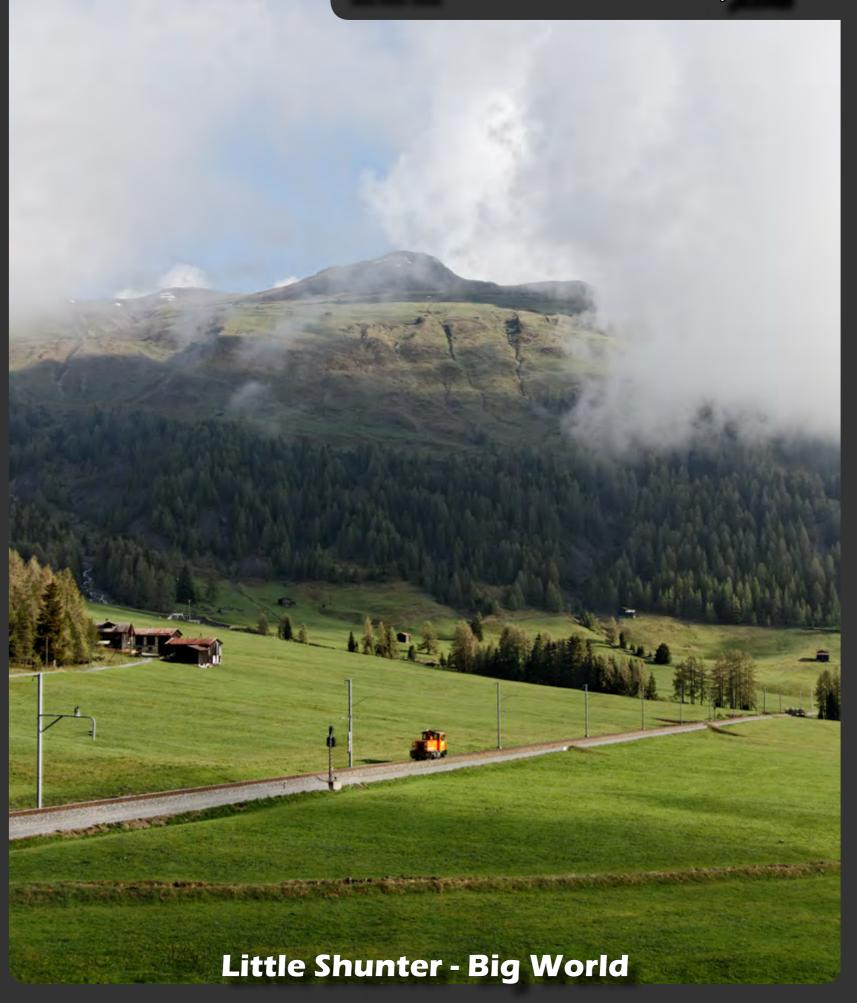
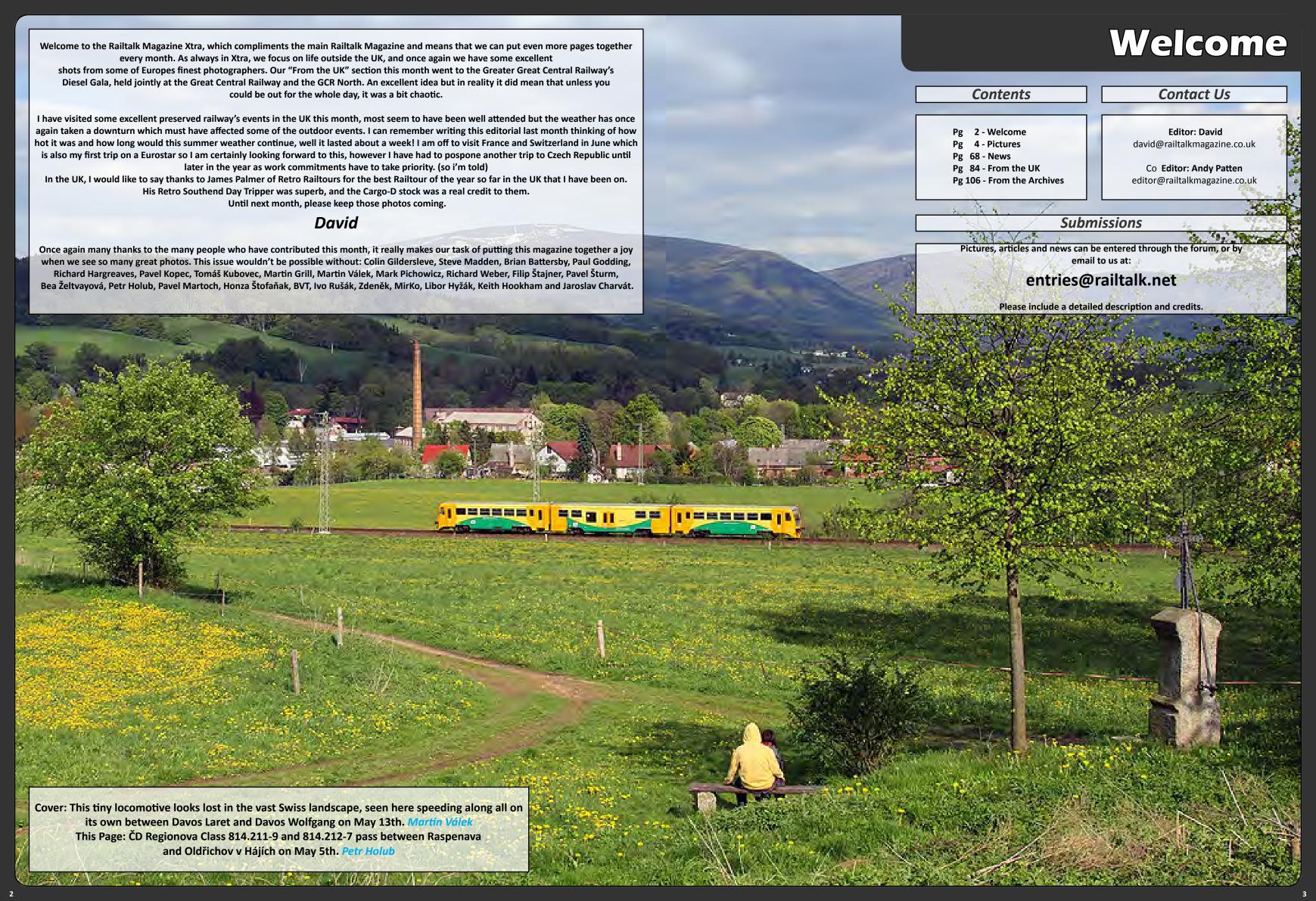
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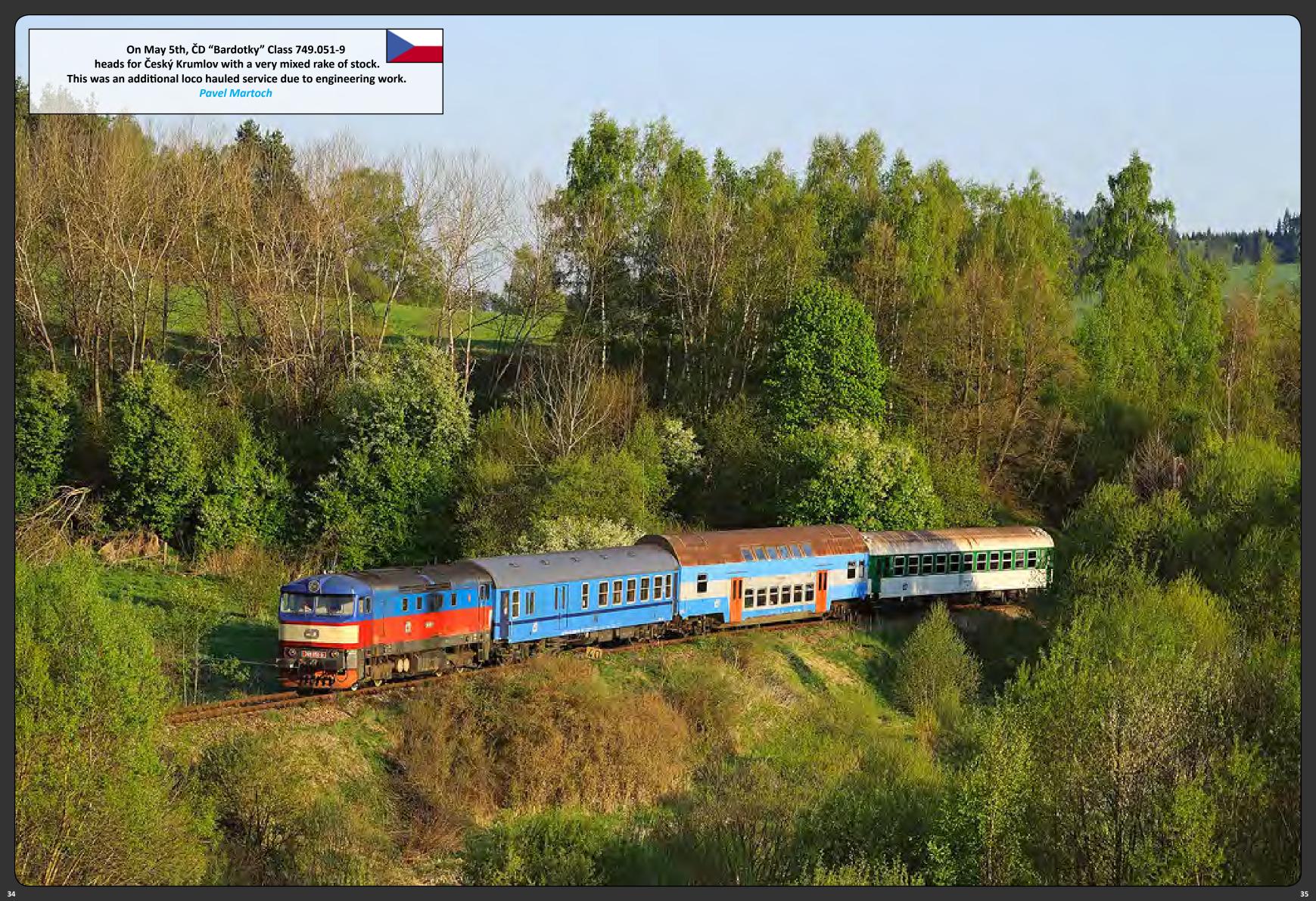
Alstom Built Class 1400, No. E1411 with matching stock is seen working a Casblanca to Fes service at Centre Oued Romane on March 24th. Steve Madden

















