FOURMARK Manufacturing, an Oakville, Ontario, custom injection molder, has achieved the holy grail of efficiency by integrating software for machine maintenance management with a real-time plant-floor data-acquisition system.

Since the integration, the company has increased its efficiency rating from 85.6 percent to 92 percent, according to Fourmark COO Tarek El-Sayed, who has been with the company since 2006. Operating equipment effectiveness is based on uptime efficiency, scrap rate and cycle efficiency. Also, the company’s rate of completed work orders for routine maintenance increased from 70 percent to 91 percent, he said, and its frequency of repairs dropped by 15 percent because the precise information offered by the integrated system removes all doubt about when routine maintenance is needed.

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“Before we had this system, machine repairs often would get pushed back for lots of different reasons,” El-Sayed said. “Sometimes, they were good reasons, and sometimes, not so good. This system eliminates any guessing about when repairs are needed.”

Fourmark’s integrated system combined the maintenance-management software of Coast Systems and the real-time plant-floor data-acquisition technology of Syscon International and its Syscon-PlantStar division. With the data collected from Syscon, Coast’s software provides maintenance insights. The project was the first time the companies have joined forces to offer an injection molding company an integrated system, according to executives from both firms.

“The benefit of this system is that it’s based on equipment utilization,” said Jerry Sherman, managing partner at Coast, which specializes in maintenance-management software for the plastics industry. “Manufacturers save money by not doing maintenance when it’s not needed. You don’t want to do the maintenance too often and waste money, or worse, do it too infrequently, which can lead to costly breakdowns.”

Syscon-PlantStar’s data-collection modules provide a complete picture of various manufacturing processes. Backed by state-of-the-art processors, the web-enabled modules present information on industrial-grade touch screens that offer flexible configurations.

SETTING THE STAGE

Fourmark was a long-time customer of Syscon before it began working with Coast, according to Gary Benedix, VP of sales at Syscon International.

Using third-party sensors on machines, the Syscon-PlantStar system provided Fourmark with a wealth of production information, including scheduling, product specs, uptime hours, cycle efficiencies, downtime hours and time elapsed to fix machines, El-Sayed said.

“It’s a live system, so we can take real-time data from the system and make decisions based on that,” he said. “It’s driven by real numbers, which allows us to improve customer service. We can get real-time information, including trending info, you can forecast the total PM that information, you can trend utilization. With that information, you can trend utilization. With that trending info, you can forecast the total PM spend that will be needed. You know the time and frequency of machine use, and how much it will cost going forward to maintain it properly.”

Syscon-PlantStar software tracked the run times and cycle counts of Fourmark’s injection molding machines. Syscon-PlantStar later introduced Coast to Fourmark and proposed a full integration to track and manage preventive maintenance (PM).

“Tarek is very forward-thinking and was looking for ways to do more with technology,” Benedix said.

“He asked about maintenance-software packages, and the best one we saw was the Coast system. Coast was open to working on an integration with Syscon-PlantStar and Coast both have access to Fourmark’s server, which allowed the two companies to integrate their systems remotely. The implementation did not interrupt operations at Fourmark.

“We kept operating in real time, and they got all the data they needed for the integration,” El-Sayed said. “There was zero interruption to our operations.”

HOW THINGS WORK

The Coast system is web-based, so it’s accessible on mobile devices and laptops. Users can scan
What makes it a powerhouse?
Rate and ability to filter high levels of contaminants. The CFO-25, offering throughput of up to 7500 pounds per hour* makes possible uninterrupted extrusion, even when processing highly contaminated materials. Unlike conventional screen changers, which require extensive and constant operator attention, the CFO – which stands for Continuous Filter Operation – can operate automatically.

- 10% larger screen surface area
- Cover includes 365 degrees of studs for perfect sealing and leak prevention
- Robust design that tolerates pressures of up to 3500 psi

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*contaminant and viscosity dependent