

Samsung's new battery technology can allow electric cars to run up to 800km on a single charge

If battery technology is better at both performance and safety, the prospect of electric vehicles dominating global traffic may not be far off.

Samsung Advanced Institute of Technology (SAIT) and Samsung Japan R&D Institute (SRJ) recently published a promising study on next-generation battery manufacturing solutions, significantly extend the usage time for electric vehicles and mobile devices in the future. Compared to existing lithium-ion batteries that use liquid electrolyte, Samsung's new battery technology will use solid electrolyte, which provides better and safer power storage capacity, called a rechargeable battery, solid-state (all-solid-state battery) or solid state battery.

However, solid state batteries also contain disadvantages. The lithium metal anodes used in this type of battery tend to trigger the growth of dendritic crystals - factors that reduce life expectancy and overall safety. To overcome this drawback, Samsung uses a silver-carbon composite layer (Ag-C) as an anode of the battery instead of lithium.

1. The Ag-C class allows the battery to support larger capacity, significantly longer battery life and greater safety.
2. With a thickness of only 5 μm (micrometer), this ultra-thin Ag-C nanocomposite layer will help reduce the overall thickness of the anode and increase the energy storage density up to 900Wh / L.
3. The battery size will be about 50% smaller by volume than conventional lithium-ion batteries.

Samsung claims that the prototype battery they have created can allow an electric car to travel up to 800km on a single charge, with an average life expectancy of more than 1,000 times. However, the Korean manufacturer has not disclosed when the battery will be put into mass production.



At the present time, the safety technology and performance of electric cars have been researched relatively well by investment firms, not inferior and even slightly better than internal combustion cars. traditional. The problem lies only in the battery. If battery technology improves better in terms of both performance and safety, the prospect of electric vehicles dominating global traffic may not be far off.

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