

Media release

DOCUMENT 10 pages
ENCLOSURES Images, documents

Bussnang, 7 August 2024

Stadler at InnoTrans 2024: innovative solutions for the rail transport of the future

- **RS ZERO – world premiere of the zero-emission regional shuttle**
- **CITYLINK: First complete train of the co-operation "TramTrain - The Project" for Saarland**
- **Class 99: bi-mode locomotive for flexible freight transport**
- **KISS-Cityjet: what the new ÖBB train looks like inside**
- **Servicejet: innovative firefighting and rescue multiple unit for ÖBB**
- **Battery-powered FLIRT Akku: the future of CO₂-free local transport**
- **Tailor-made trains for the Centovalli railway: Stadler presents the next generation of vehicles**
- **Underground trains for the BVG: new vehicles for the mobility transition in Berlin**
- **Signalling innovation: Stadler introduces EUROLOCKING and NOVA Pro**

Stadler stands for the future of rail transport. The technological leader in the field of rail vehicles with alternative drive systems will be demonstrating its pioneering role once again from 24 to 27 September at InnoTrans 2024 in Berlin. At the world's leading trade fair, Stadler will be presenting eight innovative, sustainable vehicle concepts, as well as all the innovations in the areas of service and signalling that will make the company a provider of integrated mobility solutions. The company's stand will focus on the alternative, environmentally friendly drive solutions that are now available for almost the entire Stadler portfolio to enable CO₂-emission free local rail travel.

The highlight of InnoTrans will be the new RS ZERO, which illustrates how Stadler is putting the future of regional transport onto the rails. It can be fully powered by battery and can also be equipped with a hydrogen power pack as an energy source. The FLIRT Akku, this

time as a customer version for local passenger transport in the southern Rhineland Palatinate, runs like a traditional electric multiple unit under a catenary whilst charging its traction batteries at the same time. The EURODUAL Class 99 locomotive, on the other hand, can be supplied with power both via the overhead contact line and from an on-board diesel generator, and can be used to bridge non-electrified sections of Great Britain's heavy goods transport network.

Stadler rail vehicles combine cutting-edge technology with modern passenger comfort. This will be showcased by all Stadler's vehicles when the doors open at InnoTrans. They boast accessible entrances, bright and friendly passenger areas, as well as digital information and communication systems, not forgetting facilities for passengers with special requirements.

To complete its presentation at InnoTrans 2024, Stadler will display signalling solutions that include automatic train protection and control systems, driver assistance systems and interlocking technologies. Stadler combines these features with its e-hybrid trains to deliver the performance and sustainability needed for the rail-based transport of the future.

For the first time, Stadler will bring its signalling technology and rail vehicles together on a joint stand. It will also show visitors its first integrated solution comprising vehicles and signalling technology in the form of NOVA Depot.

RS ZERO: relaunch of a classic

The Stadler Regio-Shuttle RS1 has been one of the most popular vehicles in German regional rail transport for 25 years. Around 500 vehicles of this successful model are currently in use in Germany. They have helped to create economical and attractive options on secondary routes with low traffic density.

The RS ZERO is now building on this success story, albeit with a fully decarbonised drive: the new RS ZERO is available with either battery or hydrogen drive.

Thanks to this innovation, Stadler can offer the best of both worlds: it has retained the advantages of the tried-and-tested RS1, but integrated the most modern and environmentally friendly drive technologies. In addition, the transport transition intended to stop climate change will shift considerably higher volumes of traffic to the rails. To do so, old lines in Germany and Europe, most of which are not electrified, need to be reactivated.

The RS ZERO bridges this lack of electrification and offers a choice between the two most future-proof technologies, depending on the customer's needs: a battery-electric model and a version with a hydrogen power pack. This enables the RS ZERO to close the gap for CO₂-

emission free operation of local branch lines. Like the RS1, the RS ZERO is available as a one- or two-part vehicle, offers a seating capacity of 70 to 150, and has the largest low-floor area of any vehicle in its class.

