

Welcome to the Railtalk Magazine Xtra, which compliments the main Railtalk Magazine and means that we can put even more pages together every month.

As always in Xtra, we focus on life outside the UK, and once again we have some excellent shots from some of Europes finest photographers. Our "From the UK" section has a look at Blackpool Trams.

Last month I commented on my trip to the Czech Republic and how they really showed how railways should be run, and the thing is we used to be as good as them. However whilst travelling in the UK this month, I realised that somthing else was missing in the Czech Republic - the drunken noisy abusive louts that we seem to get on a Saturday night on our railways.

Is this just a UK thing?

David

Once again many thanks to the many people who have contributed this month, 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: Colin Gildersleve, Steve Madden, Brian Battersby, Paul Godding, Phil Martin, John Coleman, Pavel Kopec, Tomáš Kubovec, Richard Hargreaves, Martin Grill, Martin Válek, Mark Pichowicz, Richard Webber Stephen Beardwell, Pavel Šturm, Bea Želtvayová, Petr Holub, Pavel Martoch, Dennis Hübsch, Colin Irwin, Jon Jebb, BVT and Libor Hyžák

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Submissions

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

entries@railtalk.net

Please include a detailed description and credits.





















































Rolling Road at the Brenner continues its upward trend

ÖKOMBI increases truck transport on the railway by +10.6 per cent – Customer satisfaction on the up – 12 additional Rolling Road trains to and from Trient/Trento starting from December

The latest results of the Rolling Road transports at the Brenner show a continuing upward trend at the end of the third quarter. With about 185,000 transported truck units, +17,700 or 10.6 % more trucks were carried by the environmentally friendly railway as compared with the same period of the previous year. All in all, 54 Rolling Road trains are operated daily on the Brenner axis on three different routes (38 Wörgl - Brennersee, 10 Wörgl -Trient and 6 between Regensburg and Trient). Also the currently available analysis of a passenger survey shows that customer satisfaction is on the up. More than 500 truck drivers from 22 nations were interviewed at the Rolling Road terminals as well as on the trains. The core messages: 83 % would recommend the Rolling Roads to others, more than 50 % preferably travel on the ong distance Rolling Road routes (Regensburg or Wörgl – Trient/ Frento) and the overall satisfaction has increased from school grade 2.7 to 2.3. There was also a positive response regarding the staff and the new couchette coaches, whereas there is a clear potential for improvement when it comes to the parking situation, particularly in Wörgl.

High load factor – as of December, more trains will be operated to Trient/Trento

ÖKOMBI – a wholly owned subsidiary of Rail Cargo Austria – is expert and market leader in the Rolling Road business in all of **Europe.** In the past year, the Rolling Road on the Brenner axis has achieved a record high with 226,000 transported truck units. For this year, another increase is in the offing. One of the reasons for this is the high load factor of the trains, which on average is a very good 87 % across all routes. Also the daily number of bays has been continuously increased. At the beginning of the year, 988 truck bays a day were available; today, these are 1,020 and as of December, the daily capacity will be raised to 1,056 bays. Thus, a total of about 10,000 trucks more can be shifted from road to rail. "The route Wörgl - Trient/Trento will be markedly enhanced starting from December and the number of trains doubled, with more services that previously ended at the Brenner being extended up to Trento in the future," says the managing director of ÖKOMBI, Franz Dirnbauer. The planned project also corresponds with the results of the customer survey, according to which more than 50 % of the truck drivers prefer travelling on the long-distance routes. These also offer clear advantages when it comes to rest periods. With the new train allocation, 26 trains are scheduled to be operated on the route Wörgl – Brenner, 22 between Wörgl and Trento and another six trains on the route Regensburg - Trento starting from 12.12.2010

Customer interviews among 500 truck drivers as basis for improvement measures

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More than 500 truck drivers from 22 nations were interviewed at the terminals in Regensburg, Wörgl, Brenner, and Trento regarding their satisfaction with the service of the Rolling Road. 2/3 of the drivers come from Germany or Italy, another share of 5 to 10 % each from Poland, Austria and Czechia. The on-board crew and the accompanying coaches of the Rolling Road received very positive grades of 1.9 and 2.0. This shows the drivers' approval of the 15 new accompanying coaches purchased last year. The drivers also showed satisfaction with the agencies that are in charge of handling at the terminals. Here, the grades are between 1.8 and 2.0. The highest discontent was with the parking situation at the terminal Wörgl that received the school grade 3.4 - compared with Trento or Regensburg that were given the grade 1.6. Measures have already been initiated for Wörgl; the first preliminary works to create an appropriate parking area are already underway. The construction measures for the customer-friendly modification of the important terminal are to be commenced already this year.

