



Photo: Petr Kadeřávek

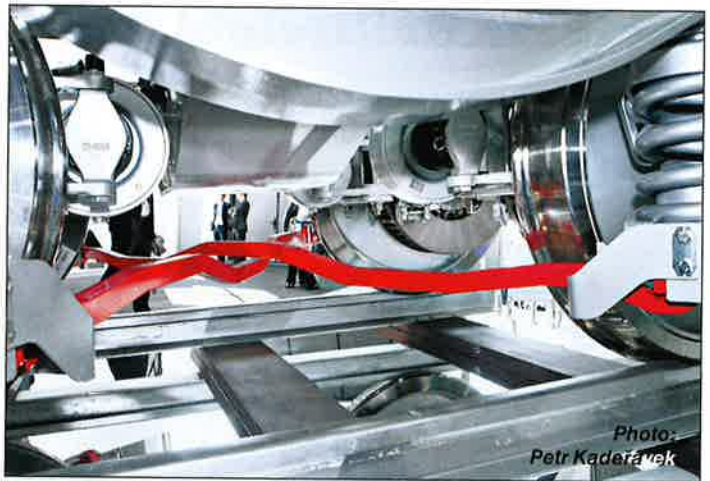


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On its indoor stand Tatravagónka presented its new product from its range of bogies and bogie equipment. This was the **TVP NG DBS** (Next Generation - Disk Brake System), which is essentially a development of the TVP 2007 and TVP 2009-R types, the TVP 2009-R being the 1,520 mm gauge modification of the TVP 2007. The main difference is that the brake shoes are replaced by disc brakes, and the bogie itself has no end beams. All these bogies have the same principal technical specifications as the standard Y25 bogies, and are thus interchangeable with the latter. Apart from the disc brakes the main design difference lies in the **diagonal cross-coupling** of the wheelsets (shown in the right-hand photo). This system improves running characteristics of the bogie as it negotiates a curve, since the wheelsets adjust radially to the latter. Friction dampers on both sides of the bearings enable the wheelset to move radially in relation to the bogie frame.

The bogie is intended for 1,435 mm gauge wagons, and has a wheel diameter of 920 mm. The bogie weighs 5 t, including brakes, and is designed for a maximum axle-load of 22.5 t. Top service speed, up to a maximum axle-load of 22.5 t, is 120 km/h, while the suspension stroke is 48 mm from a completely empty condition (wagon tare weight 20 t) to a fully loaded one (wagon fully laden weight 90 t). The distance between the side bearers is 850 mm.



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In addition to those projects envisaging the use of various versions of the Type DRRS 25 bogie, WBN Waggonbau Niesky also exhibited an example of this bogie, the **DRRS 25LD** fitted with disc brakes, on its indoor stand. This version was first exhibited at InnoTrans 2012 (see R 1/13, p. 66), then at transport logistic 2015 (see R 4/15, p. 43) a slightly modified version was displayed, with its weight reduced by 150 kg to 5.0 t, this achieved by substituting some of steel components by plastic ones in the secondary suspension. The InnoTrans 2016 version had thinner brake discs than previous versions, reducing the weight of each brake disc assembly by 50 kg, resulting in a 200 kg weight reduction per bogie.

EKA is a Macedonian company based in Skopje producing measurement and test equipment, and developing, designing and producing mobile brake test devices for rail vehicles, together with stationary testing equipment for devices related to braking activities and for other uses. In February 2014 Knorr-Bremse acquired a majority shareholding in EKA.

EKA exhibited a **MI-8** Transformer BSK test bench for rail brake systems. This is one of the latest models developed by the company, specially designed for testing brake systems produced by Knorr-Bremse. Its basic functions are the testing of key parameters such as pressure in the pneumatic system, braking force, temperatures generated by braking, and the speed of air reactions in the piping.



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TransTec F&E Vetschau presented a Type **T18-9999** bogie, which is its latest design of standard-use two-axle bogie for 1,520/1,524 mm gauge wagons. It is a development of the type T25 exhibited at InnoTrans 2014. In comparison with the latter, only changes in details were made, resulting from findings with the T25 in use.

The T18 has a 1,850 mm wheelbase and a wheel diameter of 957 mm, these being standard in areas where GOST regulations apply. It is designed for an axle-load of 25 t, at speeds of up to 120 km/h. It has cartridge-mounted taper roller bearings, and coil spring suspension, with friction damping. The axle fixing plates have apertures, to enable the detection of hot bearings.

The manufacturer produced in-house the mechanical one-side brake intended for this bogie, but the exhibit was presented without a brake system.

The bogie is at present being subjected to GOST certification, this being done with the assistance of Russia-based Express Industriya. Batch manufacturing will be realised by TransTec F&E Vetschau in Germany.

This report was compiled by Mike Benš, Jan Dvořák, Bohuslav Kotál, Tomáš Kuchta, Petr Kadeřávek and Jaromír Pernička

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