



Next Generation Battery Technology

Press release
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OXIS Energy Leads its Largest Project Yet

The Lithium Sulfur Future Automotive Battery (LiSFAB) project, valued at £7m, led by OXIS Energy and funded by Innovate UK will help to transform electric vehicle technology for commercial use. It will develop a next generation cell and module that is suitable for large electric vehicles such as trucks and buses and will deliver a 400 Wh/kg Li-S cell that will have the significantly improved power and cycle life required by large automotive applications. This cell will allow buses and trucks to carry considerably more payload and will cost less because of the abundant cell construction materials. State of Charge and State of Health (SoC and SoH) will be improved, along with the manufacturing aspect. The project will look into four areas with OXIS playing a key part in all of them.

On 'Cell Performance' OXIS will work with University College London and William Blythe to utilise new materials to improve performance and characterise electrodes and cells using X-ray tomography and other techniques to accelerate development. This aspect of the work will build on past projects that increased cell specific energy (Wh/kg), with further improvements being made to cycle life, power and cell design to meet the performance and safety needs of EVs.

In 'Cell Characterisation', cells will be tested extensively to inform development. Rigorous safety tests, rapid test protocols/formation studies, degradation/abuse analysis will be carried out.

OXIS will also play a key role in 'Cell Manufacturability'. Working with Ceetak, it will develop crucial pouch cell sealing technology required to make a robust automotive cell whilst BPE will lead the design of a pilot facility for the cells that are developed on this project. OXIS will again team up with University College London to develop a novel, non-invasive X-Ray quality control process for cells.

Collaborating with Cranfield University, the 'Module Development' activity, OXIS will build on the control algorithms developed on the Revolutionary Electric Vehicle Battery project in order to better estimate SoC and SoH and create intelligent charging algorithms to improve lifetime. OXIS along with Williams Advanced Engineering will also investigate module construction techniques and cell matching in order to establish a final module.

Chris Flowers, LiSFAB project manager at OXIS says, "this project is of major importance to the UK's development of next generation cells and modules for large electric vehicles. The Li-S technology that we are developing in this project will also be applicable to OXIS' other key markets such as aerospace (including space) and energy storage. The OXIS team has a unique skill set covering all of our key development areas. This combined with our motivation will help drive us forward and reach our destination of improved cycle life for large electric vehicles."

According to Huw Hampson-Jones, CEO, OXIS Energy, "the LiSFAB project is a significant step forward for OXIS Lithium Sulfur chemistry and technology. Achieving the programme's set goals signifies that we can replace the use of fossilised fuel with rechargeable batteries that are benign to the environment. When Europe is spending €1billion a day on oil, OXIS Li-S batteries make a big impact towards reducing pollution."

Editor's Notes:

OXIS Energy Ltd is involved in the design, development and now the move towards commercial production of Lithium Sulfur cells for battery systems. With 36 patent families, OXIS has been granted 111 patents with 108 pending. OXIS has demonstrable empirical data justifying its claim on the inherent safety of its battery technology.

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