Above: ČD "Karkulka" Class T 444.0055 is seen at Príbovce (Príbovce - Martin) on May 29th. *Bea Želtvayová* 



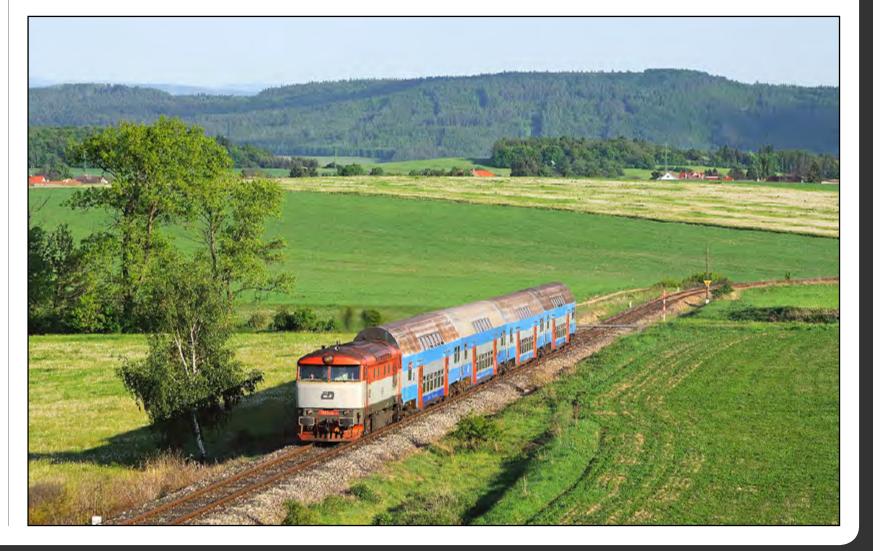








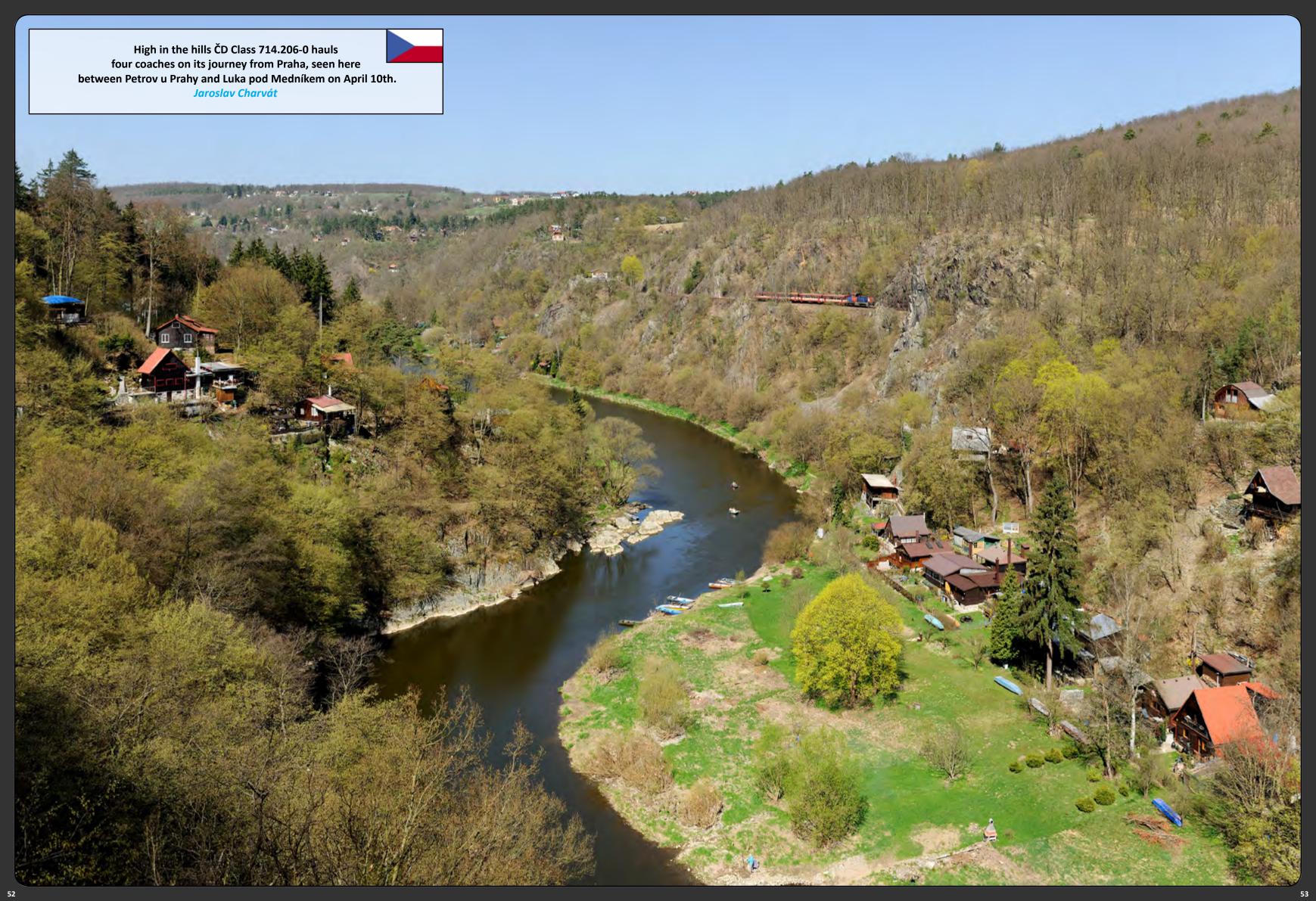
Above: ČD "Brejlovce" Class 754.063-6, is seen working the R668 "Junák" service through
Kralice nad Oslavou, on April 10th. Martin Grill
Below: ČD Class 749.006-3 is seen between Nová Ves pod Pleší and Mníšek pod Brdyon May 13th. Pavel Martoch



AZD Praha liveried "Bardotky" Class 749.039-4 is seen between Pecerady and Poříčí nad Sázavou-Svárov in Spring sunshine on April 17th. *Pavel Martoch* 



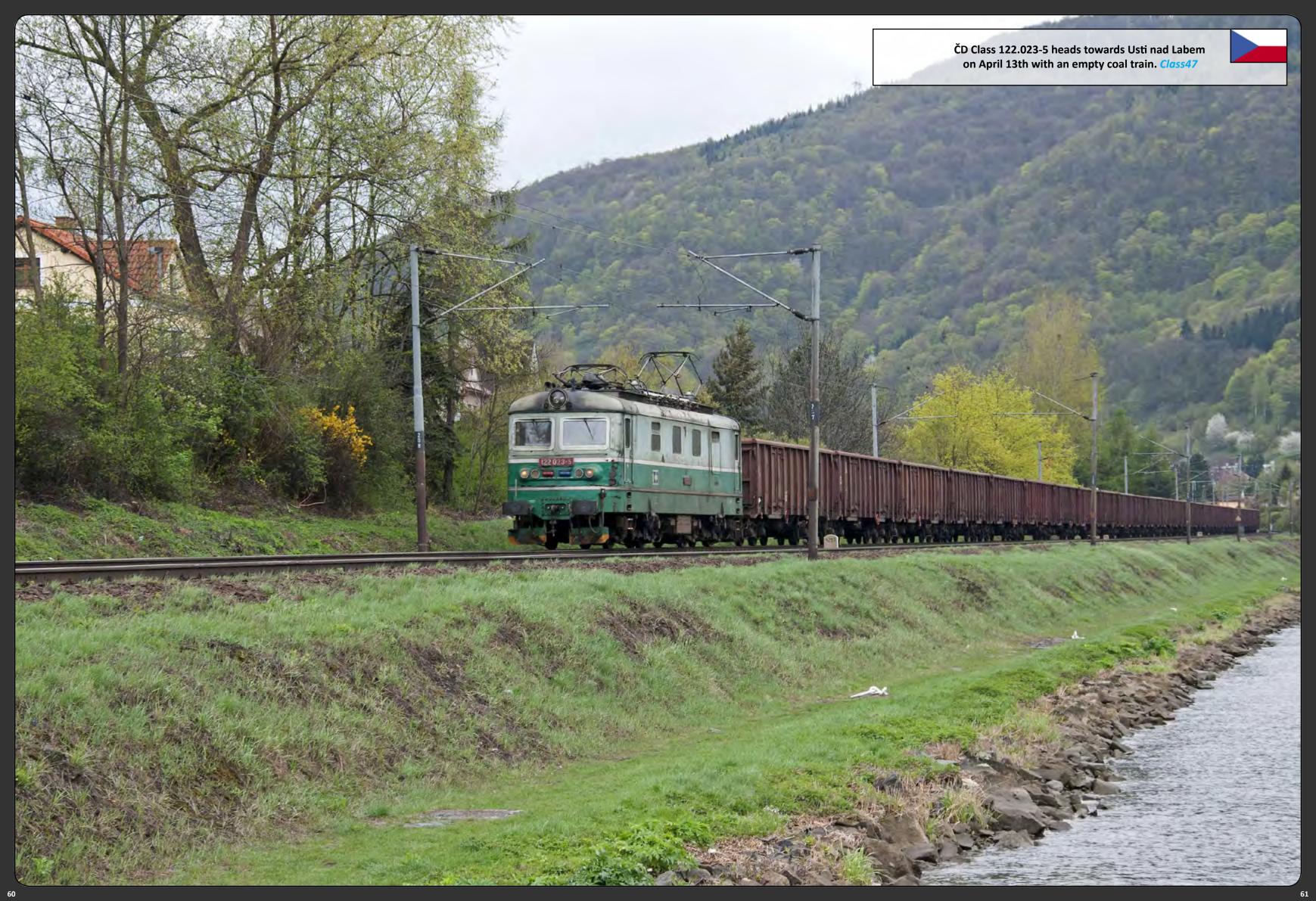
ČD "Brejlovice" Class 750.022-6 passes Class 754.049-5 with the R 926 "Lužnice" service at Kralice nad Oslavou. Class 750.022 is one of the last Class 750/0s to be working out of Brno. *Martin Grill* 



















## Czech Railways buys 9 new motor vehicles for the Pardubice Region



Czech Railways has called a tender for the supply of nine low-rise four-axle motor vehicles for the Pardubice Region. The estimated value of this contract is 477 million CZK (without VAT) and delivery vehicles are all within 23 months from signing the contract, about the second half of 2013. One of the cars will be funded from the Regional Operational Programmes of the European Union.

"The new coaches will offer around 70 seats. The car will also create a universal space for large luggage transport, such as strollers, bicycles and skis and sledges. Also there will be wheelchair accessible toilets, with a closed system. Cars will have low entrance spaces, making it easier to travel not only to wheelchair users, but also the elderly or mothers with prams. Air Conditioning will create a pleasant atmosphere in summer. Cars will be designed for speeds up to 120 km / h" says Deputy Director General for Passenger Transport Antonin Blazek. It notes that the basic parameters of modern cars have also consulted with representatives of two counties: "When we watched the selection process, we also asked the regions and their representatives. I believe that with the winning vehicle will be satisfied to them as well as our passengers."

