

This technology can help fully charge an electric car's battery in just 10 minutes

This technology will certainly contribute to significantly boosting the pace of global electric vehicle market.

Perhaps needless to say more about the benefits that electric cars bring to the natural environment and human life. However, besides the price, one of the factors that makes electric vehicles difficult to reach users lies in the fact that the number of charging stations on the road is still limited, while the charging time is too long.

But this could soon change thanks to a new invention by researchers from Pennsylvania State University, a charging technique that allows a full charge of lithium batteries in just 10 minutes, the equivalent of a distance of 200 to 300 miles.

Basically, to shorten the charging time, a large amount of power must be 'pumped' directly into the battery for a short time. But this can cause lithium to deposit into the battery electrode. This lithium-plated coating will, in the long run, reduce battery performance and lifetime, even causing a dangerous short circuit.



The key behind the new charging technique is temperature. Researchers have found that if they charge the battery at 60 degrees Celsius and then cool it quickly, the charging speed will improve significantly while the heat will also be quickly drained into the space. out. To get uniform cooling and heating time for a short period of time, the team dipped a nickel foil in each lithium cell cell. In this way, the battery only takes 8.3% of its capacity (bottle) with every 2,500 charges - far exceeding the goal of the US Department of Energy of 500 charging cycles with 20% 'bottle' of battery.

In addition, all of the battery cells used by the research team are based on electrodes and electrolytes that are currently being mass produced, so the prospect of commercializing this fast charging technology is immeasurable. Prospects. If applied successfully on a large scale, this technology will certainly contribute to significantly accelerate the growth of the global electric vehicle market.

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