E-Mobility & Energy

From the large number of pertinent projects, AIT presents at TRA 2018 its outstanding projects on "E-Mobility" and "Energy". In the area of propulsion technologies, the AIT research focus is on innovative technologies and topologies for researching, analysing, and implementing energy-efficient, safe, and low-carbon propulsion components and concepts.

Battery of the future

Electronic energy storage plays a central role in the work of the AIT Austrian Institute of Technology. The battery is at the heart of modern electronic propulsion concepts; thus, great efforts are channelled into making this electronic storage medium as effective, performant, cost-efficient, and safe as possible. The scientists are pursuing a holistic research and development approach that improves the characteristics of the battery itself while also improving its integration into the vehicle. AIT battery research scientist Arlavinda Rezqita was awarded the 2017 "Staatspreis Mobilität" [Austrian Mobility Award] for her dissertation on silicon anodes for electric vehicles. Dr. Christian Chimani, Head of Center for Low-Emission Transport, says:
"This material shows twice the loading capacity of other currently available anode materials, which makes it an outstanding example of our research."

Climate protection as research driver

In order to curb CO_2 emissions and to reduce the drastic increase in urban energy consumption, AIT took on a pioneering role in Austria by founding the AIT Energy Department in May 2011. Taking the city of Nanchang in southeastern China with its five million citizens as a case in point, the aim is to demonstrate over the course of the next five years how an intelligent overall concept can result in significant CO_2 reduction even despite rapid economic growth. Curtailing global warming has been shifting attention increasingly towards hybrid-electric vehicles and electric vehicles; attention by consumers, car manufacturers, and governments alike. For this, AIT works on improving e-propulsion systems for buses, on developing a concept for urban utility e-vehicles, and on bulding a high-performance quick-loading infrastructure.