Vehicles will be deployed in the Region on three lines, "Most new cars will head to the track in Pardubice Chrudim through the Hlinsko and go to Brod. This route will replace the current Regionova set by Czech Railways which will be then used to replace older vehicles on other regional routes. Other cars will use Czech Trebova - Lanškroun, and we are considering the deployment of a direct line of Pardubice - Moravians - Holice."

Czech Railways has entered into a series of contracts for the renewal of rolling stock for regional transport. For Highlands and Liberec Region produces like motor cars in an RS RegoShuttle by Stadler Pankow, five such kits will be assembled on the track in Pardubice - Hradec Kralove - Jaromer.

After this order the majority of commuter trains in the Region will be operated entirely new or upgraded vehicles. Already a number of new tracks and upgraded sets run on lines from Pardubice to Chocně and Cologne is a modern combination CityElefant, the lines around Ceska Třebová, Pardubice and Chrudim in Brod and motor units are regions and the track Letohrad - Tyniste.

## CD Cargo receives first upgraded electric locomotives



On May 24th, CD Cargo accepted its first two upgraded Class 365.5 engines from the contractor Škoda Transportation. It is almost twenty years since the last substantially renovated electric traction equipment, and this new upgrade will benefit rail freight transport.

These dual-system electric locomotives were as a result of a complete rebuilding of older DC locomotives of 163 from the 1980s and will included a total of thirty machines, which will be gradually put into service from 2011 to 2014. Locomotives will be tested on a trial basis only homologated for use in the Czech Republic and the Slovak Republic and Hungary, allowing wider use of rail freight.

Upgraded machines will be officially presented at the public exhibition Quantcast Raildays 2011 in Ostrava, which is held on the 14th - 16 June.

Jiri Vodicka, Chairman, said: "Deployment of these locomotives will be on CD Cargo for saving in the number of older locomotives used at the same time increasing reliability and quality transportation." Vodicka adds: "The last electric freight locomotives CD got were in the early 90s and the railroad certainly deserves a new machine."

The upgrade involves the exchange of electrical power circuits to a level corresponding to the current state of technology, increasing traction performance, upgrading the driver's to improve working conditions for operators and many other adjustments.

Locomotives received the possibility of regenerative braking to return the power back into the system. This technical solution is to reduce energy consumption and have a positive environmental effect.

## Alstom delivers SNCF its first 3rd generation Duplex TGV train set



On May 30, Alstom CEO Patrick Kron symbolically delivered to SNCF president Guillaume Pepy the first 3rd generation Duplex TGV train set. It is the first double-deck interoperable very high speed train capable of traveling on all European rail networks.

SNCF had ordered a total of 55 train sets from Alstom in June 2007. Two of the train sets are currently undergoing final development and approval. Commercial operation is planned for late 2011. Among other routes, they will operate on the new Rhin-Rhône high-speed line scheduled to open in December 2011. The entire fleet will be delivered by 2014.

This event marks the introduction of a new generation of double decker railway equipment designed to meet new requirements in terms of interoperability, comfort, operations and total cost of ownership. The new trainsets, derived from previous generations of Duplex TGVs, take advantage of 30 years of experience in very high-speed railway equipment, which has resulted in a proven, safe architecture. The many shared components will help to reduce development, manufacturing, operating and especially maintenance costs.

The trains will run at up to 320 km/h on the railroad networks in France, Germany, Switzerland and Luxembourg. They feature signaling equipment compatible with all the aforementioned European networks and traction equipment suited to all currents encountered in Europe. Some of the trainsets will have modifications to allow them to travel in Spain; the Duplex TGVs sold in Morocco use this same platform.

In terms of comfort, the emphasis here is on passenger information systems. New external displays have been added near each train entrance, making it easier to read the train number, car number and destination. Screens within the cars are used to display the stations served and the final destination, along with information about the trip such as the time, geographical location and current speed of the train—all in several languages. Seats are now equipped with digital reservation displays to indicate the trip segments for which they are occupied. SNCF agents can also manage audio announcements from their control consoles and keep passengers informed during the trip. These messages are also displayed on the screens for the hearing impaired passengers. Accessibility has been optimized for persons with reduced mobility (PRM): more than 10% of the total train capacity (509 seats) is set aside for PRMs, including 50 specially outfitted seats. The areas for wheelchair users are larger (including the toilets), and wider aisles make it easier to move around.

Ground-to-train connection systems also offer new prospects for communication. For example, it is now possible to disseminate information about connections at the train's arrival station, update the seat occupancy map after the train's departure or alert the ground teams to a failure and anticipate its resolution.

Passenger safety is another area in which the new trains have been improved. They were designed to be equipped with video surveillance systems, and they also meet the strictest fire safety requirements. Fire doors are installed between and within cabins on trains that will be used in Spain, and fire detection systems have been added to new areas: the toilets, the nursery, the baggage areas, the electrical cabinets and the machine compartments.

The new Duplex TGV trainsets are designed and assembled on Alstom's sites: passenger cars in La Rochelle, locomotives in Belfort and extremity cars in Reichshoffen. Other Alstom sites help to manufacture the equipment: Ornans for the traction motors, Le Creusot for the trucks, Tarbes for the electrical blocks and traction equipment, Villeurbanne for the control electronics, Montréal for the passenger information systems Charleroi for the auxiliary inverters. Every day, a total of 1,500 people go to work on these sites to serve high-speed rail. The main French suppliers on the project are Faiveley Transport, Alstom GRID, Logitrade, COMECA, CEIT, TFCM and Association Bretagne Atelier. Together with the other small and medium sized industries in the French railway sector, they employ 6,000 people in France.

## Alstom's Citadis tramway begins commercial service in Algiers



On 8 May 2011, Algeria's Transport Minister Amar Tou, and the President of the Algiers Metro Authority (EMA), Aomar Hadbi, have ushered in the start of commercial tramway service in Algiers, the first Algerian city to possess a modern tram network. Also on hand for the event were Samir Karoum, President of Alstom Algeria, and Jean-Pierre Gollot, Alstom Transport Deputy General Manager in Algeria, along with Ali Hadad, Président Directeur Général representing ETRHB on behalf of the Mediterrail consortium1 charged with constructing and equipping the first tramway line.

Exploited by the Urban and Suburban Bus Transportation for Algiers (ETUSA), Alstom's Citadis tramway runs on the line's initial segment, which Mediterrail delivered to the EMA in December 2010. This stretch of the line, 7.2 km in length, links Bab Ezzouar to Bordj El Kiffan districts in the eastern suburbs of Algiers and serves 13 stations, from "Bananiers – H Moukhtar Zerhouni - Lycée" to "Bordj El kiffan - Colline Mohous". With the completion of two additional sections currently under construction (Hussein Dey– Bab Ezzouar and Bordj El Kiffan–Dergana), the line will extend 23 kilometres and includes 38 stations along with eight transfer hubs.

