



Railtalk Magazine *Xtra*

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Submissions & Contributions

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

Photographic Contributions

All Photographic contributions should 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 193Xtra

After a pleasing trip around Europe this month, its back to dreary UK where chaos on the railways, caused by yet more strikes, seems to be the norm. Still at least we have the RHTT season to look forward to.

The news this month has been dominated by InnoTrans which has returned after four long years. Representatives from the five founding organisations of InnoTrans (VDB, UNIFE, VDV, ZVEI and DVF) were there with palpable excitement that the number one rail show in the world – a juggernaut with more than 2800+ exhibitors also including the bus and future transport sectors – was back at long last. The first welcome came from Martin Ecknig, CEO of Berlin Messe. He stressed that increasingly sustainability, climate change and the energy transition were at the forefront of what transport industry was focused on. It was therefore no surprise, he said, that this year InnoTrans had added a Mobility+ section, to allow end-to-end mobility to address these concerns.

Martin Schmitz from VDV hailed the success of the €9 ticket, which demonstrated, he said, that people were willing to take the train. In fact, 10% of people had taken the train instead of driving as a result of this campaign. But he was also clear that this one-off incentive wasn't and couldn't be the end and there were already talks under way as to its successor programme.

In his opening address, André John, responsible for mobility at ZVEI, emphasised 4 'Ds' – digitalisation, demographics, decarbonisation and diversity in the supply chain. He stressed that it was important that Germany and Europe showed the world that the transition to net zero was possible and that it was possible for a major, established economy in a manner that was also beneficial – profitable – for those involved.

Bringing these threads together, Dr Heike van Hoorn from DVF said that the pandemic, the war between Russia and Ukraine and climate change were all proof that rail was indispensable. It had proved itself capable of providing necessary freight transport across borders when trucks and ships had not been available. And it did so in the

most CO2 efficient way, she stressed. Her appeal was to politicians: sure, rail infrastructure was expensive, it was a long-term financial commitment and to date funding had been half-hearted, she said. But rail also had no alternative.

The supplier side was naturally less set on commentary and more focused on presenting its contributions – shaped by policy though they might be. For instance, historically, wagons have received their certification for single cargo loads only, such as grain. But DB Cargo's flexible and modular m2 – this stands for multifunctional and modular – wagon manages to bypass this because thanks to its new type of construction, only the base – the carrying wagon – falls under the certification purview. Consequently, it is much more agile in what it can transport. However, the major talking point was hydrogen and battery power. Ever since Alstom presented its Coradia iLint at InnoTrans 2016 and there was a discussion around whether battery technology (put forward by Bombardier Transportation at the time) or hydrogen would be the future, other rolling stock manufacturers have scrambled to follow suit. And the answer – sensibly – seems to be: depends on the use case. Hydrogen offers a long range. Batteries support hydrogen and when deployed in their own right don't need the additional infrastructure hydrogen does so are easier to implement.

Offerings in the passenger sector include Siemens Mobility with its Mireo Plus H for Germany (also on display its Mireo Plus B battery version) and Stadler's FLIRT H2 for the American market, and it isn't just passenger trains that are exploring hydrogen as an alternative to diesel fuel. The Polish-made SM42-6Dn is the first hydrogen shunting locomotive to be produced in Europe. The prototype 4-axle shunting locomotive generates energy using two 85kW hydrogen cells. It also features an autonomous driving system and obstacle recognition technology.

Until next month...

David

This Page

On August 7th, SBB Re 4/II No. 11153 passes Lottstetten working train No. IC489. [Thomas Niederl](#)

Front Cover

HZ Class 2044.013 passes Sadine whilst hauling train No. 1220 15:33 Split - Praha sleeper. [Laurence Sly](#)





On August 4th, HZ Class 2044.011 and 2044.013 wait departure time at Split with the daily summer overnight train No. 1783 to Osijek. *Mark Torkington*

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With Thanks

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Alstom to locally manufacture an additional 12 VLocity regional trains in Victoria, Australia



The Department of Transport (DoT) in Victoria has exercised an option under an existing contract to purchase an additional 12 VLocity Diesel Motor Unit (DMU) regional trains (36 cars) for the State's regional rail network.

The 12 new VLocity trains will be delivered following a \$250 million investment from the Victorian Government as part of the 2022/23 Victorian State Budget.

The 12 VLocity DMU's are part of the third option for trains to be ordered under the current rolling stock

manufacture and supply agreement that was originally awarded by the State in 2018. The 12 new broad-gauge trains will consist of three cars each, providing a total of 36 new carriages for the operator V/Line which will help support additional and more reliable services for Victoria's regional rail network. The new trains will operate on the Shepparton and Warrnambool lines servicing those regional communities.

Since 2001, Alstom has received orders for a total of 118 standard and broad gauge VLocity regional trains. 99 trains are currently in service and 19 are still to be

manufactured. The locally designed trains will be manufactured and tested at Alstom's rolling stock manufacturing facility in Dandenong, Victoria and will consist of approximately 65% local content – providing a positive boost for the state's rolling stock supply chain, jobs and skills development.

"Alstom is delighted to continue to support the State with its commitment to provide an outstanding rail service to its regional rail passengers. These locally designed and manufactured trains have proven themselves to be safe, comfortable and reliable for nearly two decades

which is a true testament to the skills, workmanship and dedication to quality of our local employees," said Mark Coxon, Managing Director at Alstom Australia and New Zealand.

The highly reliable trains have helped provide a critical service for the State's regions, demonstrated by the vast distance the fleet travels on an annual basis. In the past 12 months alone the VLocity fleet has travelled 39 million kilometres, or the equivalent to travelling to the moon and back more than 50 times.

25,000 tonnes of concrete by rail and road



ÖBB Rail Cargo Group (RCG) has transported a total of 25,000 tonnes of concrete elements from Bosnia to Austria on behalf of two customers. RCG has organised a multimodal transport chain for this purpose; i.e. in addition to rail, it also relies on trucks.

The RCG logistics professionals successfully set up a customised, multimodal and international end-to-end solution for two customers.

The mission: To transport concrete elements from the company site of the construction company Širbegović Inženjering in Gračanica in Bosnia to the Austrian transport, lifting

technology and construction company Felbermayr Group in Leoben.

About 24 trains with a total of 25,000 tonnes are planned until the end of November. Around 14,000 tonnes have already reached their destination in Leoben. The TransFER runs via the route Bosnia, Croatia, Slovenia and across the border in Spielfeld finally to Leoben in Austria.

Multimodal end-to-end logistics solution from RCG's own sources

RCG handles the entire logistics 100 per cent from its own sources. As there is no railway siding available for either customer, both

the first mile in Bosnia and the last mile in Austria were organised by truck – the main route runs sustainably by rail.

RCG thus combines all the advantages of both modes of transport – from the first mile to the last.

New MOBILER for Strabag Cooperation extended with subsidiary Mineral Abbau GmbH

The ÖBB Rail Cargo Group (RCG) has extended its prior cooperation agreement with Mineral Abbau GmbH – a Strabag subsidiary. RCG will continue to use rail transport to haul around 25,000 tonnes of gravel and crushed rock for the company in an environmentally friendly manner. This will avoid around 2,000 journeys by truck.

Six underframes with a total of 24 internally branded MOBILER containers will be used for transportation in the future. Railway logistics with MOBILER will combine the benefits of environmentally-friendly rail travel with those of road goods transport, ensuring ease of transshipment. There will be no need for a crane, a private siding or a terminal. Container transshipment from a truck to a freight wagon works via a hydraulic system on the MOBILER vehicle. As a RCG we have transported around 1 million tonnes of extremely varied goods this way.

How the MOBILER is used

The MOBILER is used to run the quarries at Bleiberg and



Saalfelden for Mineral Abbau GmbH. The wagons with the containers are provided in the relevant industrial sidings, then loaded with gravel. After loading, they are hauled by rail to the relevant unloading stations (Vienna-Breitenlee, Hall in Tirol/Fritzens Wattens). From this point onwards, the MOBILER vehicles take over the containers and bring them directly to the asphalt mixing plants at the site. Quality asphalt for motorways or carriageways is made from these raw materials.

Successful transport of cross-laminated timber

ÖBB Rail Cargo Group (RCG) has transported 225 tonnes of cross-laminated timber from Carinthia, Austria to Trondheim, Norway for timber company KLH.

KLH is a pioneer in the production of KLH® - CLT cross-laminated timber. This is made by stacking spruce lamellas on top of each other and sticking them together using adhesive which is subjected to high pressure to form large-format construction elements. KLH® - CLT are construction elements with a high level of prefabrication for fast, ecological construction methods.

RCG is now delivering these elements from the KLH site's own industrial sidings in Bad St. Leonhard in Carinthia (Austria) to Trondheim (Norway), 2,300 km away, for a school in Afjord. The shipment contains a total of 530 m³



of timber – equivalent to 225 tonnes – which will arrive in Scandinavia via the Passau–Trelleborg route in five to seven days. Once they reach Trondheim, the KLH® elements will be transferred from the RCG wagons onto twelve trucks, which will transport them directly to the construction site.

For a greener tomorrow

With its sustainable rail transport, KLH will save 76 tonnes of CO₂ equivalent compared to classic lorry deliveries. This is very much in keeping with the company's philosophy of taking responsibility for the environment both internally and externally.

ÖBB and Siemens Mobility present the interior design of the next-generation Nightjet



ÖBB and Siemens Mobility have unveiled the next generation of Nightjet sleeping and couchette cars at the Siemens Mobility plant in Vienna. The new cars are designed to optimally accommodate the needs of customers and score points with modern design, greater comfort and increased privacy. By the end of 2025, a total of 33 next-generation ÖBB Nightjets will be on the rails, connecting European cities overnight at speeds of up to 230 kilometres per hour in a climate-friendly way. The first trains are scheduled to be in use by the end of summer 2023 on the popular routes from Austria and Germany to Italy.

“Night trains are gaining momentum throughout Europe, because they’re the climate-friendly alternative to short-haul flights. With ÖBB’s new cutting-edge Nightjet, traveling to cities such as Rome, Venice and Milan will become even easier and more comfortable. When you travel by night train, you choose the most relaxed way to travel. You also contribute to reducing CO2 emissions: Traveling with the Nightjet is around 50 times more climate-friendly than an airplane,” said

Leonore Gewessler, Austria’s Federal Minister of Climate Action.

“The night train has become the epitome of sustainable travel, and our Nightjet is a synonym for night trains in Europe. For our travel guests, comfort, modern design and more privacy are becoming increasingly important, which is why ÖBB is investing in a total of 33 completely new Nightjet trains. The interior of the next-generation Nightjets will offer guests a new travel experience. With this train, we are entering a new age of nighttime travel,” said a pleased ÖBB CEO Andreas Matthä.

“With the new Nightjet, we are making an important contribution to making rail travel more appealing and to achieving climate targets. The trains are highly innovative: they will be the global benchmark for years to come, and they stand out due to their comfort for travellers and their sustainability and flexibility. One particular highlight of the interior is the innovative mini cabins that offer travellers a private space to retreat. The newly developed bogies, which are lightweight

and enable comfortable and energy-efficient operation throughout the entire life cycle, provide a particularly quiet ride,” said Albrecht Neumann, CEO of Rolling Stock at Siemens Mobility.

Next-generation Nightjet deployed in Europe

A total of 33 next-generation Nightjets will be built at the Siemens Mobility plant in Vienna. The first trains are scheduled to be deployed by the end of summer 2023 for travel to Italy – on the routes from Vienna and Munich to Rome, Venice and Milan. By the year 2025, 33 Nightjets from the next generation will be deployed in night train travel in Austria, Germany, Italy, Switzerland and the Netherlands, replacing a majority of the existing trains.

The new comfort of night train travel

The seven-car Nightjets of the next generation are each made up of two seating cars (control car and multifunction car), three couchette cars and two sleeping cars. The maximum capacity per train is 254 passengers. The layout brings together cutting-edge design with greater comfort and space. By reducing the occupancy (two-person compartment in sleeping cars; four-person compartment in couchette cars) and the novel

mini cabins for those traveling by themselves, ÖBB can accommodate guests’ wish for greater privacy.

Traveling in sleeping cars is even more comfortable, as all compartments have their own toilets and showers. Additionally, fixed beds increase sleeping comfort and ensure that passengers reach their destination well rested. What is more, a cozy seating area allows passengers to relax and work, read or eat during the journey, for example.

In the new mini cabins – the individual sleeping quarters in couchette cars – the compact space features everything you need for undisturbed nighttime travel: a storage area, a movable folding breakfast table with integrated mirror, coat hooks, reading light and lockers for luggage right next door.

Going forward, the multifunction car will offer new and improved transport options: six bicycle parking spaces for all cycling enthusiasts and more space for luggage and ski or snowboarding equipment. For barrier-free

travel, each new Nightjet will have a modern accessible couchette compartment as well as a bathroom that can be accessed via low-floor entry.

Technical innovations and features

Travellers can look forward to numerous technical innovations. New features on board include free Wi-Fi, which was previously limited to Railjets and the comfort couchette cars in the Nightjet. It will now be available to all passengers in the next generation of Nightjet night trains. Anyone wanting to pass the time until arrival can make use of the ÖBB Railnet onboard portal to surf the Internet, stream movies and shows and peruse the range of free magazines and newspapers.

A modern information system for passengers has been integrated in all cars and keeps travellers up to date at all times with current information on their journey. In addition to conventional power outlets, the new Nightjet also features charging options for a range of electronic devices via USB and inductive charging stations. New window panes that allow a cellular signal to pass through improve network function and ensure more stable cell phone reception. In the compartments, there is also a control panel with various convenience functions such as light controls or a button to call for service from onboard staff.

Additionally, the compartments are equipped with an electronic access system that makes use of NFC cards, and all cars have video surveillance to help passengers feel even safer.





