ABB is pleased to announce the release of version 18.4 of the e7 platform, offering best-in-breed energy market and portfolio modeling software capabilities.

Energy data and business process all in one place
The e7 data management platform provides a single interface for ABB’s market and portfolio solutions, creating a common environment for analysis, simulation, mid- to long-term portfolio planning and short-term portfolio operations.
For example, e7 enables your market & transmission analysts to feed price forecasts and expansion plans directly into your risk assessments within a single interface; this means the end of stale data. Data is automatically available, from many sources, all in one place. e7 streamlines the business management process regardless of whether modeling a small portfolio deployed on a single machine or multiple markets in the cloud on thousands of nodes.

Translation ready
ABB Ability™ Portfolio Optimization is now translation-ready! The first utilization of this feature will be a Japanese version, available at the end of the year.

Battery storage and renewable modeling
Portfolio Optimization and ABB Ability Capacity Expansion have added the ability to tie the charging of an energy storage station to the generation of one or more generating stations. This enhancement to the Portfolio Optimization and Capacity Expansion logic enables the analyst to tie battery storage to specific generation resources, such as solar or wind renewable generators.

Negative market prices in Capacity Expansion
Capacity Expansion previously interpreted all negative energy market process as a zero. Now the model will utilize input negative hourly market price values as input in its calculations.
ABB Ability PROMOD®

Short-term optimization
In addition to the currently available iterative approach for enforcing security constrained unit commitment and economic dispatch, a new option is provided that will allow the use of the advanced optimization algorithm, mixed integer programming (MIP). This new functionality solves the single MIP problem for each user-defined segment to ensure optimality while economically covering fuel usage according to fuel limit, and co-optimize energy and ancillary services for nodal simulation.

This optimization minimizes the sum of generator variable operating and maintenance cost, start cost, fuel cost, and penalty cost for the soft constraints, subject to the following constraints:

• System energy balance
• Ancillary services minimum requirement
• Generator ancillary services provision
• Generator generation plus upward and downward ancillary services provision
• Fuel consumption maximum
• Generator chronological
• DC-OPF monitored flow-gate flow

Reliability Analysis
Reliability Analysis allows the user to examine the reliability of a specified scenario. It performs a period-by-period probabilistic simulation of outages and compares the total non-outaged generation to the total load on a period-by-period basis, providing loss of load probability (LOLP) and loss of load energy for the system. This analysis is suitable for preliminary evaluation of planned and forced maintenance schedules, and for evaluation of generation adequacy.

e7 data management features
Embedded business intelligence (BI) dashboard reporting
From within the e7 interface, users can now access a set of interactive business intelligence reports and then analyze these simulation results to optimize business decisions and improve performance. Delivered together with e7, and powered by Microsoft® technology, embedded Power BI™ dashboard reporting adds more valuable content right out of the box.

More information
Contact ABB to schedule a demonstration of our integrated energy market & portfolio solution, e7.
Visit our website and register to receive email updates on all the latest news and developments in energy portfolio management at ABB.