Alstom, the project leader for the Mediterrail consortium, is providing a comprehensive service that includes a portion of the civil engineering, all the infrastructure (platform, rails, electrification, signalling, ticketing), the workshop-depot at Bordj El Kiffan and the central command post. Alstom is also supplying the fleet of 41 Citadis trainsets, already delivered in full. In addition, Alstom will be responsible for maintaining the tramway system equipment and the Citadis tramsets for 10 years. The Algiers tramway trainsets, were specially designed to meet the EMA's operating needs and feature both the proven equipment standard on all Citadis trams, representing years of accumulated Citadis expertise, and a number of customized elements, including the design of the driver's cabin, the livery, and the interior fittings.

Algeria's first tramway is notable for its accessibility, large capacity, and comfort. The integral low floor and eight lateral doors ensure easy, level access from the platforms, especially for those with reduced mobility. Each tramset is 40 metres in length and can accommodate from 300 to 400 passengers during peak travel times. The air conditioning and large tinted glass windows, plus the seating and wide aisles, passenger information displays in French and Arabic, and quiet engine operation are all designed to ensure pleasant travel conditions.

This transport infrastructure project is part of the development programme initiated by the Algerian government in response to a growing demand for public transport. As a structural feature of the capital's policy of expanding eastwards,

this project is symbolic for the country, and the reintroduction of trams 50 years after they were phased out will contribute significantly to the development and modernization of Algeria's main conurbations. Thanks to its expertise and know-how, Alstom has also been selected by EMA to construct tramways in Oran and Constantine.

To date, more than 1,500 Citadis trams have been ordered by 36 cities worldwide, and some 60 additional cities plan to launch tramway projects in the next few years, including more than a dozen cities in Algeria2. Tramways are undeniably successful: they help to develop sustainable mobility, provide a means of restructuring and modernizing the urban area and enhance the architectural heritage of cities, whilst boosting urban and suburban services.



### Siemens is supplying Atlanta with the American type S70 LRT vehicles

Atlanta, Georgia, USA, is planning to construct an extensive regional streetcar and light rail transit system. Siemens has been awarded the contract by regional operator Metropolitan Atlanta Rapid Transit Authority (MARTA) to deliver four new type S70 streetcars worth about \$17 million. MARTA placed the order with Siemens on behalf of the City of Atlanta and the Atlanta Downtown Improvement District. This marks Siemens' entry into the newly emerging market segment for streetcars in the USA. Siemens has already established itself as a U.S. market leader for light rail transit systems with its S70 vehicle platform.

The four new streetcars are based on the proven S70 light rail vehicle platform that Siemens developed specially for the North American market. Up till now these vehicles have only been used in mass transit and regional services linking the suburbs to the city, such as in Houston, Charlotte, San Diego, Portland and Salt Lake City. Their design, however, also allows these vehicles to be operated, if required by the operator, as streetcars in the inner-city areas. The new contract from Atlanta means that the S70 will be operated in the city center as a streetcar for the first time.



The new Siemens streetcars are part of Atlanta's current project involving the construction of a comprehensive regional streetcar and light rail transit system. In an initial phase these Siemens vehicles are to bridge the existing gap in public transportation within the core of Altanta's downtown area and connect major area attractions, historic landmarks, educational centers, shopping centers, and other vibrant public spaces. Moreover, the new 2.7 mile (4.3 km) route with 12 stops will provide a link between downtown Atlanta and its key business districts. As the regional system around Atlanta grows, the streetcars can be converted to meet the rising demand for light rail transit operation. The first car is expected to be delivered in September 2012 and start revenue service in early 2013.

Unlike light rail transit systems that mainly run on tracks separated from the roads, streetcars run on rails set into the road surface and therefore share the road with private motor vehicles. The streetcar offers an attractive alternative to traveling by car or bus because it is designed for a top speed of 35 mph (56 km/h), runs parallel with the road traffic and serves short local routes with frequent stops. The double-articulated, bidirectional vehicles from Siemens are to run in Atlanta at intervals of 15 minutes. The 70 percent low-floor area enables passengers to board and exit comfortably without any obstructions. Siemens has acquired decades of experience in building rail systems and trains in the USA. The new S70 streetcars are to be built at the Siemens plant in Sacramento, California, while other train components, such as the propulsion system, will come from the Siemens manufacturing facility in Alpharetta, a suburb of Atlanta. Since 1984, the Sacramento plant has delivered more than 1,000 light rail cars for 17 cities in the North American market. One in three light rail transit systems in the USA originates from the U.S. market leader Siemens. The workforce at the Sacramento facility is currently being expanded from about 700 to almost 1,000 employees.

# Bombardier Transportation Presents TRAXX AC Locomotive with Last Mile Diesel at Transport Logistic

Supplementary diesel engine makes rail transport companies more independent and enables goods to be transported seamlessly

At this year's Transport Logistic trade fair from May 10 to 13, Bombardier Transportation premiered a BOMBARDIER TRAXX AC locomotive with a supplementary diesel motor.

Known as Last Mile Diesel, this innovation removes the need to change locomotives in shunting areas of a rail network. The new technology offers increased flexibility, example at stations where a system change takes place, at terminals, at ports or on construction sites. There the last metres of rail, the so-called last mile, are generally not electrified. Until now shunting locomotives have had to replace electric locomotives in these areas to close the gap. The new TRAXX AC Locomotive with Last Mile Diesel enables the seamless transport of goods by rail.

Åke Wennberg, President of Locomotives and Equipment division, Bombardier Transportation, said: "Our Last Mile locomotive offers real innovation, giving rise to whole new possibilities in rail freight

transportation. I am certain that this new product will impress our customers."

The first five locomotives of this type were already ordered by the leasing firm Railpool at the end of last year. "This fulfills a long-held wish for us, the market has been waiting for this opportunity. We are convinced by this solution," explained Dr Walter Breinl, Managing Director of Railpool GmbH.

Three of these five locomotives will be leased by the Swiss private rail firm BLS Cargo. "The Last Mile Locomotive enables us to develop new markets for BLS Cargo," said Dr. Dirk Stahl, CEO of BLS Cargo. "We can offer customers in Switzerland, Germany and Austria innovative and above all efficient rail logistics solutions."

The TRAXX AC locomotive with Last Mile Diesel is a further development of the tried and tested TRAXX platform that has been developed in close co-operation with our customers. Furthermore, the development of the Last Mile Diesel is based on the positive experiences with the two-system BOMBARDIER ALP 45 Dual Power locomotive in the North American market. As a next step, the development of a TRAXX DC locomotive with a Last Mile Diesel engine is planned.

The TRAXX product family is designed for both the transport of freight as well as passengers on national and international routes on all networks. It is available in three electrical variants (for multi-system, AC and DC locomotives), as well as in a diesel-electric variant. All TRAXX locomotives are distinguished by their modular design and their highly efficient BOMBARDIER MITRAC drive and control systems. In total, more than 1,500 TRAXX locomotives have been sold.



### Adif invest € 1.4 million in improvement work on the Barcelona-Sants station



Proceedings will be conducted in hallways, sidewalks and parking lots in order to ensure full functionality and operation of the facility. The work includes urban interventions requested by the City of Barcelona, which demonstrate compliance with the commitments made by the Adif President

ADIF has awarded the execution of additional works and improvement in the Barcelona-Sants station, with an investment of EUR 1,420,032 (VAT included). These works consist of carrying a total of 47 performances in hallways, sidewalks, roads, parking facilities to the sea and techniques, among other agencies.