On August 7th, Class 441.903 stands at Sarajevo station with the TALGO train to Ploce over the border in Croatia. This train runs to Mostar and Capljina on a daily basis but this summer saw the weekends only re-introduction of it crossing the border to Ploce, giving the small isolated section of Croatia Railways a passenger service for the first time in over 10 years. *Mark Torkington*







On August 5th, Class 2044.016 stands at Osijek after arrival with train No. 1783 which had taken over from 2044.011 and 2044.013 at Zagreb (where half the coaches were left - hence the single 2044 was ample). *Mark Torkington*









▶ HZ Class 2044.028 passes Sadine whilst hauling train No. 1152 17:26 Split - Bratislava sleeper.
Laurence Sly

▶ Railpool's Class 187.310 passes Meja whilst hauling a train of tanks to Rijeka on July 8th.
Laurence Sly

▶ Class 2044.02 passes Sadine whilst hauling train No. 1205 18:27 Split - Budapest sleeper.
Laurence Sly







Class 2062.111 passes Planjane on July 6th whilst hauling a freight train from Knin to Perkovic.

Laurence Sly





Class 2063.003 passes Sadine on July 6th whilst hauling a freight train from Solin to Ogulin.

Laurence Sly



On Tuesday, September 27th, an event called Day for a Green City took place in České Budějovice, specifically in the area of the Vrátó heating plant.

Its goal was not only to present the current way of supplying the city with hot water and heat, but also to bring closer the project of construction of a facility for the energy utilization of waste (ZEVO) in this locality.

ČD Cargo also took part in the event as one of the partners, offering visitors the opportunity to learn a lot of interesting things about the company in a presentation car. Children and high school students could also compete for interesting prizes here. And there weren't many of them - around 1,500 students from České Budějovice visited the event.

A special vehicle of the Slps series loaded with three tarpaulined ACTS superstructures for the transport of municipal waste was also exhibited on the siding. It is these superstructures that are used in cooperation with the Brnie company to transport "communal" from Svitavy and Zábřeh in Moravia to ZEVO in Brno.

Another ZEVO should be built in Vrát in the near future, and it is desirable that the transportation of waste from the wider area be carried out by rail. ČD Cargo wants to be there.

Photo: ©CD Cargo



The first EffiShunter 1000 headed to Sweden CZ LOKO has orders for another ten locomotives

They experienced a historic moment on September 6th shortly after midnight at the CZ LOKO premises in Jihlava, when they sent the first of the five EffiShunter 1000 locomotives ordered by Trainpoint Norway to Sweden. Its commissioning is expected in the first months of 2023.

“We see great market potential in Sweden and Norway. Rail transport is perceived here as a gentle alternative in protecting the environment, and is therefore undergoing greening. And this is, of course, accompanied by the modernization and renewal of the vehicle fleet. And we want to be there,” says Michal Schaffer, manager of the CZ LOKO sales department

His words are also confirmed by another contract for the supply of five EffiShunter 1000 concluded last month with the company AC Finance, a subsidiary of Railcare. It also includes an option for four more locomotives.

“We consider it a great success and confidence in the CZ LOKO brand. The company Railcare is one of the renowned railway infrastructure maintenance suppliers in the Nordic countries, and the fact that it has chosen our locomotives only confirms their European competitiveness. But it must be added that this is not a simple project. Although the vehicle is based on the serial version, the modifications connected mainly with the local security equipment cost us, and will continue to cost us a lot of effort, time and

money,” adds Michal Schaffer, manager of the CZ LOKO sales department

According to him, these are still only the first steps, because the most difficult thing still awaits the company on the local market – the approval process, demanding operating and climatic conditions, in which customer feedback is also important. CZ LOKO also confirmed this in neighboring Finland, where since 2015 six EffiShunter 1600 locomotives (series 774.7) have been running in the colors of the carrier Fenniarail Oy.

“Our ambition is for the Effishunter 1000 to become the standard shunting locomotive in Scandinavia for the next twenty, thirty years,” said Michal Schaffer. “In its category,

it belongs to the best that is available on the European railway market. So it's proven quality at an affordable price.”

The four-axle EffiShunter 1000 has established itself in Europe with its reliable and economical operation. It is normally equipped with the unified European security system ETCS. For the Scandinavian market, it will be supplemented by the national security guard ATC. This will enable its use not only for shifting, but also

in full-fledged track service. Sweden is the twentieth jubilee country to which CZ LOKO exports its locomotives.

Photo Trainpoint Norway Class 744.144
© Lukáš Ružička



Listed building in České Budějovice is gradually regaining its lustre

Complete reconstruction of the station building at České Budějovice is in full swing, work is continuing in the south and north towers, the facade is being repaired and individual parts of the roof structure are being installed. In the arrival hall, repairs of stucco elements and plaster continue, and restorers have finished work on the historical fresco. Low-current wiring, electrical wiring and technological equipment of the building are being installed. It is in the arrival hall that the first rooms will open to passengers at the beginning of next year, while the rest of the building will be open to passengers by the end of 2023.

The aim of the extensive modernisation of the 1908 building is mainly to increase comfort for passengers and the public, to improve conditions for Správa železnic employees, to optimise the space for transport services, to make better commercial use of other areas and, last but not least, to save energy. “In cooperation with the National Heritage Institute, one of the most important

buildings in České Budějovice is gradually being restored to the splendour it had after its completion more than 110 years ago. At the same time, it will provide passengers, visitors and employees with a dignified environment fit for the 21st century,” said Jiří Svoboda, Director General of Správa železnic, and added: “I am very pleased that the premises of the north tower will be newly used by other units of the state. In addition to the branch of the Czech Post, which is now adjacent to the station building, the workplace of the Police of the Czech Republic will be stationed here.”

Construction work on the station building began at the turn of May and June 2020, with an estimated completion date of December 2022. After the original structures were uncovered, the condition of some parts of the building was found to be very poor, such as all of the existing reinforced concrete ceiling structures, some of the walls, and it was necessary to demolish the entire north extension and change the way the building

was stripped.

The first stage included the construction of new premises underground for the necessary technologies – new transformer substations, backup diesel generator, electrical switchboards. The underground was also remediated, and the builders were faced with an increased amount of groundwater during the work. At the same time, it was necessary to relocate the control room to temporary premises.

In the second phase, the ceiling of the arrival hall and the restoration of the historical fresco have already been completed, the floors and walls of the arrival hall are being repaired and new public lavatories are being built. Work continues in the north tower of the station building, with tiling and paving being laid. In the central tower, the facade is being repaired, parts of the roof structure are being installed, plumbing and restoration work is being carried out on the sculpture, new floors are being laid and windows and doors are being replaced. In the south

tower, work is currently underway on new ceiling structures and various structural modifications are being carried out, such as lining and brickwork to provide structural support for the building, whose poor condition was discovered after uncovering the masonry. In the access hall, repairs to the stucco elements and plaster are continuing, and low-current wiring, electrical wiring and building technology equipment are being installed. The construction of a new lift is also underway.

The completion of the arrival hall and its opening to the public is planned for the beginning of next year. By the end of this year, the facade of the entire building will be completed, and by the end of 2023, the passenger facilities in the departure hall will be available to passengers.

The use of the renovated building will be multifunctional, new spaces for passengers, shops and services will be created here, and new offices will be added as well. A

new elevator will be built in the central part of the building to connect the underpass with Platform 1, and additional elevators will be built in the north and south towers. The building will get a new orientation and information system.

The reconstruction will also include the construction of a passage connecting the north tower with the main check-in hall, i.e. an imaginary connection with Lannova Avenue, the main link between the station and the centre of České Budějovice. This will relieve the traffic of passengers heading to the pavement in front of the building along the frequented Nádražní Street and will increase their safety. The interior solutions were designed by architects from the A 8000 studio.

The work is being carried out by Společnost Metrostav – EDIKT – AVERS, consisting of the above-mentioned companies. The current price of the construction is CZK 755 million. The construction is co-financed by the EU, RRF fund.

TGV M takes a new step

On September 9, Christophe Fanichet (Chairman and CEO of SNCF Voyageurs), Alain Krakovitch (Director of TGV-Intercités), Xavier Ouin (Industrial Director of SNCF Voyageurs) and Jean-Baptiste Eyméoud (President, Alstom France) unveiled the production line of the TGV of the future in Alstom's La Rochelle workshops, after an operation that brings together the power cars and passenger cars.

The TGV M, which has benefited from the know-how of the best experts at Alstom and the Rolling Stock and TGV-Intercités divisions of SNCF Voyageurs, will run on the national network from 2024.

Plus capacitaire, plus écologique, plus connecté, plus accessible...

An order has been placed for 115 units (100 domestic and 15 international) and the train will be used for both the INOUI and OUIGO TGV services:

More capacity, more ecological, more connected, more accessible...

- Unprecedented modularity, which makes it possible to adjust the number of cars as closely as possible to the market's needs (7, 8 or 9), to quickly transform a 1st class space into a 2nd class space and vice versa, to reconfigure the interior by removing or adding seats, bicycle or luggage spaces, etc.
- A 20% increase in on-board space, i.e. a possible offer of up to 740 seats compared to the current maximum of 634.
- Ultra-competitive energy efficiency and carbon footprint per passenger: the TGV M's carbon footprint is the lowest on the market and 97% of the train's components are recyclable. With a 32% reduction in CO2 emissions, the TGV M is fully in line with the SNCF Group's environmental commitments, as set out in the SNCF Voyageurs "Planète Voyages" programme, which aims to reduce the carbon footprint and energy consumption of all its activities.
- Access to evolving connected services that meet passengers' needs, such as on-board Wi-Fi, as well as complete information in real time in the various areas of the train.
- A highly "communicating" train set whose sensors continuously transmit thousands of pieces of data enabling the train to be examined in real time from every angle to optimize maintenance and availability,
- Increased on-board accessibility for the benefit of all

passengers.

New features, major changes

The new features of the TGV M, as well as its technical specifications, are different from those of the current fleet, leading SNCF Voyageurs to deploy an operating program involving all the Group's players.

Operation

All TGV operating processes need to be modified, whether related to driving, traffic supervision, train preparation in stations, or to parking, depots and cleaning. This is linked, for example, to the fact that the TGV M will have 9 passenger cars instead of 8 like the current TGVs. Or to the fact that the majority of the interfaces in the driver's cab have been digitized.

Maintenance

Major investments have been made in the TGV maintenance Technicenters to make their facilities compatible with the TGV M and to install automated maintenance benches that can check several hundred parts of a train in a few seconds.

And in these Technicenters, the new predictive maintenance concepts, based on the use of the thousands of data from the TGV M, promise to bring TGV maintenance into a new era. The technical data will provide clear, reliable and high value-added information, making it possible to anticipate breakdowns in doors, air conditioning systems and, in general, all the systems that contribute to train operation and passenger comfort.

Network and stations

A detailed analysis of the compatibility of the TGV M with the network and stations is being carried out throughout France. It consists of ensuring that the new train is properly registered at all points on the network and in all stations. This analysis is used to identify the adaptation work that needs to be carried out, the procedures that need to be modified and the changes that need to be made in terms of passenger flow management.

For example, the surveys already carried out in nearly 70 stations show the need to move stop signs to make it easier for drivers to see the signals when the trains are on the platform. This is linked to the nose of the TGV, which has been lengthened to make it more aerodynamic.

Digital

A vast project is underway on digital and information

systems. This is important because the TGV M is hyper-connected and customers' uses are increasingly oriented towards digital systems. It consists of proposing and implementing appropriate digital solutions and supports to meet customer needs and improve efficiency in all areas.

For example, attendants will have an application that tells them in real time the operating status of all the elements that contribute to the comfort of customers. The WIFI architecture on board the train will comply with the latest 5G standard, to deliver a high quality service. And various digital applications will be developed in particular to optimize traction energy consumption, by adapting driving instructions in real time to the speed of the train and the profile of the route.

Employees

The arrival of the TGV M will bring about changes in the SNCF's "business processes". It is therefore essential to pay the utmost attention to the SNCF employees affected by these changes. The operational program includes an essential section on training and skills upgrading for all staff, so that they can all be helped to make the new train their own.

Industrial innovations and French manufacturing

To make a success of this major innovation project, Alstom has rethought its industrial manufacturing process in a standardization and lean manufacturing approach. Investments of nearly 50 million euros have been made in new production lines ensuring the safety of operators and the ergonomics of workstations, as well as industrial efficiency and the simplification of assemblies in order to make the solution competitive. Ten of the sixteen Alstom sites in France are involved in the design of the new train: Belfort for the locomotives, La Rochelle for the carriages (studies, industrialization, purchasing, manufacturing and testing of passenger carriages), logistical and service support, and project management; Villeurbanne for the computerized control and command system, passenger information and on-board equipment; Ornans for the engines; Le Creusot for the bogies; Tarbes for traction; Toulouse (COE electrical) for the electrical circuits; Petit Quevilly for the transformers; Saint-Ouen for design, signalling, and Valenciennes for the study of the interior design



elements. In total, 4,000 jobs will be generated by this project in the French rail industry.

A train designed for customers and agents

All the new features of the TGV M have been designed with and for future users, whether passengers or SNCF Voyageurs agents.

Customers will find innovations on board that will improve their comfort and service. In the passenger lounges, the interior design has been designed to promote rest and a muted atmosphere, for a serene and peaceful journey. Elsewhere, social areas have been designed for those who wish to enjoy themselves with friends or family. The windows have been enlarged for a panoramic view of the landscape. The lighting will adapt to the intensity of the natural light in the train. All seats, designed for optimal comfort, will have connectivity features, offering everyone a powerful WIFI. The bar of this new TGV has been completely redesigned to offer a new experience.

TGV M is the first TGV which, from the outset of its design, has been designed in close collaboration with associations for people with reduced mobility (notably wheelchair users and the visually impaired). It will be the first TGV to offer fully independent access to the train. A pivoting lifting platform will allow wheelchair users to access the train independently, right up to the room reserved for them, and a sound system to locate the doors will guide visually impaired people when they board.

Photo: © Alstom | Olivier Schindler

Siemens Mobility delivers Line B of the Rennes metro

With the commissioning of the new state-of-the-art automated metro Line B in Rennes, Siemens Mobility has once again demonstrated its leading expertise in delivering fully automated turnkey metro systems.

Crossing the Rennes metropolitan area along a South-West axis, Line B has 15 stations spread over 13 km. 20 years after the first metro line in Rennes opened with VAL technology (Line A), Rennes Métropole and SEMTCAR renewed their trust in Siemens Mobility to equip the second metro line in the city with the new generation of the automated metro system, Cityval.

“Siemens Mobility France had already equipped the first metro line of the city of Rennes with its VAL system. Now, together with Rennes Métropole, we are proud to inaugurate the new Line B equipped with the latest generation of Cityval automated driverless metro, which will strengthen the city’s ability to offer low-carbon emission mobility,” said Laurent Bouyer, President of Siemens Mobility France. “Designed at our world center of expertise in Toulouse, the Cityval deployed in Rennes showcases the

quality of our products and the skills of our teams worldwide.”

