

## CUSTOMER STORY

## More Data, More Accountability: Eastman and the PI System™



**INDUSTRY**  
Chemicals

**PARTNER**

Microsoft Power BI



**CHALLENGE**

Task of monitoring 1300 process analyzers was no data driven and reliability was suffering.



**SOLUTION**

Use of PI System as a single source of truth, integrated with data sources and Power BI, for intuitive monitoring and alerts.



**BENEFIT**

Improved process analyzer uptime, increased plant safety and efficiency, and capacity to track KPIs and move to predictive maintenance.

Tennessee-based Eastman Chemical Company manufactures a variety of materials, chemicals, and fibers at about 50 sites worldwide. At its Tennessee plant, Eastman's Process Analytics Group is recently embarking on a major digital transformation project, integrating PI System data with data sources and analytical tools from Microsoft Power BI to create a central system for overseeing more than 1300 process analyzers. Because the process analyzers are key to maintaining safety and productivity in the manufacturing process, avoiding downtime and equipment problems is critical. Digital transformation will enable predictive maintenance, making the plant safer and more efficient, and reducing process analyzer downtime.



**Our cross discipline digital transformation has already had a significant impact on the safety and reliability of our Kingsport operations. These tools integrated with BI reporting are a leap in continuous maintenance capability for our team.**

Ryan Simpson,  
Senior process analytics engineer, Eastman chemical

### **Eastman embraces industry 4.0**

Designing, installing, running, and maintaining Eastman's 1300 process analyzers is specialized work: Operators typically spend two years learning the skills to join the process analytics group. New installations often take time for operators to get up to speed on. In some cases, operators were missing signals that process analyzers were down or not working properly. With highly trained operators in short supply because of an aging and retiring workforce, Eastman was looking for ways to automate the task of monitoring the performance of process analyzers, and alerting staff when problems arose.

"Our number one goal has always been improving plant safety by increasing analyzer uptime, followed by removing work from control rooms and reducing dependence on them, knowing quickly when an analyzer problem exists," said Ryan Simpson, senior process analytics engineer at Eastman. The company also wanted to improve workflows and efficiency, prioritize work, and reduce training load.

To accomplish this, Eastman is using the PI System to integrate various sources of data such as plant instruments, maintenance data, SharePoint, and GIS, creating a single source of truth across the enterprise that can be viewed

and analyzed through PI Vision and Microsoft Power BI reports.

### **Creating a one-stop shop for data**

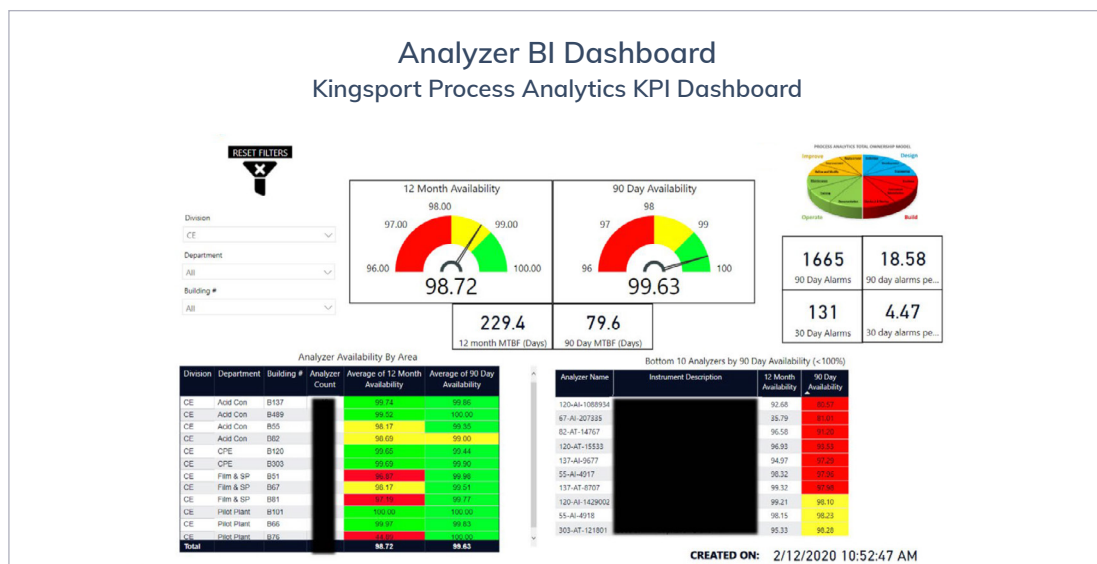
Custom dashboards created in PI Vision to access process analyzer data are now making the task of monitoring easier and more intuitive, and removing some of the operator guesswork from overseeing the analyzers.

"These dashboards are one-stop shops for every piece of information concerning the analyzer. This includes, but is not limited to, sample information, trends, spare parts, procedures, manuals, maintenance history from SAP and current reliability calculations," Simpson said.

Bringing all this data together is also allowing Eastman to do analysis on reliability and performance in the aggregate, across the level of a plant or a division, which had never been possible before. Data indicating problems with the status of an analyzer or a process show up in red, alerting operators to potential trouble with equipment.

### **Helping operators do the job**

Beyond providing easy and intuitive tools for monitoring the status and performance of process analyzers, Eastman's centralized data hub also supports plant operators in other ways.



The “money slide,” as Simpson called it: A Power BI dashboard pulling data from Asset Framework that shows process analyzer KPIs and availability at a glance.

Flow diagrams in PI Vision, which are simpler than technical piping and instrumentation diagrams, help show the basic structure of sample handling systems and attachments, reducing training time for new technicians and helping to eliminate communication problems in the group. Map layers show the location of equipment, and of safe spaces in the plant if something goes wrong.

Operators are even using the system to order parts for instruments directly through PI Vision and Power BI, greatly reducing the time spent performing these mundane tasks.

Through digital transformation, Eastman has moved from a system reliant on staff experience and memory to prioritize work and keep process analyzers running, to a system

that clearly tracks and displays KPIs, alerts operators when problems arise, and enables analysis across the system.

The benefits are clear: Uptime of analyzers has already improved across the plant, and team productivity is on the rise. Armed with new baseline data, Eastman is moving toward implementing predictive maintenance.

“Significant process, safety, and reliability gains have already occurred due to this project,” Simpson said.



For more information about Eastman and the PI System, watch the [full presentation here](https://on24static.akamaized.net/event/22/61/66/1/rt/1/documents/resourceList1588274722696/uc20nad2ch05eastmansimpsonimproveaccountabilitywitheventframesinmanufacturing1588274720925.pdf).

“Process Analytics Digital Transformation.”

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