
Interview with an Expert:
Unlocking Industrial Data with AspenTech Inmation™
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Adam Schindewolf, Product Marketing Manager, works in AspenTech's Industrial Data Fabric product unit. His main responsibility is to manage go-to-market initiatives for AspenTech Inmation and to work alongside product management to drive awareness of AspenTech products in the industrial data management sector. He holds a BA from Lehigh University and has over ten years of experience supporting industrial data management and control system solutions in a variety of industries including energy, manufacturing and pharmaceuticals.

What is AspenTech Inmation™?

At its core, AspenTech Inmation is a **comprehensive industrial data fabric**. Think of it as a sophisticated bridge designed to securely connect data from your plant floor—what we call operational technology or OT—to your enterprise and cloud systems, resulting in a holistic view of all the data that matters for your operation. It's all about transforming those OT landscapes at scale. We ensure that your industrial data, whether it comes from legacy systems, IoT devices or automation networks, is aggregated, contextualized and readily accessible for a wide range of advanced uses. This seamless integration with modern IT infrastructure, applications, digital twins and AI tools is key to improving decision-making and driving digital transformation for our customers.

So, how does AspenTech Inmation translate that connectivity into tangible value for an organization?

The solution's true strength lies in its ability to liberate data. We securely centralize data accessibility from disparate sources, making it usable for an extremely wide variety of use cases. By eliminating those pervasive data silos, organizations can finally leverage unified, high-quality data. This, in turn, enables better automation, more effective monitoring, insightful visualization and advanced analytics that are directly aligned with their business goals. When industrial leaders envision their digital transformation, translating data into real value is a critical part of that journey. They often face serious challenges due to the sheer volume and variety of data sources. AspenTech Inmation is purpose-built to make that vision a reality, offering a modern industrial data solution that stands apart from traditional integration platforms.

You mentioned "purpose-built." Could you elaborate on what makes AspenTech Inmation a "purpose-built" industrial data fabric, distinguishing it from other data solutions out there?

We recognized that nearly 60% of process industrial organizations identified their existing OT and IT infrastructure as the primary technical barrier to digital transformation and Industry 4.0 programs. This highlighted an immense need for a solution like ours.

What sets us apart as "**purpose-built**" is our unwavering focus on industrial data management and our ability to handle the unique complexities of operational technology (OT) and information technology (IT) integration. For example, we offer seamless connectivity, supporting a vast range of OT and IT interfaces like Web API, OPC UA, MODBUS, MQTT and Kafka, allowing us to connect to virtually every data-generating system and device effortlessly. We also provide **centralized management**; unlike traditional solutions that struggle with monitoring and maintaining countless data connectors, the software allows users to manage distributed systems entirely from a central location, covering configuration, security, monitoring and license management.

Scalability is another key differentiator. The software is designed to scale horizontally across entire enterprises, ensuring robust data integrity. Our license model is based on processing nodes' data throughput rather than the traditional tag-based approach, which makes it uniquely positioned and cost-effective for large-scale industrial deployments with massive amounts of data. We also offer flexible deployment options, including not just cloud solutions, but also on-premise and hybrid options. This is vital for addressing security concerns around sensitive industrial data and meeting diverse organizational requirements.

AspenTech Inmation excels in **real-time data processing**, handling collection, cleansing and contextualization, which is critical for industries with multiple geographically dispersed sites. For data visualization, our WebStudio provides a flexible low-code/no-code platform for building industry-standard or custom dashboards for various use cases, from decision-making to performance evaluation and KPI visualization. We also ensure advanced analytics integration, seamlessly working with AI and predictive maintenance tools, such as Aspen Mtell®, to optimize operations and support data-driven decision-making. Finally, our native cybersecurity and regulatory functionality is built in. We're designed to successfully navigate the Purdue model, enabling secure data domain-

crossing in full compliance with regulations found in industries like pharmaceuticals, energy and chemicals. Our system operates as a unified entity even in segmented network environments, with streamlined, single-port communication between components for enhanced security.

