China’s commercial vehicle market discovers automated manual transmissions

Most Chinese commercial vehicles still have manual transmission, but demand for automated manual transmissions is rising and the potential is huge. Having acquired the on-highway commercial vehicle transmission components business of Bosch in Japan to complement its existing product portfolio, Knorr-Bremse is ideally positioned to meet this demand in Asia.

“The growth rates in Asia for automated clutch and gear shift systems in commercial vehicles are enormous,” says Dr. Peter Laier, Member of the Executive Board of Knorr-Bremse AG responsible for the Commercial Vehicle Systems division: “In Europe, four out of five heavy-duty trucks are sold with automated transmission, whereas in China this trend is just beginning.” The market potential is huge, given that the Chinese commercial vehicle market is already two to three times the size of its European counterpart.

However, Knorr-Bremse’s focus in this region is not restricted to heavy-duty trucks. As a rule, in this vehicle class pneumatic systems are used because of the high actuation forces involved. For medium and light commercial vehicles, however, electromotive and hydraulic transmission management systems tend to be called for. With the completion of its acquisition of the Bosch Transmission Systems division in Japan (TRS) on March 31 2017, Knorr-Bremse has significantly increased its in-house expertise in both of these market segments. 113 employees joined Knorr-Bremse as a result of the acquisition, greatly adding to the capabilities of the local team in Sakado, Japan.

As a result, Knorr-Bremse now covers the entire range of transmission management systems. A large proportion of the engineering and manufacturing is already carried out in Asia, with the customer deciding whether to automate an existing manual transmission and flange the control systems onto it or opt for a new, fully integrated automated manual transmission (AMT). In either case, the AMT package from Knorr-Bremse includes a gear control unit, a clutch actuator and various sensors for gathering data on engine speed, pressure, position, temperature or the driver’s gear-shifting intentions, as well as all the electronics and the necessary development work – particularly for the software.

Thorsten Seehars, Member of the Management Board of Knorr-Bremse Commercial Vehicle Systems, sums up the advantages of AMT: “Thanks to the specially adapted driving programs in the transmission control units, AMT systems not only enhance driving comfort but also reduce fuel consumption, exhaust emissions and component wear. As the driver is better able to concentrate on the surrounding traffic, automated transmission management systems also help to improve road safety.”

Caption: Most Chinese commercial vehicles still have manual transmission, but demand for automated manual transmissions is rising and the potential is huge. AMT (Automated Manual Transmission) systems improve active safety, enhance driving comfort and reduce fuel consumption, exhaust emissions and component wear. With TRS Knorr-Bremse has significantly increased its in-house expertise. | © Knorr-Bremse
Knorr-Bremse is the leading manufacturer of braking systems and supplier of additional sub-systems for rail and commercial vehicles, with sales totaling approximately EUR 5.5 billion in 2016. 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 steering systems, and powertrain and transmission control solutions. As a technology leader, through its products the company has been making a decisive contribution to greater safety by road and rail since 1905. Every day, more than one billion people around the world put their trust in systems made by Knorr-Bremse.

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