

# Railtalk | Magazine *Xtra*

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## Submissions

Pictures, articles and news can be entered through the forum, or by email to us at:

[entries@railtalk.net](mailto:entries@railtalk.net)

Please include a detailed description and credits.

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Welcome to Railtalk Magazine Xtra, which compliments the main Railtalk magazine and features photos and news items from around the world.

Well considering that last month I said that January had gone quick, February went even quicker!. At this speed it will soon be Christmas.

February has once again been a rather quiet month, probably due to the dire weather, the only major news as far as I can see from mainland Europe has been that the newest ICE 3's have started service in Germany. If they are anywhere near as good as the current ICE's then I'm sure that it will be an excellent product. Meanwhile in France I was initially surprised to see some TGV Lyria sets heading for the scrap yard. However when you consider that the TGV's have been around for nearly forty years it is easy to see why. I have to say that I am very impressed with the photo of a DB Class 219 in this months issue. I honestly didn't realise that there were any of these 'U-Boats' remaining in a serviceable condition.

In the UK this month there has been very little activity of interest that didn't focus on Colas Rail's new class 70s or DRS' Class 68 locomotives. Even the preserved lines have had a fairly quiet month after the big post-Christmas galas, but we have managed to collect a few photos from the ever excellent Ribble Steam Railway for our "From the UK" section.

Anyway till next month and as always keep sending in the photos, and if you are going on holiday please don't forget to take the camera.

**David**

*Once again many thanks to the many people who have contributed, it really makes our task of putting this magazine together a joy when we see so many great photos. This issue wouldn't be possible without: Ken Abram, BVT, Brian Battersby, Mark Bearton, Steve Dennison, Dave Felton, Paul Godding, Carl Grocott, Richard Hargreaves, Dave Harris, Stuart Hillis, Keith Hookham, Richard Jones, Anton Kendall, Steve Madden, Phil Martin, Chris Morrison, Gerald Nicholl, Chris Perkins, Mark Pichowicz, Andy Pratt, Laurence Sly, Railwaymedia, Steamsounds, and Steve Thompson.*

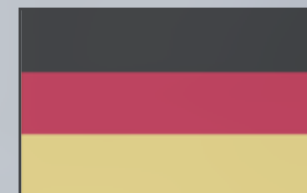
Front Cover: With bi-directional line working in force, CFR's Marfa No. 40-0570 drops downhill working wrong line between Comarnic and Breaza Nord with a train of cargo vans. [Chris Perkins](#)  
This Page: An OBB Talent EMU, No. 4024-092, is seen stabled at Landek-Zams. [Class47](#)





Pacific National locos Nos. 8165 and X51 head through Exeter, New South Wales on November 13th. [Julian Churchill](#)

On December 14th, DB Class 219.084 pauses at Leinefelde with the 10:05 Göttingen - Erfurt Christmas market extra. The loco was declared a failure on arrival however and the return was worked by a unit. [Mark Pichowicz](#)



An SNCF Z2000 series EMU crosses the River Orb  
on the approach to Bezier from the west. *Chris Perkins*



CFR locos Nos. 65-0990 and 60-1124 are seen in the glorious sunshine stabled on Satu Mare shed. [Steve Madden](#)

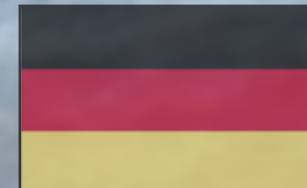




CD Cargo's Class 742.173-8 pauses at Mlada Boleslav with a steel working to allow the passage of a passenger service. [Class47](#)

DB's Class 113.309 pauses at Böblingen with train No. IC281,  
15:50 Stuttgart - Zürich on December 15th.

*Mark Pichowicz*







SNCF BB No. 26165 is seen in Luxembourg having arrived on a service from Strasbourg. [Class47](#)



GFR's scruffy No. 81-0709 is used to shunt at an industrial complex at Chitila. [Chris Perkins](#)

H-Mav's Class 418-166 is seen hauling train No. 6822, 09:12 from Debrecen to Satu Mare at the border town of Nyirabrány. The Romanian border is less than half a mile away.

*Steve Madden*





DB's Class 103.245 is seen at München Hbf having arrived with train No. IC2301 from Nürnberg. [Steamsounds](#)



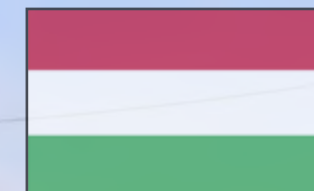
Above: Class M62-2848, operated by Orion Kolej, works a heavy coal train through Katowice Sosnowiec as a LOTOS Class SM42 waits patiently for a path. [Anton Kendall](#)

Left: Koleje Wielkopolskie's Class EN57-1141 stands at Poznan Główny working a service to Zbaszynek. [Brian Battersby](#)

Main: Koleje Mazowieckie liveried Class EN57-1767 passes through Warszawa Ochota heading for Radom. [Brian Battersby](#)

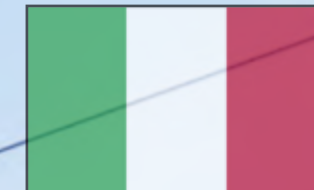


A pair of M41s, Nos. 418-166 and 418-170 are being fuelled and watered at Debrecen Depot in preparation for the days work ahead. [Steve Madden](#)



Trenitalia Class 464.365 is seen at Venice Mestre on the rear of a service for Venezia Santa Lucia.

