



## **New lease of life for vehicle batteries: pilot project started by MAN, Verkehrsbetriebe Hamburg-Holstein and Volkswagen**

Munich, 20/12/2019

**In the Bergedorf quarter of Hamburg, a container with a total capacity of 500 kWh has been connected to the depot charging network at the Verkehrsbetriebe Hamburg-Holstein (VHH) depot. There, MAN Truck & Bus and VHH want to work together to test how used batteries behave after initial use in vehicles and as a stationary energy storage system, under real-world operating conditions.**

**MAN Truck & Bus**  
Dachauer Straße 667  
D-80995 Munich

**Should any questions arise, please contact:**  
Sebastian Lindner  
Phone: +49 89 1580-2001  
[Presse-man@man.eu](mailto:Presse-man@man.eu)  
<https://press.mantruckandbus.com/>

- **Dealing with batteries in a sustainable manner through re-use**
- **Prevention of power peaks when it comes to electricity consumption from charging electric buses**
- **50 used vehicle batteries combined together to create one storage system**

The question of how used batteries from electric vehicles can be used after their first life in the vehicle is now being explored by three companies in a ground-breaking pilot project. The joint project from MAN Truck & Bus, Verkehrsbetriebe Hamburg-Holstein (VHH) and the Volkswagen Group is being carried out in the Bergedorf quarter of Hamburg, at the VHH bus depot. A white container containing 50 batteries – which were previously installed in VW Passat GTE vehicles – is located here. Each battery has a nominal capacity of 9.9 kWh, meaning that the container has a total capacity of exactly 495 kWh – about half a megawatt. The batteries are mounted on racks and then interconnected via battery management to form a large battery. One objective of the project is to develop a flexible battery storage concept which allows for the replacement of batteries.

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers and transport solution providers, with an annual revenue of some 11 billion euros (2018). The company's product portfolio includes vans, trucks, buses/coaches and diesel and gas engines along with services related to passenger and cargo transport. MAN Truck & Bus is a company of TRATON SE and employs more than 36,000 people worldwide.



The "second use" energy storage system is the product of a memorandum of understanding (MoU) which Verkehrsbetriebe Hamburg-Holstein and MAN Truck & Bus signed in March 2018. Since directly disposing of batteries which were installed in vehicles is not environmentally sound, the two companies want to put re-using these batteries in a stationary storage system to the test.

Stefan Sahlmann, Head of MAN Transport Solutions says: "Battery second use is an extremely important topic in view of the ever-growing electrification of mobility as a whole. In the Bergedorf quarter of Hamburg, we want to investigate how used batteries behave together with our project partner – so that we are able to develop future applications based on that. The project with VHH and Volkswagen is part of our strategy to make transportation of the future sustainable."

Actively shaping future mobility is also a core topic for VHH; anyone who uses local public transport has already made the right choice – after all, taking the bus is sustainable. "Our customers expect that we as companies implement modern, sustainable technologies, such as electric buses, and also that we test it thoroughly," states Toralf Müller, Managing Director of VHH. "We are very grateful that the German Federal Ministry of Transport and Digital Infrastructure (BMVI) also supports this project – it again emphasises the public interest in examining all aspects of e-mobility, from the perspective of responsible sustainability." In the case of re-using batteries, multiple advantages can be exploited.

Different scenarios are tested using the large storage system, in order to optimise power consumption at the VHH depot. This includes improved utilisation of the network and cushioning of peak loads when charging electric buses (peak shaving). Alexander Adler, responsible for the second use energy storage system project at MAN Truck & Bus confirms this: "With the peak shaving method, the storage system can reduce up to 600 kW of peak load, and thereby lower the costs when using electricity." Additionally, the project partners anticipate new findings on the ageing behaviour of the batteries, on efficient battery management and on the life cycles of future battery technologies.



Verkehrsbetriebe Hamburg-Holstein GmbH, which is head-quartered in Hamburg, employs over 1,600 people and provides transportation for over 100 million passengers a year. The fleet comprises of approximately 560 buses, which are to be converted to electric drive in the coming years. VHH will test the first electrically driven city bus from MAN in day-to-day operations at the beginning of 2020 – the company formally received the MAN Lion’s City E in the Hamburg “Speicherstadt” warehouse district in mid-December. Another 17 additional MAN vehicles for the VHH fleet will follow at the end of 2020.

Testing of the second use energy storage system is taking place as part of the mobility partnership between the Free and Hanseatic City of Hamburg and the Volkswagen Group – which MAN is also part of. The partners are working together on innovative solutions, in order to make urban mobility safer and more environmentally friendly, reliable and efficient.

P\_Bus\_EOT\_Second\_Use\_Speicher\_eBus.jpg

Caption:

The second use energy storage system is a joint project by MAN Truck & Bus, Verkehrsbetriebe Hamburg-Holstein (VHH) and the Volkswagen Group.

P\_Bus\_IOT\_Second\_Use\_Speicher\_eBus.jpg

Caption:

At the VHH depot in the Bergedorf quarter of Hamburg, the project partners want to test how used batteries behave following their first use in vehicles, and as stationary energy storage systems, under real-world operating conditions.