The model that will be visible at InnoTrans is the prototype of the RS ZERO as a one-part vehicle with hydrogen drive. Stadler illustrates the numerous design options available with a multi-purpose area suitable for leaving bicycles, pushchairs and bulky luggage etc., lounge and comfort zones, standard and privacy seats, a wheelchair space, a WC and a train office.

Presentation of the RS ZERO

Track T09/40, 24 September 2024, 2:00 p.m.

First complete tram-train of the co-operation "TramTrain - The Project" for Germany and Austria

Six transport companies from Germany and Austria - consisting of VBK - Verkehrsbetriebe Karlsruhe GmbH, AVG - Albtal-Verkehrs-Gesellschaft mbH, Saarbahn Netz GmbH, Schiene Oberösterreich GmbH, Schiene Salzburg GmbH and Zweckverband Regional-Stadtbahn Neckar-Alb - joined together to continue an initiative from the VDV (Verband deutscher Verkehrsunternehmen, Association of German Transport Companies) subcommittee "Regional Light Rail" and two years ago placed the largest order in Stadler's history to date. The main component of the contract is the delivery of up to 504 CITYLINK low-floor vehicles, 246 of which have already been ordered. In addition to vehicle production, the framework agreement also includes a maintenance contract for up to 32 years.

The complete train will now be exhibited for the first time at InnoTrans 2024. The vehicle presented at the trade fair will be used by Saarbahn, which will be the first operator to put vehicles into operation. The tram-train is equipped with the latest technologies in terms of the traction system, signalling and radio systems as well as communication and passenger information.

The CITYLINK forms the common vehicle platform for the tram-trains being built for the consortium. This allows the vehicles to be largely standardised, and yet to respond flexibly to the needs and infrastructure conditions of the six transport companies. The CITYLINK is a modular, accessible low-floor light rail vehicle family that offers a high standard of safety and travel comfort.

All the vehicles are supplied in a three-part design. The number of doors, the boarding and coupling height and the coating vary depending on the customer and the delivery location. The interior fittings are also customised, while elements such as the air conditioning for the passenger and driver compartments and the LED lighting system are the same for every train.

The spacious multi-purpose area with accessible facilities for leaving bicycles, pushchairs and luggage is also a set fixture on all trains.

The CITYLINK is a train and a tram rolled into one, allowing transfer-free connection from surrounding municipalities to the city centre. The vehicle for the Saarbahn on show at InnoTrans is a bidirectional vehicle with a length of 37 metres and a car width of 2.65 metres. The interior offers 100 comfortable seats and 133 standing places. Like all CITYLINKs, it can travel at speeds of up to 100 km/h.

Presentation of the CITYLINK, co-operation "TramTrain - The Project"
Track T09/45, 24 September 2024, 3:30 p.m.

Class 99: the bimodal Co'Co' locomotive

The new Class 99 locomotive for the UK market will represent another highlight at InnoTrans. 30 of these locomotives are being built for Beacon Rail for operation by GB Railfreight. The Class 99 is based on the proven EURODUAL locomotive concept and has a dual drive which allows purely electric as well as combined diesel-electric operation. This means that the bi-mode Class 99 can be used on both non-electrified and electrified lines. It can replace locomotives powered purely by diesel to help significantly reduce carbon emissions on the UK railway.

The locomotives are adapted to the British clearance gauge and are narrower and lower than their continental EURODUAL equivalents. Just like their European counterparts, they can reach a speed of 120 km/h and, at 500 kN, are more powerful than any other European mainline locomotives.

The designation Co'Co' stands for the number and arrangement of the independently driven axles – of which there are six on the Class 99, as on all EURODUAL locomotives. The latest 3-axle bogie technology ensures excellent traction and low track forces at the same time.

