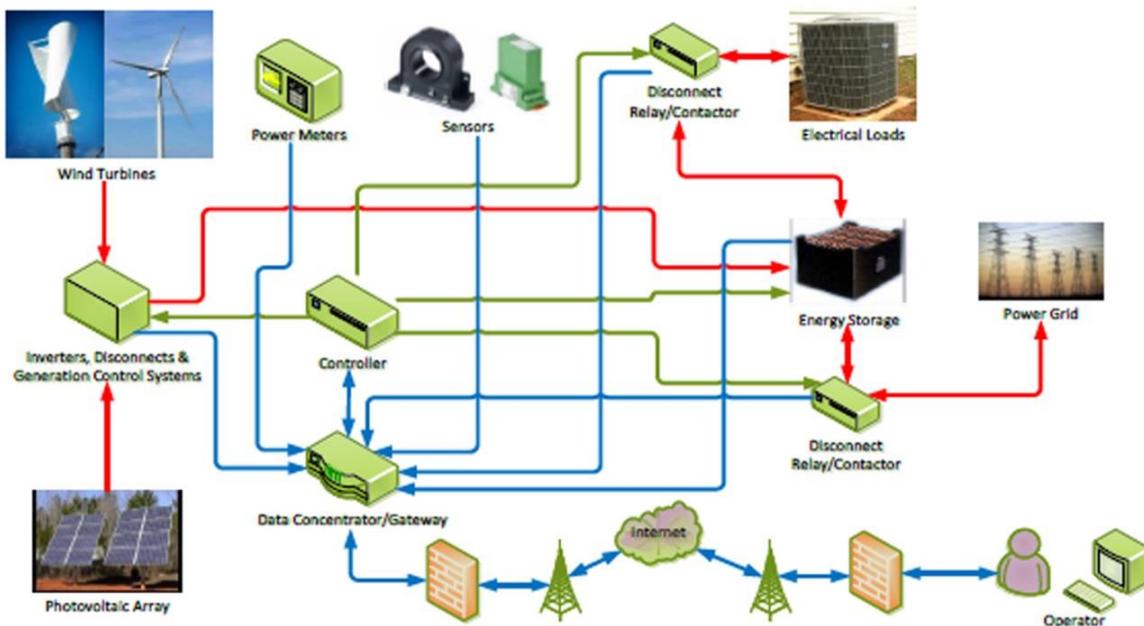




Quanta Technology has worked with several North American utilities on microgrid projects to determine the benefits and challenges that come with integrating such networks into the power grid. Microgrids are currently seen as essential in maintaining continuous and reliable power supplies to key infrastructure, such as remote communities and mission-critical infrastructures. Small, single-user systems that range from 6-10 kW or 18-30 kW, as well as 100s of kW to MW sized industrial and commercial applications, are designed and deployed by utilities and private sectors with the support of Quanta Technology experts.

The figure below shows a microgrid serving a commercial customer with an average 16 kW consumption level and peak load of 25 kW recently designed and deployed in the field. Small wind turbines and rooftop PV systems are used in the microgrid to optimize the battery energy storage size and extend the load serving capacity during the stand-alone operation. Power meters, sensors and direct feedback from field devices are used for continuous real-time monitoring and control of the microgrid. Using secure cellular communications and web-based data exchange through gateways, authorized remote operators can poll real-time data, such as battery state of the charge and alarms, send commands and reconfigure the network for power and energy balancing (e.g., curtail generation during low-demand periods or disconnect unessential loads during periods of high demand).

The microgrid also utilizes on-site autonomous controls and protection to allow for automatic responses to changing field conditions and enhance the system robustness.



Service Offerings

- System design and architecture development – modeling and field test
- Technology selection, equipment specifications and prototyping
- Design and implementation of microgrid controllers and remote monitoring systems
- Performance evaluation and operation analysis

For more information regarding Quanta Technology's Microgrid expertise, please contact Farid Katiraei at (416) 477-5813 or fkatiraei@quanta-technology.com.