[Steamsounds](#)



CFR Marfa Sulzer's Nos. 60-1172 and 60-1108 top'n'tail a long freight consisting of wagons of scrap and Romanian army vehicles past Sabareni Station. You can only identify the station by the rows of lights sticking up from the weeds! [Chris Perkins](#)







Above: A rare sight on a passenger working at München Hbf as 'Ludmilla' Class 232.209 has just piloted diverted train No. EC216 from Freilassing to München Hbf. [Steamsounds](#)

Left: Siemens Vectron Class 193.804-2 speeds through Hamburg Harburg with a loaded container service heading for the cargo terminal at Billwerder-Moorfleet. [Class47](#)

Main: Mittelweserbahn's Class 182.912-6 passes through Maschen, heading for the port of Hamburg with a loaded container train. [Class47](#)





Above: Rail Polska operated M62M-005 (92 51 3 630 256-7) works a fuel train through Katowice Sosnowiec. [Anton Kendall](#)



Right: Former Czech Class 182.147-9 works an empty coal train through Katowice Sosnowiec. [Anton Kendall](#)

Main: A design based on the English Electric UK Class 83, Class ET41-016 (91 51 3 160 092-5) snakes over the crossing at Katowice Sosnowiec. [Anton Kendall](#)





Class S11 SD  
16306

Sri Lankan Railways Class S11 Indian built diesel multiple unit No. 16306 stands in platform 6 at Colombo Fort station on December 13th. [Dave Felton](#)

Sulzer No. 62-1171 powers away from the station stop at Sabareni with train No. R9105, 16:55 Bucharesti Nord to Titu.

*Chris Perkins*

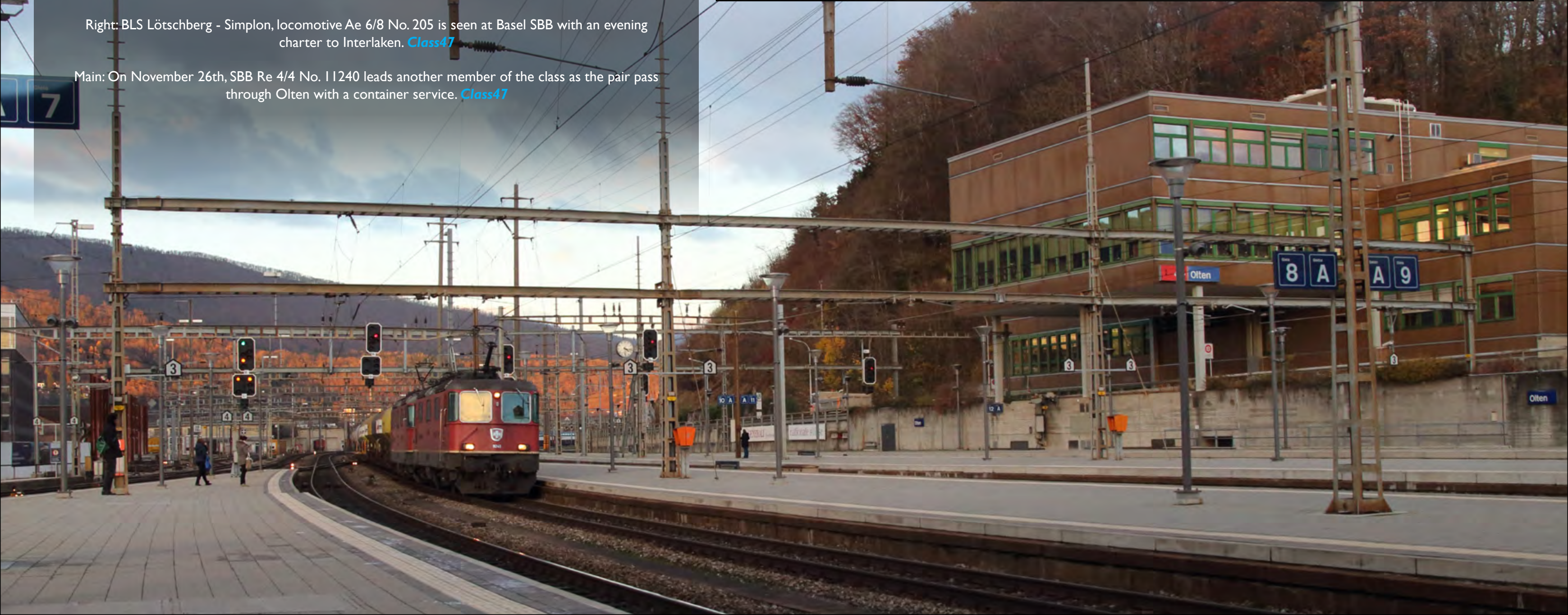




Above: SBB Class 460.037-5 is seen on the rear of a service departing Olten, heading for Basel. [Class47](#)

Right: BLS Lötchberg - Simplon, locomotive Ae 6/8 No. 205 is seen at Basel SBB with an evening charter to Interlaken. [Class47](#)

Main: On November 26th, SBB Re 4/4 No. 11240 leads another member of the class as the pair pass through Olten with a container service. [Class47](#)



On the last day before the timetable change and the introduction of S-bahn Mitteldeutschland units, DB's Class 143.095 waits to depart Leipzig with the 16:12 to Zwickau service. [Mark Pichawicz](#)



Manufactured in India, Sri Lankan Railways Co-Co Class M10 No. 916 is one of the largest diesel-electric locomotives on the Island, seen here passing through Mahawaskaduwa, north of Kalutara with train No. 8040 the 06:30 service from Colombo Maradana to Matara. [Dave Felton](#)





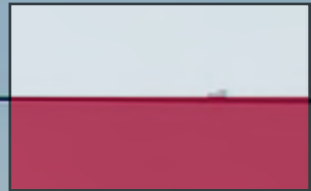
Above: An engineers cart heads back to base at Benesov u Prahy just as the snow starts to fall. [Class47](#)

Left: Pražský motoráček No. M262.0124 is seen stabled in Prague hl.n. prior to working a weekend railtour. [Class47](#)

Main: CD Cargo Class 218.029 is seen heading through the snow at Rybník heading for Horni Dvoriste with a short trip working. [Class47](#)







Several PKP Class SM42s are seen outside the old roundhouse awaiting scrapping at Poznan.