As part of this turnkey contract, Siemens Mobility provided the entire system engineering, delivered, and implemented the Cityval rolling stock (25 trainsets, initially consisting of two cars), the automated train control system, the track system, the electrification, the platform doors, the operating control center (OCC), the garage workshop facilities, as well as the radio communication and real-time video transmission in the stations and onboard the trains. Siemens Mobility is also providing the services for operations and maintenance of the system, including the training of personnel, instructions, spare parts, and documentation. Building on 40 years of innovation, Siemens Mobility’s VAL flagship product system continues to evolve with the Cityval. Its fully automated intermediate capacity transport system is ideal for medium-sized cities that want to offer low-carbon mobility.

The Cityval provides many advantages:
Performance: 60 second minimum intervals between trains and high acceleration

capacity.

Scalability: The possibility to add a third car during its operation, thus considerably increasing the capacity of the transport system without having to build new infrastructures.

Passenger experience: The vehicle includes wide doors for better access to platforms, configurations that ease the passenger movement within trains, large windows from floor to ceiling that increases luminosity, video surveillance and real-time passenger information.

Easy urban integration: The vehicle can handle steep slopes (up to 10%) and tight curves.



Cost optimization: Innovations in the concrete slab, guiding rail and switches allow for cost optimization over the project’s entire life cycle (infrastructure and maintenance costs).

Sustainability: Its energy consumption is

reduced thanks to the management of the movement of automated trains enabled by the CBTC automatic system. The 100% electric braking system enables energy savings of up to 15% with virtually no particle emissions.

FURTHER SUCCESS IN FRANCE, CAF TO SUPPLY 15 TRAMS TO MARSEILLES

CAF has been chosen by RTM (Régie des Transports Métropolitains) that operates the entire Marseille public transportation network, to supply 15 new tramway units. The contract (value €57 million) also includes an option to increase the number of trams depending of the network extensions to come.

Marseille is the second most populated city in France after Paris, with approximately 900,000 inhabitants, and its port is one of the most important commercial ports in Europe. Besides the three tramway lines, RTM operates both underground lines as well as the bus and ferry services in the metropolitan area.

The new Urbos platform trams will consist of 7 modules spanning a total length of 42.5 metres. Their design is

similar to that of the vehicles currently operating in the city, with a livery styling that evokes marine motifs that Marseille is historically identified with. The units to be supplied by CAF are planned for operation on the 3 existing lines on the network, and it should be borne in mind that the T3 line will soon be extended to the north and south of the city.

This project forms part of the framework for the transport plan and mobility agenda of the Aix-Marseille-Provence Metropolis, which seeks to improve its inhabitants’ standard of living by improving public transport infrastructures and services; specifically, the extension of the tramway network being one of the top priorities of the investment programme as it becomes the backbone of the Metropolis transport network.

Yet again, this exemplifies CAF’s commitment to the French market, where it has undertaken a significant number of projects. Noteworthy amongst these was last year’s contract as a consortium to supply 146 trains for the Paris RER B commuter line, the contract for 28 regional trains with an option for an additional 75 trains for SNCF, the projects to supply trams for the cities of Nantes, Besançon and St. Etienne, as well as the refurbishment of the train fleet on the Lyon metro system’s D Line. Also worthy of note is the major contract which Montpellier Méditerranée Métropole awarded last June for the supply of 60 trams; the largest tram contract in France so far this year, which, together with this new contract, confirms CAF’s position as one of the world market leaders in this sector.

We should also point out that CAF has also recently finalised the purchase of the Reichshoffen manufacturing plant, located in the French region of Alsace, thereby strengthening its production capacity in France as part of its growth strategy in the country. This plant will join CAF’s plant in Bagnères de Bigorre, consolidating its position as the second largest player in the French railway industry.

Siemens Mobility celebrates full automation of Line 4 of Paris Metro alongside RATP and Île-de-France Mobilités

Siemens Mobility supported RATP and Île-de-France Mobilités in the complete automation of Line 4

Siemens Mobility fully automated the line with its digitalized systems and CBTC signaling technology

The automation of Line 4 will centralize control of operations, increase availability, reliability, and capacity

The modernization of Line 4 of the Paris Metro has been completed with the highest grade of automation and the automatic driverless metros have now begun revenue service. The digitalization and optimization of Line 4 will allow RATP to safely increase frequency by reducing intervals between trains from 105 to 85 seconds. Chosen in 2015 by RATP to automate Line 4, Siemens Mobility supplied their digitalized communication and CBTC signaling systems to modernize the network.

After a trial run with no passengers that began in June, the automation of Line 4 is now a reality. More automatic driverless shuttles will be introduced into the line's traffic over time to achieve full automation by the end of 2023.

"This automation of a century-old line is a further demonstration of the unique know-how of the RATP group and its partner Siemens Mobility in terms of automatic metro systems. With IDFM, we have also taken advantage of this project to modernize the line for the benefit of passengers, with parlor doors and better passenger information. From now on, other modernization projects will be carried out with Siemens Mobility, in particular with the implementation of a new automatic control system on line 14 and its extensions to Saint-Denis Pleyel and Orly Airport," said Catherine Guillouard, President and CEO of the RATP group.

"We are proud to have partnered with RATP and Île-de-France Mobilités to complete this

landmark project that provides Line 4 with the highest grade of signaling technology and automation services," said Michael Peter, CEO of Siemens Mobility. "Paris has one of the busiest metro systems in the world. Our state-of-the-art CBTC signalling at GoA 4 allows trains to operate driverless and be automatically controlled and supervised without any onboard intervention. This truly modern system increases the reliability and availability of service, which will deliver an enhanced passenger experience for the 700k daily riders of Line 4."

For this project, Siemens Mobility equipped the tracks, the technical premises and the 52 automatic shuttles that will run on Line

4 with its digitalized systems and CBTC signalling. Siemens Mobility also supplied the equipment and software for the Operation Central Command (OCC), which manages the signalling system and the traction power supply, as well as interfacing with the on-board and trackside systems.

Siemens Mobility's digitalized CBTC signaling will allow RATP to safely increase capacity and accommodate more passengers on the system. The ability to continuously receive updates on system status will also improve operational efficiency, resulting in fewer delays and more up-to-date travel information. Additionally, the automated system will reduce traction energy

consumption by up to 15%.

Line 4 is the second busiest metro line in Paris. It carries 700,000 passengers per day, through 29 stations that are spread over 14 km. The busy line, and the need to minimize the disruption of passenger service, was one of the many challenges brought on by this project. The automation of Line 4 needed to incorporate the work being done to extend the line to its new southern terminal Bagneux-Lucie Aubrac, while also needing to successfully interface with three different types of rolling stock (MP89, MP05 and MP14). All features were successfully carried out despite the challenges brought on by the pandemic.

Paris : Siemens Mobility successfully opens the automatization of line 4



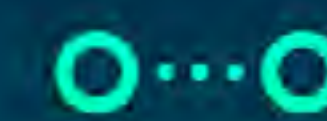
Siemens Mobility automates Line 4 without major disruption to passenger service



700,000
passenger/day



14 km
of tracks



29
stations



85s
interval between
trains

Porte de Clignancourt

Bagnieux - Lucie Aubrac







Germany

On August 30th, DB Cargo Class 193.356 passes through Kaub with an Oberhausen West to Mainz mixed freight. *Erik de Zeeuw*











Record speed for a high-performance network: DB will completely overhaul the Frankfurt/Main–Mannheim line in just five months

Bundled renewal of all facilities and stations on the Riedbahn starts in mid-July 2024 • DB Infrastructure Board Member Berthold Huber: Develop network and stations from a single source for the first time • Goal: More quality, more punctuality and then no more construction sites for years • High-performance replacement concept for more than 200 moves

On July 15th, 2024, Deutsche Bahn (DB) will start the general renovations in the heavily used rail network on the so-called Riedbahn between Frankfurt/Main and Mannheim. A comprehensive team will coordinate the work in such a way that it can be carried out at record speed. Within just five months, DB will renew all technical systems and modernize 20 stations along the route. With the general refurbishment of the Riedbahn, DB is for the first time bundling all planned construction work for the coming years within one line closure in a highly utilized corridor.

DB Infrastructure Board Member Berthold Huber: “The Riedbahn is the first building block on our way to a high-performance network. Nowhere else in Germany is the infrastructure under greater strain than between Frankfurt/Main and Mannheim. Around 300 local, long-distance and freight trains run on the route every day. That’s why our new concept starts right here. With the general refurbishment, we are radically modernizing, replacing all fault-prone systems and creating the urgently needed capacity for more traffic on the climate-friendly railway. For the first time, we are developing the network and stations from a single source, making the stations more attractive for our travellers - and completely barrier-free.”

Once the work is complete, the positive effects will be noticeable for travellers beyond the Riedbahn throughout the rail network: more punctual trains, fewer disruptions and more options for passenger and freight transport. Restrictions due to recurring construction measures between Frankfurt/Main and Mannheim are then no longer necessary for many years. The costs of the general renovation are expected to amount to around 500 million euros.

DB will start the general renovation of the Riedbahn the day after the final of the 2024 European Football Championship. During the closure, around 1,200 control and safety technology systems, 152 points, four level crossings and more than 10 kilometres will be removed along the Frankfurt/Main-Mannheim corridor. Noise protection walls renewed. DB is also creating new overtaking opportunities for trains and equipping the Riedbahn for future digital rail operations.

20 train stations along the line between Frankfurt/Main and Mannheim will have modern platform roofs, shelters, new wayfinding systems and ramps for barrier-free access. The work should be completed by Christmas 2024. The planned diversion routes for passenger and freight traffic will be technically prepared and equipped in the coming months.



Powerful replacement concept for reliable connections

For the duration of the general renovation, DB is developing a high-performance replacement concept with detour and replacement services for travellers and freight customers. The concept is closely coordinated with the affected railway companies and authorities.

DB Infrastructure Board Member Berthold Huber: “We are aware that we are asking a lot of customers during the general renovation of the Riedbahn. But ultimately everyone will benefit from more quality, punctuality and attractive stations on this important route and beyond. It is also worth persevering because the Frankfurt/Main-Mannheim corridor will be spared major construction work for the next decade after the general renovation.” The capacity of the detour routes via Worms and Mainz or via Darmstadt is limited. That is why buses are to be used in local transport, which can replace up to 200 trains a day. Long-distance and freight trains are sometimes diverted over a wide area. Unfortunately, restrictions for travellers cannot be avoided during the general renovation. DB already apologizes for this and asks for your understanding.

DB is investing a record amount in new vehicles: more than 19 billion euros by 2030

Deutsche Bahn has launched the largest modernization program for its vehicle fleet to date. By 2030, the group will invest more than 19 billion euros in new locomotives and trains. DB announced this at the “InnoTrans” railway trade fair in Berlin.

dr Richard Lutz, CEO of Deutsche Bahn AG: “We are now investing in the trains of the future. With the record sum of more than 19 billion euros, we are creating the capacity for even higher demand. Modern vehicles not only make the railways more climate-friendly, but also more reliable and customer-friendly.”

At the trade fair, DB is showing what the regional train of the future could look like. For the first time, passengers will be traveling in Bavaria in a specially converted double-decker car. Spatially separated office cabins and a spacious family area are examples of how traveling in regional transport is becoming even more comfortable and customers can make even better use of their time on board. In long-distance transport, DB is expanding its ICE fleet with the new ICE L, among other things. DB is expecting three new ICE

trains every month in 2023. By 2030, this fleet will grow to around 450 trains. The freight train of the future that DB Cargo is presenting at the trade fair is even more climate-friendly, even on routes without overhead lines. Freight wagons are modular and extremely flexible, the digital automatic coupling is the new backbone of the freight train. Not only does it make train operations faster, it also adds a new dimension to the supply chain on rails with power lines and live data. A novelty at the fair is the Cargo dual-powered locomotive, which is being presented for the first time and can be operated with both green electricity and climate-friendly biofuel. They are used over long distances as well as in customer service at close range or in shunting operations. With the m 2 freight car system developed by DB, the cars can be adapted more quickly to the needs of customers.

dr Daniela Gerd tom Markotten, Board Member for Digitization and Technology at Deutsche Bahn AG: “The mobility of the future is digital, convenient and climate-friendly. With innovations and modern technologies, we can set new standards for more capacity, quality and flexibility. It’s about convincing more and more people and companies with a high-performance rail.”

dr Sigrid Nikutta, Board Member for Freight Transport at Deutsche Bahn AG: “We are proud to be presenting two world premieres at the same time as DB Cargo. The “freight train of the future” - it’s on the track ready to depart! In addition to a completely new two-power locomotive, I am pleased about our own development: the new m² wagons can be used flexibly and modularly for different goods. There is a platform in different lengths and different structures can be placed on it for transport. If we network this train with digital automatic couplers, that is the decisive lever to get more goods onto the climate-friendly rail, which is finite in capacity.”

Evelyn Palla, Member of the Board of Management for Regional Transport at Deutsche Bahn AG: “What began with innovative ideas and a vision can in future be experienced very closely by our travellers in everyday life. Whether in the office cubicle or in the family compartment - with our new offer we ensure more comfort, more information and more quality. A train of ideas has become a real train of the future! We offer people in the city and in the country modern mobility and make it even easier to switch to the climate-friendly train.”



Germany

On August 31st, Railflex Lok No. 2 is seen in the 'Lotharstraße' bypass with a rake of empty Talns, taking them for loading with lime to Rheinkalk in Wülfrath. *Erik de Zeeuw*





DB will help Ukrainian railways in reconstruction

The Ukrainian state railway Ukrzaliznyzja (UZ) can rely on the help and support of Deutsche Bahn in the long term. Deutsche Bahn bosses Dr. Richard Lutz and Oleksander Kamyshin in a Memorandum of Understanding (MoU). The contract assures UZ of post-war reconstruction assistance, includes cooperation in the expansion of freight corridors and terminal capacities, and extensive consulting services in the introduction of European standards for rail operations and management.

DB CEO Dr. Richard Lutz: “We follow with the greatest respect how our Ukrainian colleagues do their work reliably and courageously under wartime conditions. For millions of people, the railway is the only means of transport, for the economy it is the most important lifeline. A functioning railway is essential for the country’s reconstruction. That is why we as DB and also with the entire European railway family stand firmly on the side of the Ukrainian railways. It is both an honour and an obligation for us to accompany UZ as a partner into a good future.”

Olexander Kamyshin, CEO of Ukrzaliznytsia: “Reorientation of the European railway system to the new opportunities is the priority on the way to avoid dependence on the harmful influence of Russia. I am convinced that cooperation between DB and Ukrzaliznytsia can bring great mutual benefits

in order to increase freight traffic and grain exports to Europe. DB has undeniable expertise here. I am convinced that our cooperation can lead to valuable results. DB’s professionalism and consistency, multiplied by Ukrzaliznyzja’s courage and motivation, is a powerful synergy that can give Europe and Europeans new resilience and lead to more shifts to rail.

Federal Minister Dr. Volker Wissing: “I was deeply touched by the incredible courage and perseverance with which the Ukrainian railway workers, together with their colleagues across Europe, brought countless people to safety and maintained the supply of their country. One thing is clear to me: Ukraine will continue to receive all the support we can offer. Long-term civilian cooperation like this, which strengthens the country in this crucial phase of the war and beyond, is an important building block.”

DB and UZ already worked together before the Russian war of aggression to modernize and reform the Ukrainian railways. The new partnership is aimed at improvements in rail freight transport - and here in particular in agricultural transport. DB Cargo experts will help to develop new freight corridors and terminals for handling between broad gauge and standard gauge or to upgrade existing ones. It is already possible to head for some larger freight hubs in the western rail network of Ukraine with wagons on

the European standard gauge. This accelerates the transports considerably. In order to increase grain exports to the European Union, the use of Ukrainian grain wagons is being examined. The corresponding hopper wagons can accommodate significantly higher quantities than containers. Above all, the national companies of DB Cargo in Poland and Romania are already transporting large quantities of grain here via rail networks close to the border, thus helping to relieve the still difficult sea route from the Ukraine. DB will continue to help establish corporate structures at UZ, which, among other things, are a prerequisite for receiving financial aid for reconstruction. The delivery of spare parts is also planned. A delivery is also checked for wagon material; however, a complex conversion to broad gauge is required here.

DB has already made protective clothing worth around 500,000 euros available to the colleagues. At the meeting of the European railway association CER in July in Vienna, the railways had already committed themselves to providing emergency aid and called for sufficient funding for the “Rebuild Ukraine” plan.

With a network of 22,300 kilometres and around 250,000 employees, the Ukrainian railway is one of the most important railways in Eastern Europe.

Easier to board: Deutsche Bahn presents the first stepless ICE



Deutsche Bahn (DB) has presented the first car of the new ICE L at InnoTrans in Berlin. The train from the Spanish manufacturer Talgo sets new standards in terms of accessibility: thanks to its stepless access, passengers in wheelchairs can for the first time get on and off the ICE L without outside help. But all other passengers, for example with large suitcases, prams or bicycles, also benefit from level access. From autumn 2024, 23 ICE Ls – the L stands for the English term “low floor” – will gradually strengthen DB’s long-distance transport fleet. First, the trains will be used on the Berlin–Amsterdam line. In 2026, the trains will also run on the tourist routes to Sylt and Oberstdorf.

Dr Michael Peterson, DB board member for long-distance passenger

transport: “The stepless entry into the ICE L sets new standards. This makes traveling by train even easier and more comfortable for all passengers. And with the new interior design in the ICE, there is a living room atmosphere on the rails for the first time.”

Gonzalo Urquijo Fernández de Aroz, Talgo CEO: “These new generation trains will strengthen DB’s offering and are part of a whole new standard set by what we at Talgo believe to be the most demanding customer in the global rail market. This is a paradigm shift in passenger transport that Deutsche Bahn is heralding with the new ICE L and that will become the benchmark on the dynamic European market.”

The 230 km/h fast and 256 m long ICE L consists of 17 passenger cars including a control car and a multi-system locomotive. This also makes cross-border use possible. It also offers space for even more travelers: the 562 seats are divided into 85 seats in 1st class and 477 seats in 2nd class. In addition, travellers can enjoy the full ICE comfort they are used to. In addition to the new ICE interior design, this includes, for example, comfortable, completely newly developed seats, a particularly high-performance WLAN, mobile phone-transparent windows, plenty of space for families with children, a restaurant car, eight bicycle parking spaces and passenger information with real-time data.

Framework agreement for preventive rail maintenance with Deutsche Bahn significantly extended

Vossloh, a long-established and world-leading supplier of rail infrastructure products and services, and DB Netz AG, the railway infrastructure manager of Deutsche Bahn AG, have significantly extended their existing framework agreement for preventive rail maintenance.

The contract now covers a volume of at least 12,000 km in the coming year. On behalf of DB Netz AG, Vossloh will in particular maintain the highly utilized lines of the German rail network, the so-called high-performance network, using HSG (high-speed-grinding) technology. In addition, a digital component has been added to the contract. A smart HSG train equipped with extensive measurement and analysis technology will be used to record important track condition data during operation. HSG technology is used for preventive maintenance of the rail network. Based on a unique grinding process worldwide, Vossloh’s maintenance machines can be

operated at speeds of up to 80 km/h on mainline lines and up to 60 km/h on urban transport lines. They are equipped with state-of-the-art sensor technology, some of which was developed in-house, and can simultaneously record condition data of the rail track during grinding without the need for track closures. The condition data is collected in real time, evaluated by means of algorithms and can be visualized in a web-based application including concrete recommendations for action. The grinding program can be individually adapted to the respective track condition. Regular use of the smart HSG machines thus not only effectively prevents rail defects and significantly extends rail service life, but also forms the basis for predictive maintenance of the rail track as the data history grows.

“Greater availability of tracks is a key prerequisite for shifting more traffic to rail. In view of the increasing

utilization of networks, preventive and, in perspective, predictive maintenance technologies are gaining massive importance,” comments Oliver Schuster, CEO of Vossloh AG, on the signing of the contract and adds: “With our leading track expertise and comprehensive service portfolio, we are able to offer our customers tailored and unique solutions for increasing track availability. We are very pleased about the trust placed in us by Deutsche Bahn, which is underlining its ‘Strong Rail’ strategy with this order. We are proud that we are once again making a significant contribution to an efficient, reliable rail network and thus enabling more sustainable mobility in Germany.”

Dr. Volker Hentschel, Member of the Management Board of DB Netz AG responsible for Asset and Maintenance Management, emphasizes the role of preventive rail maintenance as follows: “With this consistent use of HSG

technology, DB Netz AG is underlining its claim to meet the increasing loads on the network with innovative solutions. On our high-performance network, the traffic friendly rail maintenance provided by HSG will make a valuable contribution to greater reliability and growth.” Deutsche Bahn recently announced the strengthening of the high-performance network by 2030. The current highly utilized route connections comprise a total of 3,500 route kilometres and are the focus of the framework agreement described above. Deutsche Bahn expects the highly loaded network to grow to over 9,000 route kilometres by the end of 2030.



Germany

DB Class 218.425 working train No. IC2012 to Bochum is seen at Kempten (Allgäu) on June 15th. *Gerard van Vliet*



DB Cargo wants to transport urgently needed hydrogen by freight train in the future. This concept represents an efficient alternative to pipelines for hydrogen. Because they don't exist yet. The Federal Government estimates the need for hydrogen at around 100 terawatt hours per year up to the year 2030. For comparison: the total electricity consumption in Germany was around 580 terawatt hours per year.

"Hydrogen will play an important role in the future energy mix. There are currently many new initiatives on how green hydrogen can come to Germany by sea," says Dr. Sigrid Nikutta, Head of DB Cargo AG and Board Member for Freight Transport at DB Group. "We have developed a solution for this that brings the hydrogen easily and efficiently from the ports to the consumers in the hinterland, especially to our industrial customers. This is how we create a secure and efficient supply chain for the German economy."

Dr. Nikutta continues: "The German rail network is an environmental network with a route length of more than 35,000 kilometres. DB Cargo alone serves more than 2,100 interfaces, customer connections, terminals and inland ports. Green hydrogen needs green logistics – and we can already offer that

today."

Hydrogen that is imported to Germany is usually not gaseous, but bound in liquids. This means that it can be transported easily and efficiently by seagoing vessel. In cooperation with energy suppliers, DB Cargo has developed a concept for transport to recipients far away from seaports. The hydrogen is left in this liquid bond. This means that the usual tank wagons can be used in rail freight transport. They are already widely used in the chemical industry. Only where hydrogen is to be used as an energy source is the cargo "cracked" back into its components, the hydrogen separated and used as an energy source.

DB Cargo is involved in a wide range of hydrogen logistics solutions. The largest European rail freight company is also a partner in the "Reallabor Burghausen ChemDelta Bavaria" – a non-profit company in the Bavarian



chemical triangle. The technology of the future, hydrogen, is being tested here in the tough everyday industrial environment.

DB Cargo is also involved in the development of innovative hydrogen containers and is testing the logistics of pure hydrogen. This solution makes sense when it comes to the small-scale distribution of pure hydrogen to decentralized customers and users – for example hydrogen filling stations. In concrete terms, DB Cargo also organizes the delivery of the hydrogen trains from DB Regio, which are currently being tested on various lines in practical operation.

Going greener in regional transport: DB Regio relies on biofuel

Deutsche Bahn (DB) and the state of Baden-Württemberg are now sending 57 vehicles on the rails with climate-friendly biofuel in the Aulendorfer Kreuz and Donau-Ostalb network. As a result, land and rail save around 90 percent of the CO₂ emissions on the routes. DB has completely converted the filling station in Aulendorf from diesel to biofuel. Thorsten Krenz, Group Representative for the State of Baden-Württemberg, and Winfried Hermann, Baden-Württemberg Minister of Transport, refueled the first regional train in Germany in Aulendorf yesterday. By the end of 2023, 1.3 million liters of biofuel should flow here.

Evelyn Palla, Head of Regional Transport DB AG: "For us, the use of biofuel is an immediate climate protection measure. Together with the state of Baden-Württemberg, we are taking an important step towards phasing out diesel and climate neutrality with today's premiere. By December 2023, we will save around 3,700 tons of CO₂ in the two networks. Before the end of this year we want to use the biofuel in regional transport at other locations throughout Germany. In this way, we are making the already climate-friendly public transport system even greener and more attractive for our passengers."

Winfried Hermann, Minister of Transport of Baden-

Württemberg: "Trains should no longer run on climate-damaging diesel. We are therefore working nationwide on a strategy to get away from diesel fuel. Where electrification is not yet possible, we rely on alternative fuels. Aulendorf is a small but important railway hub for the region. From today, the diesel vehicles drive here in Upper Swabia with a significantly lower CO₂ footprint.

The state of Baden-Württemberg is supporting these measures in 2022 and 2023 with a total of 400,000 euros." The biofuel HVO (Hydrotreated Vegetable Oil) used by DB consists of biological residues and waste and is free of palm oil. There is therefore no competition with

the production of food and animal feed. The diesel trains are not specially converted for biofuel. Fully functional diesel trains and diesel locomotives, which are currently still being used on

routes that are not fully electrified, do not therefore have to be discarded prematurely, but can be used in a much more climate-friendly manner until the end of their service life. This saves resources and serves sustainability. The rail fuel station in Aulendorf, which was converted from diesel to HVO, can also be used by other railway companies without discrimination.

About DB Regio

With around 1.5 billion travellers in 2021, DB Regio is the largest provider of local rail passenger transport. An average of 4.2 million people used around 22,000 train journeys every day. The five metropolitan S-Bahn trains

in Munich, Berlin, Frankfurt, Stuttgart and Hamburg bring around 1.3 billion people to their destinations every year. More than 37,000 employees work for the passengers every day. DB Regio sees local transport as covering all modes of transport and supplements its core range of rail and bus services with new forms of mobility such as on-demand, sharing and pooling offers both in metropolitan regions and in rural areas. The aim is climate-friendly, modern and seamless public transport for everyone in Germany.





Long-distance transport prices increase by an average of 4.9 percent when the timetable changes

Super saver prices still from 17.90 euros Price adjustment well below the inflation rate

Germany is currently experiencing the highest price increases in 50 years. Deutsche Bahn (DB) is also affected by this, for example due to rising energy costs. Like many other companies, DB is forced to react to the massive price increases by adjusting prices. At the beginning of September, the German tariff association announced that prices for regional transport would be adjusted by an average of 4 percent.

In DB long-distance transport, the prices for the timetable change on December 11 will increase by an average of 4.9 percent. The price increase thus remains well below the current inflation rate of around 8 percent.

The changes at a glance

The entry-level prices remain the same as before, at EUR 17.90 for super saver prices and EUR 21.90 for saver prices. The Super Sparpreis Young is also still available for travelers under the age of 27 from EUR 12.90.

The price for a seat reservation remains unchanged at EUR 4.50 in 2nd class and EUR 5.90 in 1st class.

As of December 11th, the flexible prices will increase by an average of 6.9 percent.

The prices for the BahnCards 25, 50 and 100 as well as for the route season tickets will increase by an average of 4.9 percent. The trial BahnCard 25 and 50 remain as cheap as before. For commuters there will still be flexible multi-journey tickets with 10 or 20 single journeys.

The start of booking for the new timetable with all offers is October 12th. If you book your trip up to and including December 10th, you can still travel at the old prices.

Alstom and Polo Mercitalia (FS Group) sign an agreement for the supply of an additional 20 Traxx DC3 electric locomotives

Alstom, global leader in smart and sustainable mobility, will supply the leading national railway operator, Polo Mercitalia (Gruppo Ferrovie dello Stato), with 20 new generation Traxx DC3 electric locomotives, named E.494 in Italy. The delivery of these new units is scheduled to start early 2024 and will be completed during that year. These are 20 additional units under the contract signed in December 2017 by Mercitalia Rail. Alstom has already delivered the 40 Traxx DC3 locomotives, which started commercial operation more than three years ago. The fleet's locomotives will be included in the Full Maintenance programme provided by Alstom Italia Service.

"In order to make rail transport more sustainable and efficient, it is essential to renew our fleet of locomotives and wagons," says Gianpiero Strisciuglio, CEO of Mercitalia Logistics. "Over a 10-year period, we plan to purchase 3,500 wagons and more than 300 new generation, environmentally-friendly electric and hybrid

locomotives, including these 20. These locomotives are very innovative because they can be equipped to perform the last rail mile, penetrating directly into non-electrified areas such as inland terminals and ports with a quick power change, directly connecting rail transport with other transport modes."

