



Brochure

Aspen InfoPlus.21[®]

What is Aspen IP.21?

Aspen InfoPlus.21 (IP.21) is an industrial process historian for collecting and storing large volumes of process data for analysis and reporting. With Aspen IP.21, you can drive performance improvements and optimize decision making through near real-time asset visibility, analysis and monitoring.

Built for Process Industries: A Historian that Drives Results

Readily disseminate data into tailored records structures, permitting data-fueled decisions to improve production operations. Aspen IP.21 helps you use the industrial data being generated to improve decision making and streamline operations. With the data aggregated in one place, you gain access to high-value reports that provide a complete, reconciled view of how the plant performs regularly.

Part of the AspenTech MES Suite

AspenTech has a long history of innovation, with 40 years experience in recording and capturing large amounts of data with our process historian products. It incorporates the following key features:

- **aspenONE Process Explorer™:** Visualization and analysis with a modern, web and mobile environment
- **Aspen Production Record Manager™:** Aggregate event and batch process data for quality assurance and traceability
- **Aspen Connect™:** Vendor-neutral connectivity for end-to-end data collaboration
- **Aspen Manufacturing Master Data Model®:** Provides contextual structure to historical data i.e. S95 Asset Hierarchies

Why Aspen IP.21?

It's not about delivering bespoke solutions. It's about providing production-grade, scalable and sustainable data for AI and all end-use applications.

Data Science Methods Tuned for Process Engineers

Real-time monitoring of essential business metrics via dashboards, alerting and pattern matching provides insight into plant performance.

Data that is Comprehensive, Flexible and Scalable

Aspen IP.21 provides a consistent operation, monitoring and analysis environment agnostic in terms of historian or DCS infrastructure. High-performance connectivity for all assets, regardless of age or location.

A Robust Platform for Industrial Data Analysis

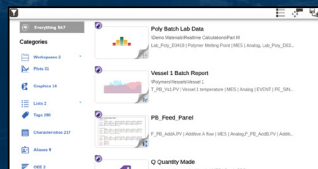
Get KPI management, OEE, alerts, analytics and pattern search in one web-based environment. Aspen IP.21 provides a foundation for advanced analytics that extends to maintenance and supply chain functions.

AspenTech Inmation-Ready Integration

Seamless, bidirectional integration provides live and historical process data between IP.21 and Inmation automatic tag creation.

A Common Workflow

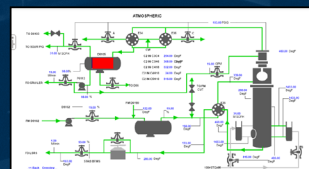
DISCOVER



Search for data and artifacts



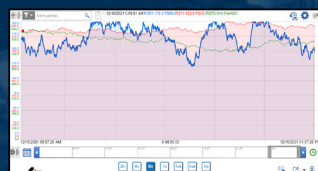
Navigate by files or asset hierarchies



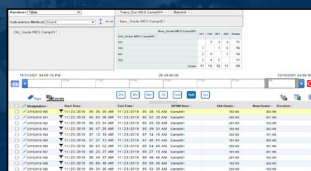
Browse the physical process

Find your important data and access it quickly with search and navigation that understand the manufacturing process.

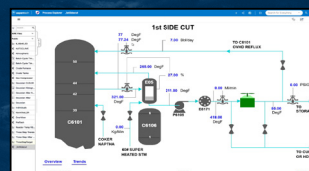
VISUALIZE



Visualize data through trends and charts,



... tables



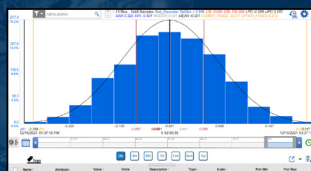
... and graphics

Visualize the data in the context that it is required—charts, table or graphic—with comprehensive views that support more informed decision making.

