



Brochure

Better Together: AspenTech Inmation™ and Aspen Mtell®





Better Together

Keeping your operations running profitably, efficiently and predictably are the goals of any production plant. Knowing when equipment may fail or identifying signs of production degradation can help minimize unplanned downtime or emergency maintenance and the associated cost of labor and spares, but predicting these events takes a lot more than intuition. It all starts with data and predictive analytics.

Working together, AspenTech Inmation™, an industrial data management solution, supplies operating data to Aspen Mtell®, a prescriptive maintenance solution, to extract insights from the data and drive business decisions. This integration allows reliability and maintenance teams to accurately predict when a known failure will occur, how the failure will occur and what to do about it. Having precise knowledge of the lead time to a failure and potential mitigation options (often through discussions between the operations, maintenance, technical and planning/scheduling departments), spanning multiple days or weeks, can assist you in determining the best actions to take. Sometimes a simple process change is sufficient to address the problem, or the long lead time enables procurement teams to shop for better spares pricing and lower shipping costs. Prescriptive guidance enables teams to choose the right mitigation action to improve production, reduce costs, prevent damage or breakdowns and solve problems efficiently.



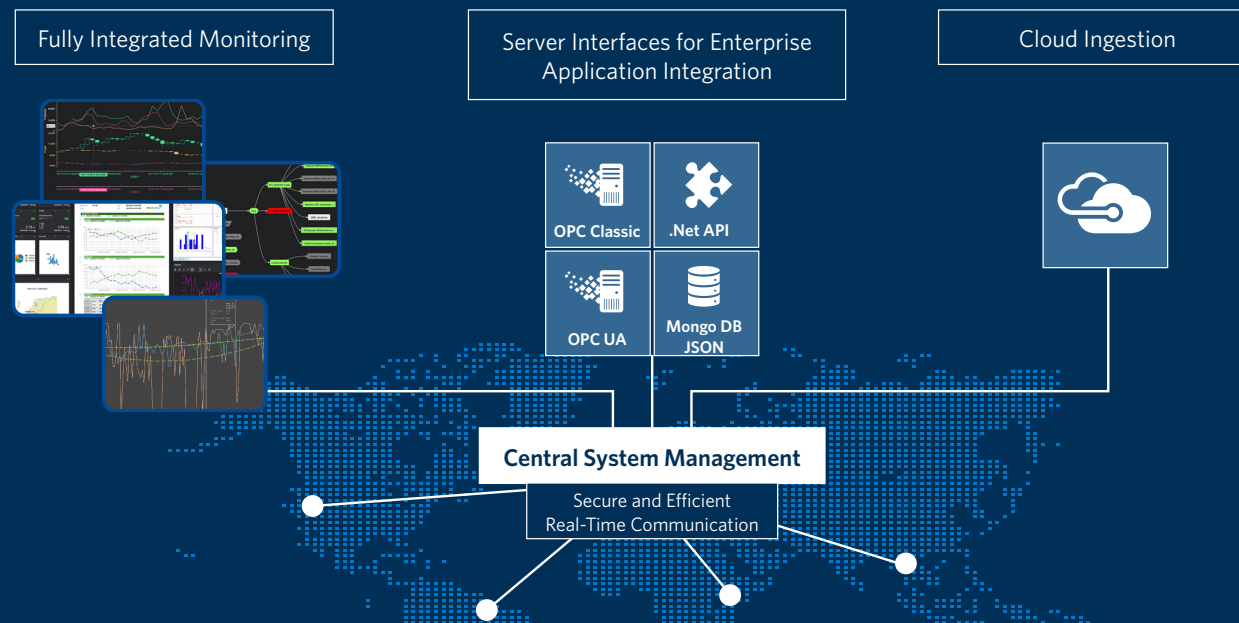
What is AspenTech Inmation?

AspenTech Inmation offers real-time industrial system integration. As industrial data proliferates, seamless integration between the control systems, MES and corporate IT is necessary. AspenTech Inmation responds with a built-for-purpose architecture that was designed with unlimited scalability in mind.

With AspenTech Inmation, all operational components and IT systems can be connected across your entire geographic and enterprise network infrastructure. With your data aggregated and contextualized you can review production and process data in real-time via integrated performance dashboards. You can visualize key performance indicators, on the device of your choice, via desktop or mobile.