"We are extremely proud that Polo Mercitalia, our longstanding customer and the first one to have invested in the Traxx DC3 high-power electric locomotive, has decided to exercise this purchase option for a further 20 units in addition to the 40 already delivered," says Michele Viale, Managing Director of Alstom Italy and Chairman and CEO of Alstom Ferroviaria. "This additional agreement is another proof of the trust that our customers have in our Group and in the Traxx DC3 product, which stands more than 160 units sold, of which around 90 are circulating on the Italian rail network."

The Traxx DC3 is the latest generation of high-power electric locomotives that maximises efficiency, minimises maintenance interventions, and provides higher load and traction capacity with lower energy consumption. The Traxx DC3 locomotive is part of the Traxx 3 platform, the most modern four-axle locomotives in Europe. The last 20 years in Europe has seen sales of over 2,400 Traxx locomotives, with homologation in 20 countries and a total annual distance covered of over 300 million km. All the Traxx DC3 locomotives designed for the Italian market will be produced at Alstom's Vado Ligure site. The plant that has more than one hundred years of experience in the design and construction of locomotives, including the latest generation of Traxx electric locomotives and it is a centre for production and maintenance of rolling stock



and subsystems. A historic site, where more than 400 employees, are currently engaged in the manufacture of the latest generation of Traxx electric locomotives, as well as carrying out major overhauls of traction units.

DB Cargo Italia is strengthening its infrastructure

DB Cargo Italia is pushing ahead rapidly with upgrades to its transport network in Italy, putting economical and eco-friendly logistics to work at the new, state-of-the-art Lesegno freight station. The DB Cargo subsidiary is greatly expanding its network for single-wagon freight in Italy to support customers such as the steel producer Riva Acciaio with customised logistics solutions for combined transport. The company has a long history of steel transport in Italy, having shipped over a million tonnes up to the beginning of 2022. Switching to rail transport is easy for the Riva Group as it already has a private siding. In mid-May, the first flat wagon loaded with steel sections set off from Lesegno in the Piedmont region of northern Italy to its destination in Emilia-Romagna.

Reliability with Strong Rail

But how does the process actually work at Riva Acciaio? The freight wagons are unloaded at the Lanzi railport, and a freight forwarder delivers the goods over the last mile by lorry to the Riva Group's end customers. The result is a perfect symbiosis of road and rail. As Sarah Erian from International Sales Italy at DB Cargo Italia

Sarah Erian says: "All of our customers have a fundamental interest in improving their processes and making a real contribution to reducing CO2 emissions. That also explains their increased commitment to getting more of their freight onto the rails." Green rail is flourishing because it creates the best conditions for reducing CO2 emissions.

Castelguelfo: a modern railport

With its showpiece logistical flexibility and up-to-date technology, the Castelguelfo freight station is a hotspot for combined transport. Paolo Volpe, Marketing Manager at DB Cargo Italia Services, emphasises the railport's function as a "multimodal platform".

DB Cargo adapts its customers' shipments to their individual needs. "The equipment used is suitable for the specific type of goods being unloaded, and onward carriage is combined with a door-to-door solution," Volpe says, meaning that a lorry transports the goods over the last mile to the factory gate. The new Castelguelfo railport ensures maximum reliability with sufficient capacity.

More steel, more routes, more transports in Italy

Sarah Erian is positive about the future: "We're planning more projects like the one in Lesegno, so continued growth in our transport activities in Italy traffic won't be restricted to steel; there may also be new arrival and departure points or even new rail links," she says.

Photo: Steel transport is an important sector of the Italian transport market, but other goods are also transported by rail in Italy. ©DB Cargo Italia / Giovanni Grasso















Siemens Mobility to retrofit the Dutch National Railways ViRM fleet with ETCS technology

Siemens Mobility has been awarded a contract by NS Group N.V, the Dutch Railways, to retrofit 176 ViRM trains with the latest European Train Control System (ETCS) Level 2 technology. With the ETCS Level 2 upgrade, the fleet will be able to operate with a greater degree of efficiency for the remainder of its lifetime, while also meeting the latest European standards for rail safety interoperability. Siemens Mobility will provide the ETCS onboard unit equipment and installation support, as well as seven years of maintenance services for the system. The retrofitted vehicles will be delivered in the period 2023–2027.

“All over Europe, rail operators are looking for new solutions to increase capacity and reduce energy consumption as well as infrastructure costs. Our sophisticated ETCS onboard technology will help Dutch Railways to achieve their modernization and

performance goals,” said Andre Rodenbeck, CEO of Rail Infrastructure at Siemens Mobility. “This important project is another significant step in transforming the more than 20 different national railway control and safety systems currently being used in Europe, towards a harmonized and interoperable system that safely paves the way for cross border rail transportation.”

This is the first major contract award of rolling stock ETCS upgrade in the Netherlands and is part of a comprehensive Dutch program to retrofit its existing rolling stock fleet with the latest train control technology. NS and Siemens Mobility view this initial project award as a long-term and collaborative partnership, which will ensure a smooth transition from the existing train control system to ETCS. The new system will also simplify future upgrades to the next ETCS versions according to TSI standards (Technical Specifications for Interoperability).

With its decision to opt for ETCS, Europe has paved the way for futureproof, cross-border rail traffic. Promoted by political leaders and driven by railway operators and leading providers such as Siemens, a network of ETCS-equipped lines is being created within Europe and beyond. In parallel to new construction projects, many railway companies are refitting their railway vehicles and fleets with ETCS onboard solutions. As one of the ETCS pioneers, Siemens Mobility has already implemented retrofit projects in several countries, including Switzerland, Great Britain, Spain, and Belgium.





Spain



Renfe Civia EMUs Nos. 252M and 265M are seen stabled waiting their next working at Vilanova i la Geltrú on August 18th.
Brian Battersby





The Museu del Ferrocarril de Catalunya collection comprises more than sixty vehicles from all periods of history, diverse countries of origin and different technologies, including 28 steam locomotives from the late 19th century. *Brian Battersby*



Spain



Talgo locomotive No. 354.001 'Virgen de Covadonga' was built in 1983 by Krauss Maffei (Alemania), seen here at the Museu del Ferrocarril de Catalunya in Vilanova i la Geltrú on August 18th. *Brian Battersby*

Norte & Renfe electric loco No. 7001 was built in 1928. *Brian Battersby*

The Renfe Class 353, formerly known as the T-3000 are a class of diesel-hydraulic locomotives built by Krauss-Maffei for express trains in Spain in 1968/69. Preserved No. 3005 is seen at the Museu del Ferrocarril de Catalunya in Vilanova i la Geltrú on August 18th. *Brian Battersby*





Until the timetable change in December, the more than 50-year-old Re 4/4 locomotives will still be used on the Zurich - Singen - Stuttgart IC trains. In December the trains will be operated by DB Stadler Kiss EMUs bought 2nd hand from Westbahn. Here Re 4/4II No. 11109 with train No. IC487 passes Eglisau on August 8th. *Thomas Niederl*



Switzerland

On August 9th, SBB Re 4/4II No. 11144 hauling train No. IC921 passes Mols. *Thomas Niederl*





Switzerland

On August 12th, ABe 4/16 No. 3131 working train No. RE 1759 passes Disentis/Mustér. *Thomas Niederl*



▶ SBB Re 4/4II No. 11200 working train No. IC189 passes Eglisau on August 8th. *Thomas Niederl*

▶ On August 10th, Be 4/4 No. 615 working goods train No. G1228 passes Muriaux. *Thomas Niederl*

▶ On August 12th, Be 4/4 No. 615 works train No. G1135 past Tramelan-Dessous. *Thomas Niederl*



At Jura in western Switzerland, freight traffic can also be seen at the Chemins de Fer du Jura. In addition to the transport of wood, which is carried out to a small extent with SBB wagons set up on trolleys, waste is transported from Monday to Friday to an incineration plant in La Chaux-de-Fonds. This is transported in containers on narrow-gauge freight wagons. Railcars are used here which were purchased from the Frauenfeld-Wil-Bahn in 2013. On August 12th, Be 4/4 No. 615 working train No. G1228 passes Les Emibois. *Thomas Niederl*





On August 11th, ABt No. 712 and Be 4/4 No. 652 are seen at La Ferrière working train No. R211.
Thomas Niederl

One of two narrow-gauge lines that are threatened with closure, leading from La Chaux-de-Fonds to Les Ponts-de-Martel. On October 11th, BDe 4/4 No. 8 working train No. R320 is seen at La Chaux-de-Fonds-Grenier.
Thomas Niederl

The second of two narrow-gauge lines that are threatened with closure, leading from the border station at Le Locle to Les Brenets, four kilometres away. Here train No. R13 operated by BDe 4/4 No. 5 is seen at Les Brenets.
Thomas Niederl



On August 13th, Ge 4/4II No. 624 working train No. RE1724 passes Disentis/Mustér.
Thomas Niederl

On August 13th, HGe 4/4 No. 36 of the Furka-Oberalp-Bahn passes Dieniier working an Extrazug from Chur to Brig.
Thomas Niederl

On August 13th, HGe 4/4II No. 5 working train No. R820 passes Segnas.
Thomas Niederl







Mexico



Alstom celebrates 70 years of transforming mobility in Mexico

Alstom, a global leader in smart and sustainable mobility, celebrates 70 years of activities in Mexico. During the past seven decades, Alstom has established itself and demonstrated its unrivalled experience in supporting the development of Mexico's mobility needs, both public transit and freight, through projects such as the construction of the country's first metro line in 1968 – Line 1 in Mexico City – to maintenance projects for the main national freight operators.

Over these 70 years, Alstom has grown with a wide range of mobility solutions that, through the collaborative work with customers, improves mobility to and from and within cities, and increases the well-being of its passengers. Throughout the history of the company in Mexico, Alstom has and continues to respond to customers' needs, from design to engineering, industrial to manufacturing, project management to installation, testing and integration, and commissioning to maintenance of rail equipment and systems related for the safe and fluid movement of people and/or goods.

Innovation, at the heart of the company's DNA, is both the key to technological differentiation and a means

of creating added value and gaining a competitive edge. To lead in green and smart solutions, Alstom has significantly reinforced its research and development (R&D) resources and intends to expand its leadership in rail innovation. Since its establishment in Mexico, Alstom has been committed to protecting employees, customers and society, while preserving the environment, and has therefore developed a comprehensive and proactive sustainability and CSR policy. The Top Employer certification that Alstom has received is testament to the organisation's dedication to a better world of work and exhibits this through excellent HR policies and people practices. In addition, the Alstom Foundation, the company's philanthropic organisation that finances local community-related projects around the world, has supported 17 projects to date in Mexico, ranging from protecting flora and fauna ecosystems to helping communities access electricity from renewable sources to supporting education, development and protecting vulnerable youth.

“Our partnerships with the passenger system and freight train operators in Mexico, demonstrate our commitment to the progress of the country and to the support of

society. We currently have a team of more than 1,700 employees, whom we continuously train to positively impact their personal and professional evolution by providing them with an inclusive work environment and by keeping them healthy, happy, and motivated so that they have a better quality of life,” said Maite Ramos, General Director of Alstom Mexico.

Ciudad Sahagún plant and the great mobility project in Mexico

Ciudad Sahagún, Hidalgo, is home to Alstom's largest manufacturing facility in the Americas region and Alstom's 3rd largest in the world. Alstom has manufactured more than 2,300 metro and light rail cars at the 500,000 m² facility, as well as 2,000 diesel-electric locomotives for the transportation systems of Mexico City, Guadalajara and Monterrey. The plant has manufactured more than 70% of the railway vehicles in Mexico, as well as subassemblies and major assemblies for trains for cities such as New York City, Edmonton, Toronto, Beijing, and trains for international projects in Minneapolis, Kuala Lumpur, Riyadh, and San Francisco.

Currently, the Ciudad Sahagún plant is producing trains

for the largest mobility project in Mexico: the Mayan Train. The plant will manufacture 42 X'trapolis™ trains of three different types, meeting the goal of being A train for Mexico, made in Mexico.

The future

The company maintains its focus on the future, centred on sustainable growth, green and digital innovation, operational efficiency and an agile, inclusive and responsible corporate culture, anticipating the mobility challenges of tomorrow. Alstom Mexico is working to ensure that its current projects can transform people's lives, and continue to help them move safely, quickly and sustainably for the next 70 years. “We firmly believe in the progress of the country and just as we did when we arrived in Mexico, we will always work to continue providing the country with the most innovative technologies, that benefit our clients and all the people of our Mexican community with more efficient, faster, cleaner and safer means of transportation to contribute to the consolidation of the nation,” concluded the General Director of Alstom Mexico.

Ecuador



Alstom celebrates two years of operation of its Cuenca tramway

Alstom, world leader in smart and sustainable mobility, celebrates two years of successful operation of its tramway in Cuenca, Ecuador. The system has been officially operating since September 22, 2019, and currently transports around 19,000 passengers per day. The goal is for the number of passengers to reach 40,000 daily, according to the Municipality of Cuenca, which is in charge of operations and maintenance of the system. The transportation system in operation in Cuenca, whose historic walled town was declared a World Heritage Site by UNESCO in 1999, has become a new tourist attraction and is used by people from Cuenca, as well as by national visitors and foreign tourists.

Javier Díaz, Director of the Cuenca Tramway Project for Alstom, said: “We are very happy and proud with the two years of successful and uninterrupted operation of the Alstom tram in Cuenca, particularly knowing that we

are contributing to the smart and sustainable mobility of the municipality, with the delivery of a high-quality product and system in partnership with our client and that it brings many benefits to its citizens.”

Alstom and its consortium partners were contracted to design, deliver, integrate and test the complete system, including 14 Alstom Citadis trams, the power supply system, depot equipment, telecommunications and railway signalling equipment. In total, there are 27 stops across the tram network spread over the 20.4 kilometres. The route crosses important places in Cuenca such as the El Arenal Market, a point of intense commercial activity, the Historic Centre, the Bus Terminal, the Mariscal Lamar Airport and the city's Industrial Park. Each unit of the Alstom Citadis tram is 33 metres long and corresponds to the new generation of this type of modern, fast, silent, inclusive and low CO₂-emission

transportation. Each Citadis tram can transport up to 280 people, replacing the equivalent of three buses or 215 private vehicles. This, combined with the fact that the system is an electric mobility system, helps to reduce greenhouse gas pollution and carbon emissions.

