

Media Release

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Voith at InnoTrans 2018: highly efficient and reliable products for the rail industry

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- **The new Voith Rail Engine, developed in cooperation with Liebherr, will be the most efficient diesel engine in the industry**
- **The automatic coupler Voith CargoFlex Type Scharfenberg makes freight train operations safer and more efficient**
- **Smart Schaku enables operators to monitor the status of the couplers in real-time and make better decisions**
- **Unique and tailored service solutions ensure maximized fleet availability and a decrease in downtimes**

#DriveNewWays

Berlin, Germany. Voith will showcase innovative products and drive solutions for the rail industry at the InnoTrans 2018 trade show in Berlin, Germany. Among others Voith will present the new Voith CargoFlex Type Scharfenberg automatic coupler for freight service and the SZ-440 gear unit for railcars that can be equipped with bionic toothing, allowing either a narrower design or a reduction of noise emissions. All products and services are outlined under the theme "Drive New Ways" at booth 215 in hall 1.2. Additionally, Voith will display the demonstrator bus with the new electrical drive system for buses at 'Bus Display 2018', showcasing its wide competence in public transportation solutions.

Highly efficient Voith Rail Engine and RailPack DX for railcars

The new Voith Rail Engine, which was developed in cooperation with Liebherr, provides up to 23 percent more power and up to eight percent less fuel consumption compared to similar engines. Thanks to an efficient emission after treatment the diesel engine already meets the European emission standard Stage V and is the most modern horizontal engine in the market. Due to its robust design the engine is applicable for all diesel rail applications. The Voith Rail Engine can be combined in a RailPack DX with a hydromechanical (DHM), hydrodynamic (DH) or diesel-electric (DE)

power transmission. RailPacks are complete drive systems for a wide range of applications in railcars, special purpose vehicles and small locomotives.

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Highly reliable and efficient gear units for EMU applications

The gear unit SZ-440 fulfills the requirements of noise reduction, which means more passenger comfort that is a primary objective in the rail industry. It was designed as an axle mounted double stage transversal drive. Through that the gear unit provides reliable operation and efficiency. Operators can benefit from low life cycle costs as well as a proven and tested design. In addition to that, the gear unit can be equipped with Voith's innovative bionic toothing principle that is inspired by nature. The optimized tooth root profile allows either a narrower design or a reduction of noise emissions.

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Proven coupling technology for freight service

The Voith CargoFlex Type Scharfenberg automatic coupler makes freight train operations safer and more efficient. At the same time the coupler has a very robust design, even though it is low weight. The coupler has been optimized for rail freight traffic, and meets EN 12663-2 requirements for freight wagons. Thus, it is highly applicable for European freight transport conditions. Its modular design makes the coupler also ideal for retrofitting. For locomotives Voith supplies mainline-compatible hybrid couplers, which can be used with both automatic and screw couplers.

Safety, real-time status and countdown to the next maintenance stop

With the new Smart Schaku solution from Voith, operators will be able to monitor the status of the couplers in real time and make better decisions concerning maintenance, repairs and replacements. Information from the coupler is sent to the cloud and combined with the vehicle operation data, then analyzed and returned with a detailed report on the coupler's condition. The coupling log includes operating hours, date, time, speed and strength of every connection. It can even detect a broken damper or deformation tube, giving operators the information they need to improve vehicle safety and optimize maintenance. Plannable and calculable costs, availability and safety are only some of the benefits that the first condition monitoring system for rail couplers offers.

Unique service competence ensures maximized fleet availability

Voith offers not only maintenance, overhauls and repairs for Voith related components, but also for locomotives and railcars with a minimum of

downtimes. Further, the bogie workshop is designed in a way to remove, overhaul and install bogies of all vehicles types in a very short time. Voith additionally offers tailored service contracts including exchange units or spare components to shorten the reaction time to zero and to maximize fleet availability.

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Compact and intelligent EmCon Traction Inverter

The EmCon Traction Inverter ensures efficient operation of rail vehicles. It has the task to convert supplied energy as efficiently as possible and make it available to the drive motors in a suitable way. Using modern power electronics and highly dynamic motor control techniques, the traction inverter provides the energy for optimal tractive effort regardless of the operating conditions. During braking, a large amount of the braking energy is automatically fed back into the grid.

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The latest technology and the simple maintainability allow lowest life cycle costs and thus cost-efficient operation. Based on proven and tested power components the Voith traction inverter requires minimal maintenance, is durable and extremely reliable. This results in high availability of the rolling stock.

More information about Voith's activities at the InnoTrans 2018 trade show can be found online: www.voith.com/drivenewways

About the company

Voith Turbo, a Group Division of Voith, is a specialist for intelligent drive solutions, systems and comprehensive services. Customers from highly diverse industries such as oil and gas, energy, rail and commercial vehicles, ship technology, mining and mechanical engineering rely on the advanced technologies and solutions-driven expertise of Voith Turbo.

Voith is a global technology group. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, Voith today has more than 19,000 employees, sales of € 4.2 billion and locations in over 60 countries worldwide and is thus one of the largest family-owned companies in Europe.



Caption 1: The RailPack DE uses an electric generator for power transmission.



Caption 2: The Voith Rail Engine was developed in cooperation with Liebherr.

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Caption 3: The SZ-440 was designed as an axle mounted double stage transversal drive, making it more reliable and efficient.



Caption 4: The Voith CargoFlex Type Scharfenberg automatic coupler is optimized for rail freight traffic.

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