*Brian Battersby*



Above: A Union Pacific train of grain cars exits Tunnel 10 after having made its way around the loop on its way to the summit at Tehachapi. [Andy Pratt](#)

Left: A BNSF double stack train headed by 2 BNSF and a Canadian Pacific loco makes its way around the Tehachapi Loop. [Andy Pratt](#)

Main: To get to the summit at Tehachapi, the railroad has to loop over itself. Here an eastbound train can be seen actually crossing over itself. The front of the train is passing over Tunnel 9 while the rear is still coming through the tunnel. [Andy Pratt](#)



CFL series 2000 EMU No. 2022 is seen departing Luxembourg on a sunny November 27th. The building just visible on the far right is the old roundhouse depot. [Class47](#)



The driver of FGC's Class 254.02 climbs into his cab at Barcelona's port whilst shunting potash wagons. This meter gauge diesel electric freight locomotive is one of three built for Ferrocarrils de la Generalitat de Catalunya (FCG) in 1990 by Meinfesa, at the same time as the RENFE Class 319.2 with which it shares a similar external appearance, as well as both having GM-EMD engines and transmissions. [Class47](#)



A rear OBB Railjet set in '175 Jahre Eisenbahn für Österreich' livery, is photographed pushing the lead Railjet set round the tight twisting curves between Innsbruck and Landek. [Class47](#)





A SAD ETR170 EMU stops at San Candido/Innichen working train No. R23818 to Fortezza/Franzensfeste. [Steamsounds](#)



CFR Class 60-0196 departs Valea Lui Mihai with international train No. 6814, 11:12 Debrecen to Oreda (Romania). No. 418-166 had worked the train over the border and can be seen in the background waiting for its return working.

*Steve Madden*



Above: LDS operated Class 1293.501 speeds through Hamburg Harburg. [Class47](#)

Left: Meg No. 602 (Ex Class 143.204) leads Meg No. 801 (Ex Class 156) through Fulda with a rake of cement tanks. [Class47](#)

Main: Metronom's Class ME146-02 in all over advertising livery is seen at Hamburg Hbf with a service to Hannover Hbf. [Class47](#)





Sri Lankan Railways Class S3 Hyundai built diesel multiple unit No. 823 passes through Mahawaskaduwa, north of Kalutara with train No. 8040, 06:30 service from Colombo Maradana to Matara on December 3rd. [Dave Felton](#)





Zillertalbahnhof steam loco No. 4 is seen at Mayrhofen. This 1909 Krauss built 0-8-2 was originally Yugoslavian State Railway owned as No. 83 076. [Steamsounds](#)



628 326

H-MÁVTR

92 55 0628 326-4

H-MÁVTR

Class M62 No. 628-326 is seen waiting to depart Valea Lui Mihai (Romania) with the daily cross border freight to Debrecen.

Steve Madden

SBB Stadler KISS EMU No. 511.015 is pictured arriving at St. Margrethen with train No. REX3824 from Chur to St. Gallen. KISS is short for Komfortabler, Innovativer, Spurtstarker S-Bahn-Zug! [Steamsounds](#)





AM86 EMU No. 916, in the modern SNCB livery is seen at Lier having arrived with a trip from Herentals. On the right you can see unit No. 948 in the old livery. The AM86s and the AM76s (4 coaches, and called Pignose) are the only ones in the old bordeaux livery remaining in service. [BVT](#)



Above: An eastbound BNSF double stack rounds the curve to the summit of the Cajon Pass. In the background can be seen the train snaking down the hill. [Andy Pratt](#)

Left: A westbound BNSF double stack train runs across the pointwork at the summit of the Cajon Pass, California. At the top left of the photo can be seen the consist of a UP freight on the nearby UP line to Palmdale which branches off at the summit. [Andy Pratt](#)

Main: A westbound BNSF double stack winds its way down the Cajon Pass. [Andy Pratt](#)





A pair of Renfe EMUs are seen in between duties at Barcelona's Estacio de Franca. [Class47](#)

ŽSR's Class 263.003-6 is seen at Bratislava hl. st. working train No. Os3027 for Leopoldov. [Steamsounds](#)





With morning mist covering the famous mountain backdrop,  
ÖBB's Class 1144.210 is seen stabled in Innsbruck  
Hbf. on November 26th. [Class47](#)





Above: Modernised Class EN57.3006 is seen on the approach to Warszawa Ochota working an Interregio train to Chelm. [Brian Battersby](#)

Left: PKP Cargo's Class ET22.1013 is seen shunting an empty coal train at Ostrów Wielkopolski. [Brian Battersby](#)

Main: Dolny Slask operated EN57-1446 is seen at Ostrów Wielkopolsk with a service to Kepno. [Brian Battersby](#)





S. CANDIDO  
INNICHEN

ATTENZIONE  
AL SEZIONAMENTO

ÖBB

1144 050

ÖBB Class 1144.050 pauses at San Candido/Innichen with train No. REX4655 to Lienz in Osttirol. [Steamsounds](#)



DB Regio's Class 648.774 is seen at Norhausen working train No. RB14656 to Göttingen. [Steamsounds](#)

ŽSR Class 350.002 arrives into Bratislava hl. st. with train No.  
EC277 from Praha hl. n. heading for Budapest Keleti.

*Steamsounds*





Main: The 64 mile long 3ft Gauge Cumbres & Toltec Scenic Railroad operates from Chama, New Mexico to Antonito, Colorado. Here 1925 Baldwin built K-36 2-8-2 No. 488 approaches a level crossing with State Road 17 between Chama and Cumbres. [Andy Pratt](#)

Right: Baldwin 2-8-2 No. 488 approaches Cresco on the Cumbres & Toltec Scenic Railroad. [Andy Pratt](#)

Above: Baldwin 2-8-2 No. 488 arrives at Cumbres summit 10,015ft above sea level. [Andy Pratt](#)





Above: Captrain Class 66 No. 6602 heads a rake of oil tankers through Antwerp Berchem on December 13th. [Brian Battersby](#)

Left: SNCF/AKIEM BB No. 36026 speeds through Lokeren on December 10th. [Brian Battersby](#)

Main: SNCB Class 13 No. 1325 heads a freight through Leuven on December 11th. [Brian Battersby](#)



SNCB's BN/ACEC built Co-Co No. 2005 is seen working train No. IC97 heading for Basel SBB at Brussels Midi.

