CAF will supply for these new contracts will consist of electric and hybrid units. Let us not forget that trains are one of the key contributors to combating global warming and to achieving more sustainable mobility. They can replace other means of transport for both short and long-distance journeys due to their consumption capacity and efficiency, and can also play a crucial role in developing how transport will be in the future.



Europe

## CAF TO SUPPLY METRO UNITS TO NAPLES AND ADDITIONAL TRAMS TO AMSTERDAM AND STOCKHOLM

CAF has pulled off two agreements for the extension of contracts currently under way for Amsterdam and Stockholm, in addition to a new contract for the supply of Metro Units in Naples. The aggregate of both deals will come close to €100 million. These contracts are testament to the confidence in the Company by railway operators in the most demanding markets, where mass transit and the environment are prime drivers. Not for nothing have CAF's trams and metros become a benchmark in the European market, with units made by the Company currently running on many conurbations and towns in the continent, such as Budapest, Edinburgh, Belgrade, Freiburg, Luxembourg, Tallinn, Nantes, Utrecht, Birmingham, Rome, Madrid, Barcelona, Helsinki or Brussels, to name but just a few.

### Metro Units for Naples

CAF signed a framework agreement on Friday June 22nd with Ente Autonomo Volturno, the operator of the regional railway and metropolitan public transport in the Campania Region in Italy. This agreement establishes the supply of 10 Metro Units including integral maintenance for a period of 3 years, in addition to the supply of depot parts. The trains supplied by CAF will provide service on the Piscinola - Aversa Centro Line of the metro network in the capital of the Region, Naples.

On the same very day, the first contract was concluded under the framework agreement for the delivery of the first 4 Train Units, each made of 6 cars. The features of the trains will be analogous to those of the 19 Units formerly procured from the Company by the Comune di Napoli for Line 1 of the Naples Metro.

### A further nine trams for Amsterdam

GVB Activa B.V., the public operator for transport in Amsterdam, for which CAF is currently supplying 63 tram units, has included a first option to purchase nine new additional trams of the 60 optional trams provided for in the contract awarded to CAF in September 2016. The new trams will run on Amsterdam's extensive network. This currently comprises 16 lines with a total of 490 stations and a span of more than 200 km, which will help increase the capacity of the city's transport system. The units are part of the Urbos platform, and will share similar characteristics to the previous ones. This is a low-floor, two-way vehicle that combines its modern design with cutting-edge equipment, providing maximum accessibility and comfort, as well as maximum performance and operation simplicity. CAF's relationship with GVB Activa B.V. dates back a long time with CAF having been awarded the project for the supply of 37 units in 1994, which have been operating in the Dutch city ever since.

### Stockholm Contract Extension

CAF has also concluded an agreement with SLAB (Storstockholms Lokaltrafik), the company responsible for Stockholm's transport network, to extend the project for the supply of trams to the city. The contract comprises the supply of ten new units to complement the previous ones manufactured by CAF, which are already running in the Scandinavian capital.

As part of its scheme to develop its sustainable and demand-driven transport model, at the end of 2010 Stockholm awarded CAF a contract to supply 15 trams which made provision for an extension of 121 further units, and then, this was later extended by a further 27 units in successive extensions over the past few years.

These are low-floor, two-way units, which are also part of the Urbos platform. They are made up of 3 cars, providing an estimated capacity for 221 passengers. They are also equipped with cutting-edge comfort and safety systems, and have been specifically adapted to the extreme weather conditions in the Nordic country.

## Bombardier will supply 27 additional OMNEO Premium trains to SNCF for France's Normandy Region

Global mobility solution provider Bombardier Transportation has received a firm order for 11 additional BOMBARDIER OMNEO Premium, double-deck, electric multiple unit (EMU) trains (110 cars) from French National Railway Company (SNCF) on behalf of the Normandy Region, which is financing 100 per cent of the purchase. This additional order amounts to 162 million euro (\$182 million US) and is part of the framework contract signed with SNCF in 2010 to provide up to 860 trains for France's Regions. Previously on May 16, Bombardier received a separate firm order for 16 additional trains (160 cars) amounting to 245 million euro (\$275 million US). The given values include price escalations based on best faith assessment of assumptions. In total, Bombardier will supply 27 additional OMNEO Premium trains to SNCF for the Normandy Region.

The Normandy Region plans to roll out these spacious, more comfortable trains on the highly frequented lines linking Paris to Vernon-Rouen and Paris to Evreux-

Serquigny. The first trains of this order will be delivered at the end of 2023. Once delivered, the Region will have a fleet of 67 OMNEO Premium trains, which will be maintained mainly in the new Sotteville-lès-Rouen SNCF technicentre, as well as in Caen and Le Havre. The Region's strategy, based on a fleet from the same train family, will enable an increase in operational flexibility and optimize maintenance costs.

"Passengers will discover a new style of train travel with the Bombardier OMNEO Premium. Our engineers have focused on allowing ample space for passengers, more seats and highly comfortable interior fittings. Designed and manufactured at our site in Crespin in the Hauts-de-France region, these trains are certified 'Origine France Garantie,'" said Laurent Bouyer, President of Bombardier Transportation France.

In January 2020, Bombardier started delivering the first OMNEO trainsets from the initial order for 40 trains

signed in November 2016 and these trains have already entered commercial operation. The Normandy Region is the first one to order OMNEO trains and Bombardier has developed a unique interior and exterior design to match the Region's visual identity.

The OMNEO Premium has been designed to offer France's long-distance passengers an exceptional travel experience with high standards of comfort. Both in first and second class, each passenger can enjoy two individual armrests, reclining seats, a reading light, USB and power plugs as well as a large table.

Passengers can also find travel information on large LED screens spread across the train and TFT flat screens in the seating areas. A dynamic seat reservation system provides valuable information to passengers and the train's floor plan has been slightly adjusted to reach 550 seats for each 135 m trainset in addition to offering space for twelve bicycles.

The OMNEO platform, which includes the Regio 2N and the OMNEO Premium, is a family of extra-large double-deck trains which brings greater capacity, comfort and accessibility. Different versions can be adapted to urban, regional and intercity services. The performance of some 250 trains from this family in operation today contributes to the regularity of train services.

To date, ten French regions have ordered a total of 455 OMNEO/Regio 2N trains. The OMNEO platform offers trains for suburban, regional and intercity services. Orders per region are as follows: 118 OMNEO Premium trains for Centre-Val de Loire (32), Hauts-de-France (19) and Normandy (67); and 337 Regio 2N for Auvergne-Rhône-Alpes (59), Brittany (26), Centre-Val de Loire (14), Hauts-de-France (25), Île-de-France (142), Nouvelle Aquitaine (24), Occitanie (18), Pays-de-la-Loire (13) and Provence-Alpes-Côte d'Azur (16).



# From the Archives

## Argentina



Tren Patagonico No. 7610 departs Bariloche on November 2nd 2003. *Mark Enderby*





# From the Archives

Ty2 loco No. 9 is seen in operation of the Yerevan children's railway, June 19th 2008. *Mark Enderby*

## Armenia



# From the Archives

## Austria

On August 26th 2002, Class 1110.023 is seen near Hallstatt hauling train No. E3416. The locomotive was withdrawn on December 1st 2003 and is currently stored at the museum in Strasshof. *Thomas Niederl*



# From the Archives

## Austria

Heading north on the Salzkammergut line is the station at Ebensee where there is a lot of freight traffic to and from the small companies in the area and also to the salt works. On August 26th 2002, the shunting duties were carried out by the former DB Class 2048.020. *Thomas Niederl*



# From the Archives

OBB Nos. 1044.081, 1044.101 and 1044.024 are seen at Bischofshofen on June 3rd 1989. *Mark Enderby*

## Austria



# From the Archives

OBB Class 1041.007 heads a works train through Golling on June 3rd 1989. *Mark Enderby*

## Austria



# From the Archives

Camrail No. CC2220 is seen upon arrival at N'gaoundere on May 16th 2013. *Mark Torkington*

## Cameroon



# From the Archives

Amtrak F40 No. 271 hauling a Toronto - New York service is seen at Niagara Falls (CA) on March 31st 2001.  
*Mark Enderby*

Canada



# From the Archives

Class 363.038 approaches Karlstejn on May 29th 2002 with a Praha - Plzen service.  
*Mark Enderby*

## Czech Republic





# From the Archives

CD Class 742.405 performs shunt duties at Praha Smichov on May 29th 2002.  
*Mark Enderby*

## Czech Republic



# From the Archives

## Czech Republic

Class 749.253 and 111.006 are seen in Praha hl.n. on March 31st 2012.

*Brian Battersby*



# From the Archives

Class 714.228 prepares for the rush at Praha Masarykovo Nádraží on March 31st with an afternoon peak time service. *Brian Battersby*

## Czech Republic



From the  
Archives

Cesky Drahy Class 162.018 arrives at  
Usti nad Labem on March 29th 2012  
with a Decin - Praha service.  
*Brian Battersby*

Czech  
Republic



# From the Archives

Eritrea

Fiat 'Litorino' railcar No. 7 approaches Arbaroba on a special working from Asmara to Ghinda on October 22nd 2008.

*John Sloane*



# From the Archives

France

Former NS diesel loco No. 62528, acquired by SNCF for infrastructure work, stands at Longueau depot near Amiens on October 31st 1991.  
*John Sloane*



# From the Archives

France

SNCF CC No. 7103 departs Dijon  
Perrigny depot on April 13th 1992.