Key Features

- Central management for easy upgrade and maintainance
- Scalable architecture with on-premises or cloud environments
- Web API and OPC-UA interfaces with connectivity to visualization and analytics tools
- Security and data governance encryption for all data-in-motion and data-at-rest, as well as, centralized data access and user control
- Support for most data types/structures: process data, alarms/events, files, documents, ODBC, XML, TCP streams, video/image and text
- Scalabilty from a few CPU cores to the world's largest enterprises



AspenTech Inmation Customer Success



BASF, a large global chemical producer with headquarters in Germany, has operations in more than 80 countries. The company's manufacturing fleet includes six highly-integrated "Verbund" production sites and 350 other sites around the world. Its goal is to "create chemistry for a sustainable future," with economic success and environmental and social responsibility. Using AspenTech Inmation, BASF is increasing the efficiency and effectiveness of its processes while creating additional value for its customers.



Bayer is a global enterprise with core competencies in the life science fields of healthcare and nutrition operating. They were challenged with unifying disparate data from various locations into one system along with integrating production and packaging lines. AspenTech Inmation helped Bayer integrate equipment, automation systems, MES and other operational data sources. With AspenTech Inmation, Bayer increased efficiency in the production process, resulting in less waste and fewer breakdowns.



Boehringer Ingelheim is a leading research-driven biopharmaceutical company headquartered in Germany with over 150 locations worldwide. They were faced with the challenge of integrating its Human Pharma division with more than four dozen PLCs and other various systems. They also needed to improve efficiencies at various research centers and production sites across the globe. AspenTech Inmation provided the technological backbone to support the smart manufacturing initiative for all of Boehringer Ingelheim's worldwide operations. This helped to reduce the total cost of ownership while simultaneously providing a successful digital link between various production lines.

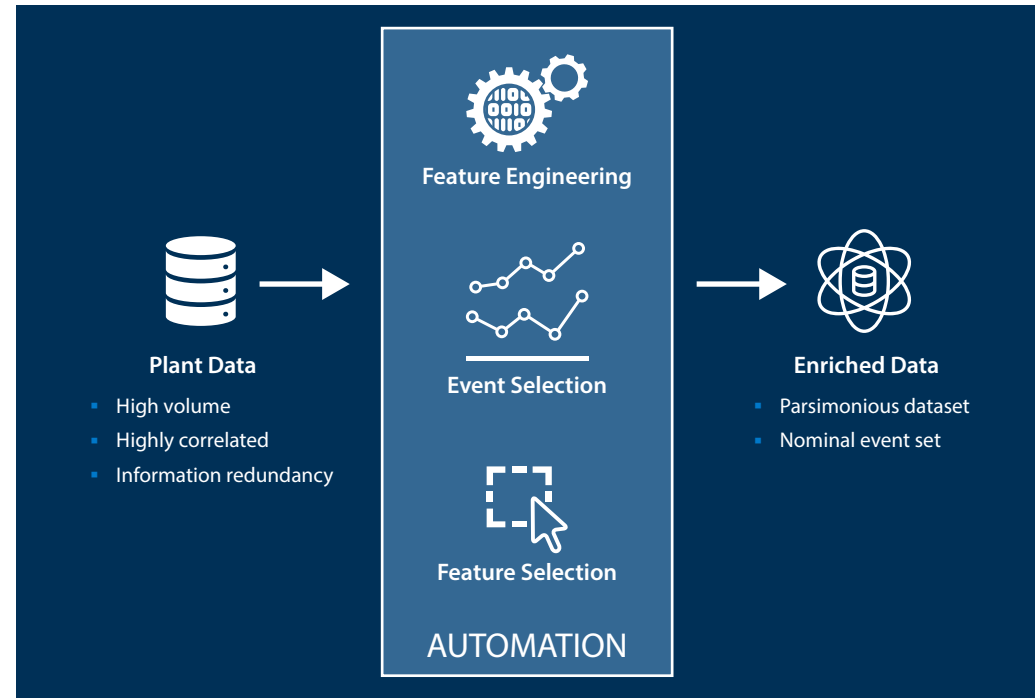
What is Aspen Mtell?

