

OSIsoft PI Coresight Brings Analytical Clarity to PI System Data

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Summary

OSIsoft recently briefed ARC Advisory Group on PI Coresight, the company's new visually oriented, web-based analytics tool for the PI System. ARC believes that it provides a good example of a tool that organizations

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can use to empower knowledge workers to help achieve continuous performance improvements and operational excellence, both within the plant and across the supply chain.

We Need to Become Smarter

We live in a world in which most systems generate unprecedented amounts of data. The behavior of some, but not all, of these systems is intuitive. Systems - physical or mathematical - that do not behave in an intuitive matter require analysis to determine how they will behave. In the past, scientists and developers built physical models to help analyze many physical systems. Today, computers, spreadsheets, and sophisticated analytics packages facilitate and simplify this process to a significant degree. In the process industries, we have the opportunity to leverage process data and analytics as strategic assets that allow organizations to make better, more confident decisions. Whatever decisions or challenges need to be resolved, analytics can greatly enhance efficiency and effectiveness, creating more value.

Successfully navigating a more complex and dynamic world calls for better, faster decisions. However, many organizations still rely heavily on spreadsheets for guidance, even for high-risk/high-reward decisions.



Spreadsheets have their place, but analytics go beyond where spreadsheets leave off. For example analytic methods can be applied to yield deeper insights with less time and effort from vast data repositories. Analytics bring greater sophistication to data investigations, revealing insights that spreadsheets alone would have missed.

Imagine if business analysts throughout the organization could create their own analytical processes within a familiar spreadsheet environment. What if they could interact with the data in a visual and intuitive way to quickly identify important themes? What if quantitative specialists could expedite some analytical processes and offload others, spreading analytic capabilities further across the organization.

This would be ideal. However, analytic expertise is in short supply in most organizations. Quantitative specialists carry a heavy workload and need to

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focus on the most critical business issues. As a result, other important – but somewhat less critical – decisions are often made based on suboptimal information.

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How Should We Deal with the Challenge?

New capabilities enable business analysts to be more self-sufficient in exploring data, asking questions, developing workflows, and even generating their own analyses. These include:

- **Discovery** – which makes it easy to explore data in custom, graphical views using point-and-click techniques
- **Configuration** – which enables users to define analytic workflows using easy and intuitive drag-and-drop and fill-in-the-blank techniques
- **Visual Analytics** – which make it easy for users to run their own analyses using a step-by-step process

Packaging sophisticated analytic processes into easy-to-use applications improves upon traditional coding, empowers more people in the organiza-



PI Coresight Can Help Users across an Organization Analyze Complex Datasets

tion to generate analytic insights, and frees quantitative specialists to focus on the most complex and critical questions.

ARC believes that **PI Coresight** delivers all the above capabilities. It is a web-based product designed to provide users with fast, easy, and secure access to data from multiple PI System servers. This product adds new features to the current PI System product offering including integrated searching, intuitive controls, a streamlined user interface, and powerful visualization tools. Developed to provide ad-hoc analysis, investigation and discovery capa-

bilities, PI Coresight gives users a new way to share displays and collaborate across the enterprise.

Where Does PI Coresight Fit?

The ad-hoc analysis and collaboration capabilities within PI Coresight complement, but do not replace, the existing OSIsoft products. These include PI DataLink, which provides reporting and table-based analytics in Excel; PI WebParts, which provides composite applications in SharePoint; and PI ProcessBook, which provides display authoring and process monitoring capabilities.

Analytics Should Be an Integral Part of OpX and Continuous Improvement

ARC defines operational excellence (OpX) as “more people making more correct decisions.” Analytics, which is about more than building and running models, can help. Analytics is a closed-loop process of data exploration and discovery; model creation and validation; then getting the results to the right people at the right time and learning from the results to further refine the process.

The discovery phase of analytics enables what matters for OpX. It helps show unexpected patterns and relationships, helps users ask the right questions, reveals unanticipated shortcuts, and helps users formulate and solve problems. Here, a highly visual data exploration environment complements the way our brains work. Dynamic visual displays of information make it faster for users to recognize patterns, trends and anomalies than if

they had to rely on tabular output or static graphs. They can also help users recognize patterns, trends, and anomalies faster.

With PI Coresight, users can investigate issues easily by dragging and dropping new data values into existing trends and tables. It instantly adds this new data and frames it within the context of the trend/table.

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Creating Workflows for Analysis in a Graphical Environment

There will always be a need for people to write code but, increasingly, new graphical user interfaces enable many applications to be created and configured using automated graphical techniques, rather than conventional text-based manual programming techniques.

This is the approach OSIsoft uses with PI Coresight. Users need only select the desired data and the software self-configures the appropriate display objects, which can be saved for reuse in new or existing displays.

Visual Analytics Provide User-Friendly Way to Share or Get Started

As organizations become more and more dependent on analytics, business analysts and subject matter experts need greater self-sufficiency in predictive analysis. Analysts shouldn't have to rely on already-stressed statisticians and modelers every time they need to develop new insights from the data. Organizations that arm business analysts with visual analytics tools empower a whole new group of employees; enabling them to determine the best actions for reducing risk and improving organizational performance.

As an empowerment tool, PI Coresight provides intuitive interaction and facilitates collaboration. It is a web-based solution that does not require any special client software. This allows users to perform ad hoc analyses

and share displays for collaboration from any location, at any time, using any web browser that supports Microsoft Silverlight.

Conclusions

In today's increasingly demanding, dynamic, complex, and data-burdened business environment, ARC believes that the time is right for more organizations to consider implementing advanced analytics solutions to empower knowledge workers to make faster, better, and more informed decisions. Tools such as OSIsoft's PI Coresight enable users who are familiar with spreadsheets and similar tools to take advantage of the power of advanced analytics to do their jobs better and deliver more value to their respective organizations.

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