Market share of the Rolling Road Brenner is 15%

The market share of the Rolling Road in the transit traffic of heavy trucks across the Brenner was a pleasing 15 % in 2009, an increase of +5% compared with 2008. All in all, there are more than 1,000 truck bays available on the 54 trains of the Brenner Rolling Road every day. The sectoral ban on driving in Tyrol level 4 has been in effect since the beginning of July – as well as the extensive measures in the marketing area and the good cooperation with the transport undertakings and agencies are the reasons for the high load factor. This year, ÖKOMBI is making available a bay capacity for 300,000 trucks for the Rolling Road at the Brenner. The transport system continues to be of very high importance, because about 85 % of the trucks and road semitrailers driving on the Brenner are not cranable (codified). This means almost 9 out of 10 trucks driving on the Brenner are not suitable for handling in unaccompanied combined transport with containers or swap bodies. Therefore, there are only two options for these trucks - driving on the road only or travelling a section of between 100 and 460 kilometres on the environmentally friendly and safe Rolling Road.

The Tyrolean population is spared more than 20,000 tons of CO2 a year thanks to the Rolling Road.

With every truck changing onto the Rolling Road for the transit through the Tyrol, the population along the Rolling Road routes is spared CO2 emissions of between 56 and 326 kg per journey. With the transport volume of about 250,000 trucks that can be achieved this year, this will result in a total of 20,000 tons of CO2 less on the Tyrolean route section alone. This environmental benefit is documented per Rolling Road journey by printing the respective CO2 savings on every Rolling Road ticket. In addition, customers are made aware of this clear environmental benefit on their biweekly accounts. Thus, the Rolling Road considerably contributes to the reduction of the pollutant emission in the air decontamination area Inn Valley.



Bombardier to Supply 65 Additional FLEXITY Outlook Trams for Brussels

STIB now owns the biggest fleet of a single type of trams worldwide

The Brussels Transport Company STIB (Société des Transports Intercommunaux de Bruxelles) has decided to confirm the acquisition of 65 bi-directional BOMBARDIER FLEXITY Outlook trams. This confirmation results from two contracts signed in 2008 and is valued at 170 million euro (\$235milllion US). The delivery of the 100% low-floor trams is scheduled between January 2013 and the end of April 2015.

The trams, 46 of which are 32 m long and 19 of which are 43.4 m in length, are equipped with the reliable BOMBARDIER MITRAC propulsion and control system. They will be manufactured at Bombardier's Bruges site in Belgium, while the bogies will be produced at the Siegen facility in Germany.

Bombardier received its first order from STIB for 46 FLEXITY Outlook trams in October 2003. The first option order for a further 22 vehicles in September 2005, the second follow-on order in January 2008 for 87 additional vehicles and today's confirmation order for 65 vehicles bring the total number of trams ordered from Bombardier for Brussel to 220 trams. This means that STIB now has the largest tram fleet of one vehicle type worldwide.

Alain Flausch, Chief Executive Officer, STIB, stated: "By confirming today this 65 FLEXITY Outlook vehicles order, we aim to reach our strategic objective of acquiring and operating, under competitive terms, a homogeneous fleet of a quality light rail vehicle which has received strong appreciation from our clients" The supervising Minister, Brigitte Grouwels, also fully supports the purchasing programme of vehicles which will provide extra capacity on the STIB network.

"This order confirms STIB's satisfaction with the quality and performance of the FLEXITY trams supplied. We are proud to be able to deliver sixty-five additional vehicles to Brussels and provide STIB with the largest fleet of a single type of trams worldwide," commented Germar Wacker, President, Light Rail Vehicles, Bombardier Transportation.

In 2007 Design Flanders awarded a Henry van de Velde Label 2007 to the FLEXITY Outlook tram and from January 21 to March 21, 2009 two Brussels trams successfully operated in Vancouver during the Winter Olympic and Paralympic Games transporting over 550,000 people.

More than 1,500 FLEXITY vehicles are already in successful revenueservice. Overall Bombardier now has more than 3,000 trams and light rail vehicles operatingor on order in cities across Europe, Australia and North America.



A KISS for Luxembourg

Stadler Pankow receives an order for the delivery of eight KISS double-decker multiple-unit trains from the Société nationale des chemins de fer luxembourgeois (CFL).

The Société nationale des chemins de fer luxembourgeois is ordering 8 three-carriage double-decker multiple-unit trains for operation in Luxembourg and across the border to Germany, with an option on up to a further 31 units, which will be in operation from 2013. The order is worth around EUR 60 million.

