Suva lithium-iron-phosphate batteries lfp

Suva lithium-iron-phosphate batteries lfp

Integrals Power has achieved a major breakthrough in developing Lithium Manganese Iron Phosphate (LMFP) cathode active materials for battery cells. Leveraging its proprietary materials technology and patented manufacturing process, the company has successfully overcome the specific capacity drop usually seen when manganese content is increased.

By addressing the longstanding trade-off, Integrals Power"s LMFP materials merge the best features of Lithium Iron Phosphate (LFP) chemistry--such as affordability, extended cycle life, and robust performance at low temperatures--with an energy density similar to the more expensive Nickel Cobalt Manganese (NCM) chemistries.

The advancement could potentially increase the range of electric vehicles by up to 20%, or alternatively, reduce battery pack size and weight while maintaining the same range.

The improved performance has been confirmed by third-party testing conducted by the Graphene Engineering Innovation Centre (GEIC), initially on coin cells and now being evaluated using EV-representative pouch cells.

“The challenge that the automotive industry has been trying to overcome for some time is to push up the percentage of manganese in LMFP cells to a high level while retaining the same specific capacity as LFP. Using traditional methods, the more manganese you add, the more specific capacity drops, and this has meant it can’t deliver a high energy density.

“Our proprietary materials and patented production processes have enabled us to overcome this trade-off and increase manganese content to 80%, placing us at the cutting edge of LMFP chemistry."

"With the third-party evaluation from the Energy team at GEIC, we’re proud to have developed a world-class cell material in the UK that can rival the performance of NCM but is more sustainable and more affordable, and will accelerate the transition to e-mobility."

Integrals Power is producing these high-performance LMFP cathode materials at its new UK facility, alongside its proprietary LFP chemistry. Establishing local manufacturing is crucial for developing a sustainable battery industry in the UK, supporting the country"s goals of banning new combustion engine vehicles by 2030 and achieving net-zero emissions by 2050.

“The battery cells we produced using Integral Power’s LMFP materials exhibited competitive specific capacity during testing, highlighting their potential to enhance EV efficiency and reduce costs by increasing range.”

Local production not only strengthens supply chain security but also reduces dependency on global supply routes, helping to avoid geopolitical challenges such as import tariffs on EV components.

By sourcing all raw materials from European and North American suppliers, Integrals Power ensures a purer, higher-performing product with greater energy density, providing a competitive alternative to the Chinese-manufactured cathode materials that dominate the global market.

Make sure you check out the latest edition ofEV Magazineand also sign up to our global conference series -Sustainability LIVE 2024.

Contact us for free full report

Web: https://www.hollanddutchtours.nl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346