



The SEAT plant in Martorell is making progress towards its goal of becoming a more sustainable, digitalised and smart factory. SEAT is the first industrial manufacturer in Europe to have outdoor, automated guided vehicles with SLAM navigation (simultaneous localisation and mapping), 5G connection (Data Cloud System) and induction battery charging. To date, eight AGVs are operating outside the production workshops at the Martorell plant to automate the transport of parts. The new vehicles join the 200 AGVs that are delivering parts inside the assembly workshops at the Martorell and Barcelona factories.



OVERVIEW

Each outdoor AGV and their carriages make up a 25-metre convoy with a maximum transport capacity of 10 tonnes and cover routes of 3.5 kilometres in length. Thanks to SLAM navigation, these vehicles are not guided by magnetic tape or wires, so maintenance costs are reduced, they are more versatile to adapt to new routes and their installation does not require any construction. Altogether, the eight AGVs travel 240 kilometres a day. There are currently two ongoing routes between the press and metal shops on which vehicle side parts and mobile elements such as hatches and doors are delivered, a move which does away with truck transport between these facilities. The fleet of outdoor AGVs enables a reduction of 1.5 tonnes of CO2 per year, since until now these deliveries were carried out using a truck and a tractor. The use of these AGVs makes deliveries more efficient and cost-effective, and reduces stockpiling at both the starting and destination points as well as vehicle traffic inside the factory.





BATTERY USED

- AES 12-48-6650

APPLICATION

Automated Guided Vehicles – Vehicle Manufacturer

REQUIREMENT

Fast charging, indoor and outdoor use, 24-hour per day operation, high discharge rate.



FAST CHARGING



SURGE POWER



ENHANCED RUNTIME



EXTENDED SERVICE LIFE

THE DISCOVER DIFFERENCE

ASTI Mobile Robotics worked with Discover Battery to deploy Advanced Energy Systems batteries in their AGV fleet for SEAT. The operation of the AGV fleet requires batteries to be able to charge quickly. The AGV fleet runs 24 hours per day, so charging batteries occurs at shorter intervals making it challenging to fully charge batteries. The Discover AES LiFePO4 batteries charge at a 1C rate allowing them to not only be able to charge quickly, they also have a long battery life supported by a four-year replacement warranty. The AGV fleet at SEAT are hauling heavy loads and as a result, their motors require a high surge current to operate. The ability of the AES LiFePO4 battery management system to surge to 3C, allows the AGV to run flawlessly over their 240 kilometre daily route.

The AGV fleet operating at the Martorell is using Discover AES LiFePO4 batteries.

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