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Brochure

AspenTech OSI Generation Management System™

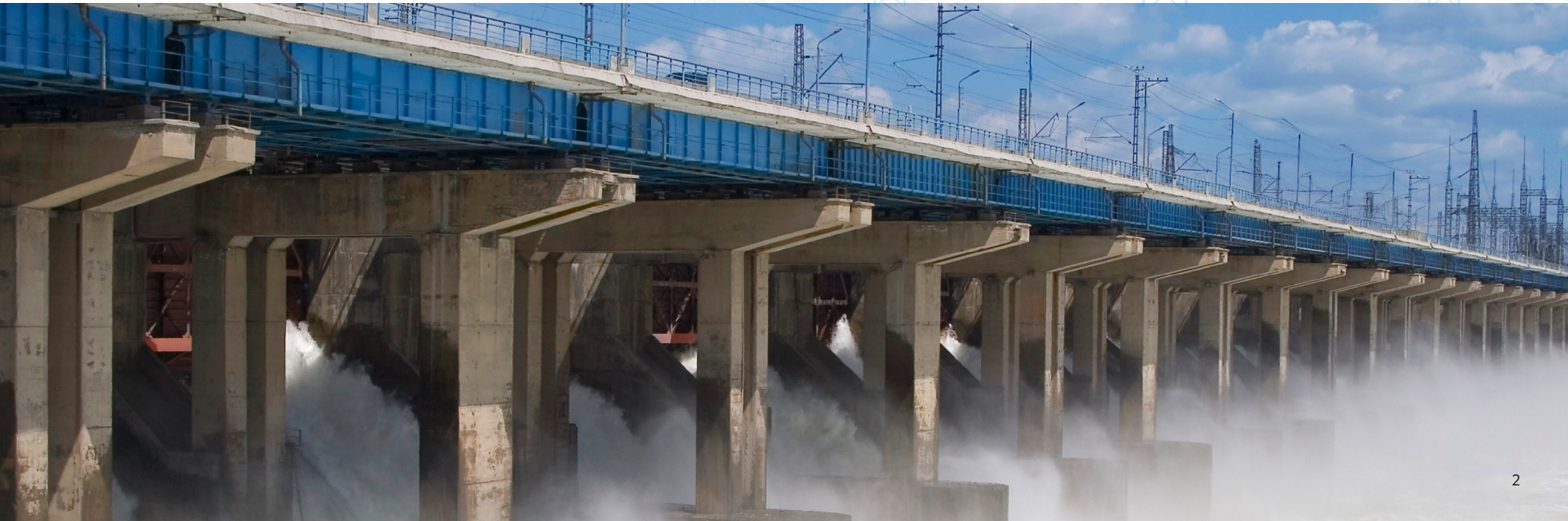
Overview

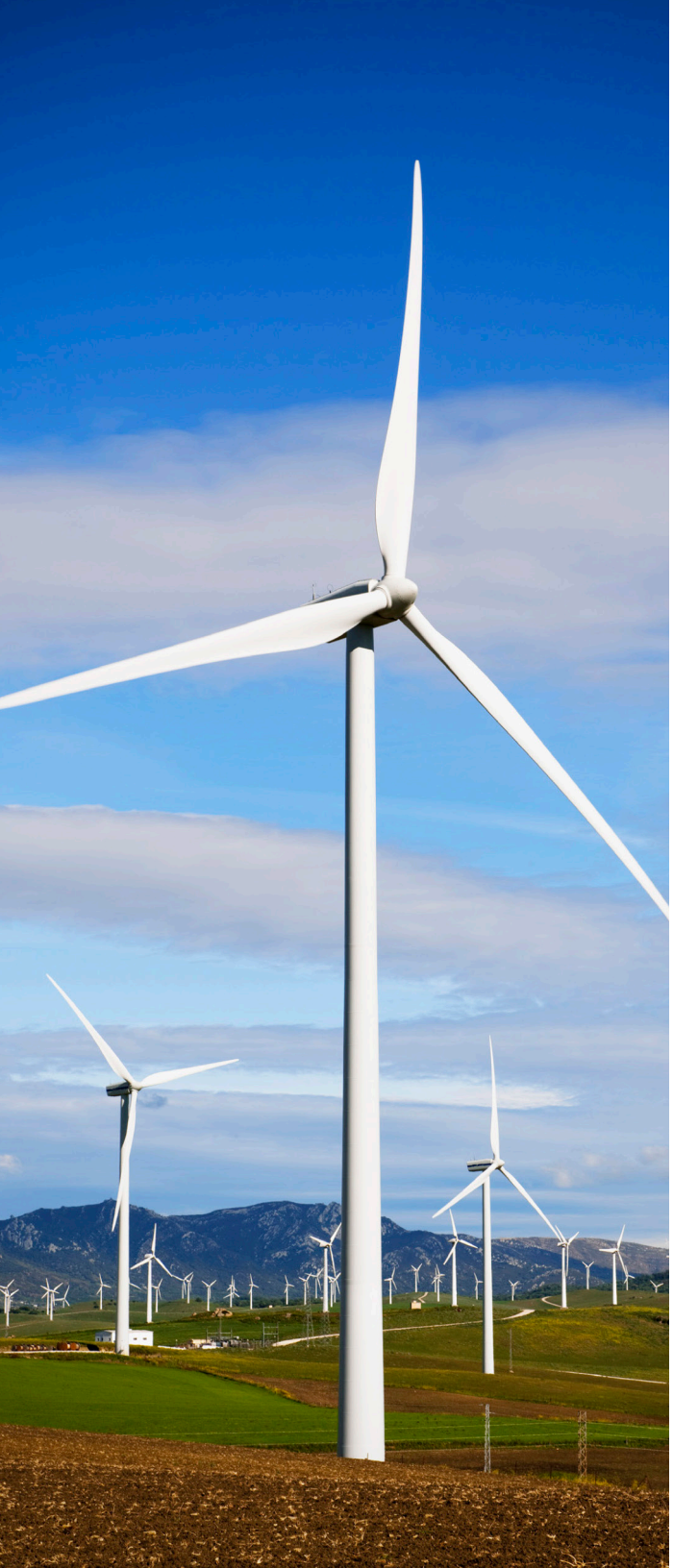
Generation utilities, independent power producers and energy market participants have been successfully using the AspenTech OSI Generation Management System (GMS) suite of applications worldwide for more than a decade. AspenTech OSI GMS technology has been at the forefront of managing the generation and supply of electricity for various capacities and generation capabilities.