"With this order, we once again receive confirmation that continuous development of existing vehicle concepts is the right way to go," says Michael Daum, Director of Stadler Pankow GmbH. "We are delighted that as well as in Switzerland, Austria and Germany, passengers in Luxembourg will now also be able to travel in our modern and comfortable trains."



The double-decker multiple-unit train KISS – where KISS stands for "komfortabler innovativer spurtstarker S-Bahn-Zug" (comfortable innovative speedy suburban train) – is based on the FLIRT vehicle concept, which since its introduction in 2004 is one of the most-sold rail vehicles in Stadler Rail Group. The high degree of flexibility permits adaptation to the demanding requirements of suburban train operation and mainline services up to a maximum speed of 200 km/h or, as in this case, for comfortable regional services as well.

The electric double-decker multiple-unit trains for CFL are equipped with two different voltage systems, to permit operation in Luxembourg (25 kV, 50 Hz) and in Germany (15 kV, 16,7 Hz). The 80-metre-long vehicles have a capacity of 300 seats. The interior features generous legroom for all passengers and a very comfortable first-class zone; this is enhanced by sufficient space for bicycles, room for three wheelchairs and a conductor's compartment. The trains also feature the European Train Control System (ETCS) for operation in Luxembourg. The double-decker multiple-unit trains reach a maximum speed of 160 km/h.

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Voith hands over a Maxima 40 **CC** to the track construction company H.F. Wiebe

Maxima Handed Over to H.F. Wiebe Track Construction

The Wiebe-Maxima with the locomotive number L06-40011 has been approved for traffic in Germany and the Netherlands. It is also primed for operation in Belgium and Poland. The onboard equipment includes remote radio control, as well as remote data transmission for operating and maintenance-relevant information. The locomotive will be primarily used for pulling construction trains and for transporting track construction machinery.



The Bombardier-Alstom Consortium Signs a Contract to Build 468 New Metro Cars for Montréal

The consortium comprising Bombardier Transportation and Alstom Transport have signed a contract with Société de transport de Montréal (STM) for the supply of 468 metro cars (52 nine-car trainsets) to replace the MR-63 fleet, in service since 1966, and to optimize service. The contract is estimated at approximately \$1.2 billion CDN (\$1.2 billion US, 864 million euro). Bombardier's share is estimated at \$742 million CDN (\$725 million US, 519 million euro) and Alstom's share is estimated at \$493 million CDN (\$482 million US, 345 million euro). The contract will enter into force, and the final price fixed using the applicable exchange rate, when the usual steps of funding approval will be completed.

The design, manufacture and final assembly of the new Montréal metro cars will be undertaken at Bombardier's facilities in La Pocatière and Saint-Bruno, Québec. Alstom's sites in Sorel-Tracy and Montréal, Québec, will also be involved. The first prototype train will arrive in June 2013, followed by the base order deliveries that are scheduled to take place between February 2014 and September 2018.

In conformity with the STM requirements, the project includes a 60% canadian content and final assembly will take place in Canada.

The new cars will offer all the characteristics of a 21st century metro:

The next-generation metro cars will provide a range of new features for passengers, ensuring maximum space and safety, including: Open gangways allowing riders to walk freely from one end of the train to the other.

A new spacious interior design with optimal and ergonometric sitting arrangement.

A state-of-the art electronic passenger information system.

New security features, including onboard cameras and a two-way intercom system connecting passengers with the driver and the control center.

The new design will increase reliability with proven propulsion and traction system technologies, and leverage environmentally friendly technologies, such as the well-known wooden shoe braking system.

"Bombardier and Alstom commend the determination of the Government of Québec and the city of Montréal to bring about an efficient resolution to this bid process." says Raymond Bachant, President, Bombardier Transportation, North America. "These state-of-the-art metro cars will provide Montréal and its transit users a reliable, comfortable and quiet ride and will continue to reflect the spirit of this great international city".

"We look forward to getting to work to ensure the successful supply of new metro cars to the STM and its transit users." commented Pierre Gauthier, President of Alstom Canada, "The STM will benefit from the combined expertise of the two largest transport manufacturer in the world who have been major contributors to the original MR-63 and MR-73 metro fleet."

The Montréal metro consists of 4 lines, 68 stations on 66 kilometers of tracks and its metro cars travel some 76 million kilometers each year. It operates 20 hours per day and ensures an average of more than 850 000 passenger-trips per weekday.