That's a very comprehensive list of capabilities. Given all of that, how does AspenTech Inmation fit into a company's existing data and automation infrastructure? Does it replace it?

Not at all. Its flexible, component-based architecture is designed to work alongside existing automation or IT systems, acting as intelligent middleware. We don't replace your current PLCs, IoT devices, databases or cloud applications. Instead, we connect them, enabling seamless data acquisition, integration and historization. This flexibility means businesses don't need to rebuild their infrastructure from scratch; they simply enhance it by plugging into AspenTech Inmation's powerful capabilities.

What analytics capabilities are provided?

AspenTech Inmation was developed as a 'data foundation' for analytics and machine learning projects. Its open APIs make it easy to import data into analytics or visualization platforms of your choice. For example, the API client can be used for Python to integrate with open-source machine learning libraries like TensorFlow or PyTorch, or the WebAPI can be used to transfer data to cloud analytics platforms like Azure ML, AWS Kinesis, Redshift or proprietary platforms like Power BI, Tableau or Spotfire.

It also integrates with AI and predictive maintenance tools such as Aspen Mtell® and supports analytics both at the edge and centrally with a variety of shipped libraries. Additional libraries can be added as needed.

That sounds incredibly flexible. Does that flexibility extend to building custom applications or scripts on top of the AspenTech Inmation platform?

Yes, absolutely. That's one of the solution's biggest advantages. Businesses have the flexibility to develop their own applications, analytics models, custom user interfaces and visualization and automation scripts using open access to real-time data streams. Whether they want to implement specific machine learning models, anomaly detection algorithms or workflow automation, AspenTech Inmation provides the foundation for them to do so without rigid constraints. We even include an embedded scripting engine called Lua, which can be used for computing at the edge within the connector services or centrally within the core service, with the ability to add further Lua libraries on demand to leverage a wide variety of open-source libraries.

Where and how is AspenTech Inmation currently being used in the process industry today? Could you give us some real-world examples?

Our solution is deeply embedded across a variety of industries, including oil & gas, refining, chemicals, pharmaceuticals, manufacturing, pipeline and power companies. They're leveraging it to achieve a wide range of objectives. This includes **monitoring production efficiency** and detecting bottlenecks, **improving asset reliability** by enabling predictive and prescriptive maintenance and **enabling enterprise-wide visibility** for both management and operations teams. We also facilitate **real-time, contextualized data for organizational decision-making** and seamlessly **stream data into broader digital transformation initiatives** and cloud applications like ERP systems, digital twins and AI/ML applications. Ultimately, instead of data being locked away in disparate local systems, AspenTech Inmation elevates it to a strategic asset, empowering companies to optimize costs, enhance sustainability and boost overall productivity.

In industries like pharmaceuticals or food and beverage, regulatory compliance and data governance are critical. How does this solution help companies comply with these requirements?

It's something we've built into the core of AspenTech Inmation. Given that it's a platform designed to scale enterprise-wide and handle crucial operational data, it can be configured to meet any range of compliance requirements stipulated by organizations. For example, our **audit trail** feature maintains a secure, time-stamped record of events related to the creation, modification or deletion of records. These records are absolutely critical, especially in highly regulated industries, helping capture details like who made a change, what was changed, when it happened and why. We also provide **access control and security**, offering centrally managed, granular access control, ensuring that only authorized users can retrieve operational data securely. Furthermore, our **data historization and aggregation** capabilities support robust historization, alarms, event management and real-time trends, which are essential for organizations to maintain a complete and retrievable record of their operational data for compliance purposes.

Finally, what kind of support and training can customers expect when implementing AspenTech Inmation?

We believe in partnering with our customers to ensure successful implementation and ongoing value. Our support encompasses thorough documentation, expert guidance from our team and comprehensive training sessions tailored to their needs. Additionally, our team and a network of industry partners provide dedicated integration assistance, helping customers unlock the full potential of AspenTech Inmation within their unique operational environment.

About Aspen Technology

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.

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