From large global energy companies with thousands of MW to small energy utilities offering tens of MW of generation capacity, numerous customers have used our generation management technology for optimal system performance and regulatory compliance.

Whether it's Hoover Dam, the largest power plant in China, or the world's largest underground hydro power plant in Labrador, Canada, AspenTech OSI GMS technology has been instrumental in efficient monitoring, control and regulation, for a combined generation capacity of more than 750,000 MW worldwide.

The AspenTech OSI generation and market suite of applications enables participants in various energy markets to operate efficiently, reliably and optimally in their regional operations. Our customers in ERCOT, PJM, MISO, CAISO, IESO, SPP, NYISO and international markets REE and AEMO are active participants in these markets using AspenTech OSI GMS technology.





Modules

AspenTech OSI GMS - Base

AspenTech OSI GMS – Base contains an automatic generation control and economic dispatch application (OpenAGC), a highly reliable real-time monitoring and control algorithm that can be easily integrated into an existing control center environment. Comprising three core functionalities—Load Frequency Control (LFC), Economic Dispatch (ED) and Reserve Monitoring (RM), OpenAGC has been designed specifically to enable balancing authorities and market participants to manage their generation fleet for a wide range of operational objectives. OpenAGC supports comprehensive functionality for both conventional resources, including Combined Cycle and Jointly Owned Units, and non-conventional resources, such as renewables, batteries, virtual power plants, HVDC lines and load resources. Additionally, it enables separate generation resources to be managed as discrete control groups, with each group independently monitored and dispatched.

AspenTech OSI NERC Performance Assessment

AspenTech OSI NERC Performance Assessment (OpenNERC) is Aspen Tech OSI GMS's compliance assessment tool to monitor a balancing authority's compliance with NERC Control standards, namely CPS, BAAL and DCS. Through seamless integration with OpenAGC, it also enables Reliability-based Control (RBC) and provides graphical BAAL radar screen and CPS1, BAAL, DCS and Exceedance reporting data.

AspenTech OSI Market Operations

AspenTech OSI GMS Market Operations (OpenMOS, MOSPJM, MOSMISO) are open, system-based applications that provide a communication and response package for utilities operating in centralized energy markets. Fully integrated within the AspenTech OSI monarch™ environment, they seamlessly interface with the AspenTech OSI Energy Market Control algorithm (OpenECA) for US deregulated energy markets, namely CAISO, CAISO EIM, ERCOT, MISO, PJM and SPP, where XML and JSON messages are used for communications. The market operation solutions enable market notifications and automated implementation of dispatch instructions in real-time operations.

AspenTech OSI Energy Market Control Algorithm

AspenTech OSI Energy Market Control Algorithm (OpenECA) is Aspen Tech OSI GMS's energy market control module for efficient operation of generation fleets in US markets—CAISO, ERCOT, MISO, PJM and SPP—and in international markets such as REE (Spain) and AEMO (Australia). It reads deployment instructions received from energy markets and automatically implements them within AspenTech OSI GMS's OpenAGC. OpenECA eliminates the need for manual review of instructions by operators, while offering a more reliable and efficient means of data interfacing with grid operators.

