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APERIO: Imagine a World Without Poor Data Quality

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AVEVA



Data Quality at Scale

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Topics

Impact of Data Quality

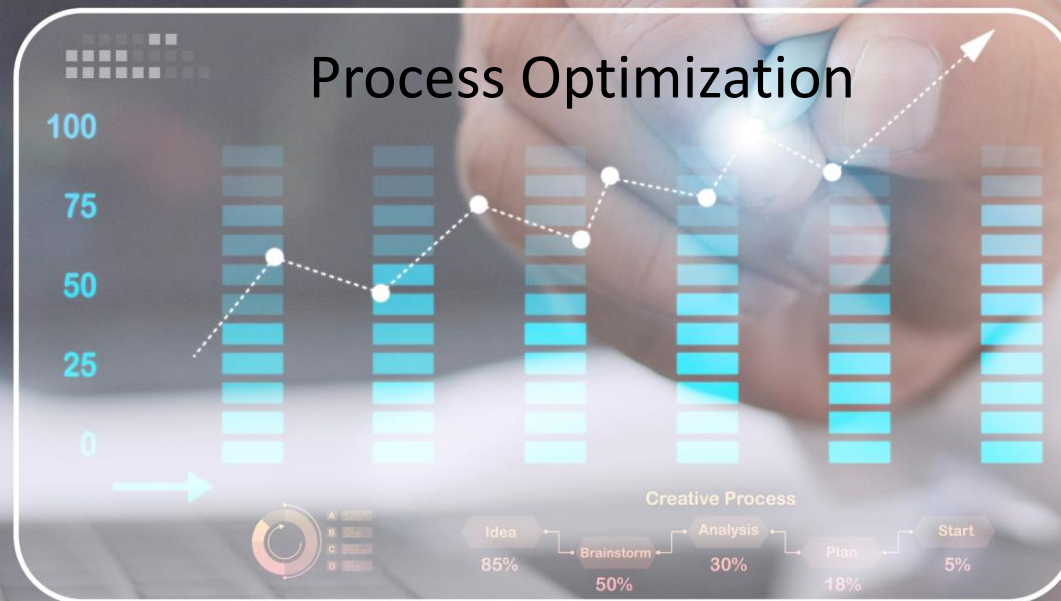
Approach for Improving Data Quality

APERIO Data Quality Solutions

Data Quality Cases

Data Driven Decisions

Asset
Performance
Management

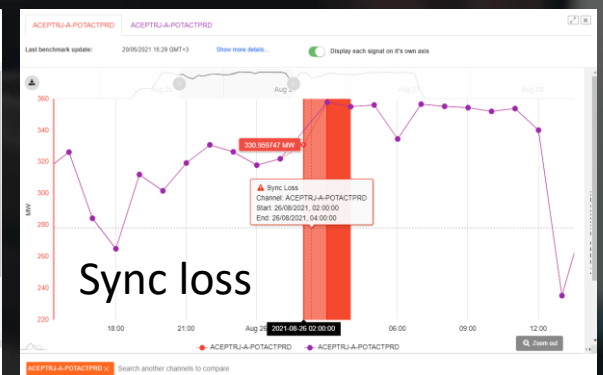
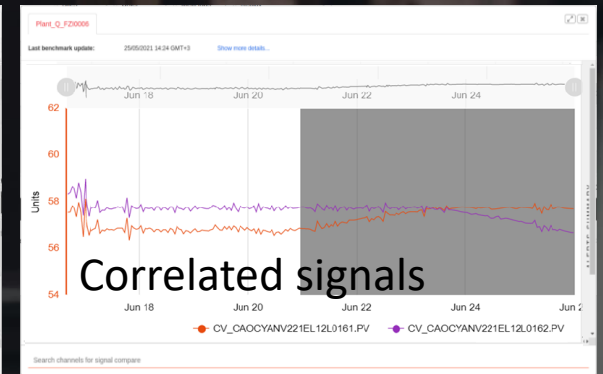
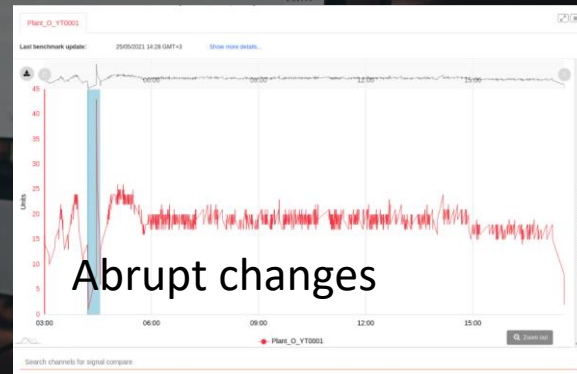
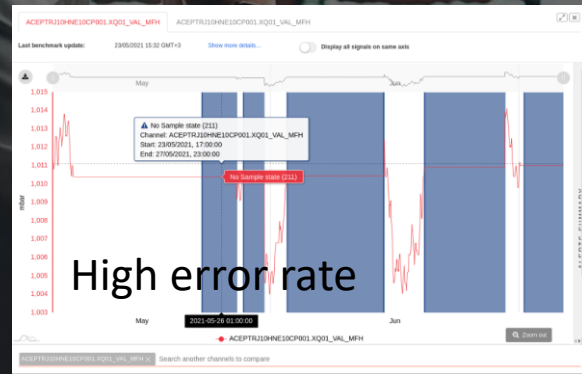