Stadler inaugurates ultramodern Train Commissioning Centre

In October, Dr Kaspar Schläpfer, the economic director of Thurgau, Roman Brülisauer, Erlen's Mayor, and Peter Spuhler, owner and CEO of Stadler Rail Group, along with other guests and craftsmen, inaugurated the new Train Commissioning Centre (IBS Centre) in Erlen, Thurgau. Stadler has invested around CHF 30 million in the very latest train commissioning infrastructure at this site on the SBB mainline Zurich—Romanshorn. Here, 150-metre-long trains (manufactured in Bussnang and Altenrhein) undergo a 6-week testing and commissioning programme. The Train Commissioning Centre was built in a record time of less than 12 months. With investments of more than CHF 100 million within 2 years, Stadler has for now completed the expansion of its capacity in Switzerland.

construction industry is."

Peter Spuhler is also happy: "Thanks to the effort made by all involved – the tradespeople in particular – we were able to complete this new construction in record time, despite the severe winter. I would like to thank all the tradespeople and Stadler staff for a fantastic effort. With the inauguration of the IBS Centre in Erlen, we also complete our investment of more than CHF 100 million in our Swiss locations." Thanks to these investments – in addition to the IBS Centre in Erlen – the Bussnang site was also extended by a fourth assembly hall, a new Centre of Competence for Bogies was built in Oberwinterthur, and the Altenrhein site was extended to become the Centre of Competence for Double-deckers. Including Stadler Stahlguss in Biel, around 500 jobs have been created since the start of the investments in 2008.

The 50 double-decker multiple-unit trains (KISS) for the



Mayor Roman Brülisauer is delighted by the positive effects for the Erlen community: "The Stadler IBS Centre enables a very sensible change of use for the former tank farm site, which has been wasteland for more than 10 years now, and what's more, creates additional skilled jobs."

The entire region profits from the building of the new IBS Centre. At the inauguration celebration, Kaspar Schläpfer, member of the cantonal government, professed to be very pleased with the successful new construction: "Thank you to Stadler Rail Group, which, with this project, has once more proved its commitment to Switzerland as a production site. The short time needed for planning and construction also demonstrated how swiftly the approval process can be completed in Thurgau, and how strong our

Zurich commuter railway system and the 50 FLIRT trains for the Norwegian State Railways (NSB) are up to 150 metres long and so do not fit on the existing tracks at the factories in Bussnang and Altenrhein. Therefore, Stadler Rail decided to build a completely new IBS Centre in Erlen, with state-of-the-art infrastructure. The site has a direct link to the SBB mainline Zurich—Romanshorn, and so is ideally suited for a train commissioning centre.

A hall around 162 metres long and 42 metres wide has been built, with 7 test tracks – 2 of these are electrified. In the new IBS Centre, completed multiple-unit trains will undergo a six-week testing and commissioning programme before delivery to the customer. Stadler will employ around 60 commissioning engineers and specialists for this work in Erlen. The building has been designed so that the hall can be extended to 230 metres and further tracks added without difficulty.

Siemens expands its rail automation activities in Slovakia by opening an Engineering Center at its Zilina location

Siemens' Mobility Division is expanding its engineering capacities in Zilina, Slovakia in order to sharpen its international focus on project processing. From now on, the Rail Automation Business Unit will have its own department in the Zilina Engineering Center. This new department was officially opened for business today under the leadership of Siemens Slovakia and the corporate research unit (Corporate Technology). The Rail Automation Business Unit of Siemens Mobility intends to increase the number of configuration engineers at its location in Zilina, Slovakia to 130 in the next five

years. They will be used for the configuration of control and signaling solutions. This expansion in the rail automation field is the Mobility Division's response to the encouraging market trend in railway infrastructure. This applies in particular to the automatic train control segment and will above all strengthen the international business clout of this Slovakian facility.

Siemens Mobility has been active in Zilina since 2002. Engineers from this location worked, for example, on the construction of the Dammam–Riyadh railway line in Saudi Arabia and on the Deventer railway station in the Netherlands. In conjunction with its activities in Zilina, the Siemens Division maintains close relations based on partnership with the local university and with the faculty for transport that is based there.

Zilina has long been regarded as the center for transport for the former eastern bloc countries of Bulgaria, Poland, Romania, Slovakia, Hungary and the Czech Republic.

Siemens breaks into the U.S. long-distance passenger rail market

Amtrak, the U.S. passenger rail operator, has finalized an agreement with Siemens for the delivery of 70 Amtrak Cities Sprinter electric locomotives worth round EUR 338 million (US \$466 million). By securing this order, Siemens has succeeded in selling its locomotives to the American market for the first time. The U.S. locomotive market recently has shown an average order volume of around €1.5 billion per year. The first vehicles will be delivered in 2013. The new Cities Sprinter are a part of the extensive fleet renewal program Amtrak is launching for the next 14 years, with a special focus on passenger rail service in the Northeast. With 2,600 rail connections a day, the corridor between Boston and Washington is the most heavily traveled long-distance route in the USA.

