Building an Industrial Data Foundation

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Keywords

Inmation, AspenTech, Process Historian, DataOps, AIoT, Industrial Analytics, Machine Learning, AI

Summary

ARC Advisory Group recently moderated an executive panel with Nicole Rennalls, VP and General Manager for AspenTech's Dataworks business unit and Timo Klingenmeier, the founder of Inmation. AspenTech recently acquired Inmation software to strengthen its ability to help customers realize maximum business value from industrial data.

Industrial data and systems have traditionally been located in organizational siloes, leaving most of the data not actionable at scale.

Industrial data and systems have traditionally been located in organizational siloes, leaving most of the data not actionable at scale. AspenTech Inmation software provides a single open system to manage a distributed system entirely from a central location with connectivity support for all major OT and IT interfaces. AspenTech's new Industrial Data Solutions consolidate and organize data from various locations into a single open repository in the cloud or corporate data center in a high-available, flexible, real-time database to support the emerging industrial DataOps approaches. While DataOps began as a set of best practices, it has now matured to become a new and independent approach to enterprise data analytics across the entire data lifecycle.

Key findings of this executive panel include:

- The aggregating global operational data into a centralized storage repository that serves as the foundation for industrial data transformation, artificial intelligence (AI) and analytics was possible with AspenTech Inmation software.

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- The addition of Inmation software to the AspenTech portfolio is a huge step forward to help companies unlock more value from an industrial data strategy.
- The AspenTech Inmation real-time data platform connects diverse systems and addresses many problems with data cleansing, contextualization, and scalability.
- Industrial DataOps is an emerging capability for IT-OT organizations to transform their data and a foundation for the industry to move forward and reap the benefits of AspenTech's new Industrial Data Foundation.

## The AspenTech Inmation Software Platform

Industrial data and systems have evolved and maintained in organizational silos, leaving most of the data disparate OT systems with data not actionable at scale. The founders of Inmation software were aware of the challenges to addressing the interoperability of industrial data and the benefits of building systems on modern technology instead of legacy components. In 2013, Inmation built a real-time service engine capable of processing all data in the background and executing the necessary consolidation into data-driven information, unlike systems during that time. All AspenTech Inmation operational components and IT systems could be connected across a global or enterprise network infrastructure.
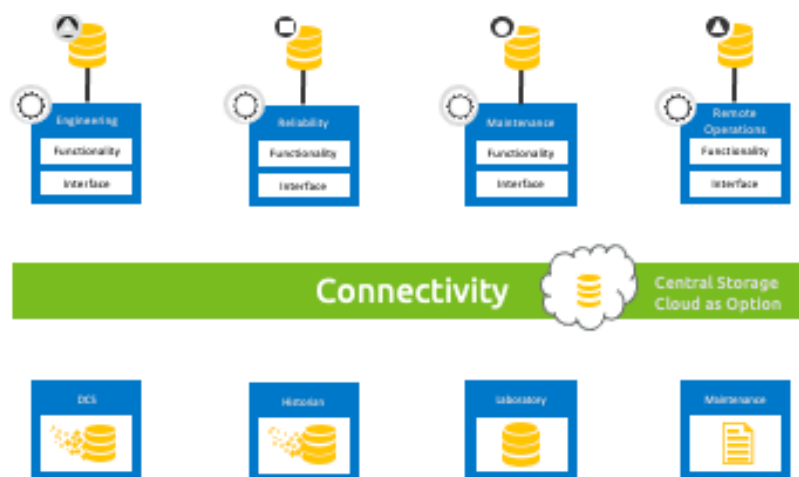
The AspenTech Inmation platform: Centrally Managed Aggregation and Contextualization

The system is adaptable to support a full deployment, micro-deployment using a single host, or a global rollout or cascaded systems using a secure and efficient network tunnelling at any depth.

