

## TATRAVAGÓNKA AT INNOTRANS 2022

After a four-year pause, the gates of the largest international trade fair for railway, transport and track technology INNOTRANS 2022 will open again in a few weeks. The company TATRAVAGÓNKA, a. s., as a leading European manufacturer of freight wagons and bogies, will not miss the event.

We try to provide our customers with innovative solutions, which respect the requirements of quality, functionality, safety and reliability of the product. However, the most important aspect is undoubtedly weight reduction, efficiency and energy consumption of transport in order to reduce the negative impact of transport upon the environment. 6 exhibits in the track area and one bogie made of non-traditional materials directly at the exhibition stand no. 620 in the hall 3.2a represent our determination to constantly seek innovative solutions for the freight rail market and TO BE THE FIRST CHOICE for our employees, partners and customers

### T4000

#### Location T02/23

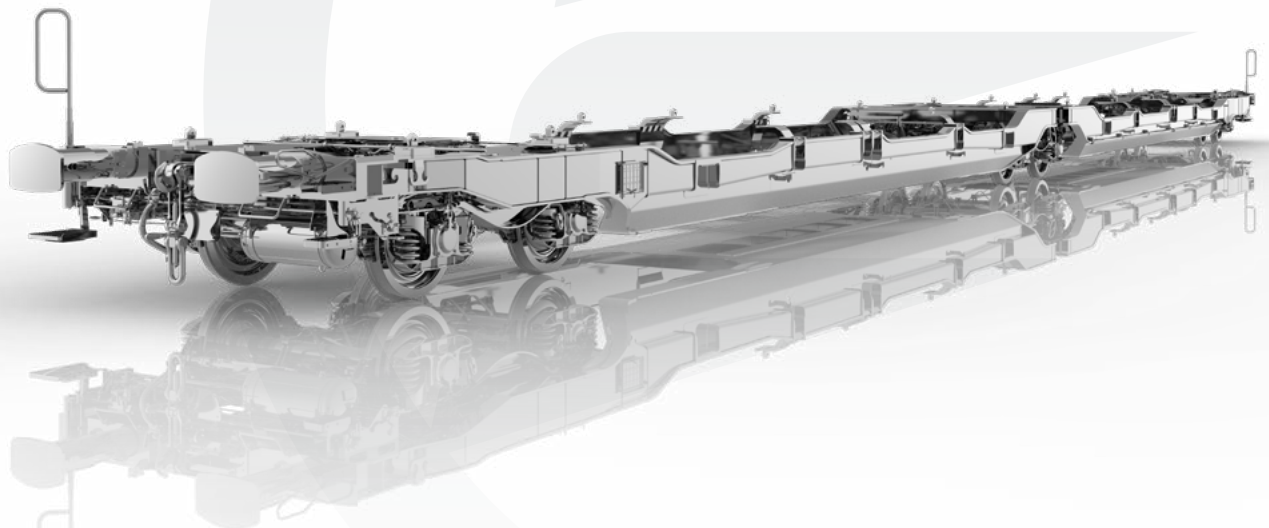
TATRAVAGÓNKA, a. s., in cooperation with FERRIERE CATTANEO SA, introduces a pocket wagon designed for transportation of semi-trailers lifted by crane and standardized swap bodies/containers on all European tracks with 1435 mm track gauge as well as at the Iberian Peninsula with 1668 mm track gauge. The company VTG is the first owner of these wagons, which will be operated mainly at the Iberian Peninsula.

This 6-axle TEN GE pocket wagon with replaceable wheelset dispose of the largest loading gauge of “e” type for articulated pocket wagons according to IRS 50 596-5 and enables transportation of:

- codified semi-trailers up to 40 t,
- non-codified semi-trailers with special lifting jig such as R2L Loading Pocket Kässböhler / Vega,
- containers and swap bodies with and without transverse support of class A (40-45’), class B (30’) and class C (20’, 22’, 23”, 24’).

Replacement of semi-trailers can be done at all terminals, which are equipped with a spreader designed for lifting of semi-trailers with sufficient load capacity. Replacement of semi-trailers is performed by unlocking the king pin hitch and by subsequent vertical lifting of a semi-trailer by a spreader. A semi-trailer king pin is locked on the wagon only by means of the king pin hitch; commonly used wheel blocks are not necessary. The king pin hitch in combination with the “Crash elements” and 1G Buffers create so called king pin safety concept, which increases safety of semi-trailer transportation.