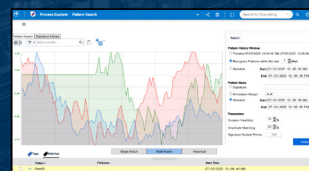
ANALYZE



Analyze process performance



Determine whether the process is in control



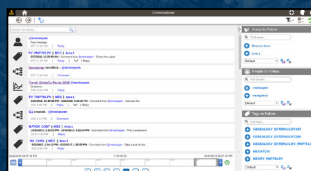
Look for patterns in process behavior

Built-in analytical tools within a single application for fast problem identification and comparative analysis.

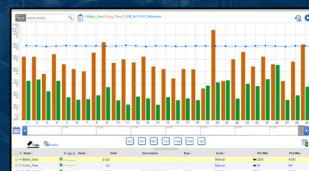
DOCUMENT



Attach observations to process data



Integrate conversations with process data



Share important analyses with others

Maintain an information audit trail and share best practices across the enterprise with discussions and actions tied to process data.

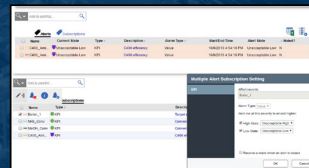
MONITOR



Track real-time batch performance



Track important KPIs across the enterprise



Be alerted to process excursions

Alerts and notifications of problematic situations enable timely resolutions. Track material progress through batch processes and ensure consistency of on spec and on target.



Accelerate Performance Improvements

Embedded real-time computation engines support performance management and analysis across an enterprise to reduce operational expenses.

Gain key insights and drive performance improvements with dashboards and rich visualizations that deliver plant operations data in real time. Actively monitor and analyze key metrics, getting alerts for exceptions and alarms. Aspen IP.21 helps you stay ahead of performance issues and improve asset operations using alerts and pattern matching.

Improve Collaboration

Create better work practices with a powerful, flexible, secure infrastructure that scales to various users, enabling company-wide benchmarking. Aspen IP.21 helps improve work practices and reduce downtime by providing a comprehensive view of productivity and

efficiency across the plant. With real-time traceability from multiple sources, you can identify bottlenecks or inefficiencies and take action to improve. Having a complete picture of production operations leads to operational excellence and strengthens collaboration.



Figure 1: Time series trending of Aspen IP.21 data with many functions: zoom, annotations, comments, time shifting, control of pens and more.

Key Features

aspenONE Process Explorer

- Identify unique patterns in process history: Analyze an event using powerful pattern recognition and discovery tools, automatically matching and discovering patterns in data.
- Leverage analysis tools for corrective action: Track performance and evaluate trends in real time with up-to-date processes and production graphics.
- Quickly identify causes of downtime: Rapidly identify potential problems via alarms and events that notify operators of deviations from acceptable process conditions.
- aspenONE Process Explorer provides enterprise level real-time data visualization, applications, reporting and analysis on Inmation, extending A1PE's trusted site-level capabilities.

Aspen Production Record Manager

- Analyze with greater efficiency: Collect, build and store process data from historians or any ODBC data source for analysis and reporting by events.
- Comply with industry standards: Aggregate process data into an event-based context within a fully ISA-88-compliant tool for batch control and definition.
- Data visualization in batch operations: Fast query and trending of the structured data for reporting, analysis and visualization across multiple sites.

Aspen Connect

- Cloud-ready solution: Transfer historical data or stream live-data from Aspen IP.21 or third-party sources into AspenTech products, data lakes or third-party endpoints in the cloud or on-premises.
- Flexible connectivity: Premium connectivity for stream-processing, data lakes and cloud providers for big data analytics and reporting with a diverse library of connectors.
- Integrated security: Active directory integration controls access for overall system configuration and the highest available, continually updated security options for each protocol or endpoint.
- Simplified workflows: Configure servers, manage tags and create data transfers using routes with multiple options for data conditioning and scheduling with an embedded web-based toolkit.