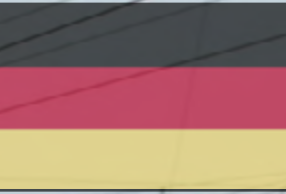
*Steamsounds*







Montpellier Alstom Citadis tram No. 2073 is seen working a Line 3 service as it passes outside the main railway station. All Line 3 trams carry an underwater theme livery. [Chris Perkins](#)



### The new ICE 3: More comfort for passengers

Dr. Jürgen Wilder, CEO of the Siemens High-Speed and Commuter Rail Business Unit and Andreas Busemann, Head of Production at DB Bahn Long Distance, presented Deutsche Bahn's new ICE 3 on a run on the Frankfurt (Main) – Cologne line, February 18th

“Above all, the new ICE 3 offers our customers a real plus when it comes to service and comfort. Passengers can keep informed about the train's progress on the new overhead monitors, and comfortably dine in the full-sized on board restaurant with 16 seats while travelling through Germany at speeds of up to 300 kilometres an hour. In addition, the Series 407 scores with lower energy consumption and higher technical reliability,” commented Busemann.

In particular, the most modern ICE train offers numerous improvements for passengers with reduced mobility. The new train sets are the first in Deutsche Bahn's long-distance trains to provide a lift for wheelchair users. The wheelchair area is generously dimensioned, and both wheelchair spaces are fitted with a height-adjustable table and a service call button. A tactile guidance system including floor strips and tactile seat numbers helps sight-impaired and blind passengers. In addition, grab poles are provided in longer aisle sections, aisle seats have grab handles, and the door steps and inner doors are designed with stronger visible contrasts.

The Series 407 is based on Siemens' Velaro platform. The new ICE 3 also has eight cars – like its forerunner – yet offers more seats: 444 including 111 in first class. Two trains can be coupled into a double unit with a seating capacity of 888. Externally, the new train differs from its forerunner through a newly designed front end and a front-to-rear raised roof section for improved aerodynamics.

In December 2013, the new ICE 3 was approved for double-unit operation within Germany. By the end of December 2013, four ICE trains were handed over to Deutsche Bahn. Four additional trains are to follow by the end of March 2014. “We have successfully mastered the challenges, in particular those presented by the certification process, and are pleased to see the new ICE 3 running on Germany's lines,” said Wilder.

Siemens is delivering a total of 17 trains to DB. At present, the first new ICE 3s are primarily running on the Cologne-Frankfurt (Main) - Stuttgart line in place of the previous ICE 3. Beginning in mid April, the eight delivered trains will be integrated into the current timetable. In coordination with DB, Siemens is conducting comprehensive test runs in France and Belgium with an additional eight trains in order to prepare for official approval of cross-border operation to these countries.

Photo: The Velaro D in passenger service. © Siemens





## Chemin de Fer à Vapeur des 3 Vallées

We continue with part 2 of this interesting collection of exhibits, which last month focussed on Mariembourg. This month we look at Treignes.

Above: SNCF BB No. 63123 (carrying the CFL BB No. 914 livery), built by Brissonneau et Lotz in 1956, is seen in the yard at Treignes. [Brian Battersby](#)

Right: The first steam locomotive of France - Marc Seguin, is seen in the yard at Treignes. [Brian Battersby](#)

Main: CFV3V Steam locomotive No. 507 leads SGB S100 No. 4389 out of Treignes with a trip along the line. [Brian Battersby](#)





## Chemin de Fer à Vapeur des 3 Vallées continued...

Above: SNCB Type 50 steam loco No. MF 62 is pictured stored at Treignes. [Brian Battersby](#)

Left: PKP type 141T steam loco No. TKt48, built in Pozan, looks great in this blue livery. [Brian Battersby](#)

Main: One of the smallest exhibits, DG8 No. 22, an 020T type steam loco built in 1913 with a vertical boiler constructed by Cockerill à Seraing. [Brian Battersby](#)



# Bombardier Signs Major Contract with Transport for London (TfL) to Build Crossrail Rolling Stock and Depot



Rail technology leader Bombardier Transportation announced on February 19th that it has signed a contract with Transport for London for the provision of new trains, a depot and maintenance services for the flagship London Crossrail project. The contract is valued at approximately £1.3 billion GBP (1.6 billion euro, \$2.1 billion US).

Bombardier will deliver 65 nine-car trains and construct a new purpose-built depot at Old Oak Common. The deal also includes maintenance provision for the fleet of trains. The programme is scheduled to commence on April 17, 2014. The new trains will be built at Bombardier's Derby site and will support 840 UK manufacturing jobs including 80 apprenticeships. In addition, the project will create around 260 jobs for the construction of the new depot and approximately 80 jobs for the ongoing maintenance of the trains.

The state-of-the-art BOMBARDIER AVENTRA trains for Crossrail will be over 200 m in length and will be able to carry up to 1,500 passengers. Key features of the new high-capacity trains include air-conditioning and interconnecting walk-through carriages. On-train passenger information systems will deliver real-time travel information to allow passengers to plan their onward journeys. The AVENTRA trains have been designed with an emphasis on energy-efficiency and the use of intelligent on-train energy management systems. The trains will also incorporate technologically advanced systems for condition-based maintenance including the award-winning BOMBARDIER ORBITA predictive maintenance capability and Automated Vehicle Inspection System.

Bombardier will support the maintenance of the new fleet, based on its strong track record of supporting train operators throughout the UK at 31 sites and employing 1,800 personnel. In addition to the company's performance in delivering new trains for London's networks, including 191 air-conditioned trains currently being delivered for the London Underground sub-surface lines and new trains provided for London Overground, Bombardier's maintenance teams were recognized at the National Transport Awards 2013 for their support of the capital's train operators during the 2012 Olympics, resulting in the award of Transport Supplier of the Year.

