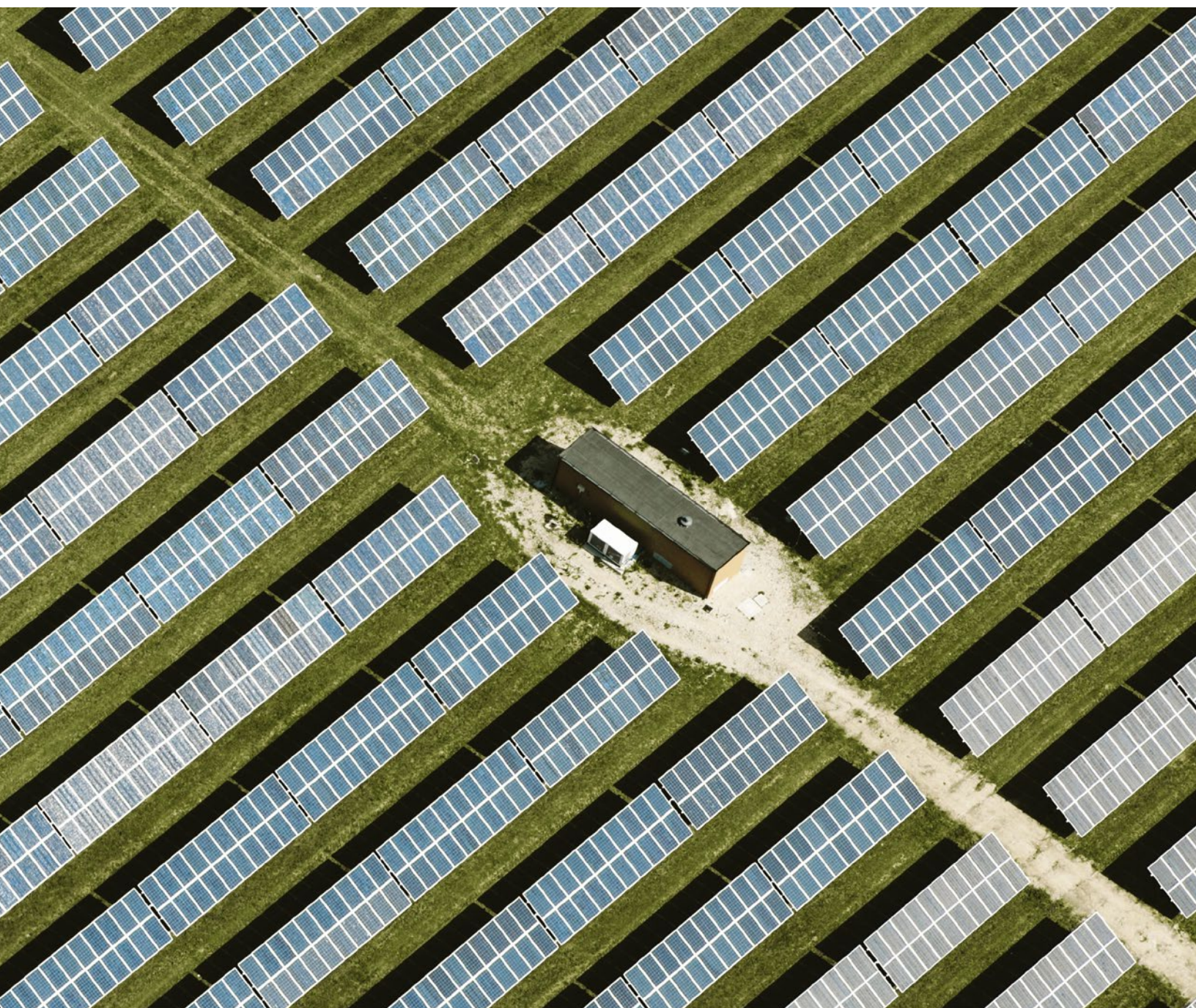




ABB NETWORK MANAGER

Generation Management System for renewables

Operational confidence.



How do you tackle these challenges and deliver consistently superior services to your customers?

