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Kiepe Electric: German-Dutch Chamber of Commerce discusses bus fleet electrification

As part of the regular 'DNHK on site' event series, Kiepe Electric opened its doors to 60 representatives of the political and business spheres and from the mass transit sector for a discussion of bus fleet electrification options.

Mobility is the topic at the heart of the new DNHK Smart Mobility campaign launched by the German-Dutch Chamber of Commerce early in 2017. The Chamber brings together the relevant players from Germany and the Netherlands and introduces each country to best practices from the other. "We initiate collaboration and thereby make a positive contribution to the economic development of both countries," said Günter Gülker, CEO of the German-Dutch Chamber of Commerce.

Dr. Rainer Besold, Managing Director of Kiepe Electric GmbH, explained the technological advances that are now being successfully applied in practice: "With In Motion Charging (IMC) from Kiepe Electric, electric buses can cover up to 25 km in battery mode. The batteries are recharged on the 20% or so of the route that runs under overhead lines – the sections we call charging roads – and for the rest of the time an IMC bus operates just like a battery-powered bus. Today 600 of these IMC buses with reliable electrical equipment from Kiepe Electric are already in operation around the world."

The cities of Esslingen, Solingen and Arnheim reported on their experience with operation of IMC buses and described their ideas for the future. In Esslingen, electric buses with IMC have been in successful operation since 2015. According to Head of Operations Harald Boog: "The IMC buses are as reliable as diesel-engined buses. Each bus covers around 65,000 km a year, with 43,000 km of that distance in battery mode." With their trolley buses, Arnheim and Solingen have been running environmentally compatible bus services for decades. With IMC technology they are taking the logical next step to help cut emissions and drive forward Germany's energy revolution.

This innovative concept means that bus routes can be extended without constructing new overhead lines, or that part of the existing diesel- and gas-powered fleet can be immediately replaced with IMC battery buses. "One of our diesel-engined bus routes in Solingen is going to be taken over by IMC buses in mid-2018," said Holger Ben Zid from Solingen Utility Company. "Just 20% of this route runs under overhead lines."

"We're going to be using our existing infrastructure as a charging road and as the backbone of a smart DC network," reported Alexander Uli from the local authority in Arnheim. "This year we've already seen the launch of smart charging stations for electric cars in Arnheim, supplied with power from the overhead lines." In the future, the overhead lines in Solingen and Arnheim will be able to provide power for a wide variety of electric vehicles. Regenerative energy resources such as solar power and wind energy will be fed into the overhead lines. Stationary batteries connected to the overhead lines will provide interim storage capacity. This smart power grid means that the available energy can be used efficiently.

Another option described by Kiepe Electric Project Manager Dr. Marcel Manheller is a link to existing light rail infrastructure. "Cities with tram lines can use their existing substations to





set up IMC charging roads," he said. The visitors also made use of Kiepe Electric's invitation to take a look around the company's state-of-the-art production and testing facilities at the site. IMC electrical equipment developed and manufactured in Düsseldorf is an example of innovative electrical engineering made in Germany.

Caption (from right): Günter Gülker, CEO German-Dutch Chamber of Commerce, Dr. Rainer Besold, Managing Director Kiepe Electric GmbH and Thilo Schmidt, Head of Project Management Buses and E-Mobility Kiepe Electric GmbH | © DNHK

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.

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 ecofriendly 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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