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PRESS RELEASE

Torqeedo powers Spain's first solar-electric passenger ferry.

Metaltec's ECOCAT Runs Entirely on Solar-Generated Electricity

Cantabria, Spain (June 25, 2018) - Torqeedo is supplying the electric integrated propulsion system for the new aluminum ECOCAT solar-electric passenger ferry, which was recently launched and will enter service on Spain's Mediterranean coast later this summer.

The 18-meter ferry, built by the Metaltec Naval shipyard in Cantabria, runs on electricity generated by 120 photovoltaic solar panels on the roof of the vessel. To maximize solar panel area for energy collection, Metaltec designed a set of deployable and retractable pneumatic wings. The propulsion system consists of two 50 kW Torqeedo Deep Blue electric motors, for a total of 100 kW, driven by eight 30.5 kWh BMW i3 high-voltage marinized lithium ion batteries, four in each hull. Top speed is 9.7 knots (18 km/h). Normal operating speed is 7 knots (13 km/h).

The 120-passenger boat runs 100 percent on the solar-battery system with no auxiliary internal combustion engine. The vessel's cruising range is eight hours running on batteries without sunshine. The operators expect to average six 13-km trips per day.

In smaller applications, the high-capacity BMW batteries are water-cooled, but cooling a large battery bank in a narrow hull and a hot climate would have required eight separate through-hull systems. Torqeedo's application engineers instead designed a "cool room" in each hull which allowed the batteries to be stacked closely together, saving space and reducing maintenance needs in the future. Metaltec collaborated with Torqeedo's engineering team to develop an innovative software model for management of the solar energy capture and storage process.

"It has been a pleasure to work with Metaltec, a pioneer in the development of battery- and hybrid-powered commercial vessels," said Torqeedo CEO Christoph Ballin. "Metaltec is leading the way in the marine electric mobility revolution. The company's shipbuilding team brings a refreshing combination of forward vision, creative ideas and innovative engineering."

"The all-electric power system on ECOCAT will provide significantly lower operating costs over internal combustion engines with zero fuel costs, lower maintenance and a long battery life," said Enrique Arriola, CEO of Metaltec Naval. "The passengers riding on the new ECOCAT will enjoy a silent and emission-free experience on the water and will be happy to know they are helping to provide a cleaner environment."

Arriola said that ECOCAT is the first of Metaltec's new ECOBOAT series of environmentally friendly aluminum vessels. The company has also created designs for a monohull solar-electric boat as well as a twin-hull hybrid vessel. He also pointed out that the all-aluminum construction is also a sustainability improvement since the metal can be recycled when the boat is decommissioned.

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About Torqeedo

Torqeedo is the market leader for electric mobility on the water. Founded in 2005 in Starnberg, Germany, the company develops and manufactures electric and hybrid drives from 0.5 to 100 kW

for commercial applications and recreational use. Torqeedo products are characterized by an uncompromising high-tech focus, maximum efficiency and complete system integration. Torqeedo is part of the DEUTZ Group, one of the world's leading independent suppliers of diesel and natural gas engines. www.torqeedo.com

About Metaltec Naval

Metaltec Naval is a leading company in the design and development of innovative shipbuilding and ship conversion projects. Its policy of continued investment and effort on innovation and knowledge, together with the establishment of corporate alliances with the main players in the sector, allows Metaltec to maintain its competitiveness in its main lines of business, after four decades of maritime-naval activity: construction and conversion of professional and recreational vessels, ad hoc customized projects, sustainable ships and boats through materials and/or propulsion systems (aluminum, mixed or pure electric propulsion) or unmanned marine vehicles.

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