Laurent Troger, President Region Western Europe, Middle East and Africa, Bombardier Transportation, said: "I would like to congratulate and thank the entire team in the UK for their exceptional work in designing, manufacturing and maintaining high performance trains, culminating in this richly-deserved order. We would like to take this opportunity to thank Transport for London as we jointly embark on this flagship project and look forward to working together with TfL to deliver these iconic new trains for London. As the global rail technology leader, Bombardier is at the vanguard of providing modern mobility solutions that are both economical and sustainable."





## What are the options for high-speed rail in Europe?

While the European Parliament has just adopted a new dedicated transport infrastructure fund, a study analyses the costs and benefits of high-speed.

End November 2013, Members of the European Parliament adopted by a large majority two legislative texts concerning the establishment of a new Connecting Europe Facility (CEF) and orientations for the Trans-European Transport Network.

These two texts define European transport infrastructure policy for the period 2014-2020. The CEF, an investment fund with a budget of 29.3 billion euros for the period 2014-2020, will finance targeted investments.

80 % of the total budget will be reserved for the development of the Trans-European Transport Network. The purpose of this network is to improve cross-border connections, remove bottlenecks, cover the 'missing links' in the European network and streamline cross-border operations throughout the EU. In this context, a consultancy, Civity, officially presented a study hosted by Malcolm

Harbour, Chairman of the Committee on Internal Market and Consumer Protection, on options for high-speed rail in Europe during a debate at the European Parliament.

Its conclusions were awaited with great interest by the participants in the debate, Members of the European Parliament, European Commission and the specialised press. The study analyses the costs and benefits of three alternatives: line upgrade for operation at 200 kph, construction of a new line for operation at 250 kph and construction of a new line for operation at 300 kph.

It identifies the key parameters (starting demand, price elasticity, the number of stops, line topography, the cost of the upgrade option) that determine the best cost-benefit ratio for each option.

Proposing global as well as case-by-case solutions, such as for the Amsterdam-Warsaw or Riga-Warsaw lines, this study will help to provide an objective assessment of the costs and benefits of various corridors in particular between the Central and Western and Eastern European networks.

Plinthed Zugspitzbahn rack loco No. 2 is seen on display at Garmisch Partenkirchen. [Steamsounds](#)

## All Aboard! U.S. Vice President Biden welcomes first Siemens-built Amtrak locomotive entering passenger service



Capable of pulling 18 train cars at a maximum speed of 125 mph (200 km/h) these new Amtrak locomotives will safely and efficiently power commuters along the heavily traveled Northeast corridor between Washington, New York and Boston. Amtrak operates more than 300 intercity trains daily on a railroad network of almost 21,300 miles that serves 500 cities in North America. Its ridership continues to grow, with the company transporting 31.6 million passengers in 2013, an all-time annual record, and the 10th such record in 11 years.

The Amtrak Cities Sprinters are based on Siemens' Eurosprinter and Vectron locomotives and are designed for improved reliability and easier maintenance, leading to faster turn-around times and increased availability for service. The 70 new locomotives are equipped with regenerative braking that allows energy to be fed into the power system for use by other trains. When fully deployed and operated as designed, the regenerative braking feature may result in the generation of 3 billion kilowatt hours of energy. At an estimated 10 cents per kilowatt hour, the energy generated equals \$300 million in electricity being returned to the power system for use by other trains.

A state-of-the-art microprocessor system performs self-diagnosis of technical issues, takes self-corrective action and notifies the locomotive engineer. In addition, there are redundant systems to ensure power is maintained to the passenger cars to keep heating and cooling systems working, the lights on and the doors operational. The locomotives meet the latest federal rail safety regulations, including crash energy management components.

The locomotives are equipped to operate with the three contact line voltages of 25 kV, 12.5 kV and 12 kV in use in North America and offer a power output of up to 6.4 MW, which far exceeds the performance of older locomotive generations. Thanks to its simple and easily accessible component structure, the locomotive's technical design also enables quick and cost-efficient maintenance, potentially saving Amtrak several hundred million dollars in operating costs over the fleet's entire life cycle.

The first of 70 Amtrak locomotives manufactured at Siemens plant in Sacramento began passenger service on February 7th. In remarks made recently, Vice President Joe Biden and U.S. Transportation Secretary Anthony Foxx emphasized the importance of this next-generation rail transportation for the country's infrastructure

In a commemorative ceremony held at Philadelphia's 30th Street rail station, U.S. Vice President Joe Biden and U.S. Transportation Secretary Anthony Foxx joined Siemens and Amtrak executives to debut the first Siemens-built electric locomotive for Amtrak, the nation's intercity passenger rail service and high-speed rail operator.

Amtrak awarded Siemens a \$466 million (€338 million) contract in October, 2010, to deliver 70 electric locomotives. For Siemens, this order marked the company's entry into the American locomotive market. The locomotives, known as the Amtrak Cities Sprinter, are being assembled at Siemens' solar-powered rail manufacturing plant in Sacramento (California). The equipment includes parts built from Siemens plants in Norwood (Ohio), Alpharetta (Georgia) and Richland (Mississippi) and nearly 70 other suppliers, representing more than 60 cities and 23 states.

## 50 FLIRTs delivered to Norway on schedule



Stadler Rail delivered its 50th FLIRT multiple-unit train to Norwegian State Railways (NSB) on January 24th, right on schedule. All trains were accepted successfully and on time. The approval process by the Norwegian authorities was completed without any problems. NSB ordered 50 of these 200 km/h FLIRTs from Stadler in 2008, making it the largest fleet renovation in the history of NSB. NSB has since ordered a further 20 trains, which Stadler is currently in the process of constructing.

With this order, Stadler Rail has once again demonstrated its high levels of performance and outstanding quality. The contract for the 24 intercity FLIRTs and 26 trains for the Oslo commuter railway system was signed in September 2008, and the first trains left the halls in Bussnang just 24 months later. This is an outstanding, potentially record-breaking achievement for a completely new design of vehicle.

