

Uppsala researchers behind fire-resistant battery

A sustainable society requires sustainable, safe and cost-effective batteries. Now, R&D company Altris together with researchers at Uppsala University and battery cell company LiFeSiZE have cracked the code.

- For a fire, oxygen, heat and fuel are needed. Our cathode material, Fennac®, reduces the risk of a battery fire: No oxygen is released and there is no thermal run-away when a Fennac® based cathode comes into contact with the anode. With our newly developed electrolyte in the cell the fuel also disappears: The battery does not start burning even if everything is around that's burning, says Adam Dahlquist, CEO, Altris AB.

This fall, the first commercial Fennac® based cells were manufactured at LiFeSiZE with a capacity of 1.3 Ah and voltage 3.1 V. Next step is to test the battery for, among other things, vehicle charging and energy storage at PV installations.

- Our customers demand safe and sustainable batteries. The battery should be tested under simulated real use cases and against valuable data from our customers who are property owners with solar cells, says Hugo Larsson, co-founder and business development manager at Save by solar.

- Electrification is greater than just the vehicle and we always strive for battery systems that use more environmentally friendly materials. Sustainability and security are core values for Scania. So, an electrolyte that is inflammable is particularly interesting in connection with fast charging, says Fernanda Marzano, Technology Leader Electrification, Scania Group.

The project is led by Uppsala University lecturer Reza Younesi and is supported with SEK 2.7 million from the Swedish Energy Agency, which considers it to be important to replace the flammable electrolyte used in modern lithium batteries, especially for applications where large quantities of batteries are used.

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More about Altris

Altris offers reliable battery technology based on the Prussian white chemistry; a sodium ion battery with outstanding safety, sustainability and power, which combines good energy density and long life performance at a low cost. The company was founded by three researchers from the Ångström Advanced Battery Center at Uppsala University and EIT InnoEnergy 2017 and has since received funding and support from the Uppsala Innovation Centre, Vinnova and the Swedish Energy Agency.

Among scientists, battery engineers and battery manufacturers, Fennac® is known as Prussian White, which is part of the family of Prussian Blue analogues