

SIEMENS



ELECTRIFICATION X

Power Resource Management

Bringing operational transparency and managing multiple industrial, PV and hybrid plants

Decentralized Energy Resources (DERs) are growing rapidly, and their high penetration demands efficient utilization and balancing strategies. Without proper management, this can lead to grid capacity constraints and challenges in maintaining voltage and frequency stability.

Electrification X – Power Resource Management

The Power Resource Management feature set in Electrification X addresses the different user groups from industrial operators to renewable energy operators, monitoring the status for all components of power resources. From location overview to individual details of power resources; users can monitor and track every situation. Furthermore, the general power usage patterns as well as the consumption of the loads can be monitored in a heatmap. In case of incidents, the affected location will be shown on a map and list view, and an alarm will be sent automatically to the operator according to configuration. Dynamic change of setpoint for operators allows the maximum usage of power resources or enforcing restraints due to grid constraints. Furthermore, switches on energy resources and loads can be remotely operated (open/ close), depending on the plant situation.

Effortless Engineering

Once authenticated, the assets and signals of the station will be sent to Electrification X and stored in a database. No typos, no false assignment during engineering, everything will be at your fingertips in a moment. Additionally, the flexibility of the feature under Electrification X – Power Resource Management feature set allows you to create your own screens in combination with the onboarding of assets. It's a way to combine secure onboarding with flexibility and **effortless configuration**.

Two-in-one and top-notch cybersecurity

The highest priority for Electrification X and SICAM GridEdge is authentication and encryption, so your data are safe in transit and at rest. Thereby, with a Certificate Authority in the cloud and X.509 certificates per device, it is ensured that only authorized devices are onboarded.

Your benefits

Electrification X - Power Resource Management enables users to visualize power resources of the microgrid locations (including PV and hybrid plant):

-  Achieve 24/7 comprehensive data transparency across all individual microgrid locations, including installed PV and hybrid plants
-  Enable real-time monitoring, controlling and tracking of all power resources. Generate accurate insights of all power resources
-  Generate accurate and actionable insights for optimized power resource management
-  Maximize the utilization of renewable energy sources for sustainable operations
-  Optimize load balancing and energy distribution to efficiently manage peak demand

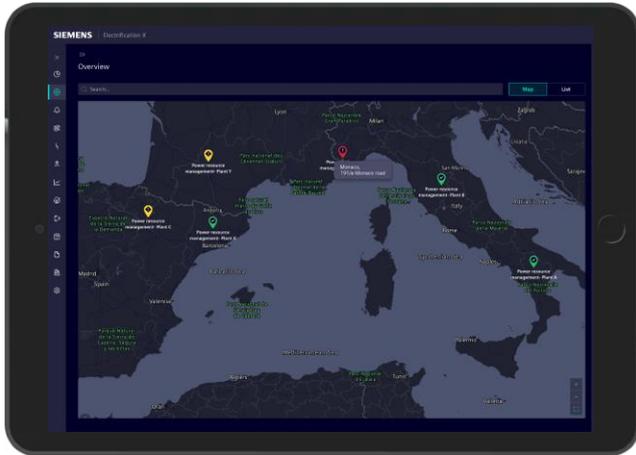
Functions at a glance

Multiple Location in Grid Landscape

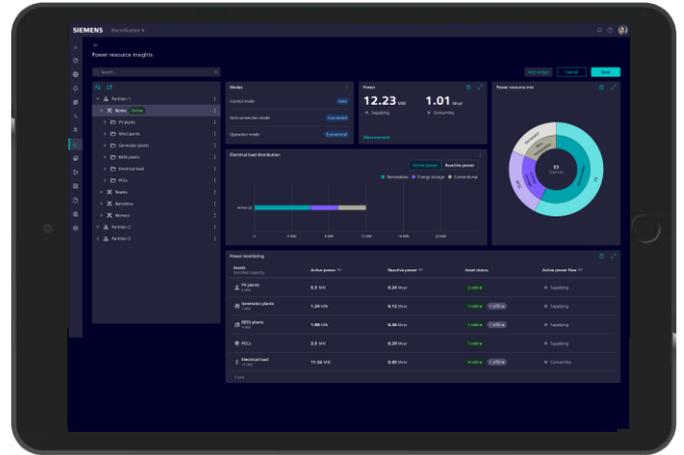
- Geographic view of microgrid location (including PV and Hybrid Plants) and each power resource
- Notifications via email

Power Resource Insights – Location Dashboard

- Location Dashboard to visualize renewable and non-renewable power resources, operation mode and Load Exchanges
- Power mix of entire location



Multiple Locations – Map view



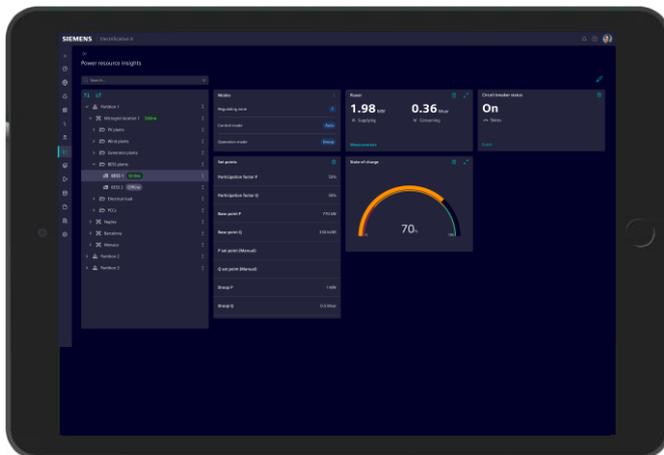
Power Resource Insights - Location

Power Resource Insights – Individual Power Resource Dashboard

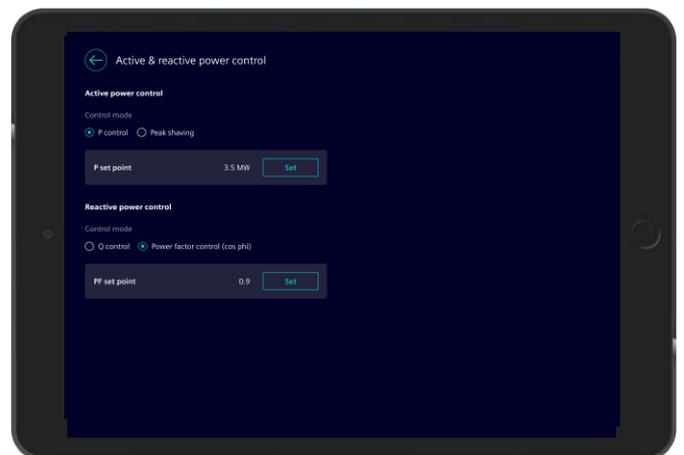
- Dashboard for PV Plant with forecasting and BESS
- Dashboard for Generator
- Dashboard for Point of Common Coupling
- Dashboard for Load

Power Resource Control – at Point of Common Coupling (PCC)

- With the help of Power Resource Control, different active power and reactive power mode with the setpoint possible to set during operations.



Power Resource Insights – Individual Dashboard



Power Resource Control at PCC

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