

## **PRESS RELEASE** BMZ\_022016\_E

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BMZ develops alternative battery concept for “Adaptive City Mobility (ACM) 2” project

### **Lightweight electric car CITY eTaxi launched with innovative battery replacement system by BMZ**

Karlstein - Funded by the German Federal Ministry for Economic Affairs and Energy, the e-mobility flagship project “Adaptive City Mobility (ACM) 2” opens up new approaches with its innovative lightweight electric car CITY eTAXI especially designed for the urban living space. Due to its novel modular battery replacement system, which was specially developed for this project by Europe’s leading lithium-ion battery producer BMZ, the CITY eTAXI now presented as final 1:1 design prototype – for detailed information as for the Design Launch as well as the ACM project please see annex and on [www.adaptive-city-mobility.de/pressematerial/](http://www.adaptive-city-mobility.de/pressematerial/) - is able to operate completely independent of either existing or future charging stations.

Thus the CITY eTAXI becomes the most important element of a completely self-sufficient, both cost-effective and environmentally friendly eMobility overall system solution. The realization was implemented – apart from Ametras rentconcept, BMZ, Eurodesign, Fraunhofer ESK, Roding Automobile, PEM/RWTH Aachen, Siemens, Streetscooter and Weiss Plastik – by renowned personalities such as Prof. Dipl.-Ing. Johann Tomforde, inventor of many legendary vehicles, Prof. Peter Naumann, well-known vehicle designer at the University of Applied Sciences in Munich, Prof. Dr.-Ing. Achim Kampker, production expert in the field of electric mobility, Rauno Andreas Fuchs, expert for urban and climate-friendly mobility and CEO of Green City Project GmbH in Munich as well as project initiator Paul Leibold.

The CITY eTAXIS driven by two hub motors at the rear of the vehicle are powered by six respectively – as for the cargo version – eight single battery modules interconnected via an intelligent battery management system. The battery capacity of six times 1.9 kWh allows a distance of about 120 kilometers. With a drive power of presently 15 kW the lightweight car can be accelerated to more than 80 kilometers per hour if required.

The development of the battery replacement system, which is integrated in both sides of the vehicle in the lower body, focused on an easy handling enabling the driver to immediately replace the single low voltage modules in case of low charge levels at the replacement stations for fully charged modules without long waiting times.

The replacement starts with an authentication of the driver at a special replacement station. Subsequently the station releases trays in which the empty modules can be inserted. Finally the trays with the charged modules open up. The single modules with a weight of about 15 kg are intrinsically safe and inactive when dismounted. The activation occurs after the installation in the vehicle. In future times an automatic replacement is conceivable. Alternatively the six resp. eight modules can be charged via an integrated 3 kW onboard charging device within around six hours as overall system in the vehicle.

For companies and municipalities the ecological and economic incentives are that the replacement stations consume little space and can furthermore provide net-serving functions. In the future it might be possible to store energy from PV plants or the public electricity in the station batteries for a stabilization of the electricity network (smart grid).

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### **BMZ GmbH**

*BMZ GmbH (BMZ) is a battery systems provider which specialises in intelligent solutions. Within only a few years, BMZ has established itself as a leading player in the rapidly growing lithium-ion battery market and become one of Europe's leading contract manufacturers. The Karlstein-based company, which was founded in 1994, now operates at an international level and maintains production plants in Germany, Poland and China. Its high-tech batteries are used all over the world to power a wide range of products made by leading manufacturers. These include garden shears, drills, screwdrivers, electric vehicles, e-bikes, portable medical devices and batteries for use in the renewable energy sector. For more information about the company, please visit [www.bmz-gmbh.de](http://www.bmz-gmbh.de).*

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