The modernization program totals US \$11 billion. "In the past months rail transportation has stepped into the spotlight of infrastructure improvement projects in America and is strongly supported by the U.S. administration. This order for the Cities Sprinters is our first opportunity to supply a Siemens locomotive to the American locomotive market, the second largest market in the world," says Hans Jörg Grundmann, CEO of the Siemens Division Mobility. "This order shows that we are capable of offering the right solutions for regional and long-distance passenger rail service in the USA," adds Grundmann.

"Amtrak is a critical transportation provider in the Northeast and modern locomotives are essential to meet the service reliability expectations of our passengers and for us to handle the growing ridership demand in the coming years," said Amtrak's President and CEO Joseph Boardman.

These new locomotives will be manufactured predominantly at the Siemens plant in Sacramento, California. Last year, this facility was vastly expanded under a US\$26 million investment. Siemens is currently at the forefront of the American light rail market by providing one of every three light rail vehicles to the market today.

According to UNIFE, the Union of European Railway Industries, the world's largest network of long-distance railroad lines exists in North America. The locomotive market there is currently regarded as the second biggest after Asia and, in the past, represented an average order volume of €1.5 billion per year. Amtrak is the largest passenger rail operator on the North American continent and also operator of the only high speed line.

Bombardier Receives an Order from Israel Railways for the Delivery of 78 Double-deck Coaches

Double-deck coaches will boost public transport offer in Israel

Bombardier Transportation and Israel Railways (ISR) have signed a framework agreement for the delivery of double-deck coaches, which includes a firm order for 78 coaches. Optional batches are foreseen. The order value of this firm order amounts to 132 million euro (\$185 million US).

The vehicles will be manufactured at Bombardier Transportation's Görlitz facility in Germany and in Israel.

Jean Bergé, Vice President, Sales of Bombardier Transportation, stated: "We are delighted to have won this contract in Israel, which incorporates Bombardier's long-standing experience with double-deck coaches. This year, we also won two major double-deck contracts in France and Switzerland - the double-deck success story continues!"

Yossi Daskal, Chief Country Representative of Bombardier Transportation in Israel, added: "This contract demonstrates the trust that ISR has in Bombardier. We are proud to continue our successful business relationship with ISR that started in 1999 and to contribute to reliable public transport offering in Israel."



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Alstom to supply 7 Citadis trams to Valenciennes for a total of €17 million

SITURV, the Valenciennes regional transport authority, has chosen Alstom to supply 7 Citadis tramsets for use on the region's second tram line. An option for an additional 1 or 2 trainsets is expected by the end of November 2010. This follows an initial order of 21 tramsets in 2005 and demonstrates SITURV's continued confidence in Alstom. The new contract is valued at approximately €17 million.

The Valenciennes region's second tram line will extend in two directions, from Valenciennes to Vieux Condé and from Valenciennes to Crespin/Quiévrechain. The new Citadis tramsets will have the same design and level of performance as the existing tramsets, which will speed integration into the current fleet and reduce the line's costs. Each tramset will be 32 metres in length and will accommodate over 200 passengers - the equivalent of three buses. The platform-height floor will ensure easier access. And a video surveillance



system, audio and visual announcements and air conditioning will enhance passenger safety and comfort.

Each Citadis requires 4 times less energy than a bus and 10 times less energy than a car in kWh per seated passenger, and is up to 98% recyclable. Moreover, it improves urban quality of life: the Citadis is nearly four times quieter than auto traffic, generating noise levels that are lower by about five decibels.

The Citadis trams will be designed and assembled at a number of Alstom sites, including Valenciennes Petite-Forêt (for project management and testing), La Rochelle (tram construction), Ornans (motors), Le Creusot (bogies) and Villeurbanne (onboard electronics). Delivery of the tramsets is scheduled to begin in March 2012 for commissioning in August 2012.

To date, a total of 1,475 Citadis trams have been ordered by 36 cities around the world, while a further 60 cities have tramway projects in the pipeline.

Alstom to provide 9 metros for Sao Paulo's suburban network for an amount of €80 million

CPTM (Companhia Paulista de Trens Metropolitanos), the suburban trains operator of São Paulo metropolitan area in Brazil, has placed an order with Alstom Transport for 9 trainsets for a total amount of around €80 million.

