

Transforming Laboratory Data into Actionable Insights with waters_connect Data Intelligence Software

EXECUTIVE SUMMARY

Modern laboratories face a critical challenge: managing and leveraging the vast amounts of data generated daily. While data is indispensable for insight generation and decision-making, its complexity often results in inefficiencies, compliance risks, and delays in key operations. Laboratories must convert fragmented data into actionable insights to maintain compliance, optimize processes, and improve time-to-market.

The waters_connect™ Data Intelligence Software offers a groundbreaking solution to address these challenges. Built on the secure Waters™ cloud platform, Data Intelligence provides dynamic dashboards for data integrity, trend analysis, and system utilization. It eliminates the need for manual data consolidation, enabling laboratories to unlock deeper insights with ease and efficiency. This whitepaper explores how waters_connect Data Intelligence Software enables laboratories to achieve superior productivity, compliance, and decision-making.

THE DATA CHALLENGE IN ANALYTICAL LABORATORIES

DISPARATE AND DISCONNECTED DATA

Analytical laboratories generate vast volumes of Empower software data stored across multiple databases, instances, and projects. For large organizations, this siloed nature of the data complicates efforts to gain a holistic view of operations. Smaller organizations, even with a single database, face challenges in searching, trending, and analyzing data across projects.

Without consolidated access, laboratories struggle to:

- Monitor and identify trends over time and across datasets.
- Respond swiftly to compliance audits.
- Proactively address potential issues in lab processes.

BURDEN OF MANUAL DATA HANDLING

Laboratory personnel are tasked with time-consuming manual efforts to interpret data, diverting resources from higher-value activities. The growing reliance on data science teams, already constrained by higher priority work, exacerbates these issues. Traditional solutions requiring costly custom integrations further complicate the process.

The inability to efficiently access and interpret data can lead to a number of issues, over and above general reduced lab productivity and higher operational costs. For example, the increased risk of non-compliance and adverse audit findings can have a huge impact on laboratories. Delays in production due to repeated analyses caused by failures (e.g., analytical column or system suitability test (SST) issues) is also a challenge faced by many labs.

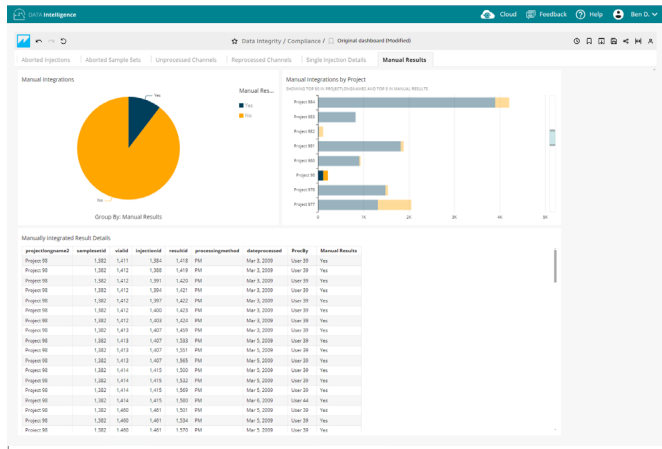
To remain competitive and compliant, laboratories require tools that offer seamless access to consolidated and contextual data, enable dynamic insights for proactive decision-making, and simplify compliance and audit readiness.

ACCESS DEEPER INSIGHTS

The waters_connect Data Intelligence Software addresses these challenges by delivering curated, real-time insights from Empower data. Built on a secure and scalable cloud platform, the software eliminates barriers to data access, and includes the following, initial core functionalities:

1. DATA INTEGRITY DASHBOARD

The data integrity dashboard streamlines audit preparation by providing detailed views of key metrics essential for compliance and regulatory standards.



The data integrity dashboard which supports confident audit-readiness.

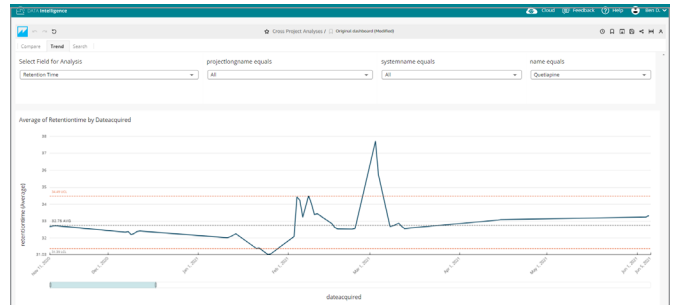
Key Features:

- Views of aborted injections, unprocessed channels, and user activity.
- Filters to drill down into specific projects, systems, or users.
- Tools to ensure continuous audit readiness and mitigate risks of adverse findings.

By automating the data integrity review process, laboratories can easily demonstrate compliance, reduce their audit preparation time, and remain confidently audit-ready.

2. CROSS-PROJECT ANALYSIS DASHBOARD

The cross-project analysis dashboard consolidates historical and current data across Empower projects, sites, and databases.



The cross-project analysis dashboard supports efficiency in laboratory operations.

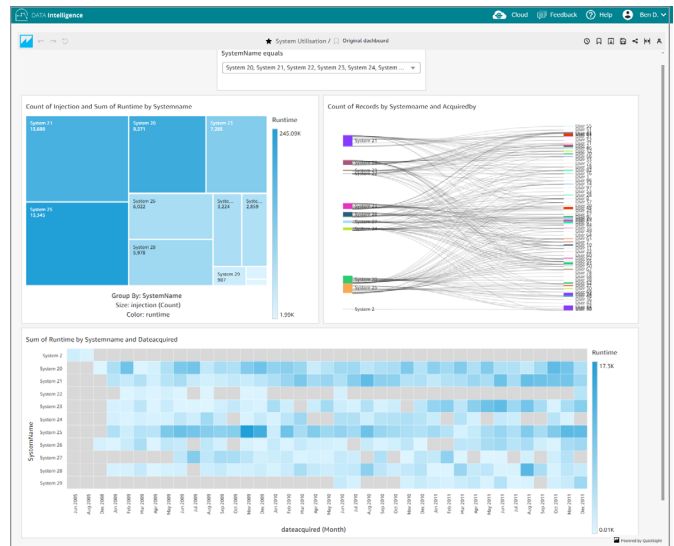
Key Features:

- Visualization of long-term trends and patterns.
- Integrated data from multiple sources for a holistic view.
- Actionable insights to inform critical laboratory decisions.

This functionality empowers laboratories to identify inefficiencies, optimize processes, and improve time-to-market by leveraging actionable data insights.

3. SYSTEM UTILIZATION DASHBOARD

The system utilization dashboard provides key performance metrics to enhance laboratory productivity.



The system utilization dashboard supports enhanced laboratory productivity.

Key Features:

- Insights into system usage by injections, runtime minutes, and user activity.
- Month-over-month utilization trends to identify optimization opportunities.
- Tools to allocate resources effectively and drive operational efficiency.

These insights enable labs to maximize instrument usage, reduce downtime, and achieve greater overall productivity.

BENEFITS OF WATERS_CONNECT DATA INTELLIGENCE

**ACCESS TO DEEPER INSIGHTS**

With pre-built dashboards and an embedded business intelligence tool, laboratories can access critical Empower™ Software data insights without requiring manual data consolidation or extensive IT support. Users can adapt dashboards to meet specific needs or build new ones with assistance from Waters Professional Services team.

ENHANCED COMPLIANCE AND AUDIT READINESS

The waters_connect Data Intelligence Software ensures laboratories can confidently navigate audits by providing streamlined access to compliance-related metrics. It reduces the resource burden associated with preparing for and responding to regulatory reviews and minimizes risks associated with adverse audit findings.

IMPROVED PRODUCTIVITY AND DECISION-MAKING

By consolidating data and automating analytics, the software enables laboratories to identify inefficiencies, improve workflows, and make data-driven decisions. The ability to track and visualize trends across projects and datasets enhances proactive decision-making and supports continuous improvement.

SECURE AND SCALABLE CLOUD INFRASTRUCTURE

Hosted on a secure cloud platform, waters_connect Data Intelligence ensures data integrity and compliance with industry best practices. This scalable infrastructure accommodates the evolving needs of laboratories, allowing them to focus on innovation without concerns about data security.

THE FUTURE OF LABORATORY INSIGHTS

Waters is committed to expanding the capabilities of waters_connect Data Intelligence. Future developments will focus on addressing the evolving challenges faced by laboratories and providing innovative solutions that ensure optimal productivity, compliance, and insight generation, including:

- **Expanded Dashboards:** Additional dashboards tailored to emerging laboratory needs, such as predictive analytics and advanced process monitoring.
- **AI-Powered Insights:** Integration of machine learning tools for deeper data analysis and trend prediction.
- **Broader Integration:** Enhanced compatibility with other laboratory systems and data sources for a comprehensive view of operations.

These enhancements will not only strengthen the capabilities of waters_connect Data Intelligence but will also transform how laboratories approach data management and decision making. By introducing predictive tools and broader integrations, the software will enable labs to shift from reactive to proactive operations, supporting vigilant monitoring and improving the efficiency and reliability of their workflows.

CONCLUSIONS

In today's data-driven world, laboratories must transform how they manage and leverage data to remain competitive, efficient, and compliant. The waters_connect Data Intelligence Software provides a robust, scalable solution that addresses the most pressing challenges faced by modern laboratories.

With its dynamic dashboards for data integrity, cross-project analysis, and system utilization, the software enables laboratories to unlock the full potential of their Empower Software data, streamline operations, and make informed decisions. As Waters continues to innovate, laboratories can expect even greater capabilities to meet their evolving needs.

For your local sales office, please visit waters.com/contact



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