Thanks to this investment, the facility will provide new signaling systems, lighting control, security, fire detection and new units in order to ensure full functionality and operability of the terminal by increasing the quality standards of its operation.

These actions complement the already implemented in the proposed expansion and improvement of the Barcelona Sants station to adapt to the advent of high speed. Also incorporate interventions of urban nature requested by the City of Barcelona and President of ADIF undertook to carry out, among which the implementation of a new car park access to the sea and the relocation and adjustment of prefabricated modules located around the station.



The main activities in the area of platforms and channels consist of pavement rehabilitation to improve its characteristics of porosity and adhesion, and the installation of locks, ceilings and new boxes for the installation of sanitation. For its part, the lobby will be placed new signs on emergency doors.

In the car park overlooking the sea, as well as the performance result of the commitment of President of ADIF, will be held the following interventions: new signs of vacancies, new coatings, control systems installations, new ventilation equipment.

Other work carried out under the technical galleries located under the tracks, which will install new lighting, pumping equipment and signaling elements, among other equipment. In parallel, integrated into central security systems devices, fire detection parking, lobby and offices for internal use.

Interventions will be complemented by rehabilitation operations sanitation systems, installation of new control systems on two pumping wells, sealing of different areas of the roof of the hall, the placement of new platforms and vertical walls in new air conditioners. It will also create a space to house the police station in the Catalan police.

The contract was awarded to the Joint Venture Company formed by Soler and Carrers Electromechanical i Obres with a lead time of 7 months.

#### **Abord the RadExpress Danube**

One of the main tourist trains in Austria, "RadExpress Danube", is launched in this year's season. As part of the official season opening trip today Tourism Minister Reinhold Mitterlehner tested with Bill Wagner, a board member of the ÖBB-profit services, and Christoph Madl, director of Lower Austria advertising, the completely revamped train.

"The 'RadExpress' an important contribution to the development of cycling and evaluates the strong tourism brand, so on the Danube, which is one of the key unique features of Austria," said Mitterlehner. "With more cycling can also use the enormous potential of the Danube provinces in the areas of hiking, cuisine and culture will be better used. Closer integration of transport modes, innovative leisure and catering stands to add value to all parties. If we live, the national tourism strategy "said Mitterlehner. At the same time is pushing the "RadExpress" for the whole tourism important season extension. "The environmentally-and family-friendly offer is not only in summer but also in spring and autumn is very usable."

The tourist train rolls this year until 26 October daily through the unique landscape of the Danube from Vienna to Passau and back and is tailored to the needs of cyclists. 42 000 per year more travelers to RadExpress Danube ", with more than half the passengers take their bikes. "A relaxed cycling holiday begins with the train,"



said Bill Wagner. "More than 40,000 passengers prove it every year and use the RadExpress Danube for trips and vacations. Thanks to good cooperation with regional partners and the Lower Austria advertising our cycle train came through the Danube valley is a success story. This benefits not only our passengers and the tourism industry, but also the environment. "

#### Cycling and cycling along the Danube

The Danube Cycle Path is one of the most beautiful bike tours in Europe and makes tourism site for Austria and foreign guests even more attractive. The ÖBB railway experience has this sustainable tourism trend into account and the "RadExpress Danube" a train created that is perfectly matched to the needs of cyclists. Biking on the trail of the Nibelungen along the Danube through the Wachau, the Strudengau and Mühlviertel - for cyclists a convenient location between holding open the possibility of only parts of the trail back down to the train or take up the entire train ride. In addition, various packages for nature and culture lovers will be offered:

- Every day can be a three Passau ride on the waves of rivers Danube, Inn and IIz do in and round trip by boat to make a unique crystal.
- Every Saturday until 8 October presents a rail-to-ship combination, the Wachau at its best.
- On several dates, in the context of day-trip packages Kapsreiter visited the brewery, to be taken a ride on the "floating hut" or participated in a horse-drawn carriage ride into the mountains behind Reichraminger.

The "RadExpress Danube" goes to 26 October daily in the morning from Vienna Franz-Josefs-Bahnhof (departure 07:19 clock) to Passau (arriving at 12:04 clock) and starts late in the afternoon (16:57 clock) back to Vienna (arriving 21:36 clock). The special ticket for cyclists in addition to normal ticket includes a seat reservation, the Bicycle Transportation and a coffee in the buffet car. Owner of Lower Austria-CARD can on the route section Vienna - Melk (or opposite direction) to one free ride on the train, there are further discounts for customers with the LA Family Pass or the Lower Austrian Active-Plus card.

76

## Alstom to supply and maintain a fleet of 20 New Pendolino trains for PKP Intercity

The Polish operator PKP Intercity, in charge of long distance passenger transport, has awarded Alstom a contract worth €665 [1] million to supply 20 high speed trains, their full maintenance up to 17 years and the construction of a new maintenance depot. The first trains are scheduled for delivery in 2014.

PKP Intercity will operate the trains on existing routes in Poland: Warsaw-Gdansk-Gdynia; Warsaw-Krakow; Warsaw-Katowice. The travel time will be significantly shortened. The trainsets will travel between Warsaw and Gdansk in 2.5 hours, and between Warsaw and Krakow or Warsaw and Katowice in slightly more than 2 hours.

The trainsets of 7 cars each will be based on Alstom's standard New Pendolino platform. In line with the customer's specifications, they will not integrate the tilting system. With a maximum speed of 250 km/h, they will be able to carry up to 402 passengers. The trains will be manufactured at Alstom's Savigliano site in Italy, where Pendolino trains have been manufactured for more than 30 years.

"These new trains will enable passengers in Poland to experience a new level of quality and comfort. With their leadingedge technology, these trains meet the highest functionality and safety standards ", said Janusz Malinowski, President of PKP Intercity. Alstom's New Pendolino trains are part of the company's strategy for sustainable development: they are 95% recyclable and are equipped with electrical brake systems enabling up to 8% savings in energy consumption and recycling up to 97% of power which is fed back into the catenary system.

Moreover, noise reduction has been subject of particular attention, so as to fulfil the new European standard. The train is streamlined to reduce noise through the roof, the design of its ends has been optimized aerodynamically and sound insulation has been increased under the body. Lastly, a shock absorber dumping system vibration has been placed on the wheels, between the rim and the centre, with a view to reducing noise in operation. The interior outfitting has been enhanced: wide corridors and gangways will improve accessibility and the comfort of passengers. Video monitors and a video-surveillance system will ensure maximum safety. As well as meeting the latest interoperability European standards (ERTMS), the trainsets for PKP Intercity will be equipped with signalling systems required to operate not only in Poland but also in Austria, Czech Republic and Germany.



In addition to rolling stock, Alstom will supply full maintenance of the trains up to 17 years in a new depot of 12.000m<sup>2</sup> which will be built in Warsaw. Some 100 people dedicated to commissioning, general warranty and full maintenance of the trains will work there. "We are very happy to provide PKP Intercity with a "state of the art" high speed train, at its 4th generation. It is a service-proven train, therefore reliable and readily available", commented Thierry Best, Chief Commercial Officer of Alstom Transport. "This contract demonstrates Alstom's expertise in mastering all businesses of the rail sector: rolling stock, information systems and services among others. It will allow Alstom to further strengthen its presence in Poland, where the Transport Sector of Alstom is already present with a plant in Katowice employing more than 500 people ", he added.

