

Press release

Automated rail freight: Knorr-Bremse tests Digital Automatic Coupler on real freight train

- **Knorr-Bremse is testing its Digital Automatic Coupler (DAC) in real-world conditions on a freight train in Sweden**
- **The DAC is the key innovation required to make European rail freight more efficient, flexible and competitive**
- **Test findings will enable Knorr-Bremse to push ahead with the focused development of automated rail freight systems, aiming for market launch by 2025**

Munich, April 05, 2023 – Knorr-Bremse is aiming to bring rail freight into the 21st century with system solutions such as the Digital Automatic Coupler. The technology leader has already made major progress in developing such solutions and is now testing its systems in real-world conditions in Sweden.

“With our Digital Automatic Coupler, Knorr-Bremse is paving the way for the extensive implementation of smart functions in the rail freight industry, including process automation and smart maintenance for a more efficient train operation,” explains Dr. Nicolas Lange, Chairman of the Management Board of Knorr-Bremse Rail Vehicle Systems. “Testing our systems under real-world conditions is another big step forward in developing advanced technologies for the rail freight sector. We expect the tests to provide us with valuable insights that will further concentrate and accelerate our development of market-ready solutions.”

The train, operated by Trafikverket CFL, will run on the Swedish rail network through to 2025. To start with, the train will include six DAC test cars, eventually rising to as many as 20 test cars. The vehicle is expected to cover around 100,000 kilometers (60,000 miles) each year. The tests will be carried out under the aegis of the EU’s research and innovation program, Europe’s Rail Joint Undertaking (EU-Rail).

Initially, Knorr-Bremse has installed its DAC with support for Automation Level 2. At a later stage, the train will be equipped with couplers that support higher levels of automation. This will enable fully automated decoupling and, combined with the Knorr-Bremse Automation System, support a wide variety of intelligent and telematic features for process automation. Operating the train in winter (including ice tests) is regarded as the ideal durability test for the coupling system, which must meet the highest standards of resilience.

Automation and digitalization in rail freight: a huge future market

Knorr-Bremse aims to become the leading supplier of automated system solutions for freight transportation by 2026. By leveraging the company’s engineering skills, industrialization expertise and close-knit service network, backed by a systems approach based on high-quality hardware (DAC), a dedicated automation system and data-driven services, Knorr-Bremse will play a key support role in the future of rail freight. Knorr-Bremse was confirmed as an authorized DAC manufacturer in December 2022 by TÜV-Süd and the European DAC Delivery Programme.

At present, around 500,000 freight cars and 17,000 locomotives are still coupled manually. This means that the rail freight sector represents a vast future market for automation and digitalization. The EU aims to shift a substantial proportion of the freight currently transported by truck over to greener rail transportation by 2030. But to meet this ambitious target, rail freight must become much more efficient and flexible by adopting innovations like the DAC.

At the same time, Knorr-Bremse has finished developing a portfolio of passenger train coupling systems. The company has recently landed the first order for its new transit couplers and [will start to equip a large metro fleet for Hitachi in Italy at the end of 2023](#).

Caption: For the first time, Knorr-Bremse is testing its Digital Automatic Coupler (DAC) in real-world operating conditions aboard a freight train in Sweden. | © Rail Sweden at Lindholmen Science Park

Knorr-Bremse (ISIN: DE000KBX1006, ticker symbol: KBX) is the global market leader for braking systems and a leading provider of 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. Around 31,600 employees at over 100 sites in more than 30 countries use their competence and motivation to satisfy customers worldwide with products and services. In 2022, Knorr-Bremse's two divisions together generated revenues of EUR 7.1 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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