### No approval issues

The first trains were then subjected to extensive tests in the harsh Norwegian winter. The NSB FLIRT is specially designed to withstand winter temperatures as low as  $-40^{\circ}$  Celsius. The approval process by the Norwegian authorities was completed without any problems within the planned time frame. All the trains were then accepted by NSB at the first attempt within a fixed acceptance schedule.



Even the “final takeover” was completed on schedule for every single one of the trains delivered. This definitive acceptance of the trains was implemented by NSB once each particular vehicle had been successfully operating passenger services for several months.

As well as two design prizes, in 2012 the project team won the Norwegian Hedersprisen for “outstanding integration of the different requirements of passengers, the four Norwegian disabled associations and the various departments of Norwegian State Railways”.



Berlin U55 train No. 2674 at the Bandenburger Tor terminus, ready to return to the Hauptbahnhof. [Steamsounds](#)

## Alstom to supply power system for a new high-speed line in Spain



Alstom, in consortium with Isolux Corsán I, was awarded by Adif (Spanish railway infrastructure authority) the design, construction and maintenance of the traction substation<sup>2</sup> and catenary system for the new 44.3 km high-speed line linking La Robla (Leon) with Pola de Tena (Asturias). This line includes Pajares Tunnel (25 km-long), the second longest tunnel in Spain. The contract is worth about 28 million Euros; the share for Alstom is 50% of the value<sup>3</sup>. The project will be completed in 2015.

Thanks to this project, the distance between Asturias and Castile-León will be shortened by 33 km and the entire new route will enable high-speed trains to reach speeds above 300 km/h, while the current average speed is 60 km/h.

Alstom's scope includes the engineering and project management, as well as the supply of catenary system, 2x25kV traction substation and autotransformer stations including associated traction power control system. Alstom is responsible for the testing and the commissioning of the entire system. These activities will be managed by Alstom Spain.

Alstom supplied 80% of high speed traction substations in Spain. The company is also in charge of all the high speed traction substations' maintenance.

## Alstom delivers its Citadis Compact tram to the local authority of Pays d'Aubagne et de l'Etoile



Alstom has delivered the first tram sets of its Citadis Compact to the local authority of Pays d'Aubagne et de l'Etoile on 28 February in the presence of Magali Giovannangeli, President of the authority, Daniel Fontaine, Mayor of Aubagne, Guillaume Arribaud, Director of the Aubagne bus operator (Transdev) and Emmanuel Bois, Alstom Transport's Business Development Director.

After its arrival at the maintenance centre and depot in Aubagne, the first 22-metre long tram will complete a series of track tests until the end of July 2014 to be ready for the commercial launch of the tram service in early September 2014. The Aubagne local authority, the first of Alstom's customers to order the Citadis Compact, will benefit from the innovative design of this tram. Internationally renowned artist Hervé Di Rosa's involvement in the design of the Citadis Compact has produced a unique tram with a warm, colourful and resolutely human finish.



The Citadis Compact, the latest-generation tram specially designed for medium-sized networks (50,000 to 100,000 inhabitants) and secondary lines with reduced traffic, benefits from Alstom's experience in tram technology. It offers the highest capacity on the market for its size. The high-capacity version can carry up to 146 passengers in just 24 metres. Access and passenger movements are made much easier by the exclusive double doors, a first for a tram of this size, and the extra wide central corridor. The Citadis Compact is also highly modular, allowing the interior fittings to be adapted (layout of the seats, luggage racks, etc.).

Finally, the use of permanent magnet motors cuts electricity consumption, and key components, such as the bogies and air conditioning systems, are readily accessible for greater ease of maintenance, limiting downtimes and boosting efficiency. Six of Alstom Transport's sites have contributed to the production of the Citadis for Aubagne. The carriages are developed and built in La Rochelle, Saint-Ouen is tasked with the design, Ornans builds the motors, Le Creusot makes the bogies, Tarbes produces the drive train and the onboard computer systems are made in Villeurbanne.

More than 1,700 Citadis trams have been sold to 43 towns and cities worldwide and almost 1,500 are already in operation. Alstom has benefited from the feedback of these users to develop innovations for the direct benefit of passengers and simplified commercial operation.



PKP Inter City's Class EU07-305 is seen at Poznan Główny. [Steamsounds](#)

## New British High-Speed Trains Drive with Voith Gear Units



With the Intercity Express Program (IEP) Britain is modernizing part of its train fleet by 2017. 122 high-speed trains will systematically replace older trains. The new electric or bi-mode trains are fitted with Voith gear units. The program is one of the most prestigious high-speed projects in Europe. 122 new trains will run on both electrified and non-electrified routes at speeds of 200 km/h. All of the driven units are fitted with the single-stage Voith SE-369 gear unit in aluminum design.

Voith has numerous references worldwide for light-weight gear units with aluminum housings and operates two service workshops in the United Kingdom. Moreover, the vehicle manufacturer Hitachi Rail Europe has confirmed that the Voith gear production in Heidenheim meets the exceptionally high quality standards the company requires.

The aluminum gear unit, which is one third lighter than the equivalent standard steel casting version is fitted with a torque reaction rod at the bogie. Weight advantage and quiet running were explicitly required by the vehicle manufacturer and will enhance passenger comfort from 2017. This is the year when the first 57 trains will be delivered to the operator on the Great Western Main Line. In the following year, another 35 trains will be handed over to the operator on the East Coast Main Line.

