Grid-Interactive DC-Link PV Charging Station

Funding Source

Hawaii Renewable Energy Development Venture (HREDV), in negotiations

Prime Offeror & Team

Satcon, University of Colorado Boulder, Castle & Cooke Resorts LLC

Funding Amount

Proposed $890,864 Reimbursed, $298,085 cost share

Funding Agency

United States Department of Energy

Satcon Project Manager

Mark Prestero

Satcon Principal Investigator

Dr. Milan Ilic

Project Summary

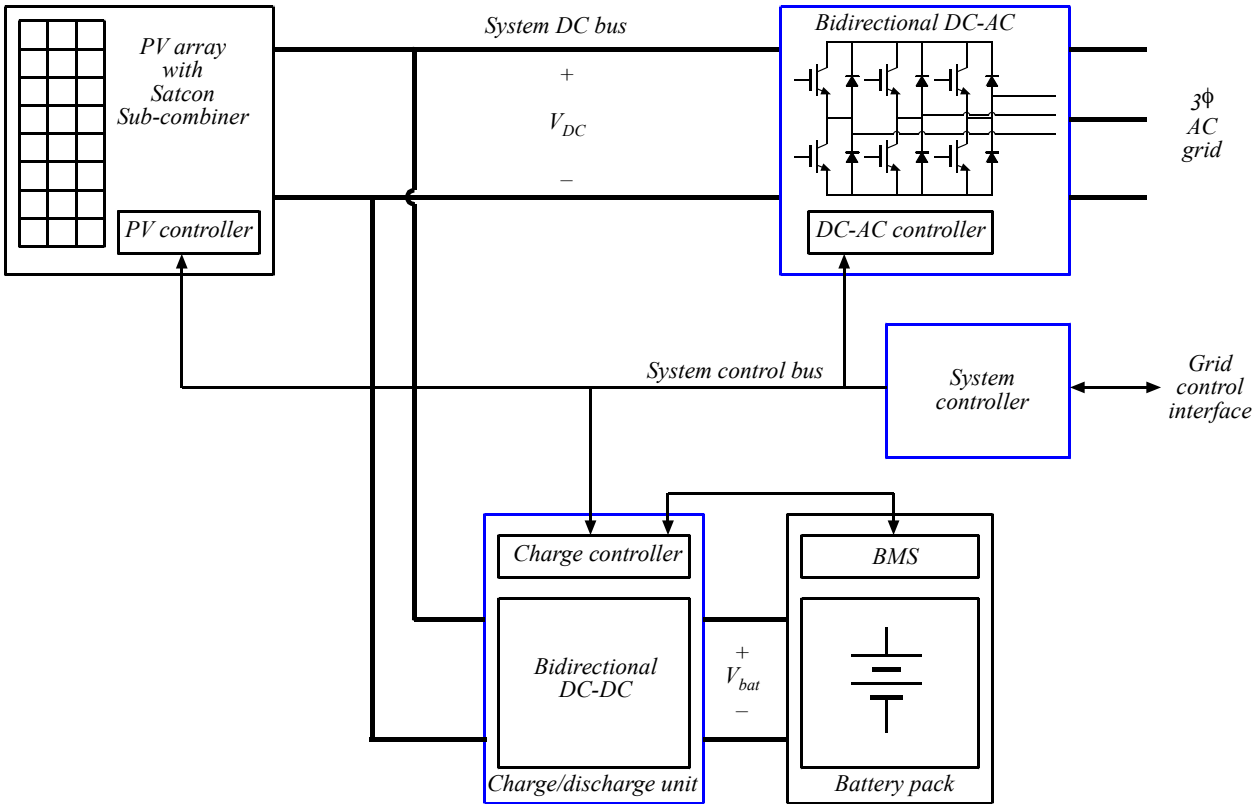
Hawaii depends heavily on oil, but is rich in renewable energy resources. Effective grid integration of renewable sources together with transportation electrification have been identified as the key technical challenges in achieving Hawaii's goals of 70% renewable energy by 2030. Satcon proposed to develop power conversion and control technologies for a Grid-Interactive DC-Link PV Charging Station, as a candidate solution addressing challenges in grid integration of both renewable sources in the Aloha State.

In addition to much wider utilization of alternative clean energy, Hawaii's goals depend on the reduction of oil usage in transportation. To this end, together with shifting electricity generation from oil to renewable sources, a much wider penetration of electric-drive vehicles including plug-in hybrids (PHEVs) and pure electric vehicles (EVs) is envisioned.

The energy productivity gains from Solar power would have incremental benefits to the entire State of Hawaii and its neighbors in the region—including job growth within the Construction and Sustainability skill sets.

In addition, there is great market potential as the Pacific Rim islands all share the same dilemma when it comes to their energy needs. The economic impact which this project could provide on a scalable/repeatable basis would be significant to the internal transportation needs within this remote region of the world.

Figure of Key Feature



Block diagram of the prototype Grid-Interactive DC-Link PV Charging Station