The wagon is also equipped with hooks for lifting the bogie frame in order to replace the wheelsets for 1435 mm / 1668 mm track gauge.



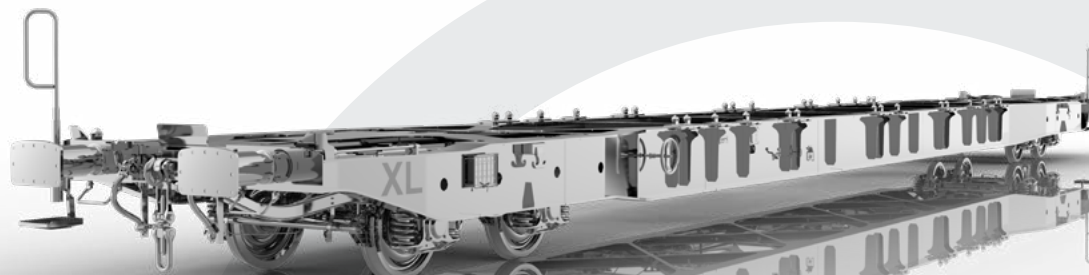
## LIGHT EIGHTY Sggns(s) 80' XL

*Location T04/85*

LIGHT EIGHTY Sggns 80' was developed by the company TATRAVAGÓNKA, a. s. already in 2010 under the impulse of the company METRANS. The wagon gained its place at the market quite quickly not only because of its low weight of 21.5 t, but also thanks to a unique possibility to load 5 types of containers and swap bodies in 30 different container combinations. In comparison with the standard 80' articulated wagon, it is possible to add one more wagon into the train set. Non-traditional design of this TSI wagon not only reduces noise to measured 78 dB(A), but mainly it enables to increase transportation effectiveness with 20 % reduction of energy consumption (in comparison to standard articulated 80' wagon). Reduced number of bogies reduces also demands for maintenance of brake systems. With sold amount of more than 5,000 wagons, the Sggns 80' ranks among the bestsellers at the European market of intermodal wagons in the last decade.

Performed design modification preserved all benefits of the original wagon Sggns 80', moreover, the variant XL is DAC ready and it enables transportation of "Heavy Duty" containers. But the biggest benefit of optimisation of this wagon lies in increasing the bearing capacity of uniformly loaded cargo in 20' containers and in 40' containers by 4 tonnes, thanks to which the new variant earned an additional attribute XL.

Sggns 80' and Sggns 80'XL wagons operated on the tracks Hamburg, Bremerhaven, Rotterdam, Koper and Trieste by the company METRANS, which actively reduces emissions by 60 % by means of its fleet of electric locomotives, are the best example of railway transport potential in reaching these common goals. We believe that the long-term cooperation of the companies METRANS and TATRAVAGÓNKA, a. s. will bring further transportation solutions, which will increase attractiveness and effectiveness of railway freight transport bearing in mind also our environment.