Tests will commence in early 2014. For this purpose Voith will be delivering 44 prototype gear units to Hitachi in Japan in 2014. Between 2015 and 2017, Voith will deliver more than 800 gear units to Hitachi Rail Europe's chosen wheelset manufacturer in the UK. Voith Turbo, a Group Division of Voith GmbH, is a specialist for intelligent drive solutions. Customers from highly diverse industries such as oil and gas, energy, mining and metal processing, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

Voith sets standards in the markets energy, oil & gas, paper, raw materials and transportation & automotive. Founded in 1867, Voith employs almost 43 000 people, generates €5.7 billion in sales, operates in about 50 countries around the world and is today one of the biggest family-owned companies





DB Class 218.314 and 218.376 with train No. IC2310 to Westerland(Sylt) are seen at Husum. [Steamsounds](#)

## Alstom's Citadis Dualis tram-train enters service on the new Nantes-Châteaubriant line



Ten Alstom's Citadis Dualis tram-trains have been placed into service on the Nantes-Châteaubriant railway line, inaugurated on 28 February in the presence of the French Prime Minister Jean-Marc Ayrault, Frédéric Cuvillier, the French Minister for Transport, Jacques Auxiette, the President of the Pays de la Loire Regional Council, Guillaume Pépy, the President of SNCF, and Jérôme Wallut, Managing Director of Alstom Transport France.

The inauguration is highly symbolic, marking the reopening of the line after 34 years of inactivity thanks to the choice of the electric tram-train. Alstom designed and supplied the Citadis Dualis tram-trains that will operate along this 64-kilometre line. The travel time between Nantes and Châteaubriant will be one hour and seven minutes only.

Citadis Dualis tram-train can circulate on both tram lines and conventional networks. Fully modular, the Citadis Dualis offers a wide choice of interior layouts and flexible exterior livery. It is accessible to all passengers, including people with disabilities, thanks to its low floor throughout and its ramps, bridging the gap between the platform and the tram.

Citadis Dualis consumes four times less power than a bus and ten times less than a car in terms of kWh/seated passenger thanks to the use of lightweight materials. Its recyclability can reach 98%. Ultra-quiet, it emits a noise level 5 dBA lower than that generated by car traffic, meaning nearly four times less noise.

Nantes-Châteaubriant is the fourth tram-train line equipped with the Citadis Dualis in France. The first, also in the Pays de la Loire district, has linked Nantes to Clisson since June 2011. Citadis Dualis also operates in western Lyon on the Brignais-St Paul and St Bel-St Paul lines, running since 2012.

A symbol of French industrial excellence, Alstom's tram-train is also being exported. In March 2013, the city of Ottawa ordered 34 Citadis Spirit trains, the North American version of the Citadis Dualis, from Alstom.

Citadis Dualis is entirely designed and built in Valenciennes. Five other Alstom sites contribute to its production: Ornans for the motors, Le Creusot for the bogies, Tarbes for the powertrain equipment and Saint-Ouen and Villeurbanne for the command and control electronics.

## ADIF installs new facilities at Passeig de Gràcia (Barcelona)



Thanks to these initiatives, the station will fully accessible this season, with 15.5 million users a year it is one of the busiest among those managed by ADIF in Spain. To do this, four elevators and seven escalators between the street and the lobby and entrances down towards the two platforms, and a lifting platform in the corridor connecting the halls have been installed.

It has also completed the new configuration of the platforms, partly implemented in the first phase of the project. Thus, both platforms have a useful length of 260 m and a height of 68 cm. They also incorporate non-slip flooring and a differentiated security strip on the ends, which includes a belt tactile flooring help guide people with visual disabilities.

It has also increased the area for public use, creating new modern and comfortable spaces. In the main lobby, located on the mountain side, this area has been expanded to 135m sq surface and, in parallel, has built a new hall on the ocean side of 265 square metres.

The implementation of this project is part of the Government's commitment to invest in Catalonia to provide the rail network infrastructures and facilities with highest quality standards, contributing to enhance the railway as a means of public transport for citizens.



## Alstom delivers its first two metro train sets to Chennai metro in India



Alstom has successfully delivered to Chennai Metro Rail Limited (CMRL) the first two metro sets of Chennai's future metro system in India. The train sets are the first ever to be manufactured in India, in Alstom's new rolling stock facility of Sricity, Andhra Pradesh. They are part of a €243 million order representing 42 Metropolis train sets to be delivered by 2015. The metro cars were rolled out from the facility in presence of Henri Poupart-Lafarge, President of Alstom Transport, Sudhir Krishna, Chairman of CMRL and François Richier, France's Ambassador to India.

The stainless steel trains - composed of four cars each - will feature air-conditioned interiors and electrically operated automatic sliding doors, offering comfort and easy access to passengers. They will be equipped with a regenerative braking system ensuring significant energy savings. The cars will operate through an overhead catenary system at speeds of up to 80 km/h. The new 280,000 ft Sricity facility is a modern unit incorporating best practices from other Alstom factories across the world. Currently, the site employs over 150 highly skilled people and the plan is to increase this number to 200 soon.

The factory has an energy-efficient design including double insulation, heat recovery systems, a geothermal heating and cooling system which consumes less energy and is equipped to recycle rainwater. The facility's location in the Sricity Special Economic Zone provides a lot of space for potential further expansion. "The metro cars benefit from the highest quality standards and technological expertise. Alstom India received the Award for the best Rolling Stock Manufacturer /Supplier of the Year, which demonstrates the satisfaction of Alstom's customers with its products. The new world class Sricity plant plays a vital role in Alstom's strategy to set up a local industrial footprint in India, enhance proximity to its local customers and serve the expanding Indian infrastructure market", said Henri Poupart-Lafarge, President of Alstom Transport. "Metro projects are currently being implemented in seven Indian cities, representing a network of over 450 km. By 2030, 40% of people will live in towns and cities (vs 30% today). This new facility places Alstom in an excellent position to seize the opportunities offered by the country's rapid urbanisation."

## Skoda built tram carries its first passengers in Turkey



The latest tram produced by the company Škoda Transportation has begun to operate with passengers in the streets of the old Turkish city of Konya. It is a modern 100% low-floor 28T Konya tram. Škoda will deliver a total of sixty modern vehicles to Turkey. "In less than a year after signing the contract we have managed to develop, produce and deliver the first tram to the Turkish market. The vehicle is currently in operation with passengers, who seem to be excited, at least according to the first comments. Moreover, a series production of trams for Konya has been initiated, so we plan to deliver most of the sixty vehicles by the end of the year," says Josef Bernard, chief executive of Škoda Transportation.