AspenTech Inmation provides a single system to manage a distributed system from a central location, including configuration, monitoring, and license management. Connectivity supports all major OT and IT interfaces such as OPC UA, Classic OPC, MODBUS, HTTP, MQTT, Kafka and others.
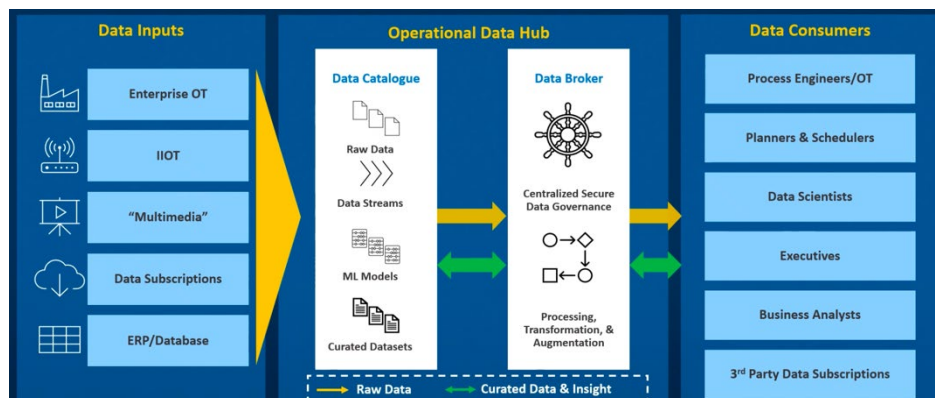
AspenTech's New Enterprise Data Management Platform

Building AspenTech's Industrial Data Foundation

AspenTech's acquisition of Inmation will help companies transform operations through industrial data-driven innovation and achieve greater value through data. This will not only find opportunities to optimize processes using machine learning and AI but also to develop new processes and ways of doing things based on the insights they can derive from the data. Customers in the future will be able to evolve current data systems to collect better, merge, store and retrieve large volumes of data to improve production operations with data-fueled decisions or support performance management and analytics across the enterprise.

AspenTech's new Industrial Data Foundation consolidates and organizes data from all sites into a single repository in the cloud or corporate data center in a high-available, flexible, real-time database.

AspenTech's new Industrial Data Foundation consolidates and organizes data from all sites into a single open repository in the cloud or corporate data center in a high-available, flexible, real-time database. There are new capabilities for batch and event process data to provide comprehensive track and trace by capturing and storing all batch processing data, golden batch profile creation and monitoring and batch-to-batch analysis.

For enterprises with diverse process historians, time-series data and data sources, customers will achieve maximum performance, security, and

deployment flexibility for stranded data. Industrial transformation will be possible with the ability to monitor real-time asset performance through trends and graphics, and production tracking traces the progress of materials through complex processes. These new capabilities will integrate people, data and workflows to support a step change in compliance through open systems.

Conclusion

As more industrial companies modernize data management processes and methodologies, they, in turn, will be better positioned to leverage industrial data across the enterprise. Industrial DataOps is an emerging capability for IT-OT organizations and become a foundation for the industry to move forward and reap the benefits of AspenTech's new Industrial Data Foundation. DataOps is an agile and process-oriented methodology for developing and delivering analytics. It brings DevOps teams together with Data Scientists and Data Engineers to provide the processes, tools, and structures necessary to support a data-focused enterprise, including Enterprise Analytics and data science organizations and those supporting process historians and time-series databases.

While DataOps began as a set of best practices, it has now matured to become a new and independent approach to data analytics. DataOps applies to the entire data lifecycle, from data curation and preparation to reporting, and recognizes the interconnected nature of the data analytics team and information technology operations.

ARC believes DataOps is a set of emerging practices, processes and technologies that combines an integrated and process-oriented perspective on data with automation and methods from agile software engineering to improve quality and speed. From an organizational perspective, DataOps helps functional silos better collaborate and promotes a culture of continuous improvement in data analytics. DataOps reduces the complexity of managing industrial data while automating the processes that make contextualized and curated data available to data consumers in a usable format with appropriate levels of governance. It uses metadata to improve the usability and value of data at rest or in motion.

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The technology component of DataOps includes a hub for collecting, curating and distributing data, with a mandate to provide controlled access to systems of record for customer and marketing performance data - while protecting privacy, usage restrictions and data integrity. AspenTech's acquisition of Inmation software, combined with a portfolio of data-rich, industrial-specific applications, will with certainty accelerate industrial transformation.

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