Part of Alstom's Metropolis range, the metros will be developed and manufactured in Alstom's Lapa plant where the company employs 850 people. Delivery will take place by mid 2012.

The trains will operate on the existing line 11, known as "East Express", connecting the East metropolitan region of Sao Paulo to the city centre and transporting every day an average of 521,000 passengers.

Composed of 8 cars each, CPTM's Metropolis will make access and getting around on board easier thanks to extra wide chairs, gangways between the coaches and a lightening system informing the hearing handicapped of the doors opening and closing. Besides, dynamic travel information, air conditioning, security camera, smoke detectors and fire extinguishing system will improve passengers' comfort and safety.

"Alstom has tradition in supplying trains to São Paulo. We are pleased with this recently signed contract, which means a better transport standard in terms of quality, comfort and safety for Sao Paulo's population", declared Ramon Fondevila, Alstom Transport Managing Director for Brazil.

Helsinki-Saint-Petersburg Allegro, high speed Pendolino train, presented at Finland station in Saint-Petersburg

On 7 October 2010, one of the four new Pendolino high speed tilting trains designed by Alstom for Helsinki-St-Petersburg route is presented at Finland station in St-Petersburg (Russia). The trains, ordered in 2007 by Karelian Trains, are currently carrying out static and dynamic tests required for certification on the Finnish and Russian networks. They will start to circulate between Helsinki and St-Petersburg by the end of 2010.

The Helsinki-Saint-Petersburg Pendolino will shorten the travel time between Helsinki and St-Petersburg in first phase from 5,5 hours to 3,5 hours with a final target of 3 hours, with the border control carried out on board of the train while running. Specific technical solutions and enhanced safety standards have been implemented to adapt to severe winter conditions. All the bogies are thus equipped with special devices designed to reduce snow and ice accumulation; an improved heating and air-conditioning system has also been installed. Ride comfort, modern design and elegant solutions of the interiors improve passengers' well-being while being closer to the client's brand strategy.

The tests are being conducted in parallel on 3 trains both in Finland and Russia, which will enable authorization to be obtained as quickly as possible for their operation on the railway networks. Two trains are currently being tested in Russia, mainly on the rail lines around St-Petersburg and on the test track at Sherbinka near Moscow. Specific tests are conducted on key components of the train, according to the Russian norms. The third train is currently completing final type tests in the Finnish network. Traction, braking and signalling (under 25 kV AC) are tested at the Ilmala depot in static mode, then on the Kerava-Lakhti line at a maximum speed of 220 kph. The fourth trainset left Alstom's plant in Savigliano (Italy) at the end of September and is being transferred to the Finnish Railways' maintenance depot at Ilmala for reassembly and adjustment before embarking on various phases of static, then dynamic, tests in Finland.

Helsinki-St-Petersburg Allegro is an electric trainset with a distributed power to operate on both 25 kV AC 50 Hz and 3 kV DC. The presence of various independent traction units ensures a high level of reliability and redundancy. The traction equipment, positioned under the body, includes two transformers and four traction converters based on an IGTB most advanced traction technologies in railway field. The improved technical solutions adopted in the traction system, together with the use of light alloy and composite materials made it possible to lower train weight and to reduce power consumption, making this train the best environment-friendly solution for intercity transport. The bogie is a true concentrate of advanced technology while also featuring the very highest levels of operative interchangeability and servicing ease.

The active tilting system these trains are equipped with represents an advanced technological solution unique in the world, making it possible to achieve a consistent increase in speed on curves compared to conventional trains, in conditions of full safety and comfort, and without having to make changes in the geometry and lay-out of the existing tracks. This offers a perfect opportunity for assuring more efficient passenger services which satisfy customer requirements whilst enabling high-speed access to remote centers.

Helsinki-St-Petersburg Allegro trains are based on the "New Pendolino" platform and constitute a further development of the Pendolino trainsets already in operation in Finland since 1995.

In order to better respond to the requirements expressed by the market and the customer, this high speed train is designed to operate on both Finnish and Russian networks thanks to its double power and signalling/radio system. The name "Pendolino" is used to identify the family of high-speed and tilting-technology trains. These trains owe their name (which in Italian means 'pendulum') to the variable trim mechanism enabling them to tilt when going round a bend. The maximum tilt of 8 degrees permits a speed in the curves that is 20-30% higher than for conventional trains, whilst assuring the greatest safety and comfort for the passengers. Developed by Alstom, world leader in the production of high-speed trains based on tilting technology, these trains are built in Savigliano site (Italy). Their traction system is made in Sesto San Giovanni near Milan (Italy). Their bogies are manufactured in Le Creusot (France).