Additionally, the implementation of the APS system, a system owned by Alstom that supplies the necessary energy for the trams through a third rail located on the ground, helps to preserve and highlight the architecture and landscape of Cuenca. This reliable and safe system has been installed in several cities around the world, which like Cuenca, value its architectural wealth.

Inclusion is another feature of the transportation system. The units are equipped with low floors and wide doors that guarantee total accessibility, especially for those with reduced mobility. The tram allows for people in



wheelchairs, passengers with bicycles and pets with their owners to board. It is common to see young people entering with their bicycles or mothers and fathers with strollers, at different stations.

The two years of operation of the Cuenca tram reaffirms Alstom's commitment to continue working and innovating to offer environmentally friendly and smart mobility systems throughout the world, developing and marketing integrated and maintenance systems that provide the foundations for the future of sustainable transport.

Romania

Alstom to supply 17 additional Coradia Stream inter-regional electric trains and associated maintenance in Romania

Alstom, global leader in smart and sustainable mobility, and the Romanian Railway Reform Authority (ARF) have signed an addendum to the initial contract for the delivery of additional Coradia Stream inter-regional trains and associated 15 years maintenance services. These trains will supplement the first 20 trains, ordered in March 2022, creating the first passenger railway fleet provided by Alstom in Romania.

Developed for the European market, Coradia Stream trains are equipped with the ERTMS[1] Level 2 traffic control system and comply with both European standards (EN) as well as Technical Interoperability Specifications (TSIs), being capable of operating on all the main European power supply systems. The maximum speed of the trains will be 160 km / h.

Each train will have six cars, a total capacity of 350 seats and 100% low floor, to assure easy access for all passengers. There will be two entry doors on each side of the middle cars and one door for each side of the end cars. The passenger information system will include a sound system and a dynamic display system. Each train car will be equipped with large-size luggage racks. The Coradia Stream trains will also be equipped with a digital system for passenger counting with high-precision sensors. Each train will have four ecological toilets, evenly distributed along the entire length of the train, with one designed for people with reduced mobility. The final configuration,

colours and finishes will be fully customised according to the requirements of the Contracting Authority during the design stage. Coradia Stream is a state-of-the-art, low-floor, high-performance electric multiple unit (EMU), that offers a modular design, allowing operators to choose their best configuration and interior. Developed for the European market, Coradia Stream can operate on all the main European power supply systems. Coradia Stream family is a huge success throughout Europe with almost 900 trains already ordered in Denmark, Germany, Italy, Luxemburg, Spain and the Netherlands – along with Romania. The trains in Italy have been in service since mid-2019, proving once more the reliability of this solution. The Coradia Stream train family also offers emission-free traction solutions such as battery or hydrogen for non-electrified lines. Alstom has been active in Romania for almost 30 years and is a market leader in railway electrification and signalling solutions. The company is responsible for implementing signalling or electrification solutions on more than 75% of the Rhine-Danube railway corridor in Romania. The first CBTC urban signalling solution in the country is under implementation by Alstom on Bucharest's metro Line 5. The company has also been the provider of maintenance services for the Bucharest metro fleet for the last 18 years.

[1] European Rail Traffic Management System

Image:© Alstom



Mexico



Alstom signs Ferromex locomotive maintenance contract

Alstom, a global leader in smart and sustainable mobility, signed a contract renewal to carry out preventive and corrective maintenance on 186 locomotives of the Ferrocarril Mexicano (Ferromex) fleet for a period of five years, starting immediately.

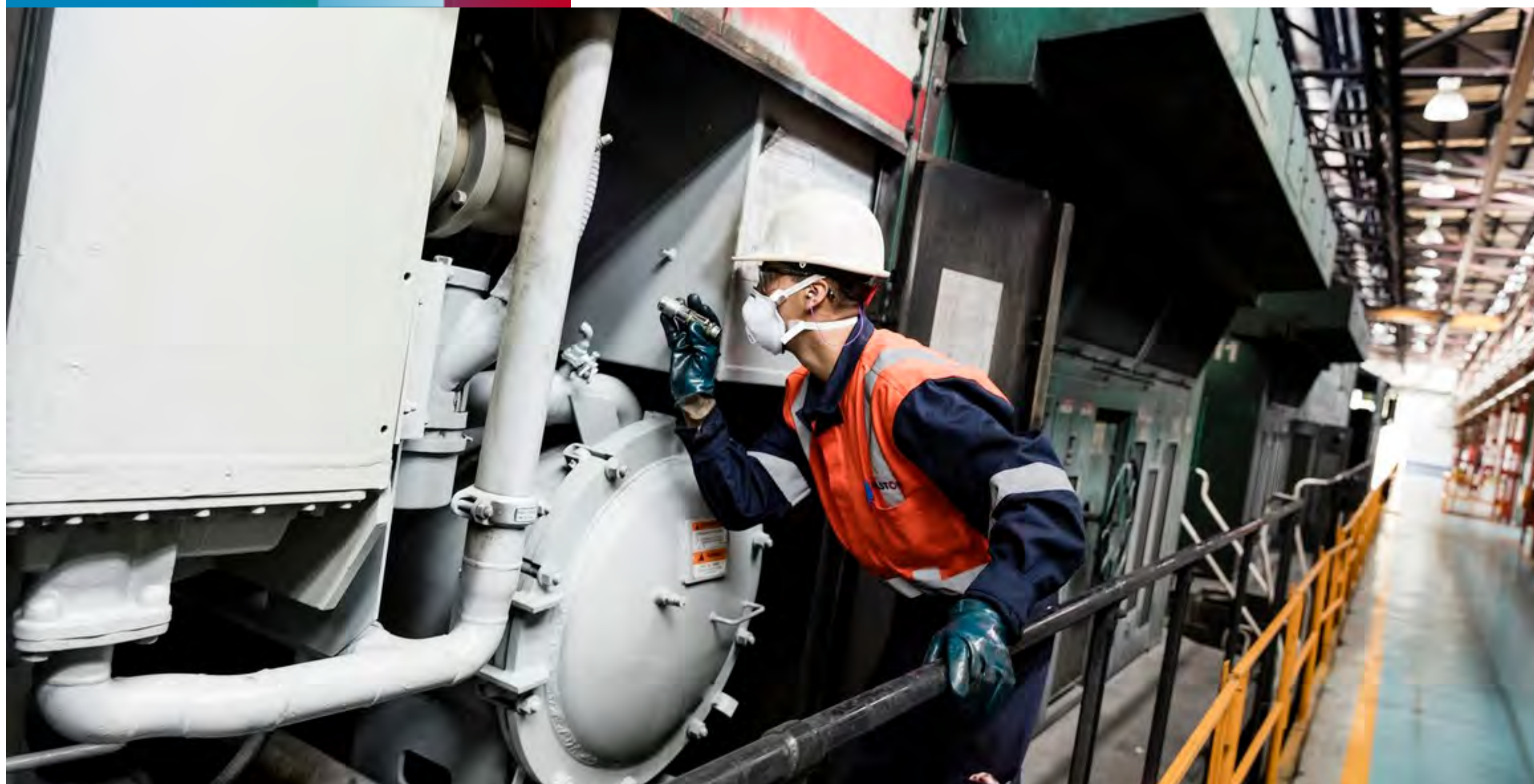
Alstom's commercial relationship with Ferromex began in 2004 and has allowed for a synergy in favour of rail mobility in Mexico. This service contract, implementing remote monitoring, consists of performing preventive and corrective maintenance on the locomotives, applying condition-based maintenance technologies, and performing predictive maintenance through vibration analysis and oil chemical analysis.

"The renewed confidence in Alstom with this additional maintenance contract reaffirms Alstom's commitment to assisting Ferromex in the optimisation of their operations with increased fleet reliability and availability for a more

efficient and sustainable transportation network," said Maite Ramos Gómez, General Director at Alstom Mexico. Ferromex operates the largest rail network in Mexico with 10,000 km of track, which covers the country's main industrial and consumer areas, and connects with the rest of the world through eight (8) ports and six (6) border crossings.

"Collaborating hand in hand with business partners such as Ferromex reinforces our work philosophy based on quality, which helps us to support the force that moves Mexico in transportation and sustainability," concluded Maite Ramos.

Maintenance work will be carried out at the Ferromex centres located in Torreón, Chihuahua and Guadalajara.



Latvia

SJSC “Latvijas dzelzceļš” modernizes rail infrastructure between Lielvārde and Skrīveri, Riga and Jelgava to increase train speeds to 140 km/h

In order to reduce the time spent by trains travelling between terminals and to improve traffic safety at level crossings, a project to increase maximum train speeds will be implemented by the end of 2023 following significant modernization of Lielvārde - Skrīveri and Riga - Jelgava railway sections.

During the project, railway infrastructure will be modernized along more than 100 kilometres of the two railway lines: new traffic signals and automatic barriers will be installed at level crossings, geometry of railway curves and electric contact systems will be redesigned, and other work will be carried out to achieve that trains can travel at speeds of up to 140 km/h in certain areas.

Māris Kleinbergs, Chairman of the Board at SJSC “Latvijas dzelzceļš”: “This and next year mark the beginning of a new, higher quality stage in development of the railway network and passenger transport in Latvia. “Latvijas dzelzceļš” is currently simultaneously implementing three ambitious railway infrastructure development projects: modernization of railway platforms, setting up fences and arranging pedestrian crossings, and this one – increasing maximum train speeds on two railway lines. All these projects will significantly contribute to the popularity and use of railways for public transport.”

The total amount of the contract for increasing maximum train speed is EUR

57,938,490, of which 85% or EUR 49,247,716.50 will be covered by co-financing from the Cohesion Fund, and the remaining 15% - by own financial resources of LDz. The deadline for implementation of the project in accordance with the contract signed with economic operator association BMGS-FIMA-ALSTOM is December 17, 2023.

Implementation of the project “Modernization of railway infrastructure to increase the speed of trains: construction” has also been affected by global developments – the cost and availability of materials, changes in supply chains and the resulting delays in deliveries. Therefore, in order to ensure implementation of the project co-

financed by the European Union’s Cohesion Fund by the agreed deadline and to keep co-financing intact, it was necessary to reduce the scope of procurement activities in certain areas (number of newly built pedestrian crossings, fencing amounts, also the scope of track construction works where possible), without altering the requirements and technical specifications of the work to be performed.

Furthermore, it is important to point out that, regardless of the reduced work volumes, the objectives of the project will be achieved – the speed of trains will be increased and modernization of overhead lines will be completed.



The speed of passenger trains is one of the most important factors that decide whether residents choose trains for their daily commute. During the last few years, LDz has already carried out infrastructure upgrades at several railway sections in order to increase the maximum speed of trains, and currently the maximum speed of passenger trains is 120 km/h.

U.A.E.

Etihad Rail completes the connection of railway freight terminal at ICAD in Abu Dhabi with the network’s main line

Etihad Rail, the developer and operator of the UAE National Rail Network, has announced the successful completion of the connection between the railway freight terminal at the Industrial City of Abu Dhabi (ICAD), which is the largest inland freight railway terminal in the country, and the UAE National Rail Network. The Company completed track laying works and conducting successful tests on the new line, which extends from the borders of Saudi Arabia to the port of Fujairah, on the eastern coast, passing through key manufacturing hubs and urban centres.

This achievement comes in line with the goals of the UAE Railway Programme, which is the largest integrated system for transporting goods and passengers across the country. The programme aims to connect the country’s key centres of industry and production, open new trade routes and facilitate population movement.

Upon the completion of Stage Two of the UAE National Rail Network, Etihad Rail will provide logistics solutions from the railway terminal, which is located at the heart of the Industrial City of Abu Dhabi, burgeoning hub of industrial companies in the area.

Mohammed Al Marzouqi, Executive Director of Rail Relations Sector at Etihad Rail, said: “Connecting the railway freight terminal at ICAD with Etihad Rail’s main line ensures our readiness to start providing our clients with logistics solutions by linking Abu Dhabi with various industrial centres and import and export points. This milestone brings us closer to achieving our goal of providing an integrated transport system that connects the industrial and manufacturing centres with freight terminals and ports across the emirates. The strategic location of the ICAD railway freight terminal will also drive value for all our customers as it is the largest indoor railway freight terminal in the UAE.”

“We are proud of this achievement, which supports our efforts to encourage companies to restructure their logistical operations and opt for rail logistics solutions, thereby cutting costs, increasing efficiency, and providing safer transportation of goods. This is exemplified by the trade agreements that we have made with some of the biggest companies in the UAE, such as Stevin Rock LLC, Western Banoona Group, and Al Ghurair Iron & Steel LLC. Our network will have a positive impact on end users, as it will contribute to reducing trucks on roads and bring down their maintenance costs. It will further drive the

sustainable development that we are witnessing across the UAE, by enabling a positive socioeconomic impact on industry, commerce, the environment, and more,” he added.

Largest inland railway freight terminal in the UAE

Etihad Rail is constructing the largest inland railway freight terminal in the UAE in ICAD, spanning just over 2.7 million square feet, the new railway freight terminal at will comprise over 22 buildings and major structures to support operations, processing up to nine trains each day.

It will facilitate the distribution of goods across the countries of Gulf Cooperation Council (GCC) and UAE, where it will connect quarries in the northern emirates to industrial centres in the Musaffah area, in addition to connecting Ruwais, Khalifa Port and the container companies in Dubai within Jebel Ali Port. The containers will be hauled by rail to and from other freight facilities following a road journey to the end-user location.

The railway freight terminal will act as a logistics hub for heavy industries enabling a seamless distribution of raw materials and machinery for manufacturers, in

addition to facilitating better connections to vital trade infrastructure, such as ports. It will also offer customs services, which will make ICAD tenants more competitive.

Operating 24 hours a day, seven days a week, the new railway freight terminal will offer a range of competitive advantages for businesses, at the highest levels of efficiency in terms of transport costs and sustainability. When fully operational, the ICAD railway freight terminal will foster a more efficient, cost-effective, and sustainable transportation capacity, and process over 15 million tonnes of loose raw materials, 1.5 tonnes of general cargo, and around 116,600 20-foot shipping containers annually.

