Case Studies in Profit Building

SYSCON PlantStar

EVCO Plastics Achieves Automated Production Control

Dale Evans, the president of EVCO Plastics, a custom plastic molding manufacturer, wanted to track and monitor the molding status of each of his 129 presses in eight facilities.

Objectives

Companies often have a reactive approach regarding production control—they wait until a part fails QA inspection to find a faulty process or depend on opinions of what went wrong. EVCO Plastics wanted to take a more proactive approach by implementing accurate, real-time data collection on their 129 presses operating in eight plants in the United States and Mexico.

Solutions and Results

SYSCON-PlantStar implemented Panorama®, their top-tier production monitoring system, in eight EVCO Plastics facilities. A Data Collection Module (DCM) at each injection molding press gathers OEE-related data and sends the information to a shared PC-based server. Each press is represented on screen with a status bar whose color indicates the status of the machine. If the molding process falls out of tolerance, the status bar changes and an audio page is announced in the plant. The machine status bars are also displayed throughout the plant on video monitors. In addition, the system recognizes out-of-tolerance cycles, job status and many other variables and displays the information in easy-to-read screenshots.

Panorama's job scheduler function enables managers to schedule jobs for every press. They schedule by part date, drag and drop orders from machine to machine, and schedule downtime. Managers can see bottlenecks and potential scheduling problems before they occur. Supervisors use the system to do SPC analysis, job costing and forecasting. Panorama's open architecture allows EVCO Plastics to share plant floor data with its MRP system.

Initially, machine operators were hesitant to adopt the audio and monitoring systems. Now they see the system as a tool to proactively manage any problems. This system also enables machine operators to better understand how their jobs specifically impact productivity.

SYSCON-PlantStar Applications

PlantStar's application engineers analyzed EVCO Plastics' needs and implemented the following:

- Panorama® software with full traceability functions including multi-operational processing and data collection. Key attributes are the historian and online process journaling features. Panorama provides enhanced real-time production scheduling and reporting.
- SYSCON-PlantStar's Data Collection Modules (DCM) with web-enabled, industrial-grade touch screens and flexible configurations. Pentium-class microprocessors provide rapid data processing and communication. The DCM units provide extended shop floor redundancy and data protection in case of power or network failure.

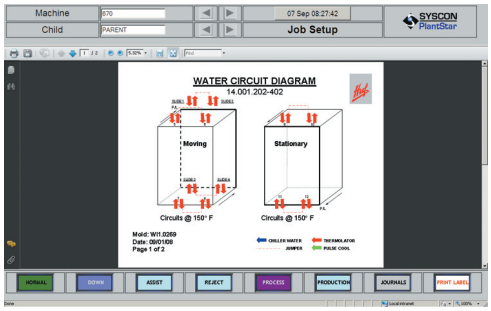
"With PlantStar's multiple system-wide area network software capability, I can sit at my desk and see exactly what is happening at any machine, in any plant, at any time."

— Dale Evans, President
EVCO Plastics

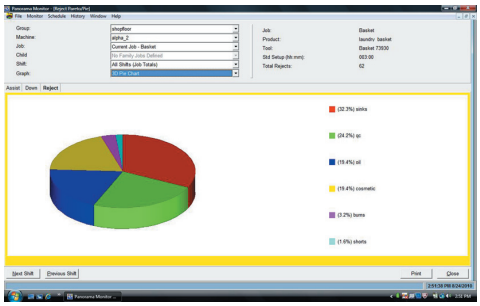
Results

- Internal reject rates down to about two percent
- Rejects from customers are below .1 percent

EVCO Plastics Automated Molding Plant in DeForest, Wisconsin



PlantStar's Job Set-Up Screenshot



PlantStar's Reject Pie Chart Screenshot

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See an example of the effect of increased Productivity and Sales on Profitability

The Effect of Productivity and Increased Sales on a 20-Machine Molding Plant

A productivity increase of 20% can double or even triple your profitability

Fixed and Variable Overhead	Current Operation: 20 Presses	20% Increased Productivity: 16 Presses	20% Increase in Sales: 4 Presses	Increased Sales and Productivity Total
All Overhead	$3,780,000	$3,742,500		$3,742,500
Over-Absorbed Overhead			$718,500	$718,500
Labor				
20 Operators x $10/hr x 3 Shifts				
x 40 hr/wk x 50 wk/yr	$1,200,000			
16 Operators x $10/hr x 3 Shifts				
x 40 hr/wk x 50 wk/yr		$960,000		$960,000
4 Operators x $10/hr 3 Shifts				
x 40 hr/wk x 50 wk/yr			$240,000	$240,000
Material @ 34.3% of Sales*				
Resin - 20 Presses	$2,875,657			
Resin - 16 Presses		$2,875,657		$2,875,657
Resin - 4 Presses			$575,131	$575,131
Total Manufacturing Costs	$7,855,657	$7,578,157	$1,533,631	$9,111,788
Pre-Tax Profit at 6.3%*				
Profit on 20 Presses	$528,182			
Profit at 16 Presses		$805,682		$805,682
Profit at 4 Presses			$105,637	$105,637
Total Sales	$8,383,839	$8,383,839	$1,639,268	$10,023,107
Profit				
Profit on 20 Presses at 6.3%	$528,182			
Profit on 16 Presses at 6.3%		$805,682		$805,682
Profit on 4 Presses at 6.3%			$105,637	$105,637
Over-Absorbed Overhead			$718,500	$718,500
Total Profit	$528,182	$805,682	$824,137	$1,639,819
% Profit		9.60%	50.30%	16.30%
Profit Increase		53%		209%

* Material and Profit ratios taken from SPI's "Financial and Operating Ratios" report, 1999. Source: Robert A. Beard Associates

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