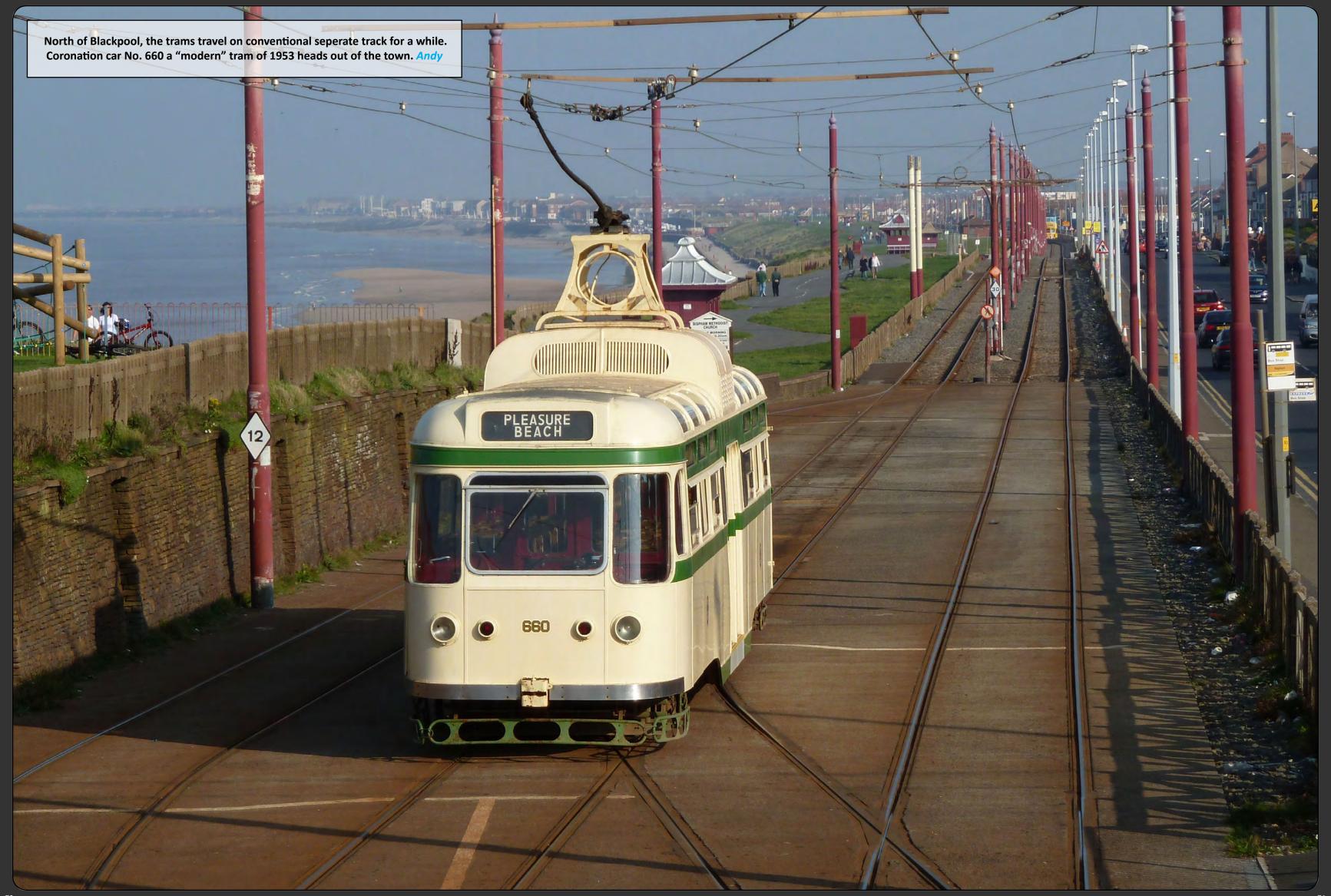
Alstom's Pendolino has been a genuine success story, with over 200 million kilometres covered in commercial service. To date, 430 Pendolino, in electric or diesel version, operate in 11 countries: Italy, Germany, Czech Republic, Switzerland, Slovenia, United Kingdom, Spain, Portugal, China, Finland, and soon in Russia. Poland is also in the way to buy high speed trains. As an example of this success, a Virgin Trains' Pendolino tilting train, designed, built and maintained by Alstom, has become the first of the 52-strong fleet to clock up 2.4 million kilometres. With a market share of 95% in the world and in Europe, Alstom is the indisputable leader in the tilting electric trains sector.