## SNPS – wagon for transportation of timber

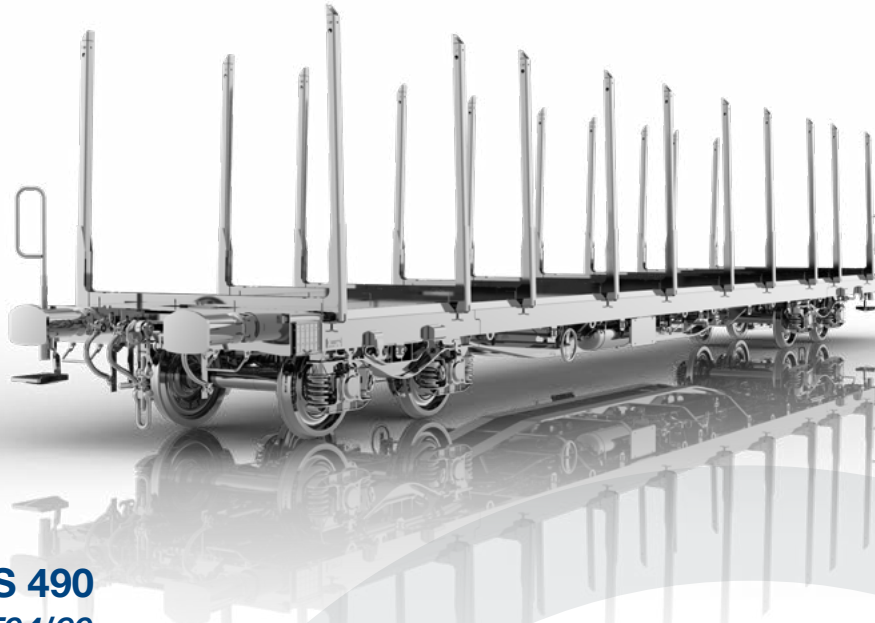
*Location T04/65*

During development of the Snps wagon, TATRAVAGÓNKA, a. s. utilized valuable information and experience of the company SETG acquired during long-term operation of wagons for transportation of timber.

DAC ready wagon with 22.5 t axle load brings optimised loading cross-section of the wagon in the G2/ GI1 kinematic gauge, which enables more effective transportation of 3, 4 and 5 m long timber and sawn wood bundles. The wagon was designed taking into consideration rough handling with timber (loading/unloading). With regard to strength, the wagon design is dimensioned for 25 t axle load. The wagon is equipped with a wooden floor of 70 mm thickness and with a loading edge, which protects the wagon floor against damage. The floor does not require a demanding maintenance. All control elements are located under the outer longitudinal beam, which provides protection against undesirable damage during load handling.

The greatest benefit of the wagon is the optimised stanchion system, which enables:

- simple operation, maintenance and replacement,
- complete disassembly of the system,
- transportation of sawn wood bundles,
- rotation by 90° thanks to suitable selected square cross-section of the stanchion,
- increasing of loading cross-section to the maximal value of 8.8 m<sup>2</sup> by means of a special adapter.



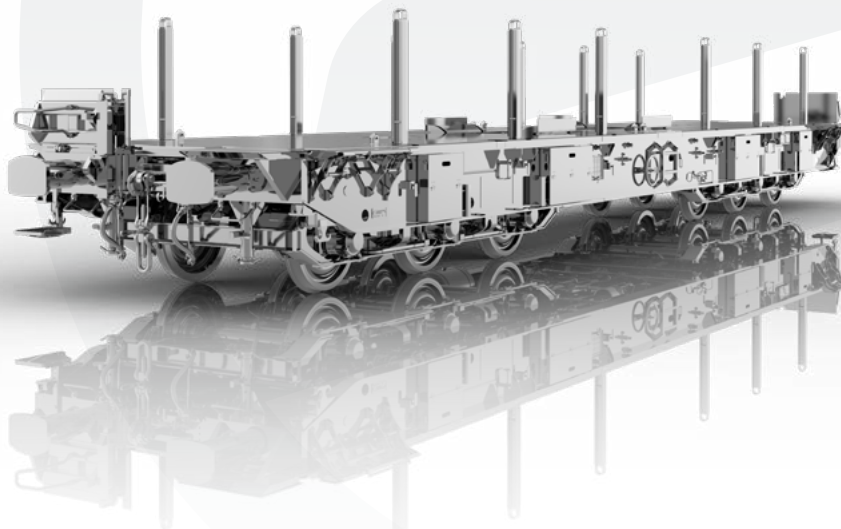
## SAGMMS 490

### Location T04/60

6-axle flat freight railway wagon with 101 t bearing capacity ranks among versatile wagons, which are used for transportation of ISO containers (20' and 40') and swap bodies, heavy tracked and wheeled military vehicles and heavy industrial cargo (steel semi-finished products, rolled profiles, rails, bars, pipes, plates, etc.).

The wagon design enables innovative securing of cargo in transverse directions by means of hinged and movable wedges located in the wagon floor. Lockable storage area built into the wagon underframe enables simple storage of chains and wedges for securing of transported material.

Sagmms 490 belongs to the DAC ready wagons.



