



AVEVA™ PI System™ Portfolio

Integrated solutions for managing
operations data

For over forty years, AVEVA PI System solutions have been the gold standard for managing real-time, time-series data in industrial settings. This natively integrated suite of software solutions is purpose-built to collect, enrich, visualize, analyze and deliver valuable data with critical context to users in operations and beyond.



Engineers, operators, plant managers and analysts all need a trustworthy system of record for real-time, high-fidelity operations data

Thousands of companies across the globe rely on AVEVA PI System solutions for data-driven insights that ensure operational excellence, reliability, sustainability, product quality and safety.

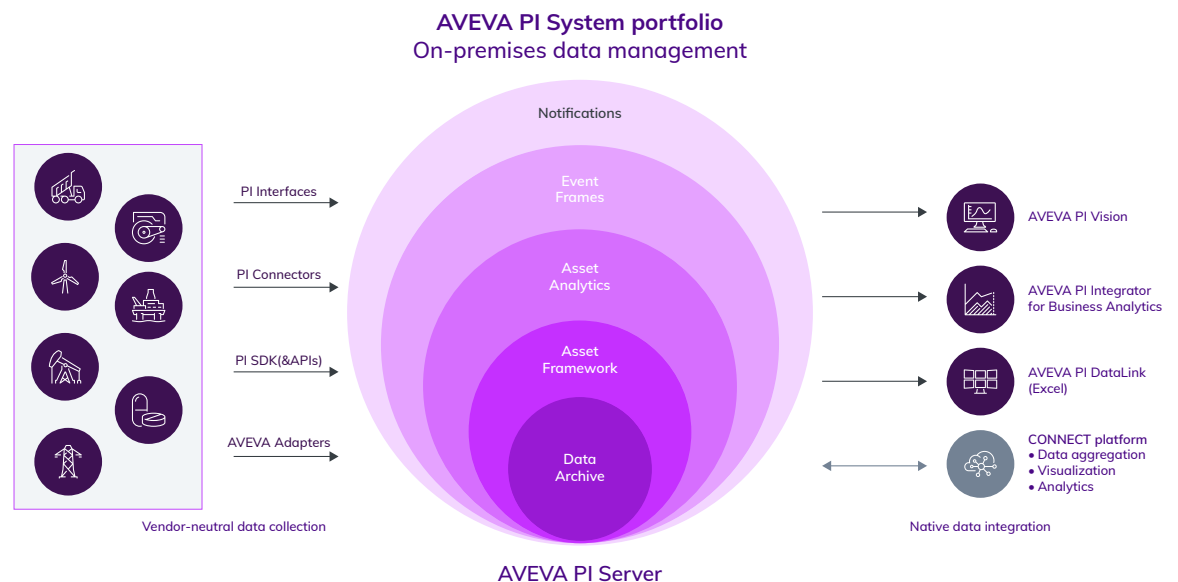
Optimized for operations data

Operations data is not like other types of data. It is characterized by extreme variety, velocity, volume and variability. The hundreds or thousands of relevant data streams are difficult to understand and use without additional context. That's why the developers of AVEVA PI System pioneered technology designed to optimize the capture, storage, tagging and indexing of very high-volume, time-series data.

And they also made sure the data could be quickly accessed by onsite engineers and technicians for immediate problem-solving without the need for programming or IT support.

The resulting portfolio of AVEVA PI System solutions makes it easy for users in operations or adjacent functions to identify and access the data they need to maximize uptime, maintain safety, and improve operations efficiency.

Many companies configure AVEVA PI System for high availability with end-to-end redundancy and immediate failover to ensure continued access to critical data in emergency and disaster situations.



AVEVA PI System

Integrated solutions for collecting, storing, enriching and delivering real-time, time-series data to people, applications and tools.

Benefits for operations

- Reduce time and effort collecting operational data.
- Ensure integrity and availability of critical real-time data.
- Give operations staff self-service access to data for faster insight – no programming required.

Benefits for business

- Facilitate collaboration with a single source of truth.
- Make years of data easily accessible for predictive analysis.
- Rapidly integrate reliable data into analytics platforms, enterprise applications and business intelligence tools.

Gather time-series data from any source

AVEVA PI System provides a rich set of options for gathering high-fidelity, time-series data in real-time from diverse and complex industrial systems – whether they communicate using modern connectivity standards or proprietary, vendor-specific technology. We've developed hundreds of native interfaces to stream data from legacy and proprietary assets, control systems and sensors. These connectivity solutions give you immediate access to operations data right out of the box – eliminating the need for programming or manual data collection.

