

Materials/Applications Poster Abstract

Ultra-Low Temperature Battery (ULTB) Project

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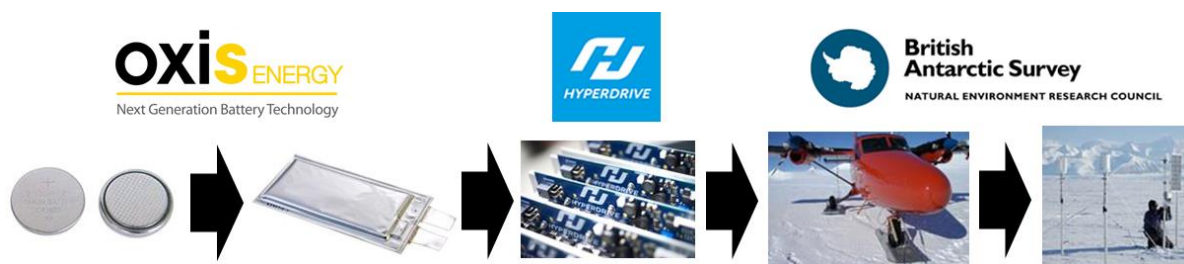
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Highlights of this Innovate UK funded project will be presented. The ULTB project was a yearlong feasibility study into the use of OXIS' high gravimetric energy Li-S battery technology at -60 °C. The target application of the project was the powering of remote scientific stations across the Antarctic continent. The project included a programme of materials development and scale-up alongside the development of a suitable battery management system.

A number of research papers investigating the low temperature performance of Li-S batteries have been published^{1, 2, 3, 4}, however the target application of this project required very low discharge rates (C/2880) equivalent to the winter dark period across Antarctic which can last as long as 120 days. Specific investigations into the performance of OXIS Li-S technology under these extreme temperature and discharge conditions will be presented.



References

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2. Mikhaylik, Y. V. & Akridge, J. R. Low Temperature Performance of Li/S Batteries. *J. Electrochem. Soc.* **150**, A306 (2003).
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4. Ryu, H. S. *et al.* Discharge behavior of lithium/sulfur cell with TEGDME based electrolyte at low temperature. *J. Power Sources* **163**, 201–206 (2006).