

Optimising AUV Battery Efficiency

Steatite has worked with NOC to develop a mission-critical Lithium Primary solution that increased an AUV's™ endurance while reducing the whole life cost. AUV deployment can be costly with limited deployment and recovery times, so deploying for as long as possible can be essential.

Historically, NOC has used Alkaline and Lithium Polymer battery packs in AUVs but with the ever-increasing deployment demands on endurance, NOC required a fresh approach to power.

Steatite's Lithium Primary solution offered a number of benefits over the existing Alkaline solution such as greater endurance due to the increased energy density, weight saving, higher stable head voltage and a greater operating temperature range.

Lithium Batteries are already utilised with success in oceanographic applications including Autonomous Underwater Vehicles (AUV), Pipeline Inspection, Seismic Surveying, Acoustic Profilers, Sonar Devices, Oceanographic Buoys, Sensing Devices, GPS Systems and Memory Storage.

[Steatite Batteries](#) designed and manufactured battery packs, each containing 56 x Lithium Thionyl Chloride D cells. These battery packs were then tested to meet UN Testing Criteria Part III 38.3 Rev 5, Clauses T1 – T5. The finished solution comprises of 10x battery packs, in order to achieve NOC required battery set specification of 25.2 Volts DC @ 152Ah. Each battery set will be constructed into a frame inside a pressure vessel by NOC with connections made to the Autosub.

Steatite's battery solution made it possible for NOC to collect the maximum amount of data at a depth of 6,000 metres.