### Beginning of a new era of train safety

ÖBB has announced implementation of the uniform European Train Control System "European Train Control System (ETCS) for hi-tech, security and reliability.

"For the ÖBB begins with this change a new era of command and control," said Wiltberger. "This is a major leap in technology and a great challenge for the whole group. With the railway operations based on the ETCS ÖBB count together with Switzerland and the Scandinavian countries in Europe leading to the innovators. "

SPÖ transport spokesman Anton Heinzl is gratified that the ÖBB continues to invest more in the single European train control system. By switching to ETCS is also cross-border movement easier and faster. Trains are so over the road one step competitive. "This means a more efficient and more secure future is assured in the railway sector, Austria is a leader with its investment in tracks and cars in Europe," says Heinzl.

For the provincial government of Tyrol traffic Bernhard Tilg will the new train control system many advantages: "With the commissioning of the Lower Inn Valley railway end of 2012 customers a modern and advanced infrastructure is available. The latest European train control system brings the Tyrolean railways safer, more efficiency and the possibility of additional heavy goods traffic from road to rail shift. "

More security, more service, more trains

The EU requires all member states, the new construction and conversion of existing trans-European routes, the train control system ETCS and GSM-R Train Radio. Be granted for both national and EU subsidies.

The use of interoperable - that is used all over Europe - train control system that can be used for all lines in accordance with EU requirements must, offers many advantages:

- allows for economically efficient, obstacle-free cross-border rail service with an attractive and best available infrastructure
- improves the safety and quality of rail traffic
- better use of train paths due to shorter headways and higher speeds, thus increasing the transport capacity and efficiency of the trail
- future less training for train drivers display system on the driver's cab at each level equal
- no equipment of vehicles with different national systems in the future more necessary

ETCS Level 1, the information such as speed or correct route through the trackside Eurobalises (data points in the track), at Level 2, however, by radio via the medium of GSM-R (Global System for Mobile Communications - Railway) to the vehicle transferred. Or visual conventional signals can be dispensed with in Level 2.

The conversion of the existing line Wels - Passau end of 2011 to ETCS Level 1 to the end of 2012 the stock routes Vienna - Salzburg follow - St. Pölten and Attnang-Puchheim. On the Eastern Railway between Vienna and there is already a Heygeshalom ETCS 1 circuit. This is currently being adapted to the latest technical specifications.



At the same time ETCS Level 2 is the end of 2012 on the track axis Writer - St. Pölten are used - Kufstein, including the new line in the Inn valley and on the new Vienna. Overall, equipped by the end of 2013 585 kilometers of lines with ETCS Level 1 or 2. be driven by full ETCS - By 2021, the Southern Railway and the Western Railway (Linz except for the section of St. Pölten). In the vehicle by the end of 2012 needs 163 locomotives and all railjet 51-control car with the necessary components to be fitted ETCS by 2015 the total, 382 locomotives Taurus comprehensive fleet of the ÖBB. The introduction of the highly complex signaling system requires the cooperation of the various technology companies. For example, Alstom with the equipment of vehicles, Thales with track-side equipment was commissioned. Kapsch provides the technology for GSM-R. Frequentis was responsible for system integration, Signon Germany rounds out the interplay of the different companies with engineering and consulting.

# Alstom's Citadis tramway to commence passenger service in Rabat, Morocco

On 18 May 2011, Mohammed VI, King of Morocco, inaugurated the new Citadis passenger service between Rabat and Salé, the first urban area in Morocco to operate a state-of-the-art tramway network.

The event was held in the presence of Lemghari Essakl, Chairman and Managing Director of the AAVB (the agency tasked with developing the Bouregreg valley), Loubna Boutaleb, Managing Director of "Société de Tramway" (STRS, the Rabat-Salé transport operator), Paul Moneyron, Senior Vice-President, in charge of Africa and the Middle-East for Alstom, Thierry de Margerie, CEO of Alstom Morocco and Thi-Mai Tran, Managing Director of Alstom Transport Morocco.

In 2008, STRS ordered 44 Citadis tramsets from Alstom. The trams will run on a network of two lines that connect 31 stations and extend over a total of 20 km. The fleet is made up of 19 double tramsets and 6 single bidirectional tramsets, which are scheduled to come into service in summer 2011.

Morocco's first tramway is notable for its accessibility, its high capacity and the levels of comfort it provides. The double tramsets' integral low floor - which is level with the platform - and 12 side doors ensure easy access, especially for people with reduced mobility. Each double tramset is 64 m long and has 118 seated places. They can carry between 400 and 600 passengers during rush hour.

These tramways have been specially designed to meet the operational requirements as defined by STRS. They feature tried and tested equipment that is fitted as standard on all tramways and are the result of feedback about all the Citadis tramways currently in service. A number of the elements that make them up can also be customised, such as the design of the driver's cabin, the livery and the interior fittings. The air conditioning and large tinted glass windows, plus the seating and wide aisles, passenger information displays in French and Arabic, and quiet engine operation have all been designed to ensure pleasant travel conditions. Like the Citadis tramways in service in Barcelona, Paris and Melbourne, Rabat's trams have been designed so that STRS can provide its passengers with a high-quality transport service that is both safe and reliable.

This transport infrastructure project is part of the programme to develop the Bouregreg valley in response to a growing demand for public transport. It will function as a structural feature for the Rabat-Salé urban area and is symbolic for the country as a whole: commencement of the tramway service will herald the reintroduction of this means of transport, a means which existed in the first part of the 20th century as a tool for developing and modernising the country's main urban areas.

To date, more than 1500 Citadis trams have been ordered by 36 cities worldwide. In North Africa, Citadis trams have been chosen in all the towns which already have a tramway network or one which is in the process of being built: Citadis tramways have been in service in Tunis since the end of 2007 and in Algiers since May 2011, and are now going to be running in Rabat.

Additional Citadis tramsets are in the process of being built for future lines in Casablanca, Constantine and Oran. Furthermore, more than 60 towns and cities across the world have tramway projects in development, with 20 or so in North Africa. Alstom is the world's second largest transport company and is contributing to the success of the tramway, a means of transport which is helping to develop sustainable mobility, allow urban areas to be redesigned and modernised, while at the same time enhancing their architectural heritage and boosting the influence of cities. "The commissioning of the Citadis tramway in Rabat highlights Alstom's commitment to its customers to implement the latest generation of rail equipment, accessible to all, and which also represents a means for the development of the country's main urban areas," stated Paul Moneyron, Senior Vice-President, in charge of Africa and the Middle-East for Alstom.



## Festive completion of the Optimization of the railway section Planá u Mariánských Lazní - Cheb

The Optimization of the railway section Planá u Mariánských Lázní – Cheb has been festively completed. The completion of the whole western branch of III Railway Transit Corridor resulted in 30-minute shorter journey time between Cheb and Plzeň. Another benefit of the construction is the enhancement of rail operation safety by means of up-to-date signalling installation, and higher comfort for the public in the form of barrier-free accesses or information systems. Overall, the construction provided higher technical parameters in line with the requirements for the trans-European railway network (TEN-T). The essential strong point is the compliance with European safe passage capability of the line class D4 UIC and loading gauge UIC – GC.

