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# **ABB Ability<sup>™</sup> – Virtual Power Pools**

System Overview

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### **Virtual Power Pools**

Steps towards a sustainable power generation



#### **Drivers**

Decentralization

- Smaller and decentralized units

Decoupling

- Production and Demand are decoupled in space and time

Digitalization

 Integration and interconnection of producers, consumers and storage devices

Intelligent – Flexible – Secure – Stable

### **ABB Ability VPP Management**

ABB Ability Management for Virtual Power Pools

#### **Modules**

- Peripheral Units (UPMx) Field data acquisition and actuation on each plant
- Central Unit (UVAx) centralized data collection for the whole UVAx, BDE collection and communication to the optimizer, realtime (4-second) data communication to Terna
- Optimizer Optimal distribution of the total load change request among the members of each UVAx, according to each member's capability profile, technical constraints and custom priorities
- Web Dashboards Data visualization, overview on the power production/consumption and load change requests for each UVAx member



### **ABB Ability VPP Optimizer**

ABB Ability Optimizer for Virtual Power Pools



### **ABB Ability<sup>™</sup> Collaborative Operations**

Genoa Centre



## **ABB** Ability<sup>™</sup> Collaborative Operations Center

Monitoring and support to O&M for power generation plants and e-mobility assets



Customers





· Waste to energy 575

> **Renewable Power plants** served



Applied to automation, turbine control, excitation and electrical installed base