Like all Stadler locomotives, the Class 99's two driver's cabs have been designed with the operating staff in mind. They offer excellent visibility, a centrally positioned seat and are very comfortable. Camera systems will ensure a direct view of pantographs, the shunting area and the track, helping drivers in poor weather conditions. An advanced remote diagnostics system is integrated into the vehicle control unit. The automatic train protection system combines the two protection systems required on British rail networks, AWS and TPWS. The locomotive is being prepared for installation of the ETCS system.

Presentation of the Class 99 for Beacon Rail and GB Railfreight
Track T04/19, 25 September 2024, 11:00 a.m.

Unveiling of the interior of the KISS-Cityjet

The KISS double-decker multiple unit built for ÖBB Personenverkehr AG will also be on display at InnoTrans. 79 of these vehicles have been ordered so far as part of a framework contract for 186 multiple units. It comes in four versions: four- and six-car units for local transport, six-car units for long-distance transport and five-car units for the CAT airport train. In the future, they will form the modern, passenger friendly and environmentally friendly extension of the Cityjet and Railjet fleet used by ÖBB for local and long-distance passenger transport.

Many trainspotters are already familiar with the outside of the new Cityjet. At InnoTrans, the doors to the vehicle will now be opened to reveal the interior: travellers can expect to find comfortable seats, automatic air conditioning, power sockets in every row of seats, free Wi-Fi, monitors with real-time information and video surveillance. Low-floor entrances ensure accessibility, while multi-purpose areas next to the entrances/exits provide customisable storage space. Areas with height-adjustable side tables are available for travellers in wheelchairs.

The four-car Cityjets are approx. 105 metres long and can seat 373 passengers, while the six-car sets are approx. 160 metres long and can accommodate up to 593 passengers. The maximum speed of the double-decker multiple units is 160 km/h and the output at the wheel is 4,000 kW (continuous).

*Presentation of the KISS (ÖBB Cityjet)
Track T08/40, 25 September 2024; 2:00 p.m.*

Firefighting on rails

A special kind of new development will be presented at InnoTrans in the form of the firefighting and rescue multiple unit that Stadler is building for ÖBB Infrastruktur AG on behalf of Rail Equipment GmbH. In terms of technology, the vehicle stands out for its trimodal electric hybrid drive, which can be supplied with energy from the overhead contact line as well as from powerful underfloor traction batteries or from a diesel generator. This makes it completely self-sufficient when deployed and allows it to operate independently in smoke-filled tunnels to bring people to safety and extinguish burning vehicles, for example.

In an emergency, the rescue train can accommodate over 300 people, who are effectively protected from smoke gases inside thanks to the pressurisation of the entire train set (permanent slight overpressure) and the air conditioning system equipped with special filters. For firefighting purposes, the train has 40,000 litres of water and 1,000 litres of foam compound on board, which can be discharged via powerful extinguishing systems at either 10 bar (normal pressure for traditional firefighting) or 100 bar (spray mist for cooling or fire prevention).

The train is in two parts with a length of 68 metres, is accessible throughout and can travel at speeds of up to 160 km/h – in both directions. At ÖBB, it has been given the name “Servicejet” in reference to its versatility. It is used not only in emergencies, but also for regular service and maintenance work. It has enough power to tow damaged trains weighing up to 2,000 tonnes or to supply a defective train with electricity – even without an overhead contact line. Depending on the type of deployment, the vehicle can also be loaded with various configurations of roll containers, which are kept ready for use at the tunnel portals.

*Presentation of the firefighting and rescue train for ÖBB Rail Equipment
Track T08/50, 25 September 2024, 3:30 p.m.*

FLIRT with alternative drive

The “**F**ast, **L**ight, **I**nnovative **R**egional **T**rain” – FLIRT for short, that has been sold more than 2,500 times around the world by Stadler to date, will be on show at InnoTrans as a battery-electric customer version.

The model presented is one of 44 vehicles ordered by DB Regio, which will be put into CO₂-free local operation on the south-west German Palatinate network in the future, and the diesel vehicles currently in use are to be replaced step by step. The lead client is the Zweckverband ÖPNV Rheinland-Pfalz Süd, with the states of Baden-Württemberg and Saarland also involved.