Network Manager GMS can help.



Network Manager

Generation Management System

Renewables are rapidly changing the global generation mix, offering new opportunities for operators and asset owners to more effectively manage their portfolios to ensure reliability and maximize revenues.

Industry challenges

The power industry is facing regulatory and market pressures to move to low-carbon generation. Modern consumers are no longer satisfied with just getting reliable electricity at low rates, they demand cleaner energy and more choices. Power generation companies need to optimize a more sophisticated array of generating assets to meet regulatory standards and contractual requirements. At the same time, they need to minimize operation and production costs while maximizing revenue opportunities.



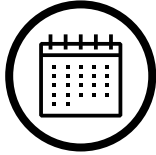
Solution

Network Manager enables advanced operation, optimal scheduling, and detailed analysis of your generating resources. The solution is built on a high-performance, cyber-secure SCADA platform designed to meet the requirements of mission-critical control systems. It supports a wide variety of markets and operating constraints.

Benefits

- Real-time control and dispatch of conventional and renewable generation assets
- Optimal scheduling of generation resources for intra-day, day-ahead and long-term planning
- Closed-loop monitoring and control to meet regulation, economic and environmental constraints on a system, plant and unit basis
- Minimize operating expenses and increase operations and maintenance efficiency

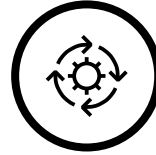
Advanced generation applications



Production scheduling

Network Manager production scheduling applications allow optimal scheduling of all types of generation resources and interchange transactions to minimize total operating costs. It seamlessly interfaces ABB's nMarket and e7 Portfolio Optimization, and with external bidding and settlement systems such as ISOs and RTOs in deregulated markets.

- Interchange scheduling
- Short-term load forecasting
- Thermal unit commitment and economic dispatch
- Portfolio trading decision support



Generation control

Network Manager provides a complete set of applications for real-time generation control in multiple markets and control areas, across multiple time zones, in hierarchical configurations.

- Generation control
- Reserve and power monitoring
- Economic dispatch
- Imbalance calculations
- Advanced hydro scheduling



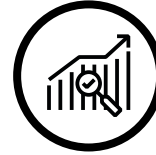
Additional features



nMarket Suite for market participation

Seamlessly integrated bid-to-bill transaction management platform for bidding, position management, nomination/scheduling, dispatch, settlement and reporting.

- Flexibility to evolve as the markets evolve
- Multi-market coverage
- Bid-to-bill process management
- Multiple technical configurations
- Front, mid and back-office productivity enhancements



e7 Portfolio Optimization for advanced bid strategies

Modeling of bid strategies for a defined market and market products to facilitate the creation of generation offers by market participants.

