

### **Liebherr Ensures Passenger Comfort in Fully Automated People Mover Systems**

**April 2019 – Liebherr-Transportation Systems will supply MACS 8.0 air conditioning systems to CARVATECH for equipping two fully automated people mover systems by the middle of this year. The order is an important milestone for both companies.**

Liebherr-Transportation Systems was recently commissioned by the Austrian company CARVATECH Karosserie- und Kabinenbau GmbH to supply 24 air conditioning systems for two fully automated cable propelled people mover systems (CABLE Liner®) from Doppelmayr Cable Car GmbH.

For each train, 12 Modular Air Conditioning Systems, MACS for short, will be installed at CARVATECH in Oberweis. The scope of delivery also includes four BK4 microprocessor control systems developed by Liebherr. The compact, powerful modular controller system controls the air conditioning units and ensures the full functionality of the air conditioning systems throughout their entire operating time.

Assembly work on the cabins of the Cable Liner® Double Shuttles is scheduled to begin this month. The customer is the well-known Austrian company Doppelmayr Cable Car GmbH in Wolfurt, which is responsible for the design, manufacturing, delivery installation, commissioning, operation and maintenance of the automated people mover system. From April 2021, a Cable Liner® installation (the Luton DART) - almost two kilometres long - will start operation in England from the Luton Airport Parkway railway station to London Luton Airport. It will then be possible to transport up to 2,720 passengers per hour per direction. The MACS 8.0 units from Liebherr provide pleasant air conditioning and therefore travelling comfort for passengers on board the fully automated local transit systems.

Dirk Junghans, Managing Director, Head of Sales, Marketing & Customer Service, Liebherr Transportation Systems GmbH & Co KG, commented: "This order strengthens our position as a supplier of air conditioning systems for railway applications, and we are now equipping cable cars with our standard product MACS 8.0 for the first time. It is also a major milestone for our future cooperation with CARVATECH."

Thomas Kurz, Project Director for the Luton DART for Doppelmayr Cable Car also expects a lot from the cooperation between CARVATECH and Liebherr: “We are convinced, with the new air conditioning units designed by Liebherr, we are able to increase the passenger comfort and therefore improve the passenger experience for London Luton Airport with our iconic people mover system”.

### **MACS 8.0 – the new air conditioning system for all types of rail vehicles**

MACS 8.0 from Liebherr is an efficient and flexibly configurable HVAC system for rail vehicles of all kinds. It impresses with its high degree of standardization, its low weight and its low overall height. Particular mention should also be made of its extremely low energy consumption, with an approx. 70% higher power density compared to conventional systems. The MACS 8.0 basic module features a cooling performance of 8 kW. Depending on performance requirements, the system can be extended with identical modules – for example, with three additional modules to 32 kW.

MACS 8.0 is only 220 millimetres high with each module weighing 125 kilograms. This makes the HVAC system about 300 kilograms lighter than other systems with a cooling capacity of 32 kW. MACS 8.0 thus offers approx. 70 percent more cooling performance per kilogram of weight. Since a module can be replaced within a very short time thanks to its plug-and-play design, cost-effective service concepts are easy to implement and vehicle downtimes are shorter than with conventional systems. MACS 8.0 can be installed as a single module or combined with multiple modules. This means that the cooling and heating capacity for the passenger compartment and operator's platform can be flexibly designed to meet specific requirements. Its multiple redundancy also ensures maximum availability: should one module fail, the others continue to run.

### **Liebherr-Transportation Systems – Renowned Manufacturer of Railway Technology**

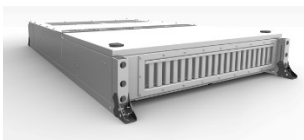
Liebherr-Aerospace & Transportation SAS in Toulouse (France) is one of eleven divisional control companies in the Liebherr Group and coordinates all activities in the

fields of transportation and aviation equipment. It employs around 5,800 people worldwide.

Liebherr's transportation systems division supplies cab and saloon heating, ventilation and air conditioning (HVAC) systems, thermal management systems for diverse, mobile and stationary e-mobility applications, hydraulic actuation systems, dampers and hydraulic load levelling equipment for rail vehicles of all kinds. Liebherr has many years of experience in the development, manufacture, and field service of these technologies, offering support throughout the entire product lifecycle. The company invests continuously in its R&D activities in order to offer its customers new generations of diverse transportation systems solutions.

Liebherr-Transportation Systems has three production plants in Korneuburg (Austria), Marica (Bulgaria) and Zhuji (China). In addition to its own sales and service centers, the division has access to the Liebherr Group's extensive and unique technologies as well as development and service facilities around the world. This global set-up means that Liebherr-Transportation Systems is there for its customers wherever they may be.

## Captions



liebherr-modular-air-conditioning-system-macs8-0.jpg

MACS 8.0 offers 70 percent more cooling capacity per kilogram of weight and can be flexibly combined. - © Liebherr



Cable-Liner-London-Luton-Airport\_Copyright-Doppelmayr.jpg

The Cable Liner® will travel with Liebherr technology on board. - © Doppelmayr

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