AspenTech OSI Transaction Management

AspenTech OSI Transaction Management (OpenTMS) provides schedule information to the automatic generation control (OpenAGC) application for real-time implementation of approved schedules within a simple and elegant web-enabled GUI. OpenTMS also provides schedule information to other applications through a simple API. Automatic import of schedules from tags is an additional benefit.

AspenTech OSI PlannerPro

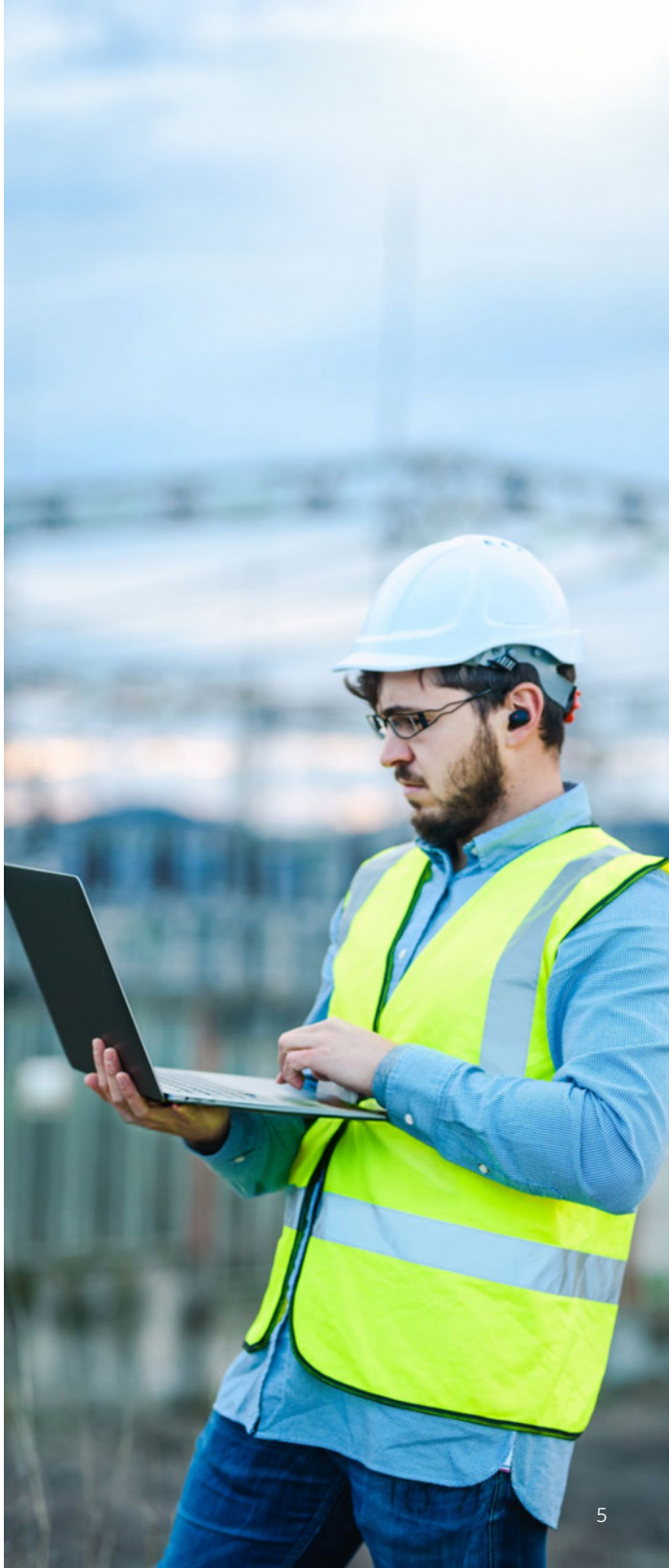
AspenTech OSI PlannerPro is a comprehensive scheduling handling tool with broad multi-domain applications like generation, transmission or distribution. Through its generalized configurability capability and REST API, any time series data (both numeric and states) can be handled as a schedule. It can be used for broad types of schedules like transaction, generation, dynamic and perpetual. Based on the AspenTech OSI Web platform, a feature-rich user interface is supported, consisting of both tabular and graphical representations. Seamlessly integrated with composites to aggregate and net multiple schedules, it enables current 1-minute schedules to be made available for broad real-time applications.