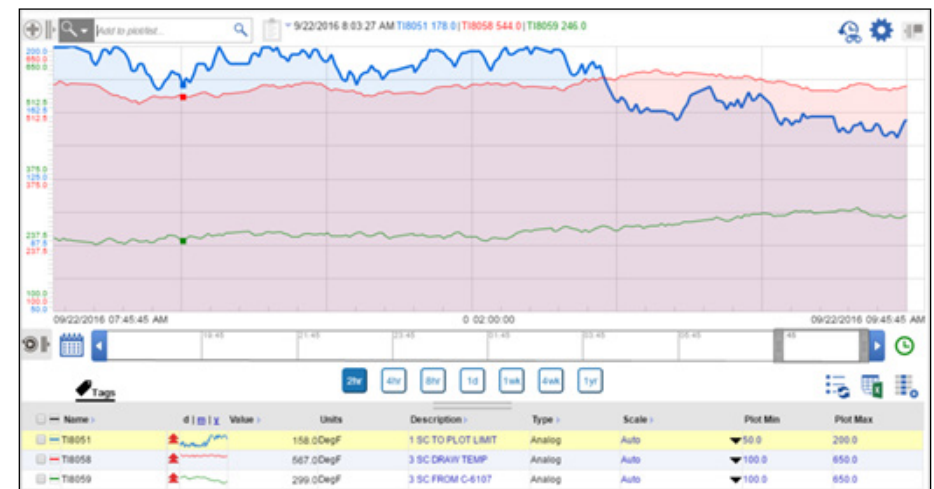


Figure 2: Plot any process variable or characteristic against any other process variable or characteristic with Aspen IP.21.

Aspen InfoPlus.21 Success Stories



Infineum used Aspen IP.21 to improve unit performance, data quality and personnel efficiency.

A world leader in the formulation, manufacturing and marketing of petroleum additives, Infineum needed to improve manufacturing efficiency index (MEI) performance, standardize data collection and management processes, and streamline the tools available for performance analysis.

With Aspen IP.21, Infineum organized and provided global reporting data, calculated KPIs and generated electronic batch sheets for each unit. By improving their performance analysis capabilities, Infineum captured production-loss data and raised manufacturing efficiency. Since implementation,

Infineum has increased:

- Manufacturing efficiency index (MEI) by 0.25%
- Production by 2,000 tons per year
- Total global MEI by 10%



Dow Chemical eliminated misidentification of materials being moved into and out of production using Aspen IP.21.

Dow faced many challenges, including raw materials inconsistently entering the process and the control system incorrectly identifying containers and materials. Using Aspen IP.21 for procedural control, Dow developed a high-integrity material flow (HIMF) system, ensuring that the movement of materials into and potentially out of a process position will be authenticated.

Dow was able to eliminate errors due to positioning incorrect raw materials, using Aspen IP.21 to interface with the plant control system and confirm that the scanned material on the HMI at the production position is the right material for the recipe being executed.

Aspen InfoPlus.21 Success Stories



Saudi Kayan harnessed the power of Aspen IP.21 to bolster efficiency and productivity and gain comprehensive visibility into their plant operations. In their pursuit of operational excellence, the initial step involved gathering and storing a large array of process data. Aspen IP.21 came into play here, providing a robust foundation for capturing critical operational and equipment details.

Aspen IP.21 also secured data interfaces, allowing integration with applications like aspenONE Process Explorer. This was done via a streamlined, interactive dashboard displaying real-time data on ongoing activities, raw material consumption and overall productivity. A noteworthy outcome was the fostering of cross-functional collaboration, courtesy of a real-time method for monitoring batches.



Aspen IP.21 served as a cornerstone for constant improvement, facilitating data and knowledge exchange across all plants at **Cabot**. Despite Cabot's operations stretching across 19 countries, Aspen IP.21 allowed for a seamless transition from isolated site-based groups to a cohesive global organization. The crucial amalgamation of data from various sources like manufacturing, supply chain and financial systems propelled faster, improved business decisions.

Aspen IP.21 played a pivotal role as the data historian in Cabot's MES, integrating and visualizing data across all production sites. It set the stage for future AspenTech solutions and continuous improvement projects, including advanced process control, plant scheduling and environmental reporting.

Using Aspen IP.21, Cabot was able to:

- Improve quality by 30%
- Reduce product variability by 20%



About AspenTech

Aspen Technology, now part of Emerson, 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 asset-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

www.aspentech.com

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