EV CAMERA POWERED BY STEATITE LITHIUM & Ni-Mh BATTERIES

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INTRODUCTION

EV Offshore Limited is a downhole video technology services provider focusing on a wide variety of oilfield applications, including mechanical inspection, well integrity, and production enhancement.

By combining a deep understanding of camera technology with extensive oilfield experience, EV have been able to obtain imagery in the toughest of environments, helping their customers to see what is happening in their well or facilities and resolve problems faster. To do that EV designs, builds and runs cameras that can sustain temperatures up to 175 degrees Centigrade and 15,000 psi for extended periods.

Having invested heavily in research and development, EV continues to expand the boundaries of downhole video technology by increasing temperature and pressure ratings, image quality, and transmission speeds.

EV's specialist engineers operate downhole video cameras in locations throughout the world, from the North Slope of Alaska to offshore New Zealand.

From its origins in the East of England, EV has rapidly grown to become a truly global oilfield service company.

THE CHALLENGE

EV's cameras are generally used by their clients when there is a 'downhole' problem. The problems vary but generally they are mechanical issues where there might be valve or sleeve issues, or if abnormal pressures are being recognised.

The majority of jobs carried out by EV are planned but occasionally they are called in on emergency mobilisations where time is critical. These emergency mobilisations are often fishing type scenarios where there may have been a drill head or other tool stuck or lost 'in hole'. Other uses of the camera would be to show pictures of hold up issues at substantial depths.

EV cameras are also used on operational wells and are called to action if there is a production problem. The camera would be sent down to look for the cause of the problem and enable the rig operator to choose the correct remedial action to fix it. The well's productivity is always the priority and EV can save a company vast amounts of money by quickly identifying problems which in turn speeds up intervention thereby enabling the operator to bring the well back online in an expedient manner.

EV was experiencing issues with their previous supplier. Often batteries were on very long lead times and sometimes EV received only part of an expected shipment. Battery performance and speed of supply was an important factor in the success of EV camera services.

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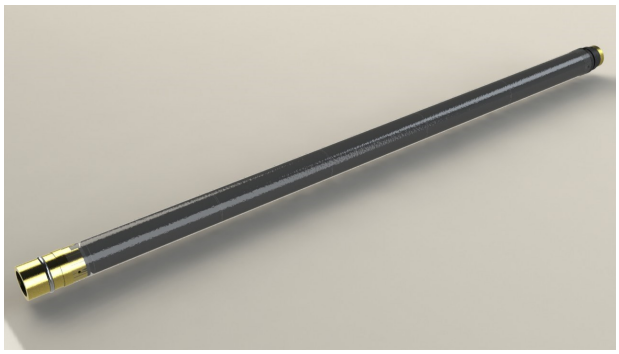


Steatite's Battery Solution

THE SOLUTION

Customer service and flexibility in the supply chain are key factors for EV when selecting a supplier. As an established provider of lithium batteries Steatite was able to give guidance on safety and handling, and also the shipping of packs.

Alex Crossland, Europe and West Africa Region Manager for EV Cameras commented;- "Steatite takes care of all the Dangerous Goods (DG) paperwork and ships direct from its facility in the UK to our end customers. This local source combined with commercial support made Steatite the ideal supply chain partner for EV Offshore Limited"

Because the cameras operate in an extremely harsh environment with prolonged exposure to high temperatures, shock and vibration, the batteries needed to be exceptionally tough. Steatite was able to reverse engineer EV's current battery solution, making improvements to the overall design by making it more robust. The final solution was a 15.6V 13Ah Lithium battery stave, which was a modified version of one of Steatite's standard products. In addition, Steatite also supplies a 14.4V 5Ah Ni-Mh rechargeable battery for low temperature applications.

The Steatite solution has an improved supply chain over EV's existing supplier with faster turnaround for both product and support. The option of placing a large call off order was also attractive for EV.

Finally, Steatite was able to offer a pack with UN transportation certification for no extra cost.

The batteries supplied provide EV with industry leading capacity, enabling more data to be captured on a single run and thereby saving time and ultimately money.

Steatite also provides EV with direct shipping to their customer base worldwide, eliminating the requirement to hold dangerous goods in stock and removing the need to complete dangerous goods paperwork which requires training and additional expense. The batteries are simply held in Steatite's stores where they can be dispatched to EV's customers the next day.

Steatite batteries are used in the following EV Products:

- **OPTISTM COIL:** Both Lithium and Ni-Mh
- **OPTISTM Slickline:** Both Lithium and Ni-Mh
- **NEPTUS SL30M:** Ni-Mh

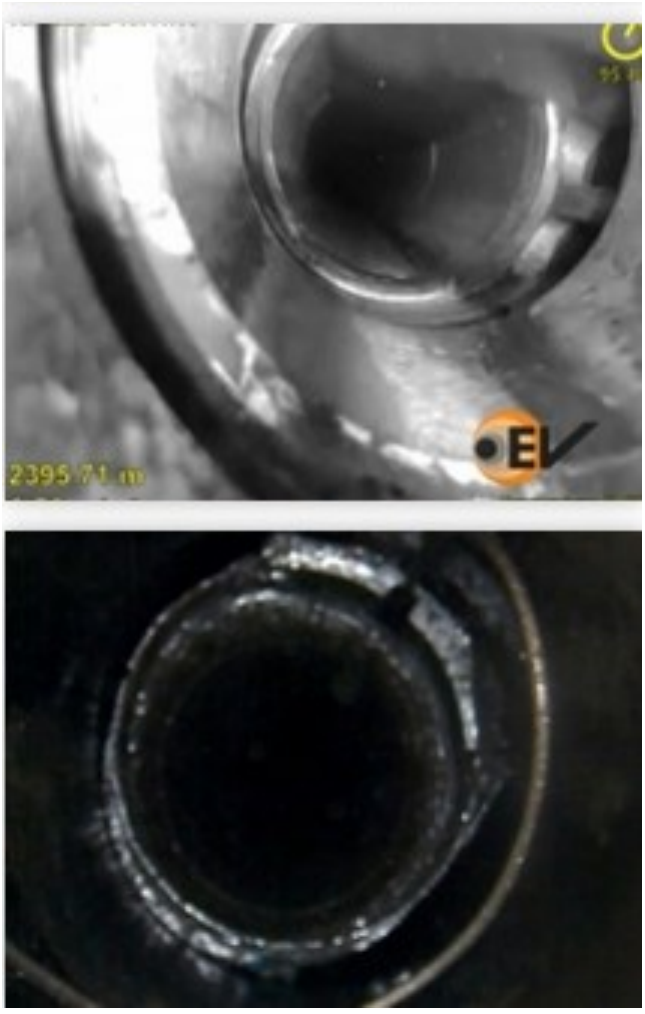
THE BENEFITS

PERFORMANCE: Steatite's battery is able to provide enough power for a minimum 5 hours of video capture.

UN CERTIFICATION: By adapting the design of a standard product for the EV battery solution, Steatite was able to supply UN certification.

EXPERIENCE: EV now uses Steatite as their battery partner and knowledge base, Steatite is assisting EV on new battery pack designs.

FUTURE PROOFING: EV's new design camera will be capable of operating at higher temperatures but as a result will draw more current. Steatite is working together with EV to design a solution that will supply the more power hungry camera whilst still being cost effective.



ABOUT STEATITE

Steatite Ltd is a market leader in the design, development and supply of rugged and industrial computers, custom lithium battery solutions, secure communication systems and advanced antennas, all ideally suited to harsh operating environments.

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