

Press release Munich, September 12, 2022

Optimizing Train Operations & Maintenance: the Knorr-Bremse RailServices portfolio at InnoTrans 2022

- Knorr-Bremse RailServices assists customers with the management of their rail vehicle and fleet life cycles
- This is based on a "sustain, enhance, accelerate" approach that focuses on making every solution as customer-centric as possible
- The core objective: to make existing fleets future-proof and efficient, with highly available vehicles, eco-friendly technology, optimized maintenance processes and extended service lives

Munich, September 12, 2022 – Knorr-Bremse is offering customers new models and methods for improving processes in their train fleet operations. The "Train Operations & Maintenance" solution space at InnoTrans 2022 (Main Hall 1.2, Booth 250) showcases products and services that meet modern customers' needs for high vehicle availability, optimized processes (in e.g. maintenance), greater sustainability, and extended service lives.

Dr. Jürgen Wilder, Member of the Executive Board of Knorr-Bremse AG and responsible for the Rail Vehicle Systems division, regards service and aftermarket options as one of the key drivers behind the industry's transformation: "As well as everything else, digitalization and automation are opening up major opportunities for managing existing vehicle fleets and their technologies. Our RailServices portfolio offers operators a comprehensive range of services and retrofittable technical solutions for reconfiguring their internal processes – and consequently their vehicles – for high on-track availability and extended operating life."

RailServices aims to make rail transportation attractive by focusing on **four aftermarket action areas**, geared entirely to operators' needs based on the "sustain, enhance, accelerate" approach.

Environmental Improvements: For economic, political and social reasons, rail operators are anxious to improve the sustainability of their new and existing vehicle fleets. To do so, they are steadily reducing their carbon and noise emissions, as well as their energy consumption, by rolling out appropriate upgrades and retrofits to – for example – braking systems. Other solutions for improving environmental performance can be found in retrofittable subsystems such as Knorr-Bremse's clean[air] and green[air] technologies. The clean[air] HVAC system supplies passenger compartments with clean, healthy air using smart ventilation technology and highly efficient air filters and air purifiers. Tests have already established the hygienic added value of the system's ability to neutralize SARS-CoV-2 viruses and similar pathogens. As for sanitary technology, Knorr-Bremse's Evac brand supplies easy-to-maintain – and consequently highly available – compact toilet systems that use water recirculation to save significant amounts of water.



Availability Solutions: In addition to conventional maintenance and spare parts, the service department also specializes in monitoring train subsystems and using Knorr-Bremse products and expertise to actively manage their obsolescence. Obsolescence management is all about safeguarding the operational reliability and availability of long-serving vehicle fleets. Retrofittable cybersecurity and other features represent one response to the rising demand for operational safety and security. Customer training courses also help to keep vehicles available, providing valuable knowledge that improves service process quality. In turn, this helps operators to cut costs and save time.

Process Optimization: When servicing vehicles, improved throughput times and optimized processes significantly increase fleet availability. Knorr-Bremse experts help customers to streamline their processes by providing, for example, aftersales service, on-site visits and training. By building up their in-house expertise in digital and automated maintenance processes, operators can improve their service quality, prevent vehicle downtime, and achieve further cost and time savings.

Lifetime Expansion: In view of the predicted growth in future rail traffic, operators will need to respond faster and more flexibly to new demands on rail operations. How can they keep their vehicle fleets up to date and extend their service lives? Solutions range from product upgrades and enhanced connectivity through to modernization of the entire vehicle (retrofits). The implementation of solutions for Automatic Train Operation (ATO) and support for homologation are also important. Knorr-Bremse offers all of the above from a single source.

Where to find Knorr-Bremse: Main Hall 1.2, Booth 250

"Get into the Flow" is the banner under which Knorr-Bremse will be taking InnoTrans visitors on an all-embracing tour of connected solutions for sustainable, efficient rail transportation. At the company's central booth in Main Hall 1.2 (Booth 250), Knorr-Bremse has packaged its solutions and systems into four solution spaces. Each space is based on key customer and market imperatives: Ecological Footprint, Traffic Flow, and **Train Operations & Maintenance**. The fourth solution space – Smart Solutions & Application Landscapes – is the all-pervasive loop that runs through and brings together all the other spaces.

Captions:

Knorr-Bremse RailServices is making rail transportation increasingly attractive by supplying solutions that contribute to passenger comfort, streamlined operations, and sustainability. | © Knorr-Bremse

Obsolescence management, component upgrades and comprehensive refits can all significantly increase vehicle service life. | © Knorr-Bremse

Knorr-Bremse (ISIN: DE000KBX1006, ticker symbol: KBX) is the global market leader for braking systems and other systems for rail and commercial vehicles. Knorr-Bremse's products make a decisive contribution to greater safety and energy efficiency on rail tracks and roads around the world. About 30,500 employees at over 100 sites in more than 30 countries use their competence and motivation to satisfy customers worldwide with products and services. In 2021, Knorr-Bremse's two divisions together generated revenues of EUR 6.7 billion. For more than 115 years, the company has been the industry innovator, driving developments in mobility and transportation technologies with an edge in connected system solutions. Knorr-Bremse is one of Germany's most successful industrial companies and profits from the key global megatrends: Urbanization, Sustainability, Digitalization and Mobility.



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