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April 2002
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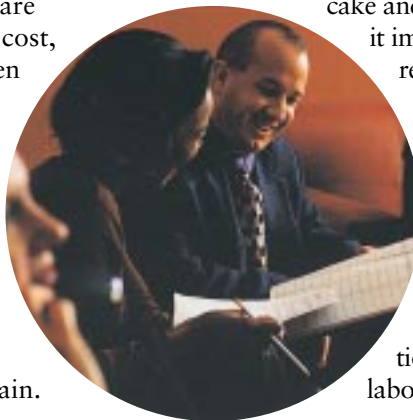
The secrets to successful automation

Can processors improve yields and reduce labor costs simultaneously? The answer is yes, but operators must take control of the process first.

By David D. Gustovich and Ken Staresinic

Most food company stocks have been stuck in neutral for the past couple of years. But that does not mean the industry has been standing still in terms of process improvements. All companies (big or small) have a balance to maintain between cost, quality and service. The Street and their customers reward those that do this well.

Many companies are focused on reducing cost, and labor cost is often the first place many companies go. What most companies fail to realize, however, is that a significant portion of their cost is driven by the overall effectiveness of their process or supply chain.



Sure, labor cost is one of the quickest ways to prop up the bottom line, but it's a short-term gain. Just look at the statistics: With materials costs running as high as 75 percent of finished goods and labor costs ranging only between 6 and 17 percent, improving material yields can pay far greater dividends.

Can a food processor “have its cake and eat it too?” Can it improve yields and reduce labor costs simultaneously? Of course. But processors must get control of the process first! If a company's process has more than normal variation, material and labor costs will most

likely exceed budget and eat into gross profit margin.

More and more food companies are moving toward automation to gain better control of their processes. Some want to reduce labor costs by replacing labor with machines. Others seek to reduce process variation through better process control. Still others strive for better quality and consistency in their products. No matter the reason, this trend will only continue in the near future.

It could be argued that too many companies are automating just for the sake of automation, which leaves them with significant capital expenditures and years of depreciation cost without achieving the desired return on invested capital. This brings us to the first secret to operational excellence.

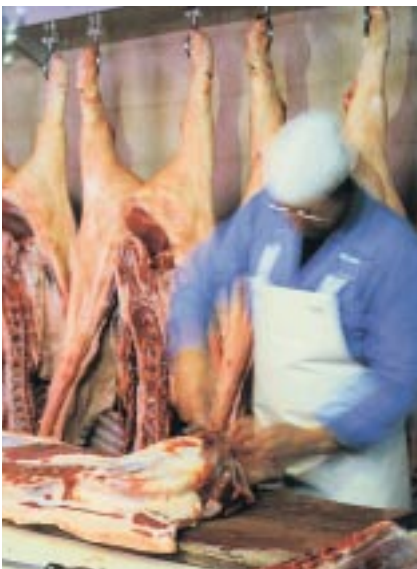
Secret #1: Automate Only Good Processes (Don't Automate for Automation's Sake)

Too often unexpectedly poor results come down to a very simple problem: Companies are automating processes that are not efficient in the first place. Before deciding to automate, make certain that the targeted process is worth automating. This requires a very objective look at existing processes to identify impediments to optimal performance.

There are a number of tools professional consultants use to identify and eliminate waste in food processes. One of the most popular approaches, after completing a detailed system and process flow, is to conduct a loss point analysis, in which every step of the production process is examined for various forms of waste.

This analysis includes visible wastes manifested as inedibles, down grades, re-work or other variables that can result in less salable products coming off the line. Thorough analysis must also

Don't automate for the sake of automation. Conducting a "loss point" analysis on a process can yield important information.



include "invisible" wastes, such as excessive product loss during cooking, baking, frying or cooling operations. Identifying loss leaders and conducting a cost-benefit analysis can then prioritize cost recovery efforts: Which improvements will bring the greatest benefits at the lowest costs? Which ones naturally lend themselves to more sophisticated, automated solutions for monitoring and control?

Secret #2: Use Existing Resources

One of the best ways to overcome any deficiencies uncovered in the process analysis is to look to the operators for assistance. After all, who knows better the capabilities of a process than the people who interact with it every day? A technique called Employee Involvement Prototype has the added benefit of promoting ownership, which often results in faster "buy-in" to process changes. Employee-suggested improvements become action items to prototype and, after proving successful, are adopted and rolled out as part of the new process.

Automation can then make the process even more efficient.

Secret #3: Measure Better to Manage Better

The food industry's greatest enemy is process variation. All too often, erosion creeps into a process in tiny increments that go largely unnoticed until a big problem erupts. Most companies don't detect process variation because the aggregate measurements they use aren't sensitive enough to pinpoint exactly where the variation may be occurring.

The trend toward automation also sometimes makes process variation even harder to spot, because it often lulls companies into a false sense of security. Managers often believe empirically that automation will reduce process variation, as well as help drive down costs. This

means they become less diligent than they should be about watching for changes. Without careful monitoring, automation may only mean that waste is made faster than before automating a process.

One example involves a highly automated canning facility that wanted to increase its output from 60,000 to 90,000 cases a day. That's a 50 percent increase in throughput. The company's initial plan was to purchase new equipment for \$20mm to attain that goal. When questioned closely about the need for such an investment, they explained that they had been averaging 67 percent utilization of their assets for the past five years. They felt they were truly optimizing the existing process, given the types of products they were running and the ages and types of the equipment.

On investigation, it was learned that an existing process line was designed, according to the manufacturer's specifications, to deliver 1,550 filled and sealed cans-per-minute. The company was concerned that this was not a reliable output and had accepted 975 cans-per-minute as their theoretical optimum. In reality, the line was running at 650 cans-per-minute . . . thus 67%.

Through various capability studies and on-going dialogue with operators, supervisors and maintenance and sanitation personnel, it became clear that, over time, workforce turnover, poor adherence to maintenance and sanitation practices, poor changeover and process control techniques, along with a number of less significant factors, had eroded process effectiveness. Variation had been allowed to slowly creep into the process, causing management to regard a lower utilization percentage as optimum and accept 67% as the de facto standard.

It is important to identify key operating parameters and establish which ones are most critical to con-

trol. Others, while less critical, are still important to monitor because of their impact on downstream operations. These parameters should define an optimal range of performance that will maximize a company's investment by giving them the best results in throughput rates, material yields, labor costs and other controllable variable costs.

In the case of the canning facility, a minimum of 50 percent additional capacity was realized within the existing operation. And this was done at a cost far under the capital expenditure contemplated for the new machinery and additional space.

Secret #4: Review Parameters, Targets and Metrics Frequently

As demonstrated in the previous example, waste can seep slowly and consistently into a process without detection. However, it can be avoided through diligent review of parameters, target values, performance metrics and the use of another consulting tool called visi-

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Key performance metrics should be prominently displayed to keep supervisors, managers and operators focused on their targets and actual performance. Process Visibility facilitates real-time management of those operations that have trended "out of spec," creating an opportunity for

rapid waste recovery. Consistent process monitoring then becomes the basis for a continuous improvement environment. Automated monitors and detection devices are frequently the best means to accomplish this objective.

The secrets to successful automation are simple: Optimize the existing process before automating, use existing resources, measure in order to manage, and hold the process accountable to the target values and parameters.

Remember, however, that the real secret is in how well a company's management team can juggle these demands along with maintaining a solid day-to-day operation that optimizes cost, quality and service. Now that's something that simply cannot be automated.

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