*John Sloane*



# From the Archives

SNCF No. 64501 shunts the steelworks at Gravelines on June 10th 1999.  
*Mark Enderby*

## France





# From the Archives

France

SNCF Alstom built No. 16503 speeds past Somain yard on June 7th 1999.  
*Mark Enderby*



# From the Archives

Former SNCB locos Nos. 6019 and 6086 are seen at Momingres with a stone train on June 9th 1999.  
*Mark Enderby*

## France



# From the Archives

## Ireland

▶ CIE 141 Class No. 171 arrives at Cork on July 28th 1990. *Mark Enderby*

▶ Classic Metropolitan-Vickers 001 Class CIE loco No. 026 hauls a rake of tanks through Straffan on August 7th 1990. *Mark Enderby*

▶ CIE Nos. 192 and 153 pass through Clontarf Road with a rake of tanks on March 25th 1998. *Mark Enderby*



# From the Archives

Class E630-05 is seen at Brescia on August 28th 2006. This Skoda built loco, was one of a batch subsequently sold to Regiojet for services in Czech.  
*Brian Battersby*

## Italy



# From the Archives

## Italy

Class E646.107 waits to depart Naples Centrale with a working to Salerno on July 29th 1986. *John Sloane*



From the  
Archives

Italy

Trenitalia Class E626.114 stands at  
Naples Centrale station on July 29th  
1986. *John Sloane*



From the  
Archives

Italy

Trenitalia Class E646.210 arrives at  
Brescia with a passenger service on  
August 28th 2006. *Brian Battersby*



# From the Archives

Malawi

On September 5th 2012, No. 520 sits at Balaka station with a train from Blantyre which will now continue onto the small village of Billia before returning to Balaka to stable overnight.  
*Mark Torkington*





# From the Archives

Malaysia

KTM No. 24116 stands at Kuala Lumpur with a train to Butterworth on November 15th 1999.  
*Mark Enderby*



# From the Archives

Malaysia

No. 22139 is seen working a freight at Sungai Siput Ulana on November 15th 1999. *Mark Enderby*



# From the Archives

## Mozambique

On September 8th 2012, hire locomotive No. 12 from Sheltam (a South African based leasing company) waits to pass another train at the small village of Repale in Northern Mozambique. This loco is believed to be an ex SAR Class 33 GL26 and not only is the loco on hire but the driver too - and the first vehicle is his lodgings for weeks on end! *Mark Torkington*



From the  
Archives

Netherlands

NS No. 1502 stands at Hoek van  
Holland on March 15th 1986.

*Mark Enderby*



From the  
Archives

Netherlands

NS 0-6-0 shunters Nos. 641 and 636  
are seen in the yard at Amersfoort on  
March 15th 1986. *Mark Enderby*



# From the Archives

## Netherlands

DB Class 140.517 hauling a Den Haag - Koln service calls at Venlo on March 28th 1989. *Mark Enderby*



# From the Archives

## Netherlands

NS Nos. 1606, 2257 and 2307 haul a coal train through Arnhem on March 29th 1989. *Mark Enderby*



# From the Archives

## Netherlands

SNCB No. 1183 hauling a Brussels to Amsterdam service arrives at Roosendaal on March 30th 1989.  
*Mark Enderby*





# From the Archives

## Netherlands

NS No. 1132 stands at Arnhem on March 28th 1989. At least the first three coaches being of Austrian origin.  
*Mark Enderby*



# From the Archives

## Netherlands

NS No. 1150 hauling an Amsterdam - Koln service is seen at Arnhem on March 29th 1989. *Mark Enderby*



111B

113B

# From the Archives

A Perurail train departs Puno on November 22nd 2000.  
*Mark Enderby*

Peru



From the  
Archives

Portugal

CP Class 1400 No. 1464 calls at  
Portimao on July 6th 1998.  
*Mark Enderby*



From the  
Archives

South  
Africa

Mafikeng shed (near the Botswana border) early one morning with an array of South African GE power and a Botswana GM interloper in the form of BD214 far left. *Mark Torkington*



From the  
Archives

Thailand

A Thai BREL-built 'Class 158' DMU is seen at Bangkok on September 24th 1994. *Mark Enderby*



# From the Archives

When DPs weren't available, the internally similar but single cabbed DI locos were promoted from freight work and No. DI64 is seen here at Bou Salem on a Ghardimou to Tunis Ville service, October 1st 2011. *Mark Torkington*

Tunisia 



From the  
Archives

Turkey 

Electric loco No. E43.038 stands at  
Hydapasa station in Istanbul on June  
2nd 1997. *Mark Enderby*





# From the Archives

## Zimbabwe

GE U20 No. 1603 is seen at Thompson Jct. with a small local trip freight working on April 6th 2014.  
*Mark Torkington*

