UltraBattery sets new standard for HEVs

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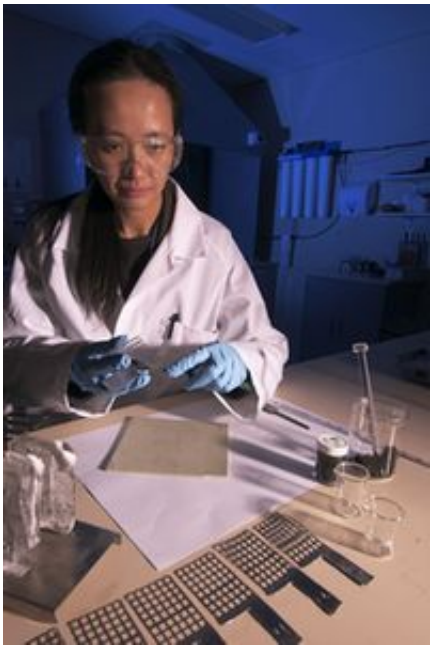

Researcher, Rosalie Louey, prepares components for the UltraBattery in CSIRO laboratories. Image credit – CSIRO

The odometer of a low emission hybrid electric test vehicle today reached 100,000 miles as the car circled a track in the UK using the power of an advanced CSIRO battery system.

The UltraBattery combines a supercapacitor and a lead acid battery in a single unit, creating a hybrid car battery that lasts longer, costs less and is more powerful than current technologies used in hybrid electric vehicles (HEVs).

“The UltraBattery is a leap forward for low emission transport and uptake of HEVs,” said David Lamb, who leads low emissions transport research with the Energy Transformed National Research Flagship.

“Previous tests show the UltraBattery has a life cycle that is at least four times longer and produces 50 per cent more power than conventional battery systems. It’s also about 70 per cent cheaper than the batteries currently used in HEVs,” he said.

By marrying a conventional fuel-powered engine with a battery to drive an electric motor, HEVs achieve the dual environmental benefit of reducing both greenhouse gas emissions and fossil fuel consumption.

The UltraBattery also has the ability to provide and absorb charge rapidly during vehicle acceleration and braking, making it particularly suitable for HEVs, which rely on the electric motor to meet peak power needs during acceleration and can recapture energy normally wasted through braking to recharge the battery.

Over the past 12 months, a team of drivers has put the UltraBattery to the test at the Millbrook Proving Ground in the United Kingdom, one of Europe’s leading locations for the development and demonstration of land vehicles.

“Passing the 100,000 miles mark is strong evidence of the UltraBattery's capabilities,” Mr Lamb said.
“CSIRO’s ongoing research will further improve the technology’s capabilities, making it lighter, more efficient and capable of setting new performance standards for HEVs.”

The UltraBattery test program for HEV applications is the result of an international collaboration. The battery system was developed by CSIRO in Australia, built by the Furukawa Battery Company of Japan and tested

in the United Kingdom through the American-based Advanced Lead-Acid Battery Consortium.

UltraBattery technology also has applications for renewable energy storage from wind and solar. CSIRO is part of a technology start-up that will develop and commercialise battery-based storage solutions for these energy sources.

Source: CSIRO