

## Microgrid design cook islands

October 1, 2020: Rolls-Royce, the UK multinational engineering company, is to supply the batteries for a microgrid on the remote Pacific island of Rarotonga, one of the Cook Islands roughly halfway between Los Angeles and Sydney, Rolls-Royce Power Systems announced on September 3.

In this installation the luxury carmaker's business unit, Power Systems, will supply three battery containers of MTU EnergyPacks with a total storage capacity of 4.2MWh and a power output of 4.8MW. The PV systems, diesel generators and battery containers will supply 11,000 householders on the island with grid support.

The other two Rolls-Royce and Vector Powersmart projects on the Cook Islands were in the island of Aitutaki, where a microgrid has been operating since 2019, and the holiday resort of Glenorchy in New Zealand.

In August, Rolls-Royce Power Systems announced it would be increasing its capacity for producing battery containers by manufacturing the MTU EnergyPacks in Bavaria, Germany, where the firm already has a production facility.

"We see growing demand for MTU EnergyPacks, since more and more customers are seeking on-site power generation solutions that use renewables," said Cordelia Thielitz, vice president of the Microgrid Solutions division.

Rolls-Royce Power Systems has a product portfolio that includes battery containers for mission critical, standby and continuous power, combined generation of heat and power, and microgrids.

Batteries International has been serving the energy storage and battery industry for over 25 years and has a well deserved reputation as being an authoritative source on all aspects of the industry.

The MTU EnergyPacks, packaged in standard 40-foot shipping containers, will support the microgrid while enabling the increased use of variable renewable energy. These units will be integrated by Vector into an existing power plant run by local utility Te Aponga Uira.

It is the third such project the integration company has developed with Rolls-Royce, including one on the nearby island of Aitutaki where a 20 foot battery container has been controlling the microgrid since 2019. In New Zealand, a 130 kVA containerized battery also stores excess power from a photovoltaic system at a resort in Glenorchy for use at night time.

Rarotonga's microgrid supplies about 11,000 island inhabitants and includes photovoltaic systems, diesel gensets and batteries. The new MTU units will add a total storage capacity of 4,268 kWh and a power output of 4,800 kVA. Along with lithium ion batteries, the MTU EnergyPack houses an electronic control unit,

transformers, and cooling equipment to form a complete energy storage system.

The development comes as Rolls-Royce plans to significantly expand its PowerPack production capacity at the Siemens-Technopark at Ruhstorf in Germany's Bavaria. This new production capacity will be available from early 2021.

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