

# CASE STUDY

## EVONIK



## Ensuring a longer life and safety for e-mobility

### The need for innovation

Electric cars require powerful, safe, long-life batteries. It is the chemical industry that is providing the needed solutions.

### The response through innovation

Evonik has already invested more than 100 million in lithium-ion technology and is now poised to mass-produce such battery cells – in partnership with Daimler – at its production site in Kamenz near Dresden, Germany.

Rechargeable batteries of this kind have so far been widely used only in smaller appliances like laptops and cell phones. For more powerful applications, such as automotive drives, the technology has until now suffered from a serious drawback: the batteries were not sufficiently safe. In the event of failure they were liable to overheat and therefore could not be used for automotive drives.

Using new battery components, Evonik has devised a system solution for automobiles. At the core of this system is a novel type of ultra-thin membrane.

This membrane ensures that the electrical components in the battery are safely and reliably separated. The membrane consists of a material also used to make coffee cups: ceramic. Evonik has developed a separator for lithium-ion batteries that possesses a special ceramic coating. This component clears the way for the electric vehicle of the future – because it is this separator, along with other components, that allows the batteries to achieve hitherto unknown power.

Large-scale fleet tests of electric cars are already under way in European cities. The vehicles offer clear advantages for people and the environment: noise pollution is radically reduced, and CO<sub>2</sub> emissions from vehicular traffic amount to exactly zero point zero.

Further information on this innovation may be found under: [www.evonik.com](http://www.evonik.com)