The interesting features of the new trams for Konya include their design with a unique colourful motif selected by the residents of Konya themselves. The combination of green, white and silver colours was finally selected from several options. The silhouettes on the front of the vehicle which you can see from the side are the so-called Whirling Dervishes, which are closely connected to the Muslim culture and to the city of Konya.

"Transport of the vehicle from Plzen to Konya took seven working days – by truck from Plzen to the Italian city of Trieste, then by ferry to Mersin in Turkey and from there again by truck to Konya. The first of the latest tram series from the Škoda company arrived from Pilsen in Konya three months ago. This was followed by demanding tests, which the tram successfully passed," adds project manager Václav Petr.

Up to 364 passengers can fit into the completely low-floor vehicle. An easy way of boarding and getting off the tram for persons with reduced mobility is also made possible by the low boarding edge. The tram has five sections and a length of 32.5 metres. The air-conditioning had to be adapted to the operating conditions, so its performance was increased which resulted in the need for a complex reworking of the roof and the electric distribution. Other above-standard equipment includes for example the built-in Wi-Fi receivers for wireless internet connection.

"The modern two-way tram 28T Konya combines the properties of a suburban public transport unit, subway and tram. On account of the fact that its operation is planned in a 4.5 km long tunnel, the vehicle is constructed as an underground tram – that is a light subway. This is also the reason why the materials used comply with higher requirements for fire protection. Also, the trams for Konya will be operated as two joined units, like a train, and so they are equipped with automatic coupling for easier connection," comments Jaroslav Kulhánek, chief engineer of the project.



## Bombardier Receives Order to Supply 16 Additional Vehicles to RET

Rail technology leader Bombardier Transportation has announced that the Rotterdam Transport Authority (RET) has exercised an option for 16 additional FLEXITY Swift light rail vehicles (LRVs). The order is valued at approximately 66 million euro (\$89 million US). Delivery of the vehicles will take place in 2016.

The vehicles will run on the new Hoekse Lijn to provide fast and comfortable transportation in the Rotterdam area. Bombardier already has contributed to attractive public transport in the area, delivering 81 metros to RET between 1998 and 2002, 22 vehicles for the new RandstadRail line and 42 vehicles for the existing metro lines between 2008 and 2012.

“The arrival of the new high-quality light rail connection Hoekse Lijn, between Rotterdam and Hoek van Holland, is an achievement to be proud of,” said Pedro Peters, CEO RET. “It goes without saying that a new high-quality transport connection needs high-quality vehicles. Our long term relationship with Bombardier, delivering many light rail vehicles to RET over the years, has always been highly satisfactory. Therefore we are very pleased to order 16 additional vehicles.”

“This third order demonstrates RET’s confidence in our proven FLEXITY vehicles and continues our long-standing and successful partnership,” said Germar Wacker, President, Light Rail Vehicles, Bombardier Transportation. “Together with RET, we have developed an LRV which can be adapted to perfectly meet operator and passenger demand.”

The vehicles consist of three modules and are 42 m long. They accommodate up to 270 passengers, 104 seated and 166 standing. During peak hours, two such units can be coupled to increase capacity and meet passenger demand. Every vehicle has two multi-purpose areas providing ample space for wheelchairs and prams. Seven double doors on each side of the vehicle ensure a smooth passenger flow. The LRV is equipped with the BOMBARDIER MITRAC propulsion system. BOMBARDIER FLEXX Urban bogies ensure a smooth ride and low noise levels. A modern passenger information system provides passengers with timely and relevant travelling information.

Bombardier produces the FLEXITY Swift LRVs for RET at its Bautzen site in Germany, with the electrical equipment provided by its Mannheim site and the bogies from its Siegen site, also in Germany. The company offers the industry’s most complete portfolio of light rail solutions with a strong reputation for performance and reliability. To date more than 1,000 FLEXITY Swift LRVs have been sold worldwide. Overall, Bombardier now has more than 4,000 trams and light rail vehicles in successful revenue service or on order in cities across Europe, Australia, Asia and North America.



From the UK



### Ribble Steam Railway Steam Gala

After a busy January with gala's, things quietened down a bit for February, but possibly the main attraction in the North of England was the steam gala at the Ribble Steam Railway.

Andrew Barclay No. 6, Works No. 2261/1949 heads alongside the River Ribble, February 15th.

*Brian Battersby*

Preparing for the day's work ahead, Andrew Barclay Works No. 1147/1908 'John Howe' builds up steam in the yard at Preston Riverside. [Class47](#)





Newly returned to steam Bagnall, Works No. 2680/1942  
'Courageous' leads Hunslet, Works No. 3155/1944 'Walkden'  
round the curve and heads along the riverside. [Class47](#)



In the late afternoon light, Bagnall 0-6-0ST No. 2680 'Courageous' heads a freight working across the bridge to the marina.

*Brian Battersby*

One of the few remaining 'Fife Flyers', Andrew Barclay No. 6 hauls a train across the marina towards Preston Riverside.  
*Richard Hargreaves*





The remains of a Class 03, or is it a long term restoration project.  
Seen in the yard at Preston Riverside on February 15th.

[Class47](#)



Ribble Rail's Sentinel loco 'Progress' is seen in the yard at Preston Riverside on February 15th.

*Brian Battersby*



From the Archives



RhB No. 703 'St. Moritz' is seen working the 'Glacier Express' through Zermatt in 1986. [Brian Hewertson](#)

SNCB Class 62s Nos. 6216 and 6204 are seen at  
Gent St. Pieters on June 19th 2001. [Paul Godding](#)





SNCB Class 5111 is seen stabled on Merelbeke depot, June 24th 2001. None of the class are left in service but a few survive in preservation, however No. 5111 has been cut up. [Paul Godding](#)