



# MAKE THE MOST OF HISTORICAL DATA

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Real-world examples of how new machine-level historian technology helps manufacturers see deep into their operations.

**>>** Sound decision-making requires superior visibility into manufacturing plant process variables. The ability of that insight to improve quality, reduce warranty costs or simply enable manufacturers to get highly regulated products to market varies from industry to industry. One thing remains the same: Reliable visibility into historic data is a key contributor to operational improvements in any enterprise.

Gaining that visibility does have its challenges. Manufacturers typically rely on historian software to capture process data from plant-floor controllers. However, size and speed limitations in traditional historians have forced manufacturers to make difficult choices about what information to gather. For slower processes, pulling data points off a machine every second may provide adequate visibility. For high-speed processes, such as chemical flashing, metal manufacture, paper or packaging processes, companies can't afford to compromise between the speed of data capture and resolution.

Machine-level historian applications such as the Rockwell Software® FactoryTalk® Historian ME module from Rockwell Automation can capture every event on a machine, at high speed and full resolution. The module can stand alone, and it has a limited software footprint and no server connections. It features a backplane that can gather information from up to four controllers. As a result, the module has no impact by potential server or network disruption. Also, it can service sites where temperature, vibration or distance make it impracticable to install a server.

## Get it Right When It's Regulated

For regulated industries, access to uninterrupted coverage is mission-critical. Retaining records for a range of process variables is so important that companies must provide documentation to secure regulatory approval.

Pharmaceutical manufacturers live and breathe these types of requirements. For example, a pill manufacturer

must be able provide the U.S. Food and Drug Administration (FDA) with proper documentation or risk throwing out millions of dollars of product.

“Anything we can do to minimize risk in our business impacts our bottom line. Even if our product passes all of our own very stringent quality tests, we have to be able to provide regulators all the information from our processes,” explains Jim O’Brien, director of quality at a North American pharmaceutical company.

“A unit that captures every single event — time, temperature, moisture — on our machines minimizes the risk that we’ll fall short of that regulatory requirement,” he explains.

## Reliable visibility into historic data is a key contributor to operational improvements in any enterprise.

Similar regulations apply to tracking and reporting industrial processes that affect the environment. Losing greenhouse gas (GHG) emissions data could result in substantial fines and potential profit losses.

In a water wastewater processing plant, for example, operators must be able to prove that water quality properties are being constantly monitored. Implementing a reliable system for data capture is critical, but the plant environment often makes it difficult to guarantee the reliability needed. One West Coast desalination plant has overcome this challenge using a machine-level historian application.

The plant pumps salt water at high pressure through filters to remove the salt. The filters must be changed on a regular basis, and operators must track variables such as pressure, back flush and motor or power faults. The multiple pumping stations operated using a wide network, which struggled with limited bandwidth capacity and intermittent network coverage.

“We had a lot of data to track and a system that goes offline a lot,” says Dale Evans, plant manager. “To improve our process, provide the right documentation and lower the cost of system maintenance, we needed a solution that would virtually eliminate downtime. That’s why we chose the FactoryTalk Historian ME application. It provided the uptime and reliability that we couldn’t achieve with a PC-based historian.”

### OEMs Make Their Best Guarantee

However, it’s not just regulators who demand a constant stream of reliable information. Customers commonly ask OEMs to provide an uptime guarantee. This can be a chal-

lenging proposition when the OEM doesn’t have the ability to control or monitor the machine’s use and maintenance in the user’s facility.

Machine-level historian technology allows for high-speed, detailed data collection needed for preventive maintenance. It also provides accurate data capture — a prerequisite for creating performance analytics that enable an OEM to provide excellent warranty and customer service.

A medical technology industry OEM recently replaced multiple machine-based chart recorders with a FactoryTalk Historian ME application. The historian module was used to track time-series information from more than 1,000 sensors. Compression and reporting features provided plant managers with data faster and with more details than they previously achieved — all with zero data loss.

“Our customers really need both speed and pinpoint accuracy in processing their products,” says Tim Mahoney, plant manager. “If a line goes down because of an error or malfunction, it can cost them millions of dollars in production costs, not to mention the damage it can do to their reputation in such a highly-regulated industry.”

The application allowed the OEM to provide customers with better speed, reliability and performance. Mahoney’s staff was also pleased with the speed and ease with which they were able to install and configure the machines on-site.

### Get the Right Insight

Manufacturers in range of industries are collecting, transforming and integrating their historical operational data into useable production information to gain insight into where to make those improvements.

For a Midwestern consumer products manufacturer, capturing motor data off its high-speed web press was critical to the product’s quality. In addition, the ability to make inline adjustments to process variables such as paper tension or paper position, including helping to reduce machine maintenance, raw material loss and the costly downtime associated with a paper roll breaking during production.

“Prior to the implementation of the historian module, we had trouble acquiring as much information as we needed to isolate quality issues or downtime,” says plant manager Dan Reilly. “We ended up doing a lot of shotgun troubleshooting, wasting a lot of time and money, because we couldn’t get the detail we needed. The new historian is able to handle very high speeds at the level of granularity we need to help us analyze our process.” □

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