



Innovative Grid-Edge Technologies and Solutions

Grid-edge technologies are defined as any physical infrastructure asset, network or control, and/or software applications that facilitates integration of distributed energy resources (DERs), energy storage systems (ESSs), and electric vehicles (EVs). Quanta Technology offers innovative products and software applications with a focus on testing and performance enhancement of grid-edge applications to address a wide range of technological challenges for system integration and project success, and to mitigate gaps in existing grid-edge tools and solutions. These products consists of testing devices, software platforms, and innovative, behind-the-meter battery energy storage systems (BESSs). A list of Quanta Technology Grid Edge products and their features are given below.



Battery Energy Storage Tester (BESSTI™)

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- A comprehensive and user-friendly tool for testing and evaluation of BESS functionalities.
- Uniquely-designed, luggable solution for Factory and Site Acceptance Testing (FAT/SAT) of complex BESS applications.
- Built-in standard and fully customizable test procedures for BESS type tests, communication interoperability tests (SCADA and Site controller), grid-support and market application tests, and interconnection tests.
- Supports multiple standard communications protocols, interfaces (DNP3, MODBUS, and IEC 61850), and digital/analog input and output signals.
- Extensive methods for results capture, visualization, and recording (plots, tabular data reporting, CSV file saving).



Site Controller and DER Aggregator

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- Integrated, robust gateway and intelligent controller for aggregating, controlling, and monitoring of multiple DERs at a site or in a region (nodes)
- Implementation of advanced control and performance monitoring applications
- Enables single point of interaction for the utility dispatch center
- Data logging and historian, plus secure remote connection
- Supports more than a thousand nodes



EV Sub-Metering Tester (EVMT™)

- Compliance testing of the EVSE sub-metering solution
- Automated test procedures to analyze the measurements for the pass/fail criteria
- A pre-calibrated NIST-standard meter with traceable accuracy measurement and comparison at better-than 0.05% accuracy
- Interface to the EVSE sub-meter to read measurements locally through watt-hour (Wh) pulse or digital data communication
- Stores test results in a pre-defined format

EV Sub-Metering Tester (EVMT™)

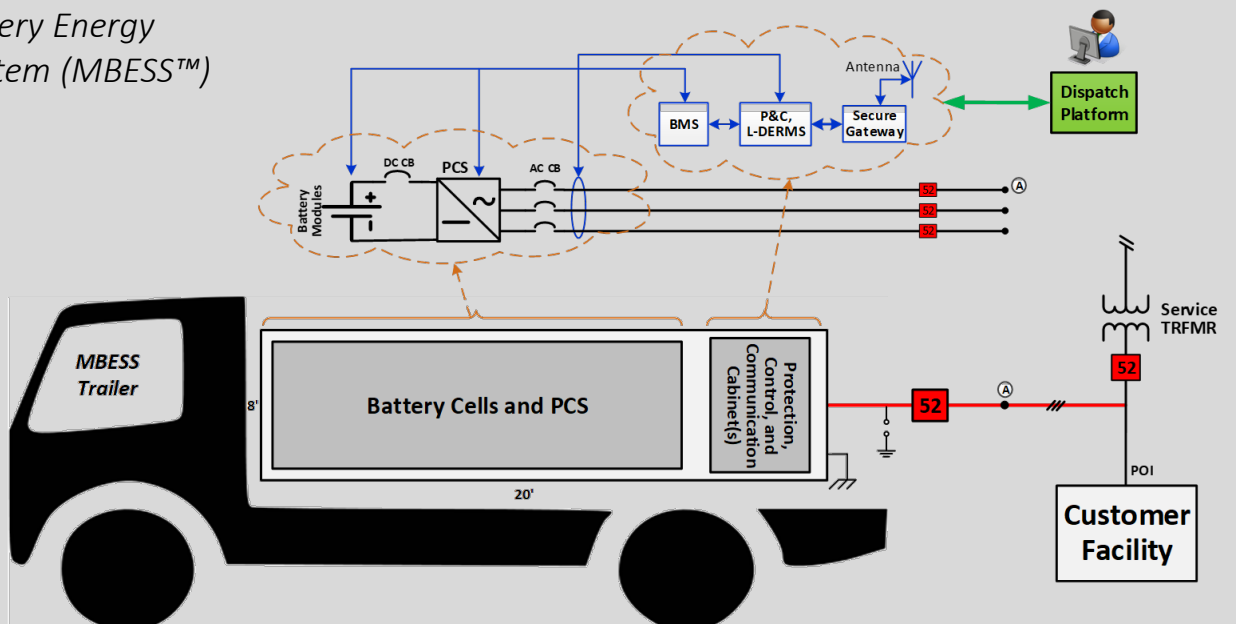


Mobile Battery Energy Storage System (MBESS™)

- State-of-the-art portable battery energy storage technology for commercial and industrial applications of BESS in grid-supporting or reliability-enhancement solution
- Fully modular, plug-in, and autonomous for 3-phase or single-phase; for connection at 208/240 V (1-phase), 480 V (3-phase), and 600 V (3-phase)
- Supports the following applications: outage management, demand adjustment, peak-shaving, and voltage control
- Integration into utility SCADA through a built-in energy management platform for aggregation and optimization purposes



Mobile Battery Energy Storage System (MBESS™)





Why Quanta Technology?

Quanta Technology has been supporting utilities and other clients in the development, management, and testing of grid-edge technologies. Many of our solutions are the result of partnership and engagement with utilities and clients in successfully integrating grid-edge solutions and enabling complex applications. Our dedication to customers and hands-on experience will ensure the delivery of practical solutions and innovative approaches in addressing challenging projects. The success stories and example products resulting from past projects are a testimony to our capabilities and creative minds. The services and products provided by Quanta Technology in this area cover a wide range of grid modernization technologies with a common goal of bridging the gap and shortcomings of current integration, testing, and evaluation methods.

DER Control and Management Systems

Controls for DER and microgrid assets are an integral part of grid-edge technologies. Quanta Technology has extensive experience in the development of site controllers and microgrid management platforms from design to implementation and successful operation.

ESS Testing and Solution Development

Quanta Technology has unique expertise in third-party acceptance and performance testing of BESSs. The independent testing ensures that a BESS will operate as expected, according to the specifications, and will provide all the key monitoring and communications for operator awareness. On the other hand, grid or customer support applications are difficult to verify and quantify without appropriate test procedures due to the proprietary nature of BESS vendor controls. The automated test procedures utilized by Quanta Technology's proprietary BESSTI™ product facilitates capturing BESS performance in compliance with latest standards.

EV Charging Technologies

EV sub-metering accuracy testing and EV demand management are two challenging areas in which Quanta Technology provides support for utilities and developers. Our experts have developed a sub-metering accuracy tester for Electric Vehicle Supply Equipment (EVSE) that addresses the current gap in the market for independent EVSE testing for utilities.



About Quanta Technology

Quanta Technology is an independent technology, consulting, and testing company providing business and technical expertise, along with advanced methodologies and processes, to utilities and others in the power and energy industries. Our mission is to provide unparalleled value to our clients in every engagement across the value chain by using advanced software and hardware, laboratories, and custom tools for a holistic approach to practical service and the most insightful thought leadership in the industry.

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Smart Solutions Practical Results

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