

First 12 meter electric bus with wireless inductive charging



First 12 meter (39-foot) electric public-service bus with wireless inductive charging technology tested in the Netherlands

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The first ever public-service field trials of a 12-meter electric bus charged wirelessly by induction are currently underway in s’Hertogenbosch (Den Bosch) in the Netherlands. Green power makes the electric bus, a converted Volvo diesel bus, completely climate-neutral.

Hybrid and Electric powertrain supplier EMOSS provided the electric powertrain and integrated the wireless charging system IPT (Conductix Wampfler) to the vehicle system. Besides the fact the original passenger capacity was maintained on a low floor concept, the efficient powertrain propels the GVW 18t vehicle without

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transmission box.

Benefits of this full electric 'charging on route' concept is a downsized battery pack, resulting in lower weight- and cost balance and able to operate on regular bus routes.

In addition to overnight plug-in charging, opportunity charging will allow the electric bus to run reliably for 18 hours, covering some 288 kilometers a day, without the need to stop for prolonged periods. Opportunity charging means that the electric bus invisibly receives a top-up charge by a 120 kW wireless inductive charging system within the space of a few minutes while at a bus stop.

Inductive Power Transfer – or IPT® – is an energy transfer system for electric vehicles that works by magnetic resonance coupling. The system consists of a primary coil in the road, which is connected to the power grid, and a pickup coil fitted beneath the vehicle. The trial has come at just the right time, as stricter emissions standards are due to come into effect in the EU in 2014.

Commercial vehicles such as buses will then be required to cut their nitrogen oxide emissions by 80 percent and their particulate emissions by 67 percent, relative to the current Euro V standard. Demand for climate-neutral vehicles for local public transport has already risen sharply, not only by the Dutch authorities who announced to aim for zero emission Public Transport in 2025. Electric vehicles are particularly attractive, as they generate just a fraction of the energy costs of diesel buses. In combination with the right charging technology, their total cost of ownership will be lower in the medium term, in spite of currently higher purchase costs. Depending on the size of the fleet and the number of charging points, the purchase of a bus that uses inductive charging can pay for itself within as little as three or four years.



About EMOSS

EMOSS advanced electric powertrain enable our customers to develop and commercialize next-generation applications. With breakthrough technology, robust systems integration capabilities and demonstrated products in the field, we can help transform innovative concepts into market-ready solutions.

EMOSS supplies electric powertrains & auxiliary systems for electric bus, truck and taxi. The company has an unique basis of expertise: ten years of innovative products for automotive OEMs and tier 1 suppliers. We provide total powertrain, components and battery system solutions for vehicles up to 27t.

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