

Johnson Matthey, Echion, Britishvolt and UCL to produce demonstrator cells in CASCADE, a Faraday Battery Challenge-funded project

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Johnson Matthey (JM), Echion Technologies, (Echion), Britishvolt (BV) and University College London (UCL) are grant recipients in the latest round (Round 4) of the [Faraday Battery Challenge](#).

Project CASCADE (Cathode and Anode Supply Chain for Advanced DEMonstrator) brings together these four organisations to develop a next-generation, ultra-high power and fast-charging battery materials system for automotive applications using the cathode and anode technology of JM and Echion, respectively. This follows [the successful CORNEA Innovate UK project between Echion and JM](#), which established the commercial potential and roadmap for this technology system.

"The award of this grant is a testament to the hard work put in by each of the partners in what was a very competitive application process. I'm very excited to continue the strong relationship with JM and UCL, and work with Britishvolt for the first time," says Dr Sarah Stevenson, Project Manager at Echion.

"There is a growing demand for advanced cells with high power capabilities to support the transition to a net-zero future. To meet these ambitions, it is important we customise the materials inside the cell to work together optimally," says Dr James Cookson, Research Manager at Johnson Matthey.

In CASCADE, the technology will be demonstrated in commercial-format battery cells which will also be comprehensively tested by potential customer Britishvolt, who will also conduct a scale-up assessment focusing on considerations for giga-scale production. Results of these tests, together with extensive characterisation and modelling performed by the [UCL Electrochemical Innovation Lab](#) will form the basis of a knowledge package which will be used to facilitate business development and accelerate market entry. Finally, JM will develop strategies for recycling and understanding of the system's carbon footprint.

"The development of advanced lithium-ion battery cell technologies and associated R&D is extremely important to Britishvolt. This is a great example of how we are collaborating with British technology partners to push the boundaries on cell performance, for the benefit of our customers," says Allan Paterson, CTO of Britishvolt.

The Faraday Battery Challenge is part of the Industrial Strategy Challenge Fund, delivered by [Innovate UK](#) and the [Engineering and Physical Sciences Research Council](#) (EPSRC) on behalf of [UK Research and Innovation](#) (UKRI). Project CASCADE kicked off in August 2021 with a duration of 12 months.

For more information about project CASCADE, please contact Dr Sarah Stevenson, Sarah.Stevenson@echiontech.com

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About Echion Technologies Ltd

Spun-out from The University of Cambridge in 2017, Echion is a world-leading developer of advanced lithium-ion battery materials, whose products enable cell manufacturers to deliver cost-effective, fast-charging, high-energy density, and long-life power cells for a wide range of markets including automotive, premium consumer electronics, and grid-storage applications.

Echion provides materials and battery cell manufacturers with packages of protected intellectual property, customisation options, materials synthesis, and cell integration know-how and for different end-user markets.

visit www.echiontech.com

About Johnson Matthey

Johnson Matthey is a global leader in sustainable technologies that enable a cleaner and healthier world. With over 200 years of sustained commitment to innovation and technological breakthroughs, it improves the performance, function and safety of customers' products. Its science has a global impact in areas such as low emission transport, pharmaceuticals, chemical processing and making the most efficient use of the planet's natural resources. Today about 15,000 Johnson Matthey professionals collaborate with its network of customers and partners to make a real difference to the world. For more information, visit www.matthey.com

About Britishvolt

Britishvolt is Britain's foremost investor in battery cell technologies. It is dedicated to supporting the future of electrified transportation and sustainable energy storage, producing best-in-class, ethical, low-carbon, lithium-ion battery technologies.

Britishvolt's aim is to establish the UK as the leading force in battery technology, and associated ecosystem infrastructure. It is working with leading strategic partners/suppliers to achieve this, as it is of paramount importance to the future of the UK automotive industry and the overall economic and industrial health of the country.

The company believes that the UK is the right place for its investments because of the strength of its automotive and energy industry alongside its expertise and history in industrial and academic battery research and development.

Quarter four 2023 has been targeted as the start of production in Britain's first Gigaplant situated on the old coal stocking yard of the former Blyth Power Station in Cambois, Northumberland.

Visit www.britishvolt.com

About UCL

Founded in 1826 in the heart of London, UCL is London's leading multidisciplinary university, with more than 13,000 staff and 42,000 students from 150 different countries. UCL is a diverse global community of world-class academics, students, industry links, external partners, and alumni. Our powerful collective of individuals and institutions work together to explore new possibilities.

UCL's Electrochemical Innovation Lab (EIL) is a cross-faculty mechanism for accelerating impact, innovation, enterprise and research in electrochemical science and engineering and is home to over 100 researchers working on electrochemical energy storage and conversion devices. Based in newly refurbished lab space, the EIL benefits from more than £20M of current funding from RCUK, industry and international funders, with funding over the past decade exceeding £40M. Following extensive capital investment, the EIL hosts the UCL Centre for Correlative Imaging and the UK National Centre for Grid Scale Energy Storage. The EIL is also leading the development of the Advanced Propulsion Lab (APL), a new research and teaching facility based in the UCL East campus in Queen Elizabeth Park.

About Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas. Innovate UK connects businesses to the partners, customers and investors that can help them turn ideas into commercially successful products, services, and business growth. Innovate UK is part of UK Research and Innovation.

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