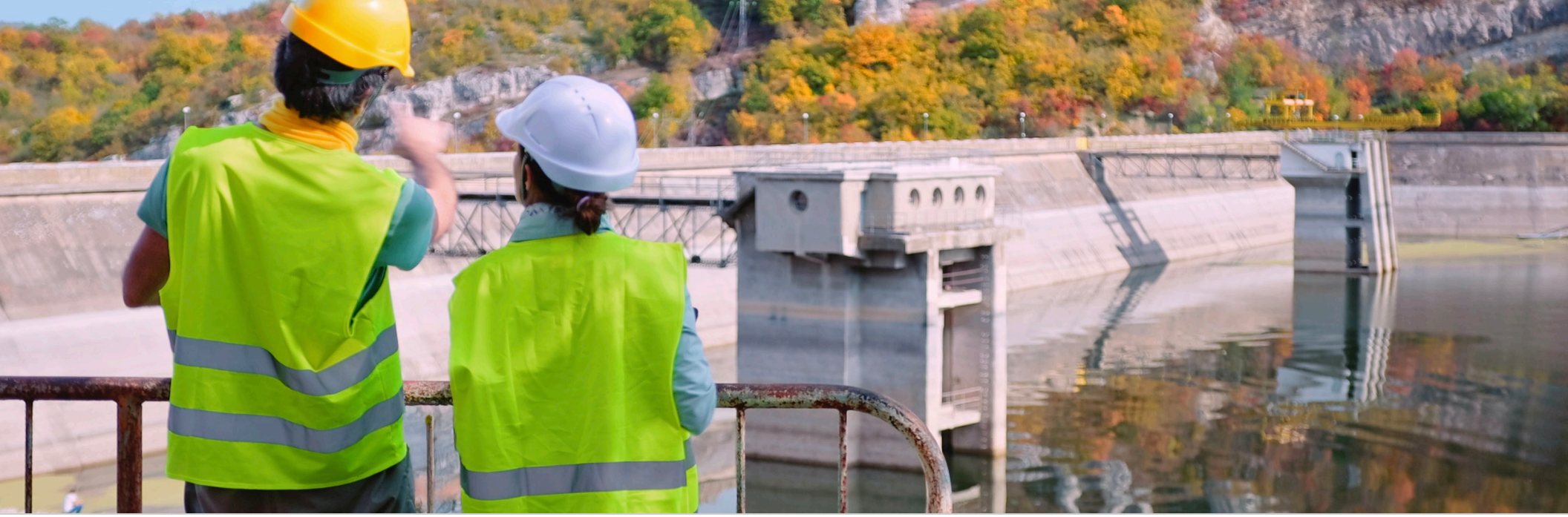
AspenTech OSI Inadvertent Accounting

AspenTech OSI Inadvertent Accounting (OpenIA) is a simple web-based graphical user interface that pulls schedules from multiple sources to view all net scheduled and actual interchange information. OpenIA provides up-to-the-hour inadvertent information to the automatic generation control (OpenAGC) application for real-time implementations of unilateral payback. For balancing authorities operating in the WECC region, OpenIA provides up-to-the-hour primary inadvertent information to the automatic generation control (OpenAGC) application for real-time implementations in Automatic Time Error (ATE) ACE control.

AspenTech OSI Energy Accounting

AspenTech OSI Energy Accounting (OpenEA) puts operational-critical billing and accounting data—both real-time and historical—at your fingertips, ready for electronic and printed reporting. Hourly archived meter data from AspenTech OSI CHRONUS can be presented as part of the reports. OpenEA has numerous pre-formatted reports, enabling users to logically group and easily generate any number of reports tailored to their specific needs.





AspenTech OSI Forecast™

AspenTech OSI Forecast is Aspen Tech OSI GMS's web-based short-term load, renewable generation and gas demand forecasting solution. It is a simple and reliable short-term forecasting tool that relies on Machine Learning (ML) techniques like Neural Network (NN) to predict load, renewable generation, gas demand and rooftop solar generation with high accuracy. AspenTech OSI Forecast supports forecasting in a configurable hierarchy like multiple load areas, renewable sites or feeders, and has the ability to forecast for flexible interval granularity up to 35 days into the future. Based on the AspenTech OSI Web platform, a feature-rich user interface is supported consisting of both tabular and graphical representations.

AspenTech OSI Unit Commitment™

AspenTech OSI Unit Commitment (OpenUC) is an essential tool for diligently managing conventional and inverter-based generation resources, helping to determine their optimal schedule and loading patterns. While minimizing overall operating cost is its prime objective, it effectively optimizes combined cycle plants, renewables and energy storage resources. For cascaded hydro plants and river systems, OpenUC supports Hydro Scheduling (HS) and Hydrothermal Coordination (HTC) to maximize water value while handling hydro operational constraints. OpenUC is also used to evaluate interchange and maintenance scheduling, load management and various system characteristics.

About Aspen Technology

Aspen Technology, Inc. (NASDAQ: AZPN) is a global software leader helping industries at the forefront of the world's dual challenge meet the increasing demand for resources from a rapidly growing population in a profitable and sustainable manner. AspenTech solutions address complex environments where it is critical to optimize the asset design, operation and maintenance life-cycle. Through our unique combination of deep domain expertise and innovation, customers in asset-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

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