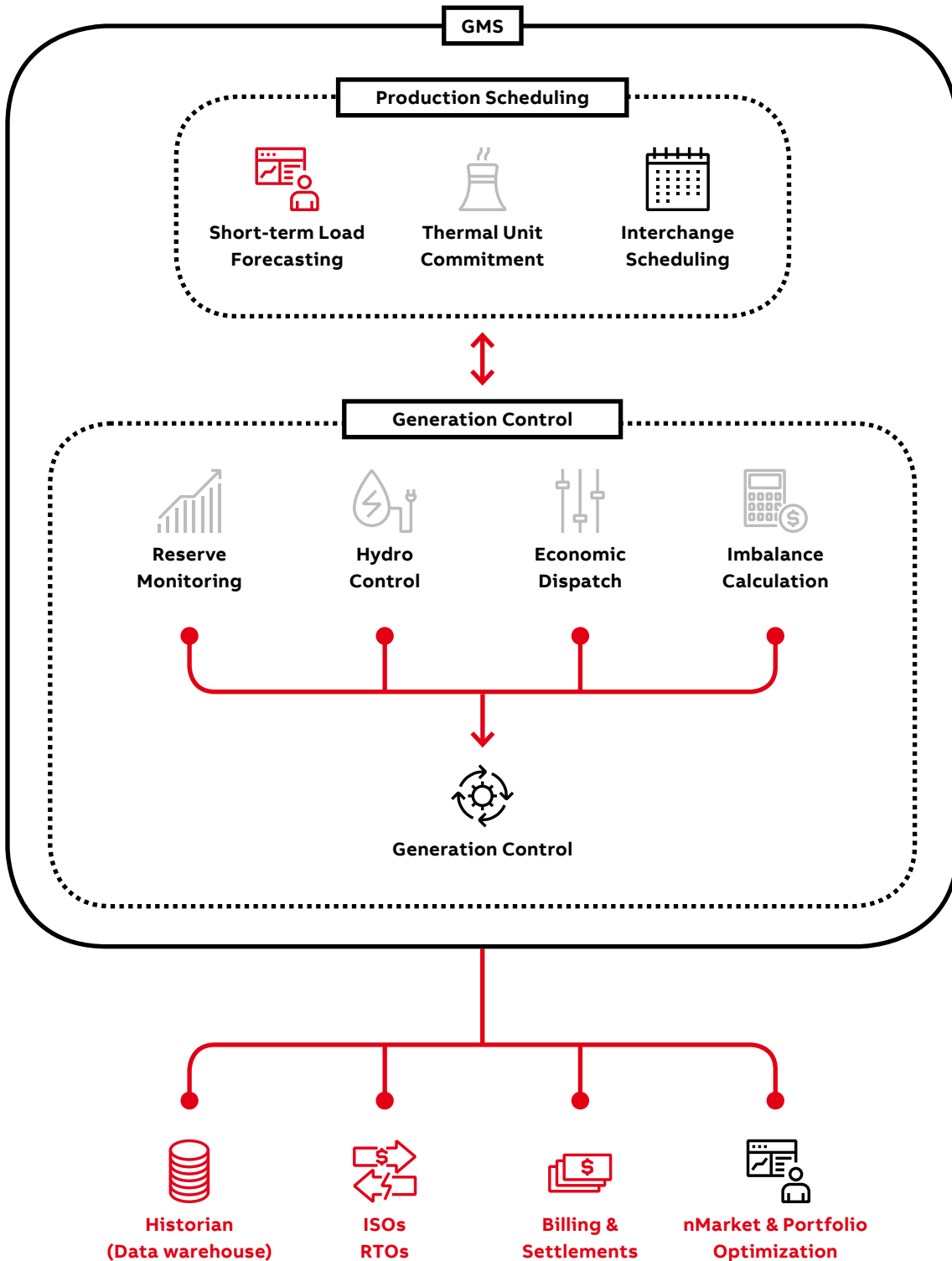
- Create and define a market
- Update key bid calculation inputs
- Create, submit and maintain day ahead and real-time bids for ISOs, RTOs and power exchanges
- Adjust created bids to fit user's objectives and expected market conditions
- Bid Evaluation studies using the Portfolio Optimization engine



Cyber security

- Network Manager conforms to security standards CIP 002-011, ISO 27001/2, and the NIST Cyber Security Framework
- Internal and external penetration testing performed by the Idaho National Lab
- Advanced security and compliance services available through ABB Cyber Security Care offerings

Network Manager



Solutions for wind and solar power

Network Manager provides a scalable, configurable and high-performing solution for centralized wind and solar farm management. Our vendor neutral solution allows you to remotely monitor and control your entire fleet, wind farm or at an individual turbine level, all within a single system and user interface.



Support maintenance
and investment decisions
using built-in availability
and performance calculations

**Advanced event and
alarming capabilities**
to distinguish high priority
alarms from nuisance events

Facilitate planning
and optimize operation and
maintenance costs with the
integrated forecasting tools

Out-of-the-box support
for wind turbines from all major
manufacturers such as Vestas,
Siemens Gamesa, GE, Enercon
and Nordex

Fully extendable –
add new turbine models, wind
farms, other renewable resources
and custom calculations

**Integrated reporting
and analytics –**
wind models and historical
data automatically transferred
to ABB APM

**Accurate, weather-adaptive
load forecasting**
using data from a variety
of sources

Co-optimization
of generation reserves and
curtailment events



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