The development of the ICAD railway freight terminal features as a part of Stage Two of the UAE’s national railway network. The historic project extends from Al on the borders of Saudi Arabia to the emirate of Fujairah, on the eastern coast. Upon completion, Stage Two of the GCC’s railway network will integrate the nation’s ports, manufacturing hubs, and urban centres.

Taiwan

Stadler has won its first metro tender in Taiwan. On 29th August 2022 the Kaohsiung City Mass Rapid Transit Bureau has awarded a consortium of ST Engineering, Singapore, Stadler, Switzerland, and Siemens Mobility, Germany, to provide turnkey rail services for the new Kaohsiung MRT Yellow Line. Stadler is to deliver 25 fully automatic operated metro trains from its St. Margrethen site as part of the project.

The consortium of ST Engineering, Stadler and Siemens Mobility will develop and build a full new metro line in the Taiwanese city of Kaohsiung. ST Engineering will be responsible for providing rail electronics solutions and above-ground train depot design, construction and equipment fit out as well as serve as the overall project management and systems integration lead, Stadler will provide the trains while Siemens Mobility will supply the

CBTC signalling system.

With a population of 2.72 million, Kaohsiung is Taiwan's 3rd most populous city and the economic center in the south of the country. After the Red Line and Orange Line were opened in 2008, the new Yellow Line comprises 22.8 km of mostly underground tracks and 23 stations with links to the existing lines, a light-rail system and mainline railway stations, connecting the city's six key districts, universities and schools.

Once completed, it will provide sustainable, save, comfortable, fast and very reliable public transport for more than 40 per cent of the city's population.

"The supply contract over 25 medium-capacity 3-car metro-trainsets for the Kaohsiung MRT Yellow Line

Stadler enters Asian metro market

marks a premiere for Stadler in the Asian metro market segment. We are proud that our high-quality standards and reliability as well as our expertise in tailoring vehicle solutions specifically to customer requirements have been decisive criteria for the selection of Stadler in this international tender. The metro trains will be of the latest state of the art, highly energy efficient due to the specific lightweight aluminum construction and operated driverless and fully automatic (GoA4). Additionally, they will be.", says Dr. Ansgar Brockmeyer, Deputy Group CEO and Executive Vice President Marketing & Sales at Stadler.

This new order further strengthens Stadler's presence in the fast-growing metro market segment. In the last years, Stadler has won major metro projects in Spain, Germany, UK, Belarus and USA with a total of more than

600 trains.

For Stadler it is the 2nd major rolling stock contract in Taiwan. In November 2019 TRA (Taiwan Railways Administration) had signed a contract for the supply of 34 six-axle narrow-gauge diesel electric locomotives made by Stadler. The first of these locomotives will be delivered in 2023.

Luxembourg

Alpha Trains, Europe's largest leasing company for locomotives and trains, has ordered 15 additional Vectron MS locomotives. The locomotives are part of a framework agreement signed in November 2021 with Siemens Mobility.

With this latest order, Alpha Trains provides its customers with more than 65 Vectron locomotives and increases the Alpha Trains Locomotives fleet to 463 locomotives from a wide range of manufacturers, series and homologations for 21 European countries.

The new Vectron MS locomotives with a maximum power of 6.4 megawatts and a top speed of 200 km/h complement the existing Alpha Trains fleet of Vectron AC and Vectron Dual Mode models. The Vectrons will be manufactured at the Siemens Mobility plant in Munich-Allach.

"The recent purchase of these additional Vectron MS locomotives underlines our strong and long-term partnership with Siemens Mobility. The reliable Vectron platform in combination with our attractive leasing offers enables our customers to perform flexible and reliable transports", said Fernando Pérez, Managing Director of

the Locomotives Division of Alpha Trains.

About Alpha Trains

Alpha Trains is the leading rolling stock lessor in Europe. A total of 130 employees from 17 countries work in offices in Luxembourg, Antwerp, Cologne, Madrid, Paris and Warsaw. Alpha Trains owns more than 950 locomotives and passenger trains and offers tailor-made leasing solutions, comprehensive know-how in maintenance and vehicle repairs as well as long-term experience in the financing of new-build projects.

Alpha Trains' fleets are in use at many public and private operators in 22 European countries. Alpha Trains' shareholders are APG, Arcus European Trains, PGGM and Swiss Life.

Photo: Siemens Vectron MS © Csaba Stahl | Alpha Trains

Alpha Trains' Vectron fleet continues to grow



Germany

CAF TACKLES SEPTEMBER STRONGLY WITH TWO NEW CONTRACTS IN GERMANY AND AUSTRALIA

Australia

These two contracts relate to the cities of Hannover and Canberra for an aggregate in excess of €220 million and reinforce the company's significant orders in hand, which reached a record figure of more than €10.7 billion at the close of the first half of the year.

SUPPLY OF 42 LRVS FOR HANNOVER

ÜSTRA Hannoversche Verkehrsbetriebe AG, the public transport operator in the city of Hannover, has chosen CAF to supply 42 TW 4000 LRVs. The contract provides for an optional extension of the number of LRVs to be manufactured by up to 233 additional units. The first vehicles are scheduled for delivery to the city's Stadtbahn network in the second half of 2025. Hannover, the capital of the state of Lower Saxony, with more than one million inhabitants in its metropolitan area, is one of the most important industrial and service hubs in the country.

The Hannover contract contemplates the upgrade of the current fleet, as old models TW 6000 and TW 2000 models will be replaced with modern LRVs that curtail energy consumption by relying on state-of-the-art technology and vehicle weight reduction for greater energy savings. The new units will also improve passenger experience in terms of vehicle accessibility, passenger information systems and riding comfort. In recent months, CAF has reached important milestones in the German market, the largest accessible rail market worldwide. These include the contract signed with the German transport operators VRR and NWL for the supply of 63 battery-powered trains, LRV orders for the cities of Essen and Bonn, as well as trams for Freiburg and EMUs for Schönbuchbahn. Also worth of note is the recent acquisition of the intellectual property of the Talent 3 train platform, aimed at the German and Central European markets, and the hiring

of key engineering personnel associated with it, which will boost CAF's capabilities in these markets.

CONTRACT EXTENSION FOR CANBERRA IN AUSTRALIA

In addition, the Australian Capital Territory has once again renewed its trust in CAF through the operator of the Canberra tramway line, Canberra Metro Operations, for the supply of 5 additional trams equipped with OESS (On Board Energy Storage Systems) to operate on catenary-free track sections. These 5 trams add to the 14 units previously supplied to the Australian capital. Furthermore, the agreement provides for the maintenance of the new units together with the upgrade of the previously delivered fleet fitted with the OESS accumulation system. The upgrade equipment will be similar to that on the new vehicles, and will permit catenary-free operation for the entire fleet of vehicles

on the city's light rail line. The new trams will run on the existing line linking the Gungahlin area to the centre of the Australian capital and on its future extension, and will thus provide a response to the expected increase in demand.

It is important to note that following the tramways supplied by CAF for Newcastle, which was commissioned in 2019 as the first catenary-free tramway in Australia, and the Parramatta tramway, scheduled to come into operation in 2023-2024, this new tramway project will be CAF's third project with the OESS system in the country. Thus, the company's business in Australia is consolidated with one of the most innovative technologies on the market in terms of sustainable urban transport, which confirms the Australian transport authorities's trust in CAF.

Switzerland

Stadler delivers the world's first fully automated rack-and-pinion rail vehicle

Appenzeller Bahnen (AB) and Stadler have signed a contract for the manufacture and delivery of a rack-and-pinion rail vehicle for the Rheineck-Walzenhausen rail link. The contract includes equipping the vehicle with Stadler's CBTC (Communication-Based Train Control) solution. The new train on the Rheineck-Walzenhausen line will be the world's first fully automated overland adhesion/rack-and-pinion rail vehicle.

The train currently used by Appenzeller Bahnen (AB) on the Rheineck-Walzenhausen line has been in service for over 64 years and needs to be replaced due to its age. AB is ordering a new rack-and-pinion vehicle from Stadler which will be equipped for fully automated rail operation.

Signalling technology solution from Stadler for automated rail operation

This is the first time that Stadler has equipped a mountain rail vehicle with its in-house CBTC (Communication-Based Train Control) solution. This enables automated and driverless operation depending on the system expansion level. Stadler is implementing the highest automation level 4 (GoA4) for AB. This means that train operation can be fully automated and driverless. There

are no longer any members of staff on board and all operations are automated. AB staff in the operations centre can intervene in train operations by remote control.

First fully automated rack-and-pinion railway in free-field conditions

Fully automated railways already exist in tunnels or on closed track systems where the risk of obstacles on the line can be safely excluded. This is the case for the Lausanne metro in Switzerland, for example. All over the world, dozens of railways are already operated as closed systems, where the track must be monitored to ensure that there are no obstacles. However, the new vehicle on the Rheineck-Walzenhausen line will be a fully automated train running as an open system in free-field conditions. The CBTC solution must therefore also take over the monitoring of the track and the detection of obstacles. The new train on the Rheineck-Walzenhausen line will be the world's first fully automated overland adhesion/rack-and-pinion rail vehicle. Commissioning is scheduled for 2026.

"The implementation of automated and driverless operation on the Rheineck-Walzenhausen line

is a milestone in the digitalisation of rail operations. The project will represent valuable pioneering work for automated rail transport on intercity routes. Railway digitalisation projects around the world will benefit as a result. We are proud to be leading the way in association

with Appenzeller Bahnen and look forward to working together," says Marc Trippel, Head of Stadler's Signalling Division.



Estonia

The first train within the Amber Train project has started from Muuga port. Amber Train is a joint project of the Baltic railway companies creating a new railway corridor between Northern and Western Europe through the Baltic States targeting integrated logistics for Finnish cargo. Hamburger Hafen und Logistik AG's subsidiary HHLA TK Estonia provides the handling cargo in the terminal of Muuga. The project is an important step towards shifting more goods to the sustainable transport mode rail.

On Tuesday September 13th, the first Amber Train departed Muuga in Northern Estonia towards Kaunas Multimodal Terminal in Lithuania, thus creating a railway corridor between Northern and Western Europe through the Baltic States. The new corridor, tested for the first time, allows to bring goods from the roads to the rails, thus offering companies to choose a more environmentally friendly and safer way to transport goods from the Baltic States and

Scandinavia, mainly Finland, to Western Europe and vice versa.

Once operational, the Amber Train is scheduled to run twice a week on Muuga-Kaunas-Muuga route. The Amber Train, carrying both semi-trailers and containers alike, is also a predecessor of Rail Baltica – a high speed European gauge railway project that will link Estonia, Latvia and Lithuania with the rest of Europe. An important part in the new logistics chain is performed by HHLA Group's container and cargo terminal in Estonia, HHLA TK Estonia.

“For the Amber Train, HHLA TK Estonia takes on all multimodal terminal services, ensuring a smooth transition from ship to rail and vice versa,” said Riia Sillave, CEO of Estonia's largest freight terminal HHLA TK Estonia. “We will strengthen our role as a hub in Baltic Sea traffic in order to be ready as a future Rail Baltica freight terminal and its Europe-wide connection.”

First train Amber Train project: HHLA TK Estonia takes on important role of key logistics partner

The Amber Train is a cooperation project of the railway companies of the Baltic States and run by AS Operail. Cooperation partners

are Estonian railway infrastructure manager AS Eesti Raudtee, Latvian and Lithuanian rail freight companies LDZ Cargo and LTG

Cargo, loading terminals HHLA TK Estonia in the Estonian Muuga and Kaunas Intermodal Terminal in Lithuania.



Spain

Alstom to provide 10 Coradia Stream regional trains and 15 years of maintenance for Barcelona airport connection

Alstom has been awarded a contract worth 177 million euro by Catalanian operator FGC (Ferrocarrils de la Generalitat de Catalunya) to supply 10 new Coradia Stream regional trains, along with associated maintenance for a period of 15 years. The trains will be manufactured at Alstom's industrial site in Santa Perpètua de la Mogoda, Barcelona. Alstom will also build a new services depot in its site, where the preventive and corrective maintenance will take place. FGC will use these trains for the new commuter line that will connect Barcelona city centre with El Prat Airport. As a result, they have been designed with keeping in mind the specific needs of this type of journey, with lots of space for luggage and wider corridors to facilitate accessibility. They will also include the most advanced signalling solutions, as well as safety and passenger information systems to ensure the highest safety levels and best on-board experience. “This contract is the result of Alstom's commitment to

smart and sustainable mobility in Catalonia. As long-time industry and technology partners, we want to offer solutions that meet the 21st century's mobility challenges. To do so, we offer leading technology in the sector, unique industrial capacity, a local supplier network and a consolidated value chain for developing these state-of-the-art trains for FGC. We are confident they will be the new face of sustainable mobility in Barcelona and Catalonia,” said Leopoldo Maestu, Managing Director, Alstom Spain.

In line with Alstom's strategy and FGC's commitment to promoting sustainable mobility, the new trains will be developed using eco-design criteria: choice of raw materials, traction systems, energy efficiency, and recycling at the end of their life. Ergonomic design, accessibility, low life-cycle costs and fleet reliability will contribute to making these trains an attractive and

sustainable option for promoting public transportation, thereby significantly reducing road congestion and CO2 emissions. Each of the ten new trains will consist of five single-deck cars with a total capacity of 600 passengers and a maximum speed in commercial service of 120 km/h. The entire train will be low floor (except for the bogie and cab areas), with extra-wide double doors located at platform height. The cars have been designed to make the most of the interior space, ensuring greater passenger comfort and maximising train capacity. The trains have a flexible and modular architecture to adapt to different mobility needs throughout their life cycle.

