ABB's e-mesh™ digital ecosystem of solutions and products enables the digitalization of distributed energy resources.

- Digital solutions to monitor, optimize and improve the performance of distributed energy resources
- Automation, management and control system for distributed generation, microgrids and energy storage
- Plug-and-play microgrid and energy storage solutions - PowerStore™
Digital solutions for distributed energy resources

Maximizing energy efficiency and minimizing CO2 emissions for your enterprise or utility.

The global power industry is facing regulatory and market pressures to move to low-carbon generation. And with the rise of distributed energy resources, the power generation companies now need to monitor, analyze and control a sophisticated set of generating assets while minimizing operational costs, increasing operational availability and maximizing revenue opportunities.

The power generation infrastructure is decentralized, consumers are becoming prosumers, and the aged grid system is unable to accommodate this new transition. In parallel, renewables are also steadily increasing, and with the emergence of IoT, cloud and low-cost battery energy storage systems, the power system has become highly complex today. While this trend is contributing to sustainable energy production, it also helps to provide energy independence for participating stakeholders such as commercial & industrial enterprises, independent power producers and remote communities. The challenge remaining for all stakeholders is how to adapt to this new decentralized model.

ABB Ability™ e-mesh™ helps global customers to easily transition to this new distributed energy model. From the field to the boardroom, we enable our customers to accelerate performance and stay ahead of the curve. Ably supported by ABB’s vast experience in installing more than 200 microgrids, battery energy storage and renewable solutions on all seven continents.

ABB has helped to install more than 200 microgrids, battery energy storage and renewable solutions on all seven continents.

The e-mesh™ portfolio offers end-to-end distributed energy solutions, combining advanced analytics, software technology and hardware systems. Our microgrids and battery energy storage solutions ensure highest penetration of renewables share, increase grid stability and provide reliable power while minimizing CO2 emissions.

The new age automation solution, built using ABB’s proven MicroSCADA and RTU platforms, helps to monitor and control distributed energy resources. The digital offering e-mesh™ Monitor and e-mesh™ Applications, based on IoT technology, helps to forecast trends, optimize performance and increase revenue streams.

ABB Ability™ e-mesh™ Gain infinite insights to optimize performance

Cloud-enabled digital solutions to monitor, analyze and optimize the performance of your distributed energy assets from anywhere, anytime.

ABB’s e-mesh™ digital solutions offer a niche cloud-based ecosystem with e-mesh™ Monitor and e-mesh™ Applications, sophisticated Saas suites, to remotely connect, monitor and optimize the performance of assets.

- Data collection, aggregation and storage in a secured cloud environment using an IoT edge device
- e-mesh™ Applications forecasting, optimization, descriptive, diagnostics, predictive, and prescriptive analytics
- Easy to interface with energy portfolio planning and enterprise asset management solutions
ABB Ability™ e-mesh™ Monitor

Monitor, control and analyze the performance of your distributed energy assets.

Key Features:
- Real-time monitoring of distributed energy assets from anywhere, anytime
- Alarms, historical analysis and performance analytics reporting
- High-end intuitive web interface to visualize data from the field
- Act as a hosting environment for a set of Software as a Service (SaaS) e-mesh™ Applications

ABB Ability™ e-mesh™ Applications

Leveraging cloud, analytics and artificial intelligence to accelerate business performance.

e-mesh™ Applications are a set of SaaS-based applications, built on the concept of IoT, to effectively manage distributed energy assets, forecast energy trends, manage loads, optimize asset performance and increase revenue streams. The easy-to-deploy, scalable and machine learning based applications are available as different suites. This enables the flexibility to choose applications relevant to today's need with an option to scale-up at any time as the business grows.

e-mesh™ Analytics Suite

A suite of applications to instantaneously diagnose and understand the real-time performance of your distributed energy assets including solar PV, wind, hydro, microgrids and energy storage systems.

The suite enables the following:
- Perform quick health check
- Detect micro faults anywhere in the site
- Analyze deeper root cause
- Predict failures in advance

e-mesh™ Service Suite

The service suite is developed to improve field related service activities. The application allows to visualize key site level information in no time.

Following are the main benefits:
- Mobile access to site details
- Increase longevity of assets
- Faster response time to faults

e-mesh™ Premium Suite

The premium suite comes with power packed features that gives the unique advantage to monitor and manage multiple sites at once. The suite is designed to address the needs of large utilities and IPPs.

The key benefits include the following:
- Forecast production and optimal planning
- Business intelligence reporting
- Geographical information system
- Fleet management
ABB Ability™ e-mesh™
SCADA and Control

Simplify plant operations, improve productivity and maximize return on investments.

- e-mesh™ SCADA and e-mesh™ Control, built using ABB’s proven and globally deployed MicroSCADA and RTU technology platforms, help to monitor, control and improve the operations of distributed energy resources.
- Data acquisition from renewable power plants, microgrids, energy storage and substations
- Easy to engineer because of “productized” libraries for microgrids and battery energy storage systems
- Seamless integration into existing substations because of RTU technology
- Complies to all international communication protocols
- Grid code compliance for renewable power generation

Features:
- Integration of all plant assets into a single management system
- After-sales support services across all global locations
- Consultancy support throughout the project life-cycle

Benefits:
- Integration of all plant assets into a single management system
- After-sales support services across all global locations
- Consultancy support throughout the project life-cycle

ABB Ability™ e-mesh™
PowerStore™

Plug-and-play microgrid and battery energy storage solution.

- e-mesh™ PowerStore™ is available as two variants integrated and modular for installations across utilities, remote communities, commercial and industrial establishments.
- Reliable and affordable power with highest integration of renewables
- Productized design allows faster implementation
- Pre-configured automation functionalities
- Easily transportable anywhere

Highlights:
- Reliable and affordable power with highest integration of renewables
- Productized design allows faster implementation
- Pre-configured automation functionalities
- Easily transportable anywhere

By aggregating data, integrating real-time monitoring, analysis and applying machine learning for predictive and prescriptive analytics, e-mesh™ facilitates maximum benefits from microgrids, battery energy storage solutions and renewable automation investments.