## TADNS

### Location T04/70

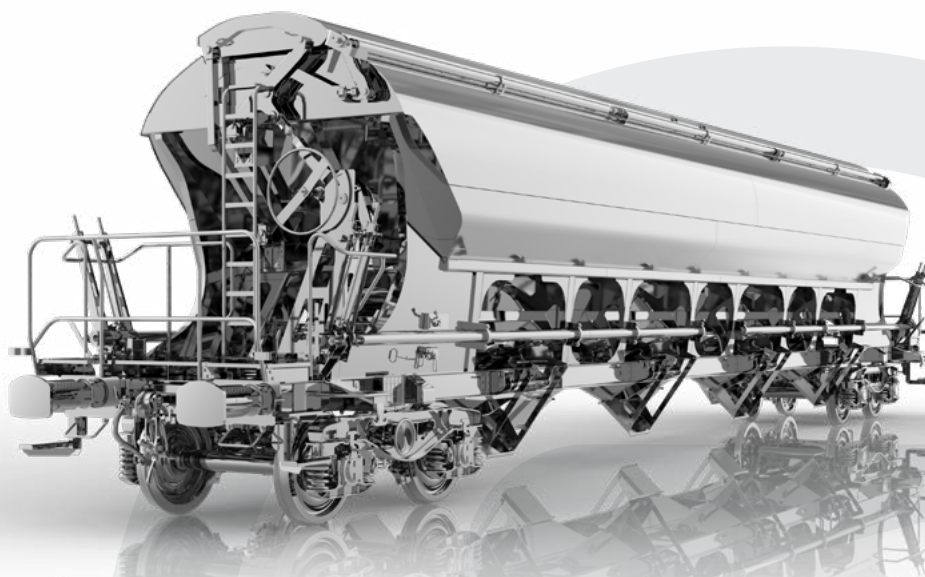
A discharging wagon design for transportation of fertilizers and bulk material was designed for the German company VTG. This resistant wagon is equipped with directional chutes, which allow one-time or staged material discharging next to a track from one side or both sides continuously.

Control of the individual discharging flaps can be done from the transition platforms located at each wagon end. From each transition platform, four out of eight discharging openings are controlled. Discharging material flow direction can be controlled by means of adjustable chutes, which allow directing of material to two areas next to a track. The adjustable chutes can be controlled separately for each discharging opening.

The wagon filling opening is covered with the steel roof, which can be controlled from one transition platform by means of the control wheel. The roof opens always to one wagon side.

The wagon frame itself is in some areas made of stainless steel plates, which increase resistance of the vessel, flaps and chutes against transported substance.

Grates of the transition platforms located at both wagon ends are made of plastic GFK grate, which increase resistance against climatic conditions and transported substances. The wagon is equipped with headstock-free bogies with built-in CFCB brake from the company KNORR-BREMSE.



## CORE MARKET WAGON

### Location T04/90

Core market wagon is a light and innovative wagon, which represents an ideal solution for transportation of palletized goods sensitive to weather conditions in the largest volume at the market – 168 m<sup>3</sup>. The wagon has improved tightness secured by double labyrinth without interrupting the upper corners, and it disposes of multi-level securing. The optimised underframe offers a reliable functionality and tightness in empty and also in fully loaded condition. The side walls create a sufficient space for loading and unloading of goods, and they disposes of active damping. Improvement of control elements results in simpler control and readiness for winter condition.

The wagon is equipped with track friendly bogies FR8Rail.



DELLNER'S Digital Automatic Coupler is designed to automatically couple and uncouple freight trains both physically and digitally increasing safety and improving efficiency of operations.

Used silent Wheelset SiSet from Miira CAF is specially designed for silent freight wagons

(25 t). The wheel design has been optimized for noise emission reduction, and includes noise absorbers. It integrates axle-mounted brake discs, to minimize rolling noise due to tread damage. PJM WaggonTracker is an overall system realizing the concept of intelligent freight wagons. It is the first system worldwide, that fulfils comprehensive monitoring functions and automates complex manual processes. Combined with the VIF Data.Beam and its latest ACC, GPS and Gyrosensor technology, including the AC2T humidity sensor for the axel bearing (HSAB), this T & E-systems enhances your logistics capability and CBM concepts.

KNOR BREMSE - KE distributor valve, a new standard has been set: hot-pressed aluminium parts, resulting in significantly reduced installation space and weight, modular design leads to improved spare parts & stock management. Designed to be ready for digitalization. 110 mm wide ProDisc Axle made from grey cast iron in combination with our service proven calipers AxleAct Classic with Hangers.

