

Press Release 26.02.2020**Echandia achieves world-first with DNV-GL Type Approval for LTO Batteries**

Echandia is pleased to announce that it is the first company in the world to be awarded a DNV-GL Type approval certificate for an LTO battery system. Echandia's E-LTO energy storage system (ESS) is a smart, highly scalable air-cooled modular design system based on Toshiba LTO cells, widely considered the best heavy-duty cell chemistry on the market.

The significance of DNV-GL Type Approval

DNV-GL is the world's leading classification society for maritime battery systems. A DNV-GL certificate gives shipyards, operators and insurers confidence that Echandia's batteries meet DNV-GL's strict requirements.

Type tests conducted

DNV-GL awards type approval to companies that can demonstrate that their solutions meet international standards, regulations and recognized DNV-GL rules. Echandia conducted a series of tests to demonstrate compliance, including thermal runaway propagation, internal/external short circuit, forced discharge, EMC, environmental tests, software functional tests and battery system performance tests.

Arguably the safest battery system on the market

LTO battery chemistry represents the safest maritime chemistry on the market. It is more resilient to external heat and other abuse, preventing thermal runaways. It does not form dendrite like other lithium-ion chemistries. A build-up of dendrite can cause a short circuit and decrease battery safety over time.

In the event of an internal short circuit, the cell chemistry goes through a phase shift, creating a current limiting function in the cell, reducing the short-circuit current and thereby any possible consequences.

Supreme Thermal Runaway Prevention

Unlike other Li-Ion batteries, LTO battery chemistry is so robust that thermal runaway in the cell is extremely unlikely, and propagation of thermal runaway between Toshiba cells is almost impossible. Thus, E-LTO offers supreme passive prevention against thermal runaway propagation compared to other battery types. This result in a highly safe, controlled system that does not require any active measures like water cooling or fire suppression.

E-LTO at a glance

- Based on the safest battery chemistry (Lithium titanium oxide - LTO);
- The only LTO battery system in the world with DNV-GL type approval;
- Engineered to be equal to or better than other Li-Ion-type batteries in terms of weight and volume for heavy-duty applications;
- Superior supercharging performance. High power charge/discharge capacity.

-Long-term system stability and reliability - designed to last 10 years and beyond for heavy duty operational profiles, without affecting safety or performance.

About Echandia

Echandia is a Swedish company that delivers the world's most advanced heavy-duty LTO battery systems, supplying zero-emission energy to the maritime and rail markets. Its proprietary, lightweight battery racks and system architecture are based on the latest technology and specifically designed for the maritime industry.

Echandia is Toshiba's preferred maritime module integrator and is one of a handful of global suppliers with the experience, solutions and certification to embark on large projects.

For further information:

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