Plug and Play Energy Systems 2016

Distributed Energy Resources (DER)
Plug and Play Energy Systems (PPES), uses cloud based internet solutions to connect our creative design, development and management team of talented engineering, cyber secure IT and software developers, water resource, general construction, marketing, distribution, graphics and management partners. For over 35 years, we have solved integrated energy related problems for utility, commercial and residential clients, incorporating proprietary, remote controlled smart meter, monitoring, trouble shooting, management and accounting systems.

Since 2002 we have designed and integrated the development of cloud based MINI GRID, Photovoltaic and safe, durable battery storage (BESS) systems, hardware and software solutions to manage power plants in Canada and the United States, all by remote control from any web based device.

The complex chemical, electrical, physical interaction and integration of renewable energy inputs, battery storage, converters, chargers, inverters, back up generators, grids, meters, cyber security and communications hardware and software is more than simple engineering or understanding volts, watts, depth/charge/discharge rates/cycles, transformers, substations, meters, energy clouds, environmental issues, wires, nuts, bolts or Supervisory Control and Data Acquisition (SCADA). Understanding, designing and engineering systems to get all of these functions to work together is a new science that is being redefined and tested every day as batteries and other storage devices rapidly evolve.
Our 2015 PowerLord™ line of innovated products include cyber secure, efficient, cost effective and green MINI GRID, Smart Meter, PPA and Demand Response (DR) solutions all operated and managed by cell phone connections from anywhere in the world. In most cases, we use quality products made in America and the ECU.

Our combined in house, software, engineering partnership and skills include cyber secure power plant control systems, embedded computing, smart grid, smart city and distributed artificial intelligence robotics and control systems that proactively manage the network and react intelligently to crisis situations. Our experience in black and white box testing is combined with test driven development to ensure the highest quality software. Our software team include software engineers consulting with the United States government.

Plug and Play Energy Systems LLC (PPES) has partnered with energy resource developers in the U.S. and around the world to deliver expert renewable energy systems, storage and grid management and internet technology.
Typical 6 MW Storage System

- SCADA
- Substation
- Transformer
- Firewall
- BMS
- Flow Control
- PCS
- 1.5 MWH Battery
- 20' Container
- Renewable Input

Typical 6 MW Storage System
Residential/Commercial (RESS)
14-18kWh Battery Storage Systems
**TERNA - Grid Services (Storage LAB)**

**Location:** Codrongianos - Sardinia

**UNIT:** 4 Energy Spring 164 (256 ST523 620V 23.5kWh)

**ENERGY:** 4.15 MWh

**POWER:** 1.2 MW

- Grid Balancing
- Maximization of the power capacity transport of the Power Grid
- HV line Voltage Regulation

**BESS**

Utility Scale Battery Storage Systems
EDF EN – Toucan Storage Plant

**Location:** French Guyane

**UNIT:** 4.5 Energy Spring 164 (288 ST523 620V 23,5kWh)

**ENERGY:** 4.5 MWh

**POWER:** 1.5 MW

- Photovoltaic integration
- PV system regulation
- Maximization of the PV output capacity

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ELVI – Micro-Grid System for a Luxury Resort

**Location:** Mauritius

**UNIT:** 3 cabinet 104 (12 ST523 620V 23,5kWh)

**ENERGY:** 282 kWh

**POWER:** 125 kW

- Micro-Grid
- Time-shifting
- Spinning Smoothing
- Peak shaving

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Off Grid
Commercial Storage Systems
Extreme Remote Systems
Thin Film PV
48v - 23kWh Battery
Off Grid - Firm Power
Distributed Energy Resources
Energy Cloud Bi-Directional Control
Smart - Micro Grids
Safe, 100% Recyclable
High Cycle Battery Storage
PowerLord™ Cyber Solutions

Proprietary “PowerLord” Mini Grid Backdoor Cyber Protection