

## MARCOPOLO

The COVID-19 emergency has put a spotlight on sanitation and hygiene needs in public places, starting with collective means of transport. Proposals, solutions and targeted products are therefore multiplying. In this regard, the manufacturer Marcopolo has developed, in partnership with Valeo Thermal Bus Systems, an ultraviolet light system for air conditioning with antimicrobial action, which is useful in the disinfection and improvement of air quality of Marcopolo buses.

It is called BioSafe and, thanks to an ultraviolet light device integrated into the equipment's conventional air circulation system, it emits UV-C radiation which promote the disinfection of the air and the surfaces of the device. It is also effective in inactivating the genetic material of viruses and sporulated bacterial cells that have greater innate resistance in relation to various viral infectious agents, some even more resistant than the new Coronavirus.

“With the combination of the air renewal rate of the air conditioning equipment, in addition to the use of UV-C radiation in the system and the adoption of all the cleaning precautions, the probability that the virus circulates on the bus is practically zero”, guaranteed Luciano Resner, Marcopolo's Engineering Director, stating that “passengers are not directly exposed to the light”.

A test carried out by the Clinical Microbiology Laboratory at the Universidade de Caxias do Sul, one of the largest universities in the Brazilian state of Rio Grande do Sul, assessed the antimicrobial efficacy of the ultraviolet radiation installed in the air conditioning of the bus. According to the result, an efficiency rate of over 99% emerged (the report is available at <https://bit.ly/MarcopoloLaudoUVC>).

The BioSafe air conditioning system, whose lamps last for about 8,000 hours, will be sold as an option with installation instructions on the air conditioning module. It will be sold in the Brazilian and international markets, both for new buses and for those already in circulation, with availability consultation for each specific model.



## MERCEDES-BENZ'S BATTERY PRODUCTION

Mercedes Benz's electric offensive focuses on the creation of a global battery production network. It is investing more than one billion euros on this.

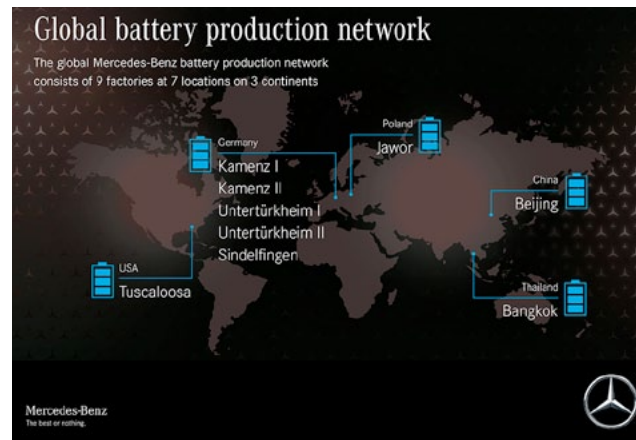
The network will consist of nine battery factories in seven locations in three continents (Europe, North America and Asia).

The competence center for the global battery production network is the 100% owned subsidiary Accumotive GmbH & Co. KG of Mercedes-Benz.

Located in Kamenz, about 50 km from Dresden (Germany), it has been producing drivetrain batteries for Mercedes-Benz electric and electrified vehicles and smart and light commercial vehicles since 2012. About 1,300 people are currently employed.

Since Accumotive's start of production, the Kamenz plant has produced over half a million batteries based on lithium-ion technology for plug-in hybrid and electric vehicles as well as for 48-volt systems.

The Kamenz plant consists of two battery factories and a total production and logistics area of 80,000 square meters. The second plant, inaugurated in 2018, was designed for CO2-free operation and therefore plays a pioneering role in Mercedes-Benz's sustainability goals. This factory runs on state-of-the-art equipment and uses a wide range of 4.0 technologies, such as digital control and production monitoring. This guarantees, among other things, the complete traceability of each delivered battery and its components, including all its production data. Battery systems for the Mercedes-Benz EQC are produced here (combined power consumption: 20.8-19.7 kWh/100 km; combined CO2 emissions: 0 g/km). The production of this extremely complex lithium-ion battery requires multiple production lines about 170 meters long, each with more than 30 production stations and with a high number of production steps. Battery systems consisting of 384 battery cells and



many other components require absolute precision. The battery cells, for example, are welded with a laser with a tolerance of only 2 µm using modern automation technology.

«As a competence center within our global battery-production network, the Kamenz site, with its broad product portfolio, plays a decisive role in the implementation of our 'Electric first' offensive» explained Jörg Burzer of Mercedes-Benz AG.

«Our goal is an organic global network in which production capacities can be flexibly

shifted between plants around the world. With over 10 fully electric EQ models and a large number of hybrid and plug-in hybrid vehicles, for which we manufacture the battery systems here in Kamenz and within our global network, we can flexibly and efficiently meet the worldwide demand for electric and hybrid vehicles and gradually increase the electrical share within our range of vehicles ».

«After Kamenz, Bangkok and Beijing» concluded Burzer, «the next site that will soon start production of batteries will be Jawor in Poland, followed by the factories around Stuttgart as well as Tuscaloosa, in the United States».

Mercedes-Benz already offers various electrified models in each segment, from the 48-volt electric system (EQ Boost) and plug-in hybrids (EQ Power) to fully electric vehicles (EQ).

The goal is to gradually increase the share of purely electric vehicles in the Mercedes-Benz Car portfolio. By the end of 2020, Mercedes-Benz will offer five purely electric models as well as twenty plug-in hybrids. In a few years, more than ten fully electric EQ models will go into series production. The Mercedes-Benz Cars fleet will become CO2-neutral in less than 20 years. By 2030, the company aims to reach a share of over 50% in the sales of plug-in hybrids or purely electric vehicles.