The investor of the Optimization of the railway section Planá u Mariánských Lázní – Cheb, which is part of the complex of 9 separate constructions on the western branch of III Railway Transit Corridor, is the Railway Infrastructure Administration, state organization (SŽDC). The optimized nearly 40km-long section stretches into two regions, starting in Plzeň region and from the railway station Chodová Planá it continues through Karlovy Vary region. The section as far as the station Lipová u Chebu is a single track and the interstation section farther to Cheb is double-track. There are 6 railway stations (Chodová Planá, Mariánské Lázně, Valy u Mariánských Lázní, Lázně Kynžvart, Dolní Žandov, Lipová u Chebu), and 2 train stops (Stebnice, Všeboř) along the section. A new train stop Salajna was built. In all stations and train stops there are new platforms with the platform edge of 550 mm over the top of rail to allow an easier entry and exit. Other areas for the travelling public are modified as well.

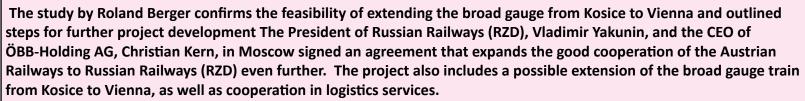
The construction mainly focused on the modifications of earthwork structure and track adjustments including track lining with a view to increasing speed and rail operation safety", commented on today's festive occasion Ing. Pavel Habarta, MBA, SŽDC Executive Director and added: "Compared to original line speed ranging from 70 – 100, the line speed increased up to 120 km/h for standard sets and up to 150 km/h for tilting boxes. Extensive modifications and upgrades were carried out on bridge structures; the state-of-the-art signalling installation enhanced road traffic safety on 12 level crossings.

Along the whole line, new cables connecting the train control system and the operation control have been laid. The operation in the section from Plzeň to Cheb is controlled long-distance from Plzeň; in future it shall be controlled from Prague. The installation of the telecommunication facility also included the installation of electrical fire alarm in relevant stations, electrical signalling alarm, surveillance camera system, station announcement system etc. The construction also included the implementation of noise protection measures, particularly the installation of 9,5 km-long noise barriers protecting inhabitants from over-limit noise from rail operation. The construction did not involve the railway stations Planá u Mariánských Lázní and Cheb that had been reconstructed during previous separate projects.

The railway station Mariánské Lázně, because of its significance as a spa town, was reconstructed to a large extent. The reconstructions involved the island platform and the platform near the passenger building. The access to the platform is provided through a reconstructed subway which is equipped with two new lifts. A new technological building was built at the exit – direction Cheb. The reconstruction of the railway bridge with a span of 36 metres over Jesenická dam calls for special attention too. By replacing the supporting structure, the height clearance under the bridge increased to 4,7 metres over the top level, so the dam could still maintain the parameters for organizing international sailing boat competitions.

Project documentation was developed by the company SUDOP Praha, a.s., and the contractor, who was selected following a tender procedure, is "the Association Planá SSV", represented by three construction companies: EUROVIA CS a.s., Skanska DS, a.s., and Viamont DSP, a.s.

# The future of rail install - possible broad-gauge railway to Vienna



#### Connection of the European with the Asian markets

Located 450 km - namely the railway line between Vienna and Kosice - one is currently due to the different gauge of a direct east-west link and thus removed a continuous rail route from central Europe to Asia. By extending the broad gauge line from Vienna to Kosice a unified rail system was created to the Eastern European and Asian markets with the Central European markets directly and without delay to one another while giving the green light for environmentally friendly transportation of the future. This also growth and jobs would be created.

The proposal for extending currently in Košice in eastern Slovakia ending train to Bratislava and Vienna, by Roland Berger Strategy Consultants in the context of being investigated by the broad-gauge planning mbH commissioned study - a joint venture of four equal partners - ÖBB, RZD, UZ and ZSR, the national railway companies in Austria, Russia, Ukraine and Slovakia.

#### Fast, safe and sustainable

By extending the broad gauge - is this 1,520 mm compared to 1.435 mm standard gauge - create a central logistics providers as well as a freight corridor of 8,000 km in length, allowing a shorter journey time to 15 days by rail against the previous 35 days by ship. The cargo capacity of the route is 2050 per year for at least 16 million tonnes.

With the expansion of broad-gauge line, there is a greater use of the broad gauge system between Europe and China and Russia as an attractive alternative to the sea. Furthermore, the Twin City region Vienna-Bratislava, in the cross numerous infrastructure corridors, an ideal location for the system boundary between normal and wide-track - and for another much-needed logistics base in Europe with thousands of jobs. The freight transport by rail is a safe alternative to the sea, because critical path passages (eg piracy affected by sea) or depressed areas to be avoided. With the extension of broad gauge railway line an electrified, thus creating an environmentally friendly transport network.

#### **High Feasibility**

The feasibility study commissioned strategic certifies a hand toward the technical and legal feasibility of the project, on the other hand, it points to the "new dimension of competitive and environmentally friendly rail transport system in Eurasia." The authors conclude, let that by extending the broad gauge track to achieve by 2050 a year to be between 16 million tons and 24 million tonnes of cargo volume. Not only the Twin City region Vienna - Bratislava would be upgraded as a logistical center, but it would benefit a total of more than 33 countries in Western and Central Europe, Central Asia, Russia and the Far East from the economic renewal.

Through the establishment would occur on average by direct or indirect employment 21,000 new jobs. After completion would result from the operation of trains at least 6400 jobs and further 3,100 jobs by the operation of terminals and other infrastructure, says the study.

The construction cost for the route according to the study amounted to 6.36 billion euros. The investigations show that the costs are in line with comparable European railway projects.

#### The next steps

The strategic feasibility study paved the way for the next step forward: The railway companies and the relevant government authorities of the four partner countries, analyze the results to take other preliminary work in planning attack.

Subsequently, a market and competitive analysis is created, the business model and the investment structure developed in detail the production processes at the existing corridor and the inclusion of traffic optimization and strategic alliances examined. At the end of this process, a detailed plan will be ready for the market structure. Even before the possible implementation of the broad gauge project RZD and ÖBB will intensify their cooperation in logistics.

As for infrastructure, also made more specific items regarding the Zugzahlenabschätzung for the standard gauge network in Austria after the completion of broad gauge railway line. If a positive decision from the winter 2011, a full feasibility study be carried out.

The criteria for decision making for this project will be used including a careful consideration of the economy, the financing concept, location-political considerations as well as macro-and transport-policy considerations.











Above: Not available on the Saturday of the gala owing to a battery problem, Class 46 010 appeared in fine form on the Sunday service from Ruddington. Andy

Below: An "all diesel" gala at the Great Central does not apply to the Saturday dining trains which still are steam hauled. This is LMS 8F No. 8624 passing Peak No. D123 at Loughborough. Richard Hargreaves





Above: The driver of Class 20 No. D8098 gets instructions on his next duty at Loughborough on May 14th. *Paul Godding*Below: Class 08 Shunter No. D3101 works its first passenger train into Quorn on May 14th, Class 37 275
was attached to assist with braking *Class47* 



















