Packaging Manufacturer Takes Real-Time Process Monitoring to Next Level

Epicor Software Corporation

Rexam is a leading global consumer packaging group and a leading global beverage can maker. Rexam serves a number of markets including the beverage, personal care, healthcare and food markets.

Rexam's Berlin, Ohio plant manufactures plastic prescription-pill containers and plastic packaging for liquid products. It is one of several Rexam facilities in North America now using Epicor real-time production monitoring and manufacturing execution system, Mattec MES.

Advanced Control

Production and process control has never been more advanced at Rexam-Berlin than it is right now. Nor has the value of such control as a decision-making tool ever been more demonstrable. That's the assessment of Mitch Stein, Plant Manager, as he considers the impact that Epicor manufacturing execution system has had on his operations since it replaced the existing 20-year-old production monitoring application.

"We have taken our systems to the next level," Stein says. "We use Epicor Mattec MES system for everything across the board, from production to quality and scheduling, and there are no limitations to the reports we can run in these areas. Our old system required a lot of manual intervention, but because of automation within the Epicor system, our reports are populated with the most current data and in less time."

Mattec MES monitors the Berlin facility's manufacturing environment, which consists of both injection-molding and stretch-blow-molding machines. Mattec MES also monitors several external systems, like electric and ancillary equipment, such as the plant's water-cooled chiller and resin hoppers.

Standardized Data Collection

According to Stein, Rexam is moving toward making Mattec MES the primary production and process monitoring system used company-wide, allowing for more standardized data collection and reporting. In fact, the Rexam plants presently utilizing Mattec MES already use a standardized Overall Equipment Effectiveness (OEE) report, which was written by Epicor developers to determine OEE based on three metrics: machine availability, performance efficiency and the number of quality products produced.

“Mattec MES calculates OEE on every single cycle, which was unrealistic to do before, because of the huge time commitment required and the lack of real-time data,” Stein explains. “But now, every plant running the system can replicate that same report, using the same key metrics.”

On the production and process side, Mattec MES monitors numerous parameters, everything from cycle time, downtime and fill time to mold temperatures, oil temperatures and even valve pressures. Every significant variation from standards established through Mattec MES has potential bottom line impact.

“If a valve is beginning to fail we’re losing cycle time, and if we’re not running at standard cycle-time we’re losing money. We use the software to stay vigilant,” says Stein, who points out that machine performance is displayed on a primary real-time screen on the production floor and more than 20 computer screens positioned within production areas, providing each machine operator with visual, color-coded access to critical efficiency and downtime data.

Mattec MES is critical to the company’s total productive maintenance (TPM) initiative, which places an emphasis on not only minimizing machine downtime but reducing degradation in machine performance throughout its maintenance cycle. “Mattec MES helps us stay on top of everything on the floor. For instance, we’re able to monitor and maintain oil temperatures at each machine, which extends the life of the oil, increases uptime and helps the machine operate at its optimal efficiency,” says Stein.

Third-Party ERP Integration

Rexam-Berlin is in the process of integrating Mattec MES with its ERP business software system, SAP. The short-term goal is to enable one-way communication from SAP to Mattec MES, allowing production schedulers to automatically download jobs and schedules into Mattec MES. Those jobs are presently entered manually into Mattec MES. “Once we have integration of Mattec MES with SAP we’ll eliminate even more manual scheduling and reporting,” says Stein, who estimates his plant is presently utilizing about 80% of Mattec MES’s capabilities. “We’re still a year away from fully leveraging the system.”

Improved Quality Control

Stein uses Mattec MES's SPC and SQC capabilities to establish process and quality parameters for each job and part. "The statistical controls are great and are the basis for the auto-acceptance program we have in place, where we can actually reject bad parts at the machine," he says. "This saves us time and improves quality for the customer."

Mattec MES monitors every machine, measuring each cycle against four or five critical parameters established by Rexam, such as cycle time and fill rates, in order to determine if a part should be introduced into the production stream.

"Before the mold opens Mattec MES tells us whether the product is good or bad," Stein continues. "The system has already verified every shot, and if a parameter falls out of standard the product is automatically kicked into the reject stream. That translates into a better product for our customer, because we're actually building in the quality rather than inspecting it."

Improved Operations

Stein credits auto-acceptance and real-time monitoring and alert capabilities with significant improvements in his plant's machine and labor utilization, scrap and OEE. "With real-time monitoring and alerts, one operator can run more machines, so we're very efficient in our manpower. We can now analyze trends and view critical machine parameters to anticipate issues rather than waiting until we have a problem. And our scrap has improved because we're able to hold tighter tolerances and our ability to troubleshoot is much better than before. Mattec MES is pretty much a tool we use for everything, and the difference it has made in the way we approach our business has been like night and day."

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