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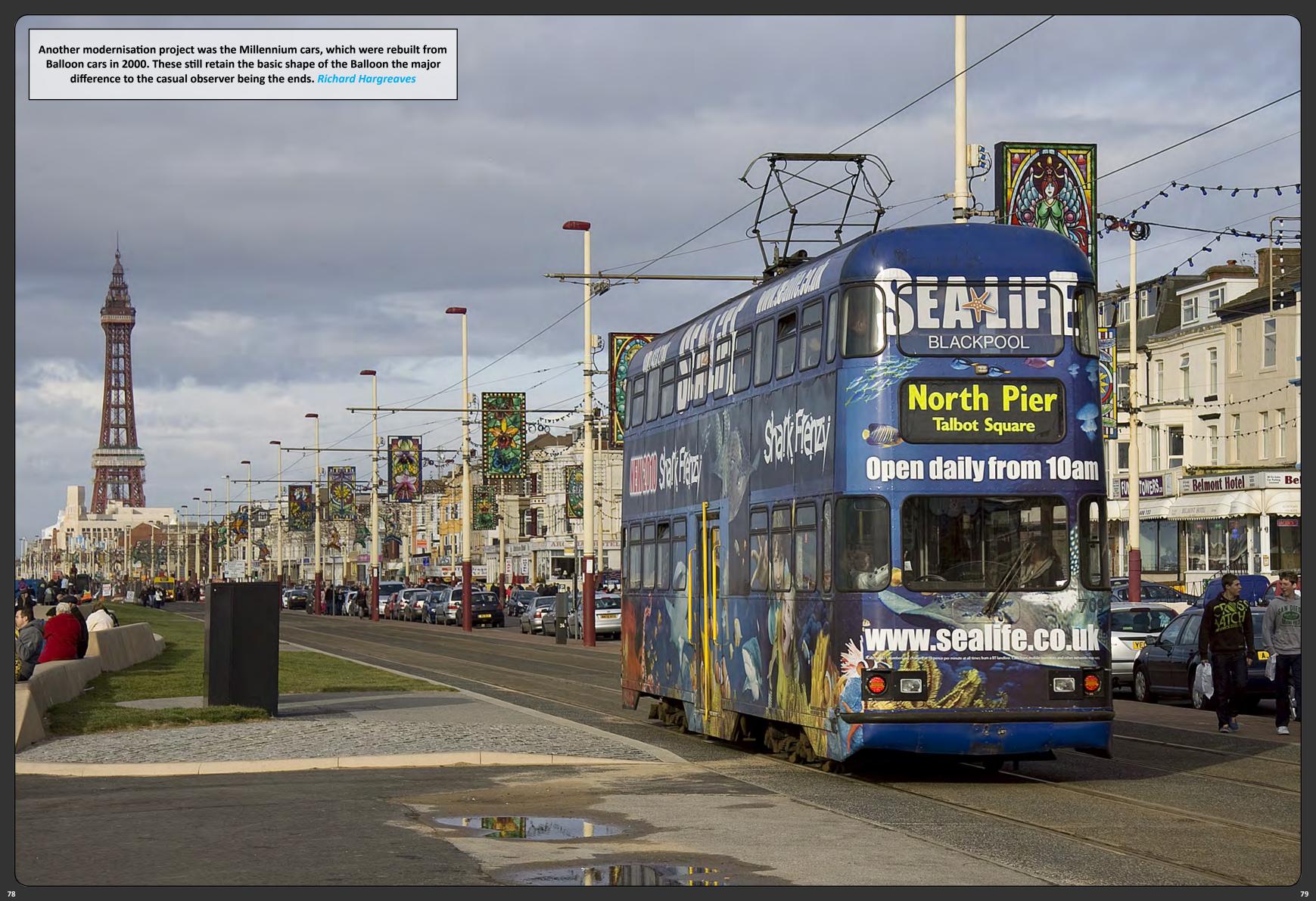


















From the Archives

A pair of first generation double deck push-pull commuter trains, are seen in Amsterdam Central on September 2nd 2002.

Brian Battersby



Belgian Railways series 52 (Type 202) No. 5215 is pictured at Liege in September 1995. Of interest is that this loco renumbered from 5302 (203.002) in 1983 after receiving a boiler from a withdrawn Class 60. Brian Battersby



Another Belgian Railways photo sees series 51 No. 5120 also at Liege in 1995. This loco was withdrawn in 2002 and subsequently sold to sold to CFV3V.







Above: On June 27th 2006 Czech "Grumpies" Class 751.176 and 751.354 pause at Lickov with a loaded oil train.