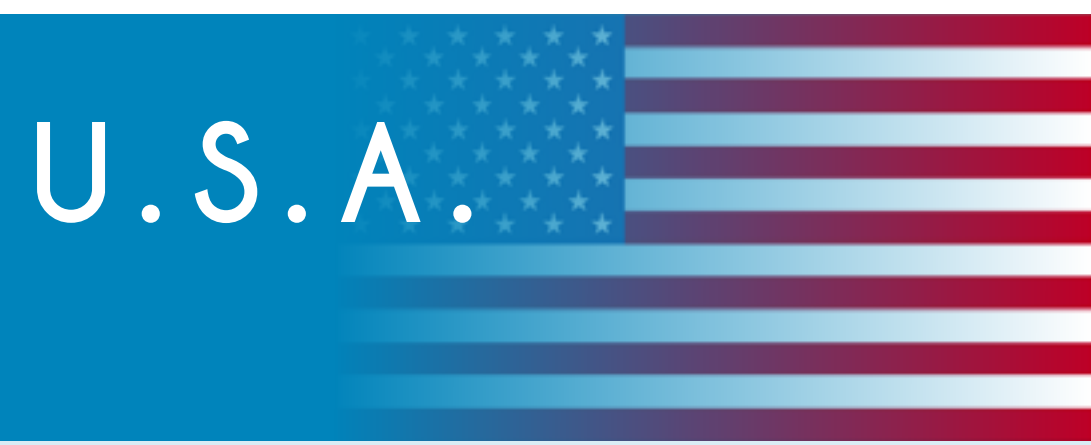
For the train's design, which was done in collaboration with the ONCE Foundation, Alstom followed universal design criteria, with the aim of offering the best travel experience for all FGC users, including those with reduced mobility. The different design proposals were also

inspired, by the geography, architecture, and tradition of Catalonia.

The new trains for FGC will be designed and manufactured at Alstom's industrial centre in Santa Perpètua de la Mogoda, Barcelona. With more than 1,000 employees, the industrial centre, is today an important employer and technological knowledge hub in Catalonia.

Alstom's Coradia series of modular trains benefit from more than 30 years of continuous development and proven technical solutions. More than 3,500 Coradia trains have been sold to date and around 2,900 are currently operating in Denmark, France, Germany, Italy, Luxembourg, the Netherlands, Sweden and Canada. The platform offers a full range of emission-free solutions, including battery or hydrogen versions for non-electrified lines.

U.S.A.



THE US CITY OF BOSTON APPROVES 102 LRV CONTRACT WITH THE CAF GROUP

The media in Boston has reported that on August 31st the Board of Directors of The Massachusetts Bay Transportation Authority (MBTA) agreed to designate CAF USA as the successful bidder for the project to supply 102 LRVs to run on the Green Line in the City of Boston for \$811 million. The base contract contemplates the manufacture of the 102 vehicles, two driving simulators, fleet parts, special tools and test equipment for the vehicles supplied, as well as the warranty technical service for a period of 3 years. The contract provides also for various options for the purchase of additional vehicles and equipment in addition to the 102 LRVs. These options could be executed by MBTA in the coming years.

MBTA is the public agency responsible for operating most public transportation services in Greater Boston. This is CAF Group's second project in the city, given that in 2014 MBTA also awarded CAF USA the contract to manufacture 24 LRVs, called Type 9, which are currently running on the Green Line, a move that once again reaffirms the Agency's full trust in the CAF Group. This line is made up of four branches along more than 30 kilometres, being the first line built in the capital of Massachusetts. The line has tunnels dating back to the late 19th century, making it the first underground line in the United States.

The new units, called Type 10 and consisting of 7 modules, will replace the Type 7 and 8 models that provide service currently on the line.

They will be 100% low-floor and will feature priority areas for passengers with reduced mobility, maximising vehicle capacity and accessibility.

The railway company has been operating in the US market for many years. CAF has a production facility in the United States, located in Elmira (New York State), where a large number of US projects have been developed, including the supply of 96 Units to the Washington Metro, 130 passenger cars for Amtrak, trams for the cities of Kansas City and Cincinnati, as well as the supply of LRVs for Houston, Sacramento, Pittsburgh and Boston.

CAF is currently active in the manufacture of the third order for new trams for the Kansas City tram network extension, as well as in the LRV project for the city of Maryland, including the manufacture of 26 LRVs for the Purple Line. This project incorporates also a stake in the company that will manage the operation and maintenance of the system for 30 years.

Panama



Alstom led consortium awarded a signalling contract for the extension of Line 1 of the Panama Metro

The SAT consortium, led by Alstom and comprised also of Thales and Sofratesa, has won a contract to supply the engineering, installation, testing and commissioning of a communications-based train control (CBTC) solution for the extension of Line 1 of the Panama Metro, as well as the update of the ATS and SCADA system for the new section.

Alstom will deliver its Urbalis 400 solution for the approximate 2.2 km-extension of Line 1 that will connect the San Isidro Station with the new Villa Zaíta terminal station. Currently, Line 1 of the Panama Metro is moving an average of 230,000 users per day, which will be expanded after the completion of the new extension. Urbalis 400 provides bi-directional and track-to-train wireless communication.

Panama's Line 1 currently has almost 16km of extension and 14 stations (8 of them under-ground), which were inaugurated in 2014, and relies on Alstom Metropolis trains and Alstom's Urbalis 400 train control system for successful operating conditions in terms of speed and safety. "Alstom is proud to be, once again, part of the history of the Panama Metro and to contribute to improving the quality of life of Panamanians, providing

advanced technology solutions for smart, safe and sustainable mobility," says Iván Moncayo, Managing Director of Alstom Panama.

The extension of Line 1 to Villa Zaíta aims to establish a terminal station at the northern end of Line 1 with a capacity of more than 10,000 passengers during peak hours and to build a bus interchange with the capacity to serve more than 8,000 passengers during peak hours. and a car park.

Photo: Currently, Line 1 of the Panama Metro is moving an average of 230,000 users per day, which will be expanded after the completion of the new extension. © Alstom



New Zealand

Alstom has been awarded a contract by KiwiRail to deliver a new, fully integrated Traffic Management System (TMS) for New Zealand's growing rail network.

The new, feature-rich Iconis system will dramatically improve the way KiwiRail operates its network. The replacement of the existing Traffic Control Centre technology with this new, state-of-the-art, integrated control system will provide KiwiRail with greater network safety, security, and resilience, delivering greater control capacity and with the ability to meet the increasing demands of an expanding rail network.

The fully integrated Iconis system will be capable of being run from either Wellington or Auckland. The system will not only accommodate the forecasted increases in patronage in both cities, but also offer the increased capacity and reliability that is essential to meet the challenge of a booming export industry freight line application.

The proven Iconis Traffic Management System technology will be specifically designed to seamlessly integrate with KiwiRail's unique rail network characteristics and existing infrastructure. As a highly flexible system, the technology has already been successfully deployed

across more than 160 complex freight and suburban networks in both greenfield and brownfield environments in more than 30 countries throughout the world.

"Alstom is delighted to be partnering with Kiwi Rail to deliver a step-change in the way Kiwi Rail will operate their network. Our innovative, yet proven technology will provide KiwiRail greater operational flexibility, efficiency and safety while simplifying and future-proofing its operations," said Mark Coxon, Managing Director for Alstom in Australia & New Zealand.

"Being the first major contract secured by Alstom in New Zealand, we will use the KiwiRail TCS opportunity as the

catalyst to further expand our presence in New Zealand," said Coxon.

Deployment of the new system will take place over a period of 3 years and divided into 4 distinct phases with the first deployment on a Pilot Line (Wairarapa Line); followed by the geographical extension of the deployment in the remaining 3 Areas (Lower North Island, Upper North Island, South Island)

Following the successful delivery of the system, Alstom will provide long-term support and maintenance to KiwiRail, ensuring the system will be well supported for many years into the future.

Portugal

Alstom opens new Engineering and Innovation centre in Portugal

Alstom, a global leader in smart and sustainable mobility, has just opened a new Engineering and Innovation centre in Maia, Porto district. The company moves forward in its commitment to increase its footprint in Portugal and provide better service to its customers and projects in the country. Alstom's new site in Maia will have as its main mission to develop cutting-edge solutions in the area of digital mobility and signalling, both for the Portuguese market and for Alstom's international projects around the world. With a total size of approximately 460 m2 and an initial team of 25 engineers and technicians, the centre has an ambitious growth plan for the upcoming years.

The new site also includes a warehouse with capacity for storage and repair of components for the current projects and clients that Alstom is working with, in Portugal.

During the inauguration, David Torres, Managing Director of Alstom Portugal, stated that "Alstom, based on the experience of its extensive portfolio, aims to boost the railway sector in Portugal, bringing its expertise in the development of sustainable

mobility solutions. The company is strongly committed to the Portuguese market, actively contributing to the development of the industry and the local economy. This commitment is demonstrated by the inauguration of the new Engineering and Innovation centre in Maia, which will have advanced technical and logistical competences, also contributing to the creation of more quality jobs in Portugal".

For his part, the Mayor of Maia, António da Silva Tiago, considered that "Maia is today an economic and social ecosystem that integrates in its territory a vibrant and dynamic business reality, particularly in the field of medium and medium-high technology companies, occupying, at this level, top places in terms of regional and national reckoning. I congratulate Alstom for choosing Maia, and for adding more value to our ecosystem, through the installation of its engineering and innovation centre, in the Parish of Pedrouços - Maia."

Representing the Portuguese Railway Platform, its Director Executivo Paulo

Duarte, highlighted "the importance of creating a railway technical centre in Portugal, which provides a prompt and high-quality response to the needs and requests of railway operators in our market, contributing to a more sustainable and social responsible mobility."

On behalf of the Centro de Competências Ferroviário, Prof. Andrade Ferreira highlighted the "important role of Alstom's new Innovation centre, as well as the collaboration between this company and the CCF, in order to explore new opportunities in terms of knowledge sharing, entrepreneurship, innovation and applied research, with positive effects on the national economy."

Alstom has been present in Portugal for over 30 years and, currently, two out of three trains in circulation in our country were manufactured by Alstom or with Alstom

technology, including high-speed, regional, metro and tram trains. In the digital sphere, more than 1,500 km of the Portuguese rail network and more than 500 on-board units are managed by Alstom's Convel ATP system, a signalling solution developed specifically for the Portuguese market.

In terms of urban mobility, Alstom was in charge of the signalling system for Metro do Porto and the 102 trains that currently

serve this network, also providing the ATP (Automatic Train Protection) system installed on board the 18 trains recently acquired by this operator.



VR FleetCare and EKE-Electronics Collaborate to Provide Wider Range of Condition-Based Maintenance Solutions for Rolling Stock and Track Infra

Digitalisation is a major trend in rail transport and offers a lot of opportunities to improve maintenance operations. To enable customers to take advantage of this, VR FleetCare and EKE-Electronics recently announced a collaboration of their sales and project implementation that will give customers access to a wider range of technical and support services for advanced condition-based maintenance solutions of trains and track infrastructure.

Specifically, the subject of the co-operation is a system for measuring the condition and operation of the bogie system of rolling stock and its subsystems, as well as the condition of the track from standard in-service trains.

“With our SmartCare solutions, we help our customers to transition from time-based maintenance to condition-based rolling stock and track maintenance. The objective of the collaboration agreement with EKE-Electronics is to offer our customers digital solutions that can improve operational reliability, optimise track and rolling stock maintenance and reduce life cycle costs”, says Sami Kalevirta, Head of Digital Services at VR FleetCare.

Jointly developed system for remote condition monitoring

These solutions and their sophisticated analytics functionalities have been jointly developed and verified on commercial trains of VR Group running on the track of the Finnish Traffic Infrastructure Agency (FTIA) since 2019. They form a complete end-to-end condition monitoring solution enabling the implementation of condition-based maintenance for rolling stock and track infrastructure.

The system has already been able to detect several rail surface defects at their early stage when they are still easy to repair. Typically, this type of defects are observed by measurement trains only when the defect has spread to the supporting structures and require a larger maintenance operation.

The services now offered by the VR FleetCare and EKE-Electronics collaboration provide end-to-end support for the lifetime of the project. This includes VR FleetCare’s experience in installation planning and supervision, regulatory permissions, maintenance



process optimisation and monitoring services. EKE-Electronics’ scope includes the SmartVision™ remote condition monitoring system including measurement equipment with edge processing software, secure communications between train and wayside as well as cloud-based software for analytics and visualisation including on-going support services.

Karl Lönngren, Director of Digital Services at EKE-Electronics said “EKE-Electronics, and its British subsidiary Humaware, has benefited significantly from the development and field verification cooperation with VR FleetCare.

With this new contract, we can now address the market with the developed solutions together with a full range

of services offered from VR FleetCare, one of the front runners of deploying digitalisation in railway maintenance operations.”

From the Archives

Argentina

Tren Patagonico No. 7904 stands at San Carlos de Bariloche with a train to San Antonio del Oeste on November 9th 2004. *John Sloane*



From the Archives

JS No. 8207 passes Yefun on the Yangjiazhang quarry railway on February 4th 2005. *Mark Enderby*

China 



From the Archives

0-4-4T No. 1205 (H K Porter/1905), a Forney type loco, shunts the yard at Eduardo Garcia Lavandero sugar mill on February 25th 1985. *John Sloane*

Cuba



From the Archives

SNCF Fret No. 6526 in its newly applied Fret livery stands in Villeneuve St. Georges shed yard on February 26th 1998. *John Sloane*

France



From the Archives

Steam loco No. 140C38 is seen being serviced at Gray shed on April 7th 1972. *John Sloane*

France



From the Archives

Germany

DB Class 140.299 heads through Rudesheim with a container service on May 8th 2005. *Mark Enderby*



From the Archives

Germany

DR Nos. 175 015 and 175 016 is seen stabled at Berlin Biesdorf on April 20th 2008. *Mark Enderby*



HVLE Class 285.001 passes Kreuztal on April 28th 2010. *Mark Enderby*



From the Archives

India



Central Railway XA/2 Pacific No. 22048 is seen shunting a pick-up freight at Dholpur on March 20th 1976. *John Sloane*



From the Archives

FS railcar No. ALn772.3335 stands at
Sassari station on August 6th 1972.

John Sloane

Italy



From the Archives

East African Railways 4-8-0 No. 2453 stands in front of No. 3119 at Mombassa shed on July 21st 1978.
John Sloane

Kenya



From the Archives

PKP No. Pt47-113 sits on the turntable at Klodzko shed on February 27th 1986. *John Sloane*

Poland



From the Archives

SBB Cargo Class 482.007 passes Geisenheim on May 8th 2005.
Mark Enderby

Switzerland



From the
Archives

Ukraine

Standard Russian design two-part loco No.
Te3-4295 stands at Krivoy Rog shed on May
1st 1993. *John Sloane*



From the Archives

Amtrak No. 372 is seen on the Old Dominion at Alexandria on April 8th 1994. *Mark Enderby*

U.S.A.

