A remote French island adds solar power and energy storage

The challenge:
To generate and store renewable solar energy that can be sold on the power grid
Reunion Island, a French island with less than a million inhabitants, is located in the Indian Ocean, 120 miles from its nearest neighbor. Its isolated location and abundant supply of sunshine make it an excellent candidate for solar power generation.
Akuo Energy, a French renewable energy power producer, sought to support the island’s electricity needs by generating a predictable supply of solar energy that it could store and sell to the public power distribution grid. It simultaneously wished to promote its innovative approach to aquaculture, the farming of fish and other aquatic organisms.

The solution:
Solar production and energy storage system
Among Akuo Energy’s projects to increase Reunion Island’s energy supply is a 9 MW photovoltaic plant, coupled with an energy storage system. The solution includes a programmable logical controller (PLC) that helps balance power generation with load requirements, dispatching the power to the grid according to power demand and quality requirements.
The solar plant includes an area dedicated to aquaculture shade structures with a capacity of 1.5 MWp. In addition to generating electricity, these structures are designed to help raise fish, providing shade, camouflage and protection. Some building are dedicated to a fish hatchery for breeding red tilapias and sturgeons. The site also includes a solar plant Agrinergy with a capacity of 7.5 MWp, dedicated to market gardening. The solution is designed to generate enough electricity to power nearly 4,700 households and lower carbon emissions by nearly 9.3 tons a year.

Christophe’s dream is to see his island grow through sustainable development that protects the beauty of the land where he lives.

Nidec ASI, turning dreams into results

Nidec ASI
**System components supplied by Nidec ASI**

An water-cooled Power Conversion System (PCS), consisting of:
- a PCS Converter, including
  - an AC/DC converter in Active Front End configuration
  - a DC/DC converter for DC bus control
  - a PCS Controller
- a Transformer

Nidec ASI realized the entire electrical system of the plant.

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