

Press release

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Next generation of self-learning brake control systems designed for complex driver assistance functions

Knorr-Bremse's Global Scalable Brake Control (GSBC) is an innovative brake control system that makes full use of the scope offered by modern software architecture.

With harmonized components and more closely integrated functions, the new control system reduces development and assembly costs for vehicle builders and facilitates intelligent networking with various different vehicle systems.

As Bernd Spies, Chairman of the Management Board of Knorr-Bremse Commercial Vehicle Systems, explains: "GSBC offers an ideal platform for driver assistance functions by providing the central element in the kind of efficient redundancy architecture required for tomorrow's highly-automated driving. A key role is played by its open software architecture and powerful, highly scalable processor family. Improved self-learning functions for the brake control system and a harmonized component portfolio also offer vehicle manufacturers potential cost savings." GSBC's modular design enables components to be combined and configured according to the required functionality and equipment level. Installation positions, routing of cables and compressed air lines and the positioning of connection points have all been radically simplified, as have the individual components themselves. This significantly reduces manufacturers' adaptation costs across the entire spectrum of vehicles, whether an ABS system in a standard tractor unit is involved, or an EBS system with multiple additional functions in a four-axle special-purpose vehicle.

Cost-optimized system layout

Knorr-Bremse has also opened up new possibilities in terms of system layout. This increases the cost-effectiveness of a high-volume standard vehicle like a two-axle tractor unit, as a complex electro-pneumatic component found in conventional brake control systems is no longer required. The heart of the system – the central control unit – has also been standardized, with added acceleration and yaw sensors providing data to all the other applications in the vehicle. The software, too, is modular in design, enabling easy integration of customers' own functional modules. Further self-learning software functions and pre-defined parameter sets reduce manufacturers' application costs for different vehicle variants: For example, the system automatically recognizes and adapts to wheel spacing and steering geometry. For manufacturers, operators and workshops, the modular system and extended diagnostic functions for maintenance and repair mean shorter downtimes, improved spare parts logistics and reduced staff training requirements.

Caption: As Bernd Spies, Chairman of the Management Board of Knorr-Bremse Commercial Vehicle Systems, explains: "GSBC offers an ideal platform for driver assistance functions by providing the central element in the kind of efficient redundancy architecture required for tomorrow's highly-automated driving." | © Knorr-Bremse

Knorr-Bremse is the world's leading manufacturer of braking systems for rail and commercial vehicles, with sales totaling almost €6 billion in 2015. In over 30 countries, some 25,000 employees develop, manufacture, and service braking, entrance, control, and energy supply systems, HVAC and driver assistance systems, as well as powertrain and transmission control solutions. As a

technology leader, for more than 110 years now, through its products the company has been making a decisive contribution to greater safety by road and rail. Every day, more than one billion people around the world put their trust in systems made by Knorr-Bremse.

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