On electrified sections of track, the FLIRT Akku runs under a catenary like a traditional electric multiple unit whilst charging its traction batteries at the same time. Energy is recovered every time the vehicle brakes. When the catenary comes to an end, the vehicle switches to battery power. The specified range in battery-only mode is at least 80 kilometres, plus an operational reserve. The top speed is 140 km/h, and an air-sprung chassis ensures a smooth ride for passengers.

At 55.5 metres, the two-car FLIRT Akku for the Palatinate network is slightly longer than the standard FLIRT, guaranteeing maximum passenger capacity. There is space for a total of 325 people, with seats for 172 of them. The multiple unit is air-conditioned throughout, equipped with WLAN and has spacious multifunctional compartments in each boarding area.

*Presentation of the FLIRT Akku for the Deutsche Bahn Palatinate network
Track T10/40, 26 September 2024, 11:00 a.m.*

New comfort on the Centovalli railway

Stadler is presenting a “Tailor Made” solution for the new electric low-floor train for the Centovalli railway. Just in time for its 100th anniversary, Stadler is introducing one of a total of eight metre-gauge multiple units that will be delivered in three- and four-car versions to

Ferrovie Autolinee Regionali Ticinesi (FART), the Swiss operator of the narrow-gauge railway. If required, the vehicles can be split and also used as two-part sets.

The new multiple units are supplied with 1,200 V from the DC overhead contact line and can cope with maximum gradients of 6% on the Centovalli railway in pure adhesion operation. The different versions are 63.4, 48.9 and 34.5 metres long respectively and can carry 338 passengers (128 seated, 210 standing) in the long version, 258 passengers (95/168) in the 3-part version and 174 passengers (49/125) in the 2-part version. The vehicles are fitted with low-floor entrances, air suspension, air conditioning and a passenger information system, offering modern comfort for passengers. They are also equipped with wheelchair spaces and disabled toilets for people with reduced mobility. The multiple units have also been given a modern new design, which will become the face of the Centovalli railway in the future.

*Presentation of the metre-gauge rail vehicles for Ferrovie Autolinee Regionali Ticinesi
Track T09/50, 26 September 2024, 2:30 p.m.*

Underground trains for the mobility transition

The new underground cars for Berlin's public transport company, the Berliner Verkehrsbetriebe (BVG), are also specially tailored to specific customer needs. Two vehicle types had to be developed for the legacy underground system in the German capital: the JK series with a car width of 2.40 m for the lines with a small profile and the J series with a car width of 2.65 m for the newer lines with a large profile. They can be operated with different train lengths and configurations to suit the traffic frequency. The JK series consists of two- or four-car vehicles that can be combined to form six- or eight-car trains. The J series consists of a combination of end and centre cars that can be coupled to form two-, four- and six-car vehicles.

All the new underground cars offer large, barrier-free entrances for rapid passenger changes, plenty of space in the passageways, and spacious multi-purpose areas with room for passengers with reduced mobility. The bright and friendly interiors convey a feeling of safety, and a modern real-time passenger information system provides rapid travel guidance.

A total of up to 1,500 vehicles will be delivered according to the framework agreement between the BVG and Stadler. This makes it the largest vehicle procurement in the history of the BVG. 376 cars have currently been ordered on a definite basis. The large number of identical trains increases compatibility within the fleet and improves the operational flexibility of railway operations. As well as manufacturing the trains, Stadler will also be responsible for supplying spare parts for a period of 32 years.

At the trade fair, Stadler is presenting a two-part JK car set with a length of 25.5 metres, which is fully accessible and has 28 seats and 114 standing places. The drive power is 540 kW and the top speed is 70 km/h.