This wagon is part of FR8Rail IV project that has received funding from the ER-JU under European Union's Horizon 2020 research and innovation programme GA 101004051.



## Y 25LsAl-C-K

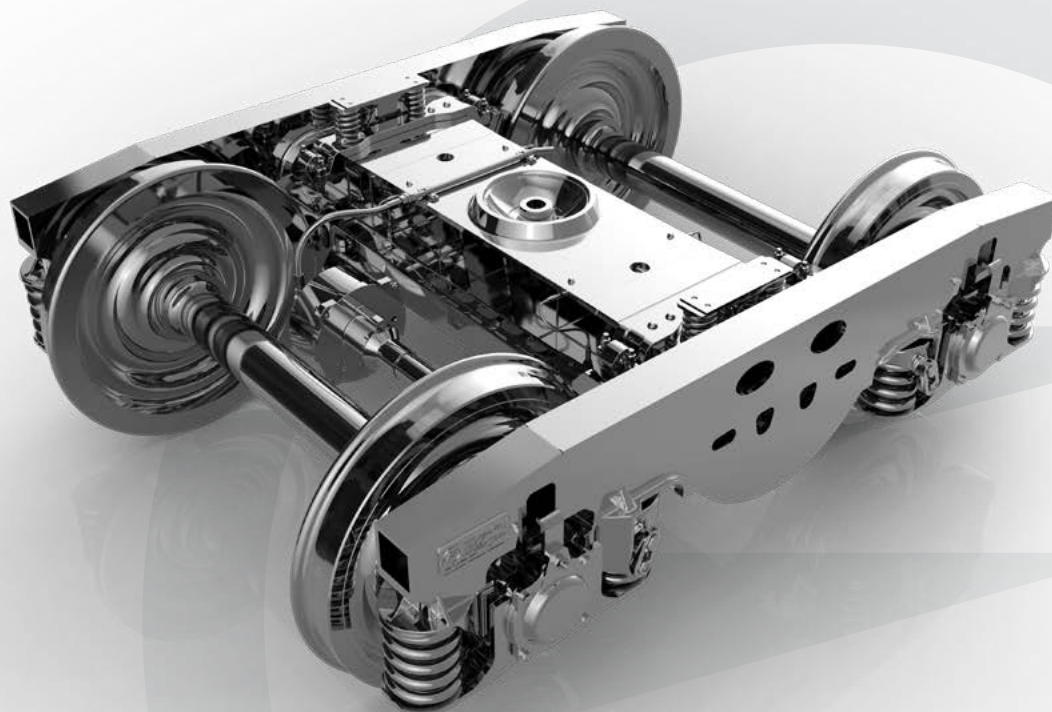
### Hall 3,2a stand 620

The task of the Y25LsAL-C-K bogie project, which is currently in the phase of technical and economic feasibility study, is to answer the questions of readiness and determination of the freight railway market to accept application of non-traditional materials. Application of light metal – aluminium alloy makes a space for fundamental reduction of the bogie frame weight by 460 kg, which increases bearing capacity of 2-bogie wagon by attractive 920 kg or 1,380 kg in case of 3-bogie wagon. The frame of this bogie is compatible with the standard Y25 frame, and it does not require surface treatment. Weight reduction for tank wagons, which will be equipped with these bogies, creates space for application of a disc brake, which leads to improvement of LCC indicators and to wagon noise reduction. The bogie is welded by means of FSW technology in the Welding Research Institute (VÚZ), Bratislava, Slovakia. At the same time, VÚZ performed also development of weldability, and it collaborated on design modifications of the bogie with an aim to maximize all benefits of FSW.

The exhibited bogie sample is equipped with the lightest wheelsets at the market from the company BONATRANS with the optimised integrated system for reduction of rolling noise and a compact brake from the company DAKO.

This bogie is part of FR8Rail IV project that has received funding from the ER-JU under European Union's Horizon 2020 research and innovation programme GA 101004051

We can push the freight railway sector forward only through mutual cooperation. We are ready to look for answers to many questions brought by the market.



Permanent sustainability is a must for further development of humankind, and railway freight transport is one of the main keys towards this goal. We believe that even in the next century of its operation TATRAVAGÓNKA, a. s. will bring solution, which will increase attractiveness and effectiveness of railway freight transport bearing in mind also our environment.