

Press Release

Munich/Düsseldorf, October 18, 2019

Knorr-Bremse at Busworld Europe 2019: Efficient solutions for sustainable mass transit concepts

- **With its electrical components for bus fleets, Knorr-Bremse offers solutions for future-proof urban mobility**
- **Smart Fleet Management (SFM), In Motion Charging (IMC®) technology and electric bus kits from Kiepe Electric open up new opportunities for sustainable urban transport**
- **Knorr-Bremse Commercial Vehicle Systems offers new electric traction products for buses**

Munich/Düsseldorf, October 18, 2019 – Knorr-Bremse Commercial Vehicle Systems, Munich, and Kiepe Electric, Düsseldorf, are sharing a booth at Busworld Europe in Brussels (18.-23.10.2019). At booth 514 in hall 5, customers will find strategies, products and services themed around sustainable mass transit concepts such as electric bus fleets.

“Our solutions are geared to emission-free driving, the development and installation of complete electrical systems, absolute performance and high quality – all aimed at enabling sustainable mass transit operations,” says Kiepe Electric Managing Director Dr. Heiko Asum, describing the company’s portfolio of products and services. Among those solutions are the new Smart Fleet Management (SFM) system, the continuously enhanced In Motion Charging (IMC®) technology and the future-oriented electric bus kit concept.

- **In Motion Charging 500 (IMC®)** from Kiepe Electric is the most effective and efficient charging concept for electric buses on the market. As there is no need for the buses to stop in order to charge their batteries, it eliminates any charging station bottlenecks. With IMC, buses can charge their batteries from the overhead lines while in motion. On sections of route without overhead lines, the vehicles switch to battery power.
- The innovative **Smart Fleet Management (SFM)** system from Kiepe Electric is a self-learning AI energy management system that makes scheduled service operations more robust and increases network capacity. SFM gathers data on consumption, route and performance, and enables automatic and predictive control of buses. SFM covers all kinds of charging concepts, including IMC.
- Smart Fleet Management is also designed for the **latest generation of Kiepe Electric traction equipment** for electric vehicles. This includes Kiepe Fleet Management (KFM) which cuts maintenance costs and predicts upcoming maintenance and repair needs, the smart Kiepe Traction Control (KTC) system and the new Kiepe Electric Traction Inverter (KTI).
- In its **electric bus kit**, Kiepe Electric has translated its systems expertise into a future-proof customer offering. This comprises the plug & play assembly of complex systems, predictive maintenance, smart fleet management and digitized solutions.
- Kiepe Electric has also reorganized its **range of aftermarket services**, adding new services to align its portfolio with future customer requirements. Vehicle data management

(big data analysis) and the resultant services such as condition-based maintenance are set to increase vehicle availability and cut life cycle costs, based on service level agreements. Along with energy efficiency advice and battery management for trolleybuses (including aspects such as recycling) standard features of the portfolio also include spare part- and obsolescence management.

Knorr-Bremse: electric drive and safety for bus fleets

Knorr-Bremse Commercial Vehicle Systems is showcasing its comprehensive portfolio of braking and safety technologies. At this year's Busworld Europe, a major focus is on new **electric drive products** including the screw-type compressor with **intelligent Air Processing Unit**, (iAPU). The screw-type compressor offers the ideal solution for vehicles with high demand for compressed-air (such as city buses), where high output must go hand-in-hand with low noise and vibration levels. The iAPU can control the electric motor in the screw-type compressor. The iAPU also offers innovative energy-saving functionalities such as smart regeneration and exploiting engine overrun phases, as well as comfort and convenience functionalities that support overall vehicle performance.

In addition, Knorr-Bremse Commercial Vehicle Systems offers safety and efficiency solutions that deliver substantial advantages for bus fleets. Since 2012, the **Electronic Parking Brake** (EPB) has been proving its worth with a variety of customers in Europe and North America. Following on from this success, it is now also available as a separate system for manual activation. The EPB helps prevent accidents due to the vehicle rolling or running away by automatically applying the brakes under certain conditions, such as when the driver leaves the vehicle without selecting Parking mode.

Video: Smart Fleet Management (SFM)

https://www.youtube.com/watch?v=ZHeO_dP17D4

Knorr-Bremse (ISIN: DE000KBX1006, Ticker symbol: KBX) is the global market leader for braking systems and a leading supplier of other safety-critical 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 28,500 employees at over 100 sites in more than 30 countries use their competence and motivation to satisfy customers worldwide with products and services. In 2018, Knorr-Bremse's two divisions together generated revenues of EUR 6.6 billion (IFRS). For more than 114 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, eco-efficiency, digitization and automated driving.

Knorr-Bremse subsidiary **Kiepe Electric**, based in Düsseldorf, Germany, is a globally active supplier of electrical systems to the leading rail vehicle and bus manufacturers. The company offers efficient solutions and ecologically sustainable concepts for low-emission public transportation with eco-friendly electrical equipment for light rail vehicles, metros and regional rail networks as well as for battery, trolley and In Motion Charging (IMC) buses.

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