Aspen Mtell is a real-time monitoring and predictive analytics solution that stops machines breaking down, makes them last longer, reduces maintenance costs and results in net increases in production output on any processes where it is installed. Utilizing data captured from Aspen Inmation, Aspen Mtell can deploy a combination of methods to protect equipment, including rules-based or condition-based monitoring, first principles modeling, Artificial Intelligence (AI) and Machine Learning (ML), and even custom models from data science teams. AI/ML can be used to execute very precise pattern recognition of changes in stream signals produced from sensors on and around the equipment being monitored. As a result, Aspen Mtell can detect extremely early onset of degradation across all the streaming signals and also temporal distinctions (tiny changes in signals offset by time). ML algorithms recognize various operating and failure modes as very precise patterns to establish normal operating mode and identify abnormalities.

Aspen Mtell is easy to implement, integrates with current maintenance strategies and can be deployed at scale using existing resources.

Aspen Mtell Advantages

- Best-in-class failure prediction with fewer false alarms
- Equipment- and process-agnostic
- Reduce unnecessary or emergency activities and associated costs
- Improve plant and resource efficiency



Aspen Mtell Customer Success

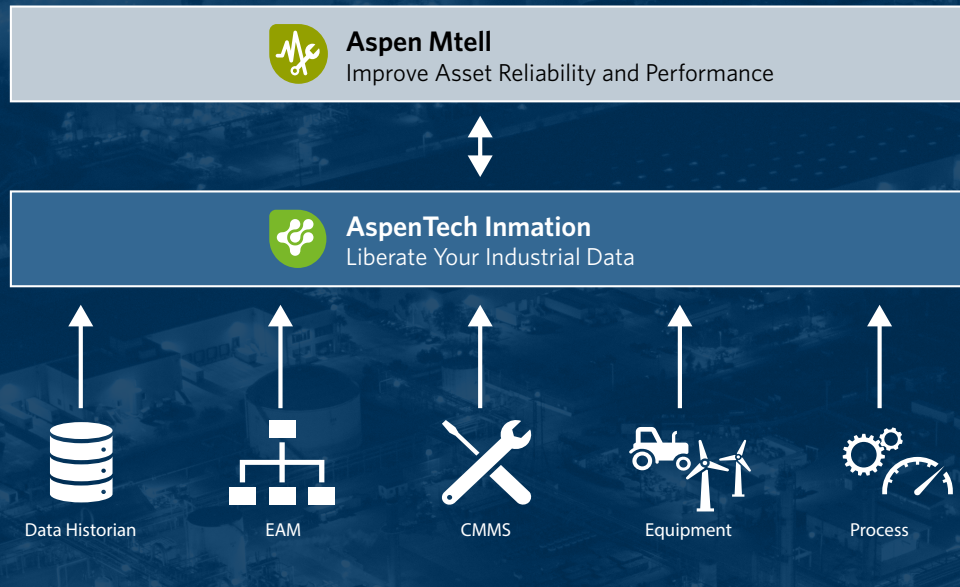


LG Chem, a South Korean chemical manufacturer, deployed a prescriptive analytics solution with predictive Degradation Agents as a part of a comprehensive worldwide digitalization program to increase reliability and avoid unplanned shutdowns. Recognizing Aspen Mtell's ease of implementation and speed to deployment, LG Chem adopted the technology at one site, enabling the company to realize \$3.6M USD in benefits in one year from avoided production losses.



Sardeolica produces electricity from three wind farms in eastern Sardinia. The company applied a prescriptive maintenance solution across 57 wind turbines at its 250GWh wind farm to predict gearbox and generator degradation before failures occurred with the goal of reducing maintenance costs and extending the useful life of the wind turbines. Using Aspen Mtell, they had early warnings between two to five months of imminent failures. Sardeolica was able to transform its maintenance program to schedule service before failures within low-wind periods, resulting in easier repairs, increased production and a 10% reduction in maintenance costs per year.





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AspenTech Inmation provides the standard integration layer that enables the scaling of digitalization initiatives like prescriptive and predictive maintenance via Aspen Mtell. By eliminating data siloes, we are able to provide our customers with flexibility and scalability benefits to drive incremental value. AspenTech's 40+ years of industrial asset optimization continues with AspenTech Inmation, empowering organizations to get more from equipment, plants and resources.



About AspenTech

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 lifecycle. Through our unique combination of deep domain expertise and innovation, customers in capital-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

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