

Innovation from HÜBNER makes for more robust and efficient trains

FrontAdd System saves train operators energy thanks to improved aerodynamics

Kassel, Germany (10 September 2024). Improved aerodynamics and greater resilience: With its newly developed FrontAdd System the HÜBNER Group is bringing an innovation to the market that effectively protects train front ends together with coupling elements from environmental influences. In addition, the aerodynamics makes it possible for operators to reduce energy use and thus to save costs. HÜBNER will be presenting the innovative system, which is part of a Red Dot Award-winning design, at InnoTrans (September 24-27) in Berlin.

Upgrading trains with a robust system

“Our team has developed an innovative solution that significantly improves front-end durability and aerodynamics. This increases the availability of trains while at the same time saving important resources for our customers,” explains **Alexander Schmidt, Head of Innovation and Product Development in the HÜBNER Mobility Rail division.** *“With the robust HÜBNER FrontAdd System we have been able to take a further step in our efforts to deliver more flexibility and sustainability to the rail transport industry.”*

The key element of the FrontAdd System is a corrugated bellows from the proven HÜBNER production. It is integrated onto the coupling at the front of the train, thereby providing additional protection. With its elegant design it covers and protects the technical components such as cables, windshield wiper tank and motor in the front end of the train. In this prominent position, it enhances the optical appearance of the train and also has a sound insulating effect that reduces noise levels in the cockpit.

Seamless integration of the FrontAdd System in rail vehicles

The FrontAdd System offers a wide range of individual solutions for various vehicle and coupling models and can already be ordered in variable quantities from HÜBNER. It is compatible with all train-to-train connection systems and can be seamlessly integrated into rail vehicles.

Train availability is of critical importance to transit operators in order to ensure that customers are provided transport service with as few interruptions as possible. The new FrontAdd System makes an important contribution to the goal of minimizing breakdowns and downtimes due to wear and reducing maintenance and repair costs. By protecting the front components from wear coming from external factors, it helps to ensure higher vehicle availability.

Reliable protection from extreme conditions

The HÜBNER FrontAdd System not only protects the coupling at the front of the vehicle from extreme environmental influences such as sand, moisture, snow and small objects, but also shields the sensitive technical equipment in the front end of trains. The high-quality and especially robust corrugated bellows material in proven HÜBNER quality can withstand the extreme forces encountered while the train is driving. It effectively reduces wear on the installed parts, thus lowering maintenance costs. The system also features easy accessibility and installation, which facilitates fast maintenance processes.

Despite its all-round protective effects, the FrontAdd System does not impair coupling functionality. Instead, it improves the aerodynamics of the vehicles, reducing air resistance by approximately three percent. In this way, the FrontAdd System allows for a reduction in energy consumption of around two percent with a corresponding effect on CO₂ emissions.

These valuable technical properties and the aerodynamic design have received special recognition as part of the “Red Dot Award for Design Excellence 2024”. In the award-winning IC5 Coradia Stream regional train from HÜBNER’s long-standing partner Alstom for the Danish State Railways (Danske Statsbaner, DSB), the HÜBNER FrontAdd System makes an important contribution to the aesthetic and functional design of the train.

Helping customers to reduce their ecological footprint

“The impetus for the FrontAdd innovation came from our desire to help customers reduce their ecological footprint,” reports **Balamurali MK, Innovation & Product Developer in the HÜBNER Mobility Rail division.** *“Although ‘only’ two percent energy savings may seem small at first glance, the savings from the FrontAdd System add up over the entire product life cycle and reach considerable amounts.”*

Trains are typically in operation over several decades. Through the use of the innovative protection system, emissions and energy costs can be reduced on a long-term basis.

Global network with close proximity to customers

The HÜBNER Group also supports local production and short delivery routes to achieve a better environmental balance. With a global manufacturing and service network with production locations in Europe, India, China and the USA, the system can be provided locally in markets worldwide. *“With our broad-based manufacturing infrastructure, we can optimally supply our rail transport customers around the world,”* says **Alexander Schmidt.** *“The HÜBNER approach not only offers added value in terms of service and support, but also makes a significant contribution in minimizing the environmental impact of delivery and transport routes.”*

HÜBNER FrontAdd System at InnoTrans 2024

Visitors to InnoTrans 2024 will have the opportunity to see the HÜBNER FrontAdd system up close and convince themselves of its quality and excellent design. The company will also be presenting a host of other new developments and innovations at Booth 120 in Hall 1.2, a broad set of offerings that help to make rail transport more sustainable, efficient and reliable. More information about the HÜBNER Group at Innotrans 2024 online: <https://www.hubner-group.com/innotrans/>

HÜBNER Group

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With its business units **Mobility Rail, Mobility Road, Material Solutions** and **Photonics**, the HÜBNER Group is a global system supplier for the mobility sector, for manufacturing, and for life sciences and research applications. HÜBNER is the worldwide leader in gangway systems for rail vehicles and buses as well as a supplier of chassis technology, cockpit display solutions and door sealing and safety profiles. The company is also an internationally recognized supplier of sophisticated solutions involving elastomers, insulation and composite materials. HÜBNER's business unit for laser technology is developing successfully, featuring applications for cancer diagnostics and spectroscopy, for example.

In 2023, the HÜBNER Group generated sales of approximately €472 million, with approximately 3,500 employees worldwide. In addition to its headquarters in Kassel, Germany, HÜBNER is present with more than 30 locations around the world.

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