

CAN eases diagnostics

Technavio has evaluated the global electric vehicle battery thermal management system (EV BTMS) market. One of the trends is the increasing use of CAN communication for diagnostic purposes.

The market researchers analyzed the trends expected to impact the market outlook from 2017 to 2021. Researcher Neelam Barua summarized: "The advances in EV (electric vehicles) have drastically increased the workload on batteries, thereby increasing the demand for a BTMS solution that enables a wider operating temperature range, enhances the lifespan of the battery, and proliferates the range of EVs. These factors will drive the global EV BTMS market during the forecast period, which is expected to grow remarkably at close to 38 % CAGR (Compound Annual Growth Rate)."

The top three emerging trends driving the global EV BTMS market according to Technavio automotive research analysts are: Advances in thermal management technology; high-density, high-power, small-sized Li-ion batteries; and ease of diagnosis through CAN connectivity.



(Photo: Fotolia)

CAN has found its use in EVs over the last five years due to the multifaceted electronic structure of batteries and battery control/management system and associated power electronics. The growing adoption of CAN technology has eased the installation of BMS in an EV by integrating a CAN interface in this unit. This has enabled the BMS to connect with other on-board units and engine control units (ECUs) in the vehicle and process information. For instance, if the battery overheats, BMS can send a message to trigger the BTMS ensuring optimal battery operation.

But not just in e-cars, CAN is used for BMS applications: Also battery-powered bicycles and other light-electric vehicles implement CAN networks for managing the battery. The CiA 454 series, CANopen application profile for energy management, is partly submitted to [IEC](#) for international standardization. It has been developed in close cooperation with the nonprofit [Energybus](#) association.