Data integrity and availability

To ensure critical data is not dropped during a network disruption, all data collection options include data buffering. You can also opt for failover and auto-discovery of data sources to ensure clean, reliable data.

Store, manage, and enhance data

The core of the portfolio is **AVEVA PI Server**, the industry's most reliable and hardened operations datastore. This on-premises solution maintains original fidelity and lets users transform, refine, calculate and contextualize data, making it easier to develop insight and discover anomalies.

AVEVA PI Server runs on Microsoft Windows and Windows Core OS to ensure the best possible performance. You can store millions of data points and decades of history to support trending, benchmarking and predictive analytics. You can also deploy on private cloud infrastructure to reduce infrastructure costs.

Data context and organization

AVEVA PI Server lets you attach metadata and other related information to the raw data you collect, providing essential context.

Store years' worth of data, so engineers and analysts can discover patterns, trends and visualize data relationships

Unique 'asset framework' functionality lets your users easily create reusable and dynamic data structures to view data by asset type, locations, process or any other useful category. These predefined structures let less experienced employees view data in the same way as more experienced staff.

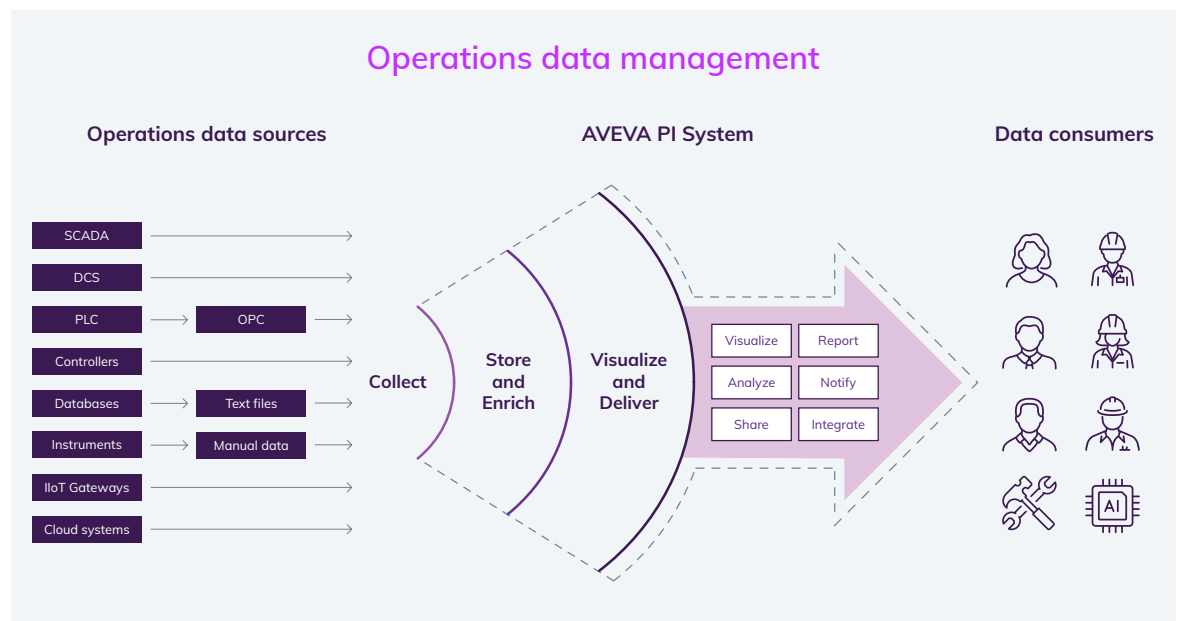
Foundational analytics

Simply collecting raw data has enormous value. But processing raw data in real time can provide transformational insights. [AVEVA PI Server](#) also includes analytic tools to calculate everything from simple averages and unit conversions to more complex results such as total energy used or days of raw material remaining.

Event tracking and notification

The impact of different shifts, batches, equipment startups, and process changeovers are easier to analyze when you can isolate them within your data. [AVEVA PI Server](#) includes event frames so you can identify data within a period of time defined by criteria you choose.

Event tracking lets you compare similar events, perform root cause analysis, monitor consistency, and deploy best practices throughout your environment. Should conditions require intervention, [AVEVA PI Server](#) has notifications you can use to alert appropriate team members or systems in real time.



The AVEVA PI System portfolio collects, enriches and delivers real-time operations data to users in mission-critical environments.



Visualize your data

The AVEVA PI System portfolio also includes client tools that let your engineers, operators and analysts access data in familiar formats, to make data-driven decisions.

Self-service, mobile displays

AVEVA™ PI Vision is an intuitive, web-based tool you can use to create real-time, mobile-friendly data displays. A simple drag-and-drop interface lets you choose the data you want to see and how you want to display it: trendline, numerical value or gauge. You can create dashboards in seconds, display them on any connected device and share them with colleagues to facilitate collaboration and get everyone on the same page.

Spreadsheet analysis

AVEVA™ PI DataLink pulls data directly into Microsoft Excel spreadsheets, so you can analyze operations data with familiar functionality. Create live, interactive models that compare and analyze assets and processes in real time. Summarize years of historical data, view it alongside current values, and forecast data using regression analysis.

Integrate data seamlessly

The more you share operations data across your business, the more valuable it becomes. AVEVA PI System solutions deliver cleansed and formatted data to a broad set of decision makers, analytic tools and industrial applications.

Transfer data to analysis tools

Sensor, IIoT and time-series data require special preparation for integration with relational data and tools. AVEVA offers natively integrated data integration solutions to ensure fast, reliable and consistent data transfer.

AVEVA PI Integrator for Business Analytics

makes it easy to select and shape the operations data you need into a clean, interpolated row-column format – no programming required. This feature makes it faster and easier to transfer operations data into business intelligence tools, AI engines and machine-learning algorithms.

Easily fill data lakes built on Azure, AWS, and Google Cloud Platform. Analyze large, complex datasets using familiar tools such as Domo, IBM Cognos, Microsoft Power BI, Qlik, SAP, SAS, Salesforce Tableau or any tool that accesses data using Open Database Connectivity (ODBC) or SQL standards.

Programmatic data access

In addition to pre-built integrators, you can also access PI System data programmatically by using [AVEVA PI System developer technologies](#) with a rich library of APIs. These tools make it easy to use high-quality operations data from AVEVA PI System in your own custom applications and advanced analysis systems.

Native integration from edge to cloud

When critical operations include remote or mobile assets, IIoT devices or sensor-enabled equipment, you can expand your data management outside the control network using [AVEVA Edge Data Store](#).

When you want to use cloud infrastructure to give remote employees, service providers or trusted business partners access to real-time data, you can natively integrate [AVEVA PI Server](#) and [AVEVA Edge Data Store](#) with the secure data services on CONNECT, the industrial intelligence platform.

All three solutions are available together as [AVEVA PI Data Infrastructure](#), a complete hybrid data infrastructure solution that you purchase via a single software subscription.



AVEVA PI System portfolio: integrated solutions for managing operations data

For data collection:

PI Interfaces, PI Connectors, AVEVA Adapters

Hundreds of off-the-shelf connectivity options collect high-frequency data from control systems, critical assets, IIoT devices and sensors and send it to AVEVA PI Server. The right solution depends on your data source and collection preferences.

For data storage and processing:

AVEVA PI Server

Data storage and processing software for managing large volumes of time-series operations data and associated contextual information.

For data visualization and integration:

AVEVA PI Vision

Self-service, web-based visualization tool for creating real-time dashboards and process monitoring displays with AVEVA PI Server data.

AVEVA PI DataLink

Add-on to Microsoft Excel that pulls data from AVEVA PI Server into familiar spreadsheets for analysis or creation of compliance reports.

AVEVA PI Integrator for Business Analytics

Software that transforms raw data into cleansed, row-column data sets for use in business intelligence tools and AI/machine-learning platforms.

For scalability & access:

CONNECT

Industrial intelligence platform natively integrated with AVEVA PI System, including data flow from AVEVA PI System to CONNECT and vice versa, giving you scalability on-demand and easy, secure data sharing and processing via the cloud.

Summary

AVEVA PI System is an integrated suite of data management solutions designed to collect, enrich, visualize and deliver reliable, real-time operations data to users, analytic tools and enterprise applications from a centralized, single source of truth.

Give your engineers, asset managers, maintenance specialists and operations analysts the data they need to maintain critical operations, prevent downtime and maximize productivity, and ensure product quality, safety and regulatory compliance.

Ask your local representative for a demo today.



AVEVA

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