

BY TONYA VINAS

KATO ENGINEERING'S 'LEAN OFFICE TRANSFORMATION' ATTACKS WASTEFUL PROCEDURES OFF THE FACTORY FLOOR.

LIKE SO MANY OTHER MANUFACTURERS in the mid-'90s, Kato Engineering, Mankato, Minn., got the lean bug. The Emerson Electric subsidiary, which has produced large electrical generators since 1945, reduced cycle time for several key products using practices and philosophies derived from the Toyota Production System—not uncommon among the lean crowd.

Also not uncommon, however, was that Kato's lean achievement was contained within the walls of its production floor. Left lurking amid the overflowing in-boxes and disorganized product-specification documents of Kato's back-office operation was ugly, costly waste. Fortunately, the impending replacement of a legacy ERP system in 2001 forced the company to face the truth about its back office—improvements in production cycle time were being dampened by inefficiencies in sales, change-orders and on-paper process management.

"We knew that automating our current, wasteful processes was not a good investment," says Ron Orcutt, Kato's vