

Media Release

Voith Turbo

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InnoTrans 2022: Voith drives efficiency on rail and road

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- CargoFlex: Digital automatic coupler to speed up rail freight transport
- MultiMode: Modular gear unit for railcars
- DIWA NXT: Mild hybrid transmission for city and intercity buses and coaches

HEIDENHEIM, GERMANY. Efficiency is one of the key concepts for mobility service providers. At InnoTrans 2022 in Berlin, Voith is presenting its latest innovations, including the CargoFlex coupler and new MultiMode gear units. With these solutions, Voith is playing a decisive role in helping make rail transport more economical and sustainable. The Group also offers DIWA NXT, an additional response to the rapidly growing demand for environmentally friendly drive solutions for conventional combustion vehicles. "We are already offering manufacturers, suppliers, and operators solutions for tomorrow's requirements today with a wide range of innovative technologies. And these requirements boil down to creating and maintaining a mobility system that is both efficient and sustainable," says Martin Wawra, EVP & CEO Voith Turbo Mobility.

CargoFlex: Digital automatic coupling with maximum reliability

Shifting freight traffic from road to rail is an essential component in the reduction of CO₂ emissions. About 30 percent more goods are expected to be transported by rail by 2030 as part of the European Green Deal. However, this goal requires attractive and competitive rail freight transport in order to succeed. Voith's digital automatic coupler CargoFlex is the basis for this. It makes the time-consuming manual coupling and uncoupling of freight cars superfluous while also eliminating one of the key accident factors in rail freight transport.

Based on the Scharfenberg principle, the coupler has already demonstrated its high reliability in winter tests under extreme climate conditions in Sweden, in the Swiss mountains and in the climate chamber

of DB Cargo in Minden. It works flawlessly even at temperatures of minus 40 degrees Celsius and half a meter of fresh snow.

In addition to connections for power and brake air, CargoFlex automatically establishes a data connection between the cars during coupling. Among other things, this facilitates the brake test required before a train departs. The networked train shows the locomotive driver the orderly functioning of each individual brake directly on the driver's console without anyone having to check the entire train on foot.

The CargoFlex also shows its strengths when maneuvering across the hump yard. Now the high energy absorption and resulting reduction in speed during the impact of the cars also makes it possible to transport more sensitive goods safely by rail, thus shifting them away from the road.

The Swiss Federal Railways (SBB) have already used the CargoFlex for several years in regular operation. The system also has excellent prospects of being established as the European standard in the planned standardization of digital automatic couplers.

MultiMode gear units: Fast delivery, high availability

In the MultiMode gear units for railcars with transverse drives, Voith has combined the advantages of modularized and parameterized products. The goal was to ensure a speedy delivery and high level of availability of the gear units for the customers. This is why certain components such as bearings, labyrinth seals, gear teeth or the bottom of the housing are modular. When it comes to other components such as the top of the housing, Voith adheres to the customer-specific parameters. A high degree of automation speeds up the design process. This principle makes it possible to reduce development times. It can also speed up the preparation of quotations. In addition, this eliminates the type test if the customer decides to use a modular gear unit in the final development step, since this has already been performed during the modular development.

Since the MultiMode gear units are based on proven technologies, Voith can ensure that the products are highly reliable. However, if a service event should arise, spare parts for the modular components can be ordered in Voith's webshop around the clock. Voith's extensive stock ensures fast deliveries, which translates into short downtimes.

DIWA NXT: Up to 16% less fuel consumption

With the DIWA NXT, Voith has brought a new transmission generation onto the market. Its innovative technology offers an answer to the most important challenges facing manufacturers and operators of city and

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regional buses as well as coaches: greater sustainability and more efficiency. The DIWA NXT is designed as a mild hybrid system. The central recuperation unit (CRU) delivers peak power up to 35 kW at 48 V. In this concept, electrical energy is generated from the driving operation and used to relieve the vehicle's electrical system, for stop-start operations of the engine or as additional energy for accelerations. The CRU is integrated into the flywheel housing between the engine and transmission and requires almost no additional installation space.

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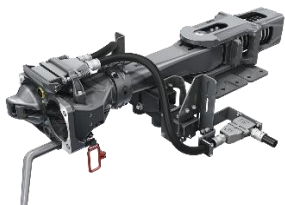
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An additional overdrive gear enables more flexible and sensitive speed tuning. The particularly long gear ratio is used mainly for intercity and coach transport, enabling long and fast driving with lower engine speeds. When the CRU is used consistently with the mild hybrid system, the consumption is reduced by up to 16 percent, compared to the current generation of transmissions. This also lowers emissions of CO₂.

About the Voith Group

The Voith Group is a global technology company. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, paper, raw materials and transport & automotive. Founded in 1867, the company today has around 20,000 employees, sales of € 4.3 billion and locations in over 60 countries worldwide and is thus one of the larger family-owned companies in Europe.

The Group Division Voith Turbo is part of the Voith Group and a specialist for intelligent drive technology, systems as well as tailor-made services. With its innovative and smart products, Voith offers highest efficiency and reliability. Customers from highly diverse industries such as oil and gas, energy, mining and mechanical engineering, ship technology, rail and commercial vehicles rely on the advanced technologies and digital applications of Voith.



CargoFlex: Digital automatic coupler



MultiMode: Modular gear unit



DIWA NXT: Automatic transmission for buses

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