

**Press Release**

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**Knorr-Bremse demonstrates autonomous yard maneuvering**

**Trucks maneuvering around the depot with no driver could soon be a reality: Knorr-Bremse has built an autonomous semitrailer rig that can drive itself to the loading bay and back across the yard with no driver in the cab. The company is demonstrating this and other driver assistance systems from the future of highly automated commercial vehicles in a test truck in the New Mobility World LIVE arena at the IAA.**

“Everyone’s talking about Highway Pilot, the truck that drives onto the autobahn and handles everything automatically. And while that will certainly happen, it’s a long-term prospect. For our part, we will be actively shaping the route to the Highway Pilot and continuously expanding our portfolio in the field of driver assistance systems and automated driving,” explains Dr. Peter Laier, Member of the Executive Board of Knorr-Bremse AG responsible for the Commercial Vehicle Systems division.

**Autonomous maneuvering makes for an efficient depot**

Trucks capable of autonomous yard maneuvering make for greater efficiency. This complex autonomous driving function is made possible by interaction of the powertrain, the iHSA® steering gear and the braking system, supported by simultaneous detection of the vehicle environment by radar and ultrasonic sensors, cameras and GPS. Smart system connectivity enables the truck to maneuver autonomously to and from the loading bay with great precision, stopping automatically if danger is detected. This way, there is less risk of minor damage being caused during complex maneuvering, and no time is lost because of errors in bay selection. Drivers are free to carry out other duties or take their statutory rest hours. Through this demonstration of autonomous yard maneuvering, Knorr-Bremse is showing what is currently technically feasible, as well as underlining its own systems integration expertise. In the specific context of a depot, with its low speeds and fenced-off spaces, the legal framework for rapid realization is also given.

**Assistance systems: en route to Highway Pilot**

The first steps have already been taken: Lane Departure Warning, Adaptive Cruise Control and Autonomous Emergency Brake systems from Knorr-Bremse are already installed in trucks out on the road. Next up are Turn-off Assist, Congestion Assist and Autobahn Assist. Following the acquisition of tedrive Steering Systems and its iHSA (intelligent Hydraulic Steering Assist) system, Knorr-Bremse will be able to offer numerous proprietary driver assistance systems and automated driving functions from a single source.

In this context, the company’s Global Scalable Brake Control (GSBC) system provides an efficient integration platform for future driver assistance functions. In addition, GSBC and iHSA together form a control network for the longitudinal and lateral guidance of the vehicle in automated driving functions. The back-up function required to cover the event of component failure in automated driving is already built into this system. As a result, highly automated driving functions in the commercial vehicle sector can be realized efficiently.

Along with autonomous yard maneuvering, at the IAA fair in Hanover Knorr-Bremse is presenting its Turn-off Assist system with the potential to substantially reduce the number of accidents at urban intersections. The near-side door mirror is replaced by a camera which, together with a side-mounted radar, scans the relevant environment. When the vehicle is on

the road, a monitor in the A-pillar shows what would appear in a conventional mirror. If a collision threatens, the driver receives acoustic and visual warnings and the monitor displays the blind spot on the right hand side of the vehicle. This way, the driver can assess critical situations more accurately and react accordingly.

Under the heading of “Creative Systems – Globally”, at booth A30 in hall 17 and in outdoor area D131 visitors to the IAA Commercial Vehicles fair can experience Knorr-Bremse’s extended portfolio of systems that provide answers to the growing automation and connectivity of the transportation and logistics sectors.

**Caption 1:** At the 2016 IAA fair, Knorr-Bremse is demonstrating a semitrailer rig that can perform autonomous maneuvers in depots off the public roads. | © Knorr-Bremse

**Caption 2:** Thanks to a combination of camera and radar monitoring, the Knorr-Bremse Turn-off Assist system takes road user recognition to a new level of precision. | © 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 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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