

# MAS Pressure Tolerant Battery Pack Ahead of Schedule

In October 2015 a consortium of UK companies, led by Steatite, secured funding from the UK's innovation agency (Innovate UK), to research and develop a battery pack that would be pressure tolerant to oceanic depths of 6,000 meters aimed for Marine Autonomous Systems (MAS). The first testing phase is a major step forward for the project and phase two testing is now underway, the results of which will be released very soon.

Currently just past the quarter way point of the programme, development of the pack is ahead of schedule and continuing at pace. Phase one testing has been completed with very encouraging results. During the test process Lithium Sulfur cells were repeatedly exposed to a combination of pressures and low temperatures, with performance observed at 660 Bar and 4°C. The results are promising and with further iterations of testing and cell development the consortium remain optimistic that the project's goals and performance expectations will be achieved.

The project, which is due for completion in October 2017, brings together expertise from Lithium Sulfur (LI-S) cell manufacturer Oxis Energy Ltd, underwater vehicle designer and manufacturer MSubs Ltd, scientific expertise from the National Oceanography Centre (NOC), and battery pack design and assembly specialist Steatite Ltd.

When complete, the increased energy density of Lithium Sulfur (LI-S) cells used within the battery pack will bring a host of benefits to the MAS sector including improved safety, greater vehicle speed and operational endurance, significant launch cost savings as a result of greater operational efficiency, improvements in neutral buoyancy and increased payload capacity as the batteries will not need to be housed within a pressure vessel.

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