

**Press Release**

Florence, October 12, 2017

**Knorr-Bremse at EXPO Ferroviaria 2017**

"Connected companies for connected systems": with this new message, Knorr-Bremse Group participated at EXPO Ferroviaria 2017, the major Italian Fair for Railways from 3<sup>rd</sup> to 5<sup>th</sup> October in Milan.

Knorr-Bremse is the leading manufacturer of braking systems and supplier of additional sub-systems for rail and commercial vehicles with sales totalling almost €5,5 billion in 2016. With the focus on the topic of Connected Systems, Knorr-Bremse is totally in tune with the times in the railroad industry where everything revolves around digitalization. By providing smart, connected subsystems Knorr-Bremse offers manufactures and operators safe, reliable and efficient solutions for high-performance rail transportation.

On one booth covering 122sqm, Knorr-Bremse Rail Systems Italia, Knorr-Bremse PowerTech, Microelettrica Scientifica, Selectron System AG, Kiepe Electric and IFE showcased innovative systems and intelligent networking solutions.

The converter solutions from Knorr-Bremse PowerTech ensure optimally managed energy availability in all train types and performance categories around the world. Trade show visitors showed strong interest in the lightweight and compact 43 kVA auxiliary power supply unit, currently in operation around the globe and ideally suited to cater for the need of modern LRV. Visitors at EXPO Ferroviaria had the opportunity to see a ready-to-install battery management system, consisting of a 25 kW battery charger unit, a DC distribution and a vehicle battery. Knorr-Bremse PowerTech has integrated these three components to create an intelligent system for the distribution, supply and storage of energy in modern rail vehicles within one container. Furthermore, Knorr-Bremse PowerTech's converter technology can also be integrated into other Knorr-Bremse products and systems such as air supply units for brake systems or HVAC systems. The inverter concept presented in Milan allows to adapt the energy consumption to the vehicles operating status, leading to significantly reduced life-cycle costs and reduced noise emissions for passengers and the surrounding environment.

Microelettrica, the world market leader in electronic and electromechanical control components for rail transportation applications has presented a cross section of its portfolio of contactors, circuit breakers and power resistors with focus on LTX contactor, IR4000 switch and the two products of iCOM family the EcoMeter and EcoCom.

Kiepe Electric, a recent acquisition of Knorr-Bremse Group, has been active on the market for more than seventy years, providing electrical systems for light rail vehicles, metros, regional rail networks and special-purpose vehicles, as well as for battery, trolley and In Motion Charging (IMC®) buses. Eng. Maurizio Bottari, Managing Director of Kiepe Electric, contributed to the implementation of the latest innovative project realized in Cagliari, within the ZERO Emission Urban bus system. 14 bi-modal trolley buses were provided, four of them with powerful lithium batteries.

Innovations are not just about connected systems. From the point of view of "Creativity Systems", Knorr-Bremse Rail Systems Italia has exhibited the new Toilet Module with an innovative system. The new concept of Toilet, made entirely of aluminium, is distinguished by the modularity of the elements in view of greater versatility and customization.

Knorr-Bremse is the leading manufacturer of braking systems and supplier of additional sub-systems for rail and commercial vehicles, with sales totalling 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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