Supply, installation and maintenance of a 75 kW/150 kWh battery storage system for grid-connected and island operation at the JRC-IET.

In terms of the storage system, Ingeteam is responsible for supplying the whole Battery Energy Storage System, including: Power Converter, Lithium Ion batteries, EMS (Energy Management System), AAC (Advanced Automation Controller), installation, commissioning, training and maintenance services.

**STATCOM & Energy Storage System with Lithium Ion Batteries**

The system was installed by Ingeteam in 2015.

Increased penetration of renewable energy sources in electricity networks results in growing power production variability. Hence, reliable balancing technologies are required:

a) to provide extra power when RES power production is too low  
b) to store energy when there is a surplus of produced RES power

This balancing task can be provided by energy storage technologies, not only in transmission and distribution grids but also in smaller-scale networks. The requested battery storage system must allow carrying out a variety of experiments in this field.
**General Description**

**INGEGRID® Equipment Supplied for the Installation**

1 x INGEGRID SH-B : Power Conversion System (PCS)
- 400V 166KVA 75kW air cooled
- 4 x Lithium Ion Battery racks
- 45kWh each
1 x INGESYS EMS : Energy management system
1 x INGESYS IT : Local SCADA

**Services Provided**

- Electrical and electronic system specification.
- System container specification.
- Power flow simulation and modelling.
- Electromagnetic modelling and simulations.
- SCADA monitoring system configuration.
- Comprehensive system tests in the Ingeteam Power Electronics laboratory, including the whole battery system.
- Protection system.
- Commissioning.

**Other**

1 x 20 ft container with the whole Battery Energy Storage System.