By Thomas R. Cutler

Injection Molding Firm Improves Output With Real-Time Shop Floor Data

For the benefits of lean to be accomplished the solution must keep track of the real-time distribution of parts being produced.

Fourmark Inc. is a contract manufacturer of custom injection molding and related services to a variety of industries including food packaging and consumer goods, cosmetics and construction. The company operates a 25,000-square-foot facility in Oakville, Ontario from which it serves markets in Canada and international customers.

Fourmark was in an enviable position; due to demands of existing and new customers, they needed to increase the number of injection molding machines in their plant to improve their capacity. But this rapid growth meant that they began to lose control of their production output. They needed a way to monitor machines on the plant floor to capture the data they needed to understand how machines were operating, and how well each shift was performing. While the company looked at monitoring solutions other companies in the industry were using, they wanted something different. According to Adam Cruikshank, president of Fourmark, "One of the biggest selling features for Plantnode was its remote access via an Internet connection. While I'm away traveling, I can still be on top of what's happening in the plant."

Real-time Intelligent Mining Of Shop Floor Data

This lean manufacturing mechanism by Shoplogix is an intelligent embedded application that integrates with existing production equipment on the plant floor. Manufacturing gained the ability to perform multiple activities such as data capture and measurement, performance analysis, machine alerts and reporting on a machine-by-machine, job-by-job, plant-by-plant or multi-plant basis. The technology has proven effective in improving Overall Equipment Effectiveness (OEE), predictive and preventive maintenance, and quality initiatives across all industries.

Fourmark is now able to track the custom injection equipment, analyzing cycle times versus expectations. By capturing downtime information related to things like color changes and mold setups, and analyzing their scrap rates, the company has been able to identify areas for improvement. This has resulted in a reduction in mold setup times by 30%, and has increased overall plant output by 5% to 10% to date.

The company is also using the proactive alarming functionality, which can signal various individuals in the plant and office if something happens to any of the equipment. Cruickshank adds, "I know this product has a huge potential for us; we're only using about 10% of it right now. We are looking forward to expanding our use to our support equipment as well. The proactive alarming will help us ensure smooth, consistent operation and top quality."

Business Goal

The company needed to gain tighter control of their injection molding equipment, to better manage a growing number of machines, and to improve the capacity of each machine.

Main Issues

The main issue for the company was the lack of accurate information about the performance of each piece of equipment. They needed to add some type of monitoring and data gathering device to capture accurate information, but wanted something that would provide other key functionality, such as remote access. The company also needed to find a way to proactively prevent machine downtime, in order to increase the number of hours of operation.

Solution

By implementing the progressive lean manufacturing technology solution, the company now gathers accurate, real-time data on the operation of each machine. This helps them understand areas to improve efficiency, and helps them identify true machine capacity. Alarms notify individuals when problems arise with equipment, helping them reduce equipment idle time, and subsequently increasing productivity.

The introduction of a system that keeps track of utilization and productivity for any production machine, tool, or process on a shop floor is a revolutionary development in the lean manufacturing toolbox. The ability to differentiate between running time and down time is critical in the elimination of waste. For the benefits of lean to be accomplished the solution must keep track of the real-time distribution of parts being produced.

About The Autthor

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