*Presentation of the JK underground train for the BVG, Berlin
Track T10/50, 26.09.2024, 4:15 pm*

New products from Stadler Signalling

In addition to rail vehicles, products from the Signalling division will also be in the spotlight for the first time on the joint Stadler stand. Stadler NOVA Pro, for example, is a high-quality, lean and modular solution for driverless communication-based train control (CBTC). It is compatible with any wireless network and is ideal for integration into an existing infrastructure. Another example is Stadler NOVA Pro GoA4 - Depot, which will make shunting operations fully automatic on the Waldenburg railway near Basel in the future.

This project combines vehicles, infrastructure, service and automation technology at the highest level of innovation. Stadler NOVA Smartsense is an advanced driver assistance system that can be individually configured and ensures increased driving safety in railway operations thanks to high-quality object recognition. The system is suitable for light rail vehicles, trams and branch lines. It can also be used on long-distance trains/mainlines (e.g. at railway stations).

Well-informed passengers

Stadler is also bringing its modular MOFIS® passenger information system for bus and railway platforms to the trade fair. The system mainly provides dynamic information about departure times (actual, target, disruptions, etc.), and can convey other important content as required. With the appropriate configuration, it can also help rail operators to enhance operations, for example by means of coordinated processing and the optimisation of connections. Thanks to the multitude of interfaces to external systems, existing data can generally be used for passenger information without any additional expenditure. Importing timetable details and line information is just as easy as exporting operational and display data.

Digital interlocking

Last but not least, Stadler Signalling will also be exhibiting the newly developed EUROLOCKING electronic interlocking system. It is freely scalable and can be used for standard and narrow-gauge railways as well as mountain railways and trams. Centralised or decentralised interlocking architectures can be implemented, and customised solutions can be planned and put into practice based on the generic system architecture. The hardware is modular and can be expanded to meet virtually any requirement.

EUROLOCKING represents a further step towards digital interlocking (DSTW). This technology replaces traditional, hardware-based interlocking systems with a digital platform. DSTW utilises modern IT architectures and network protocols to enable flexible, scalable and reliable control of rail traffic. The aim is to meet Eurlynx standards by continuing to develop EUROLOCKING.

Maximum availability and innovative solutions for your fleet

At InnoTrans, the Service division will be presenting its full range of services, which guarantee comprehensive and long-term vehicle availability. Full Service offers preventive and corrective maintenance as well as revision work, while TSSSA provides technical services and spare parts. Both programmes ensure maximum availability and optimum maintenance of your fleet.

Modernisation, revision and repair work: these services from Stadler maintain the value and improve the performance of vehicles. Modernisation introduces new technologies on board, revision increases operational safety and conformity, and quick repairs ensure that vehicles are put back into use quickly and safely after incidents.

Digital solutions: Stadler offers an insight into current and future technologies such as condition-based maintenance (CBM), extended RDS functionalities and cybersecurity solutions. These innovative approaches increase fleet efficiency and safety, as well as allowing predictive maintenance and digital protection.

Stadler at InnoTrans 2024

24 to 27 September 2024

Messe Berlin

Hall 2.2, stand no. 230 + outdoor area

About Stadler

Stadler has been building trains for over 80 years. The provider of mobility solutions in rail vehicle construction, service and signalling technology has its headquarters in Bussnang, eastern Switzerland. It has a workforce of over 14,500 based in various production and engineering locations as well as more than 80 service locations. The company is conscious of its social responsibility for sustainable mobility and therefore stands for innovative, sustainable and durable quality products. The product range in the field of mainline railways and city transport includes high-speed trains, intercity trains, regional and suburban trains, metros, tramways and trams. Stadler also manufactures main-line locomotives, shunting locomotives and passenger carriages. It is the world's leading manufacturer in the rack-and-pinion rail vehicle industry.

Follow Stadler on [LinkedIn](#), [YouTube](#), [Facebook](#) and [Xing](#).

Media contact

Stadler Rail Group

Gerda Königstorfer

Head of Group Communication & PR

Tel.: +41 71 626 19 19

E-mail: medien@stadlerrail.com

www.stadlerrail.com