Corporate
Reporting



<< Data driven decisions need high quality data >>

Types of Data Problems



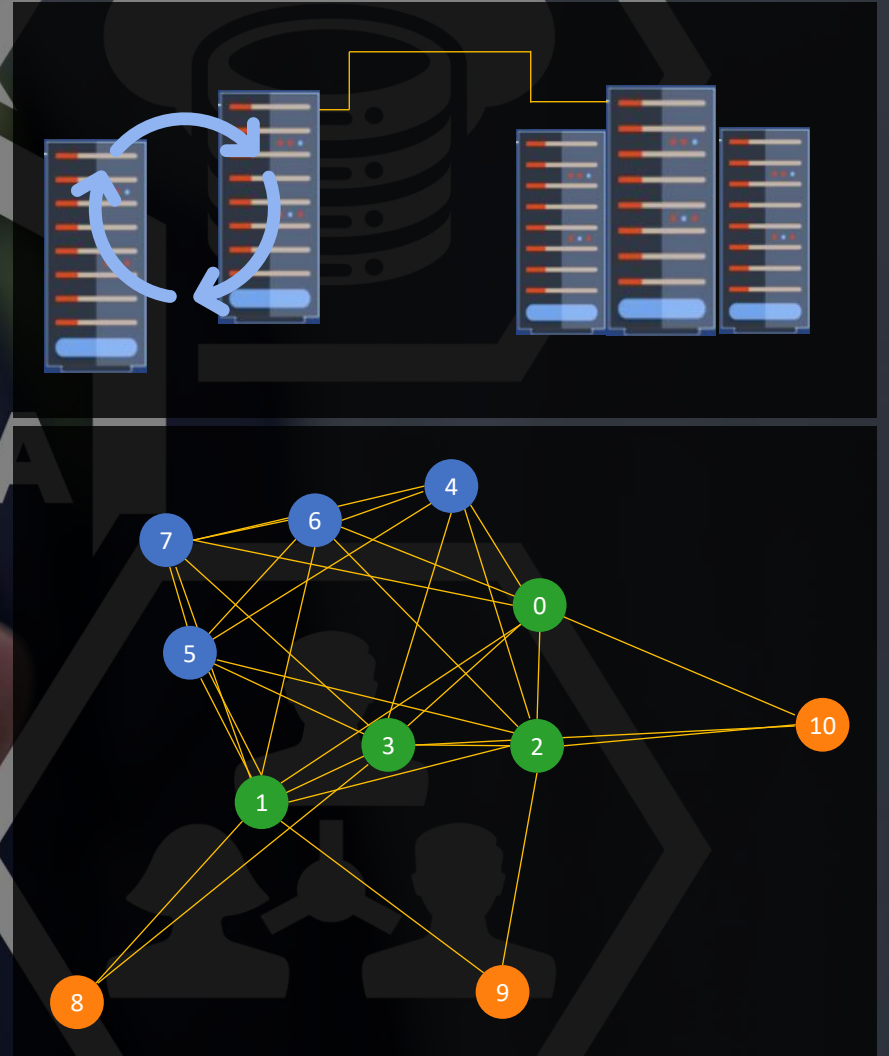
Meta Data Quality Must Be Addressed

Examples:

- Units of Measure
- Instrumentation
- ERP
- CMMS

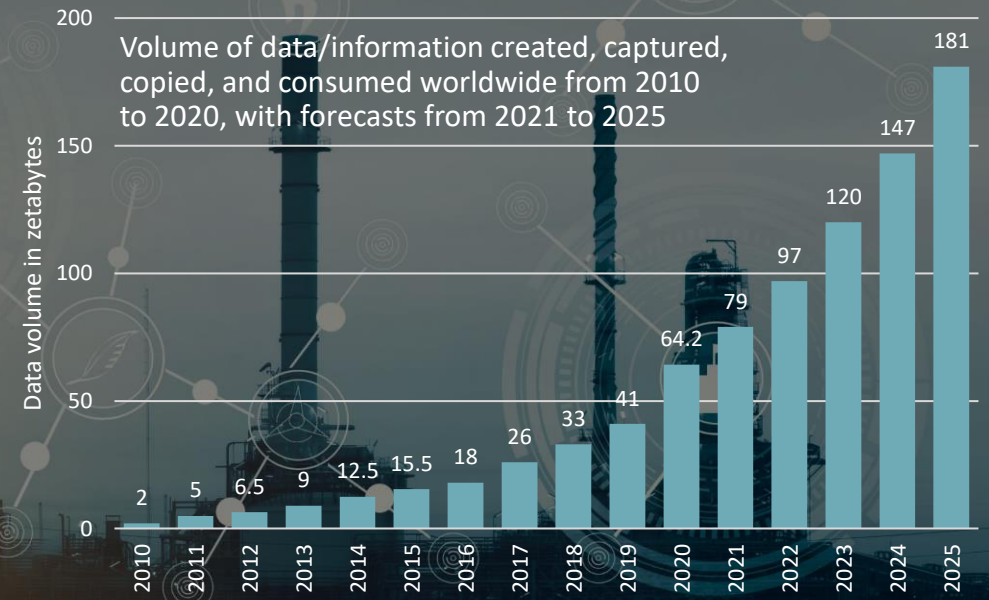


METADATA




Growth of Data, Systems, Users → Greater Demands on Data

- More advanced sensors (PAT)
- More data (IIoT)
- Many more users
- More and more decisions are data driven



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How will you scale?



APERIO automatically validates operational data at scale to improve data quality, visibility, intelligence, and value, allowing for smarter business decisions based on real-time, trusted, superior data.

Addressing the Problem at Scale



01 CONNECT



02 QUANTIFY



03 PRIORITIZE



04 REMEDIATE

APERIO Products



Data Leaders
APERIO DataWise

Ensure the highest data quality through automated anomaly detection and resolution.

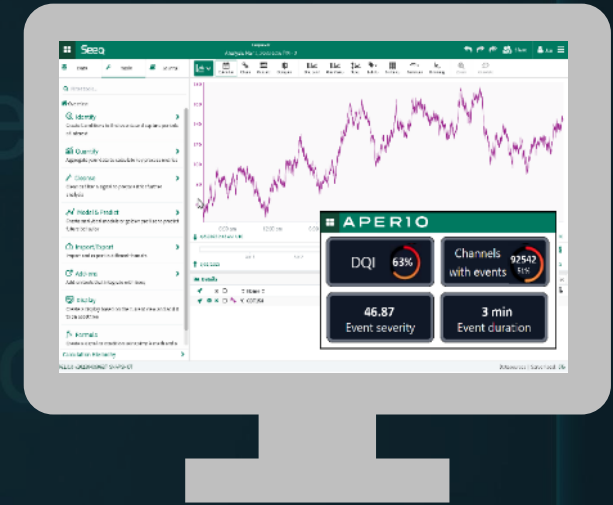
Trust all your data-driven decisions.



Data Owners
APERIO DataWise for PI

Detect data quality issues and identify systemic issues.

Improve and track the data quality of your PI systems.



Data Users
APERIO DataWise for Analytics

See data quality issues in analytics.

Use analytics tools to exclude poor data and improve your models.

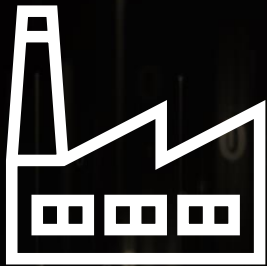
T H E A P E R I O D I F F E R E N C E

- ✓ We connect to millions of AVEVA PI data streams for all equipment and sensor types, without needing custom configuration.
- ✓ We utilize automated, unsupervised ML engines that assess data health and reliability, without manually defining rules or duplicating tags.
- ✓ We measure, improve, and track data quality through smart workflows, rigorous root cause analyses, and efficient pattern recognition.
- ✓ We deliver verified data for confident data-driven decision-making, driving business value from the control room to the boardroom.

Speaking from Experience: Jane Arnold

#12 on the Top 50 Industry 4.0 Influencers to Follow

30+ Years in Manufacturing



Process Control

1989 - 2005

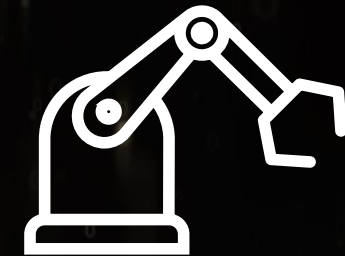


Operations

2005 - 2021



Technology



Automation

2021 - 2022



APERIO

Data Excellence

Top Challenges

Insufficient skills and capabilities
Data security risks
Lack of effective applications to process and make sense of data.
Complex internal governance and processes
Roles and Responsibilities not clearly defined

Value from Data

Productivity increase in manufacturing and supply systems
Enhanced customer experience through improved products and services
Positive impact on society and the environment

Data Quality Manufacturing of Products

Single Source of Truth for data!

- Advanced Process Control
- Safety Loops
- Alarm Management
- Instrument Health
- Asset Performance Management
- Unit Quality
- Continuous Improvement

The right data available at the right time for operations to make timely and accurate decisions!

<https://www.weforum.org/whitepapers/data-excellence-transforming-manufacturing-and-supply-systems>

Industry 4.0 Design Principles and Goals

Interconnection

Easy connection of people to data in order to capture additional value.

Information Transparency

Comprehensive information to operators to make decisions.
Allows for mass data and information from all aspects of manufacturing

You can solve any problem with data!

Technical Assistance

The technological facility of systems to assist humans in decision-making and problem-solving; the ability to help humans with difficult or unsafe tasks.

Decentralized Decisions

Cyber physical systems to make decisions on their own and to perform their tasks as autonomously as possible.

Industry 4.0 Potential Value

Expectations vs. Reality

Industry	Quality data improves decision-making	
	Manufacturing	Chemicals
<p>Expected improvements by using technology in discrete manufacturing. Results vary depending on starting point:</p> <ul style="list-style-type: none">OEE (3-50%)Throughput (10-200%)OTD (30-100%)Inventory reduction (10-90%)Energy efficiency (3-50%)Working Capital (COT)	<p>Started 4.0 initiatives along with 3.0 activities.</p> <p>Delays due to long supply chain issues for IT equipment.</p> <p>Implementing Tulip for bottom-up approach to digitize the shop floor.</p> <p>> \$10M implemented productivity improvements in the first year by solving front-line issues</p>	<p>Built 4.0 platform on top of 3.0 solutions.</p> <p>Tackled issues that caused unplanned outages resulting in > 120M€ EBITDA</p> <p>Result of OEE > 95%</p> <p>Data Quality part of tech stack</p> <p>End users respond to data!</p>

Potential economic value from IoT worldwide in 2030, by use case (in billion U.S. dollars)

Global potential economic value from IoT 2030, by use case



Note(s): Worldwide; November 2021

Further information regarding this statistic can be found on [page 8](#).

Source(s): McKinsey; [ID 1317442](#)

Better Business Outcomes

Data driven decisions need high quality data



Smarter
decision
making



Accurate
models



Reliable
reporting



Better
outcomes



Join the Data Quality Discussion

Engage with APERIO Today

Visit us at booth #11 for a product demo

Offer special AVEVA World pricing for
APERIO DataWise for PI

Join Jane in the “Data Quality to
Support AI” panel at 3:50 pm today
in the Process Industries track

Reach out via the Swapcard app



APERIO

About APERIO

Customers use APERIO to measure and improve operational data quality



About APERIO



Started in 2017



Head-quartered in Boston, MA



A-series funding in 2020 & 2023



20+ employees

Partners



Fortune 500 Customers




INTERNATIONAL




PAPER



APERIO

 [linkedin.com/company/AperioAI](https://www.linkedin.com/company/AperioAI)

 @AperioAI

ABOUT APERIO

APERIO is the leader in industrial data integrity solutions. We help customers drive profitability and sustainability goals while mitigating risk in their industrial operations. Powered by AI machine learning, APERIO automatically validates operational data at scale to improve data accuracy, security, and value, allowing for better, smarter business decisions based on real-time, trusted, superior data.

[Aperio.ai](https://www.aperio.ai)

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Superior Data