Welcome to the 2015 DoD Virtual Energy Summit

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Siemens Federal Technology Innovation

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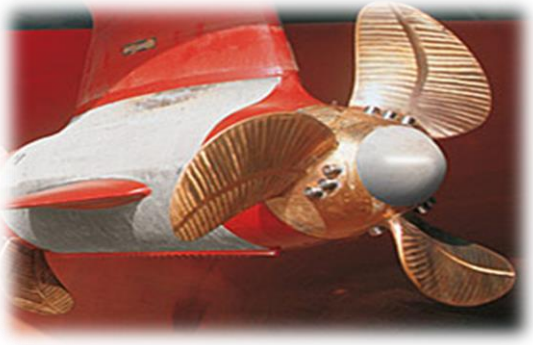
Siemens Helps Our Federal Customers Address Their Most Challenging Needs

Smart Buildings & Infrastructure

Health Care

Renewable & Secure Energy

Automation Technologies



Maritime Products and Services

Cybersecurity

Siemens Government Technologies, Inc. is a Federally-compliant U.S. organization structured to deliver Siemens products and services to help our customers address national imperatives in infrastructure, energy and healthcare.

Siemens

Globally

- One of the world's largest producers of energy-efficient, resource-saving technologies
- A leading supplier of systems for power generation and transmission as well as medical diagnosis
- 343,000 employees in more than 200 countries
- Worldwide revenue: approximately $98 billion (FY2014)

In the U.S.

- Our largest market for commercial and government customers
- Vital production location, important research center and a key base from which Siemens exports globally.
- 50,000 employees
- Revenue: $22.2 billion (FY2014) including $5.2 billion in exports
- 70 manufacturing sites
- $50 million invested each year in job training

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SGT: Accelerating Siemens' Growth in U.S. Federal Market

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Siemens - Shareholder

Siemens Government Technologies, Inc. (SGT)

Special Security Agreement (SSA)	Cleared Employees and Classified Contracts	3 Outside & 2 Inside Directors, 1 Officer / Director
Legal Structure	Scope	Board

- Separately incorporated in October 2011 as an independent, yet affiliated, U.S. company
- Supporting and collaborating with Siemens divisions and businesses
- Federally Compliant U.S. Company
- Senior Customer Facing, Account Management and Project Management Team
- Experienced Federal Contracts Administration External Financing Team
- Headquarters in Northern Virginia

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Siemens Serves Every Cabinet-Level Agency … Through All Channels

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Where we provide some of our most significant solutions in infrastructure, energy and healthcare

Channels to Market

- Distributors
- Small Businesses
- System Integrators & EPCs
- Direct/Catalog

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Our Federal Contract Vehicles

Army Corps of Engineers

- UMCS III-SATOC
- UMCS IV-MATOC
- ESPC
- Power Purchase Agreement (MATOC)
- Maintenance and Services

Department of the Army

- U.S. Army Infrastructure Modernization (IMOD)

Department of Veterans Affairs

- Therapy IDIQ

Department of the Navy

- Single Stage Turbines (SST) Service and Parts
- Basic ordering agreements for the service and replacement of compressors and other maritime equipment

Department of Energy

- Energy Saving Performance Contracts (ESPC)

Defense Logistics Agency

- Troop Support: Imaging and Radiology IDIQ
- Digital Imaging Network-Picture Archive Communication Systems IDIQ

General Services Administration

- Facilities Maintenance and Management
- IT equipment, Software and services
- Total Solutions for Law Enforcement, Security, Facilities Management, Fire and Rescue and Response/Disaster Recovery
- Buildings and building materials, Industrial Services and Supplies

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Helping the Federal Government and Taxpayer Save Energy and Money

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Microgrid Case Studies

- **Microgrid Overview**
- **Parker Range Hawaii – Integrated Resource Plan Consulting Study**
- **British Columbia Institute of Technology – Microgrid Demonstration**

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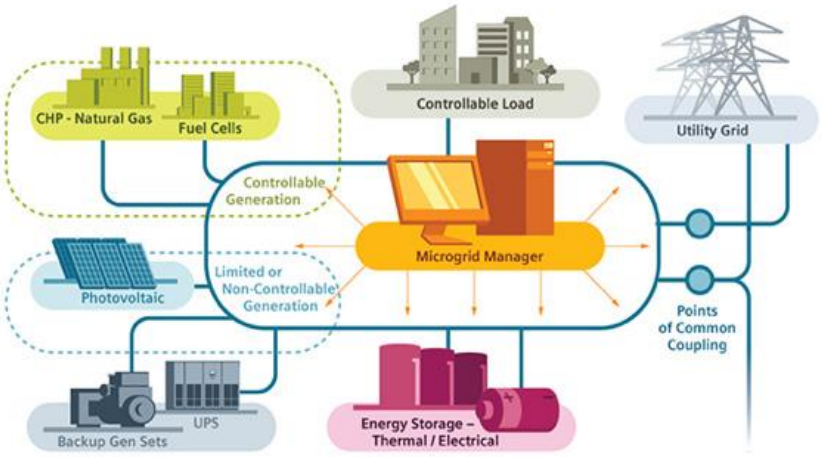
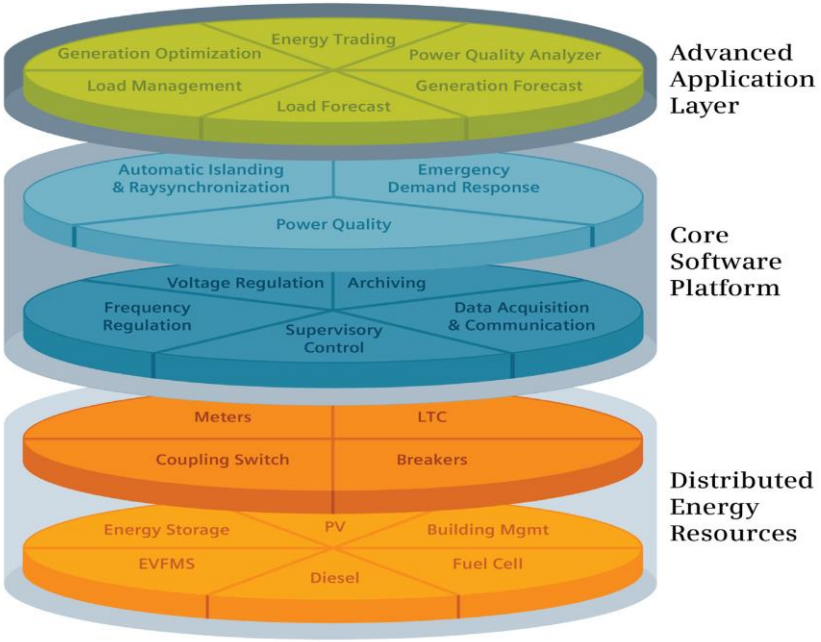
Microgrid Overview



A microgrid encompasses multiple interacting components spread across a defined geographic space. The Components are connected and monitored with advanced sensing, control and communications technologies and can be configured to meet the needs of a variety of dynamic load types an operate under a range of grid conditions.



The three levels of the microgrid include the energy source, the core software platform and the application layer. Within each layer are specific capabilities that directly impact unique requirements, such as:

- **Reliability**
- **Efficiency**
- **Assurance**
- **Optimization**
- **Responsive**

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British Columbia Institute of Technology – Microgrid Demonstration

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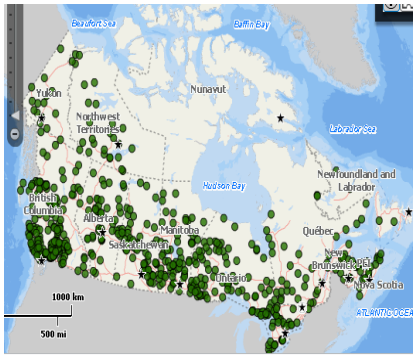
Challenge

- 116 Remote communities in BC with First Nations communities (20% of all remote Communities in Canada)
- Reserves currently fed by Diesel back up gen-sets and/or BC Hydro Grid
- Transport Cost and Access to First Nations is very expensive

Project Profile

- British Columbia Institute of Technology – Burnaby, British Columbia
- Institution
- Project Partners: Schneider, Panasonic

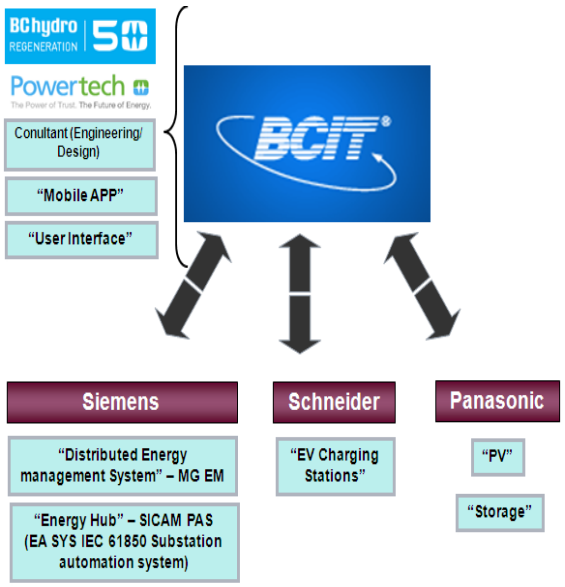


Solution

- Integration of 250 kW PV inverters
- Integration of Building Management System
- 500 kWh of Li-ion energy storage to support a portion of the load during islanding
- Multiple distributed energy resources deployed on the same distribution network
- Control functionalities including optimal dispatch and islanding
- Microgrid Management System in combination with battery storage system, photovoltaic plant, eCar charging stations, and controllable loads to better exploit renewable generation and integration
- Features include: Monitoring and control, automatic mode, load frequency control, automatic voltage control load and generation forecast, energy optimization (electricity), and black start
- Operation modes: Grid connected & Isolated (Island)

Benefits

- Mitigates the grid impacts caused by electric vehicle charging on the main through use of energy storage
- Automates control of loads
- Considerations of contracts/pricing models
- Cost savings through optimized use of PV and battery
- Reduces CO_2 and other GHG with diesel offsetting



Parker Ranch, Hawaii – Integrated Resource Plan Consulting Study

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Challenge

- High electricity prices threaten the business and growth objectives of Parker Ranch
- Significant energy demand for 175 miles of water pipeline, 4 reservoirs, 2 wastewater lift stations with 40 hp motors
- Desire to support the community with a comprehensive island solution
- Preference for renewable resources (solar, wind, tidal water, etc.)

Solution Proposed by Feasibility Study

- 3-5 MW renewable generation & control solution to support the Ranch & Industrial park (includes small wind, solar, battery, infrastructure & control)
- 20 MW Community Project to include solar, wind, battery and support the load of Waimei area
- >70 MW to support the entire Big Island and allow for export to other islands (wind, geothermal, pumped hydro storage)

Potential Benefits

- Levelized cost of energy less than status quo (purchasing from utility)
- Obtains revenue potential from supporting community/island with less expensive power
- Increases sustainability through 100% renewable energy mix

Project Profile

- Parker Ranch – Waimea, Hawaii
- Hospital, Commercial area, Industrial Park
- Duration: 10 months

What does this mean to the Warfighter?

- Indirect Impact on Operational Forces;
  a diversified energy portfolio at a local Level has a direct impact on training and maintaining the operational force.
- Maintain Continuity of Operations;
  In times of crisis whether natural or man-made the ability to carry on with the mission is paramount and a microgrid with a diversified energy production capability is a comprehensive option.
- The Microgrid gives local Commander ability to C2 Resources;
  Provides a new capability to local commanders to assess risk in real-time and reduce the risk of cyber attack, or threats to supply, storage and distribution pathways; industrial control systems; supply chain; key testing facilities; training land; key deployment and employment facilities

Questions?

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BOOZ ALLEN DISCUSSION

THIS CONCLUDES OUR PRESENTATION FOR TODAY.

Please join us Monday from 1200-1330 as we talk about Hacking for Defense.

Joining us will be Mr Pete Newell who will talk about leveraging academia to solve government energy issues.