

Press release

Munich, June 14, 2021

Cutting-edge brake control systems: Knorr-Bremse delivers 100,000th unit in globally successful CubeControl family

- **CubeControl family, world's best-selling Metro Brake Control System, reaches new milestone with delivery of 100,000th unit**
- **Under continuous development, the distributed control system is now extending its compelling advantages to other vehicle platforms such as regional and S-Bahn commuter trains, as well as high-speed trains**

Munich, June 14, 2021 – After two decades of best-selling success worldwide, Knorr-Bremse is celebrating the delivery of 100,000 units of the CubeControl Metro Brake Control System. With the mechatronic system, previously known as the EP2002, the global market leader for braking systems and other rail and commercial vehicle systems has set a new industry benchmark – and continues to make a major contribution to safe, reliable and accessible rail travel, now and in the future.

“The success of our CubeControl family of brake control systems is an impressive testimony to Knorr-Bremse’s innovative strength, as well as our customers’ long-standing trust in us and our technologies,” said Dr. Jürgen Wilder, Member of the Executive Board of Knorr-Bremse AG in charge of the Rail Vehicle Systems division, as he commented on the achievement. “By continuously developing our brake control system families, we’re already showing the way forward for tomorrow’s high-performance rail traffic.”

Thoroughly tried and tested in more than 200 rail projects worldwide

The brake control system, first launched in 2004, broke with decades of conventional braking practice in metro trains. Instead of evenly distributing the braking force along the entire length of the train, CubeControl applies variable degrees of braking force to individual axles or bogies. This means that braking can be optimized according to passengers’ weight distribution, for instance, or the adhesion values available at the wheel-rail contact points. The result? Significantly enhanced braking performance.

Just five years after the product was launched, Knorr-Bremse had already sold systems for more than 7,000 metro cars. Today, CubeControl is installed in well over 200 rail projects in, for example, Ankara, Athens, Bangkok, Beijing, Dubai, Guangzhou, London, Los Angeles, Nanjing, New Delhi, Sao Paulo, Shanghai, Singapore and Stockholm. The highly symbolic 100,000th unit is destined for a train on Shenzhen’s new Line 14 in China.

Evolutionary systems-based approach supports new functions and vehicle platforms

The ongoing demand for CubeControl systems is primarily due to its evolutionary systems-based approach. New Ethernet specifications support connectivity with other systems, as does the introduction of Condition Based Maintenance (CBM) – optimized train maintenance based on real-time data. Similarly, Brake Disc Temperature Monitoring simulates the temperatures of the individual brake discs in real time, helping to avoid unnecessary speed restrictions. WheelGrip Adapt, an optional Wheel Slide Protection (WSP) algorithm for CubeControl products, enables even shorter braking distances under conditions of extremely low adhesion. And the new Deceleration Control (DCC) compares the braking performance of the train as a whole with the actual effect of the braking force applied – in real time. Increasingly, DCC is uncoupling deceleration from variable ambient conditions and vehicle-related operational tolerances.

Probably the most fundamental development, however, is systemic. The CubeControl family has long since evolved beyond applications designed exclusively for metro trains. The system's advantages are now finding their way onto other vehicle platforms such as regional and urban rapid transit rail services, as well as high-speed trains – making its full range of benefits available to the mainline sector.

Caption 1: As the world's best-selling brake control system for metro trains, the CubeControl family has just reached a new milestone, with 100,000 units delivered. | © Knorr-Bremse

Caption 2: Under continuous development, the distributed brake control system is now extending its compelling advantages to other vehicle platforms such as regional and S-Bahn commuter trains, as well as high-speed trains. | © Knorr-Bremse

Knorr-Bremse (ISIN: DE000KBX1006, Tickersymbol: KBX) is the global market leader for braking systems and a leading supplier of other rail and commercial vehicle systems. Knorr-Bremse's products make a decisive contribution to greater safety and energy efficiency on rail tracks and roads around the world. About 29,500 employees at over 100 sites in more than 30 countries use their competence and motivation to satisfy customers worldwide with products and services. In 2020, Knorr-Bremse's two divisions together generated revenues of EUR 6.2 billion. For over 115 years, the company has been the industry innovator, driving innovation 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, digitization and mobility.

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