

Hybrid Bus in the City: A Prototype with a Future

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In addition to a combustion engine, hybrid vehicles have an electric motor that initially puts the vehicle in motion. This system has a particularly positive effect on fuel consumption in urban driving situations and during rush hour. The electric motor also serves as a generator: When the vehicle brakes, the kinetic energy is not lost, but is instead converted into electricity and stored. This energy is later used to power the vehicle. Hybrid drives are ideal for city buses, which brake and accelerate frequently (e.g. at bus stops and traffic lights).

Working together with specialists from MAN, Siemens Automation and Drives (A&D) connected a diesel engine to an electric power pack consisting of generators, frequency converters, drive motors, and transmission components. The system is now being tested in the Lion's City Hybrid prototype bus, which operates in Nuremberg.

Depending on engine rpm, energy management software from A&D regulates the energy flow from the electric or diesel drive, and then transfers this energy to the bus drive shaft via the transmission. Special high-performance capacitors store the energy and then supply enough of it to put the vehicle in motion. The prototype has been operating successfully, and MAN is confident that it can begin mass producing the hybrid bus in Europe by 2010 at the latest.

In the meantime, the third test hybrid bus from A&D and MAN has now hit the road in Nuremberg. The Nuremberg buses aren't the only ones with technology from Siemens, however, as there are currently 1,000 hybrid buses on the road equipped with A&D systems that are being tested in some 30 different projects.

Source: Siemens

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