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INNOLITH Announces I-STATE Power Cell for High Performance E-Mobility

Combines leading-edge 280Wh/kg energy density with top range 2700 W/kg pulse power for e-mobility applications from performance sports cars to battery powered aviation

Enters into first commercialisation project with electric aviation company Væridion

Basel, Switzerland, 25th September 2023 - Innolith, a European developer of Li-ion battery cell technologies, today announces the I-State Power Cell, a battery cell specifically designed for the most demanding e-mobility applications. Providing best-in-class power density and burst pulse currents, the new cell will be used to drive sports and luxury battery electric vehicles (BEV), industrial vehicles and electric aviation.

In an official partnership for the new cell, Innolith also announces that it will be cooperating on the development and testing of the new I-State Power Cell for electric aviation company Væridion to power electric Conventional Take-Off and Landing (eCTOL).

The I-State Power Cell is based on NMC/graphite electrode technology in a full 21700 cell format, but using Innolith's proprietary non-flammable liquid electrolyte that extends voltage cut-off to 4.6V with NMC and 5.0V with other cathode materials. This enables the cell to deliver top end energy density of 280 Wh/kg, with rapid 3C discharge rates for constant current and long cycle life of over 800 cycles at 1C. To power performance applications such as sports cars and e-aviation, the cell can also deliver pulse currents of 5C for 60 seconds, 8C for 30 seconds and up to 15C for 10 seconds to deliver 2700 W/kg of power. The cell also supports fast charging from 10% to 80% SoC in 12 mins while demonstrating some of the lowest internal resistance numbers amongst 21700 cells in the market.

"In a world increasingly reliant on batteries, there is an overwhelming need for a higher energy and higher power battery available at a competitive price," stated Konstantin Solodovnikov, CEO of Innolith. "The I-State Power Cell based on our proprietary liquid electrolyte is a disruptive solution that can provide both while also having exceptional ESG and safety credentials. This technology will be a crucial addition to the conventional Li-ion if we want to make electric flight a reality, provide BEVs with top performance and further transition the world's industrial vehicles to green energy."

The I-State Power Cell will be used for e-mobility applications that require high-energy density battery capable of delivering high power. Target markets include leading performance sports and luxury BEV, off-road,

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industrial and defence customers, alongside electric aviation. The cells are planned to be manufactured through licensing agreements with battery manufacturers, with the advantage that the cells can be produced using existing Li-ion production lines and raw materials.

“Innolith’s I-State technology provides an optimal battery for our eCTOL aircraft at Væridion”, said Sebastian Seemann, Chief Technology Officer at Væridion. “As we prepare for the delivery and certification of our aircraft by 2030, ensuring a harmonious balance between energy density, range, safety and environmental considerations is imperative and is exactly what the I-State delivers.”

The Power Cell costs per kWh expected to be even lower than conventional Li-ion batteries as the higher voltage enabled by the liquid inorganic electrolyte enables higher utilization of cathode capacity and lower the amount of expensive active materials that are required in a cell. The Power Cell also has significant environmental advantages with near complete recyclability of the electrolyte salt and solvent.

Innolith announced in June 2023 the commercialisation of its new battery technology, I-State Energy Cell, which uses a non-flammable, liquid inorganic electrolyte with properties that are optimal for mass and specialized e-mobility applications. The I-State’s electrolyte qualities allow it to operate at higher voltages than traditional Li-Ion batteries, whilst improving safety and remain operational between a temperature range of -40- +60.

Innolith has completed testing of the Power Cell in full 21700 format in partnership with independent third-party testing organisations and industry partners. Innolith is currently at the final stages of negotiations with Auto and Battery OEMs in Europe, Asia and USA for joint cell development and further commercialization of its I-State technology.

About Innolith

Innolith is a battery technology company, headquartered in Basel, Switzerland, that develops battery cell technology for electric vehicles and other e-mobility applications. Innolith runs one of the world’s leading battery cell research programs at its R&D Center in Bruchsal, Germany, where it is pioneering a next generation e-mobility battery technology based on a proprietary liquid inorganic electrolyte that delivers cells with lower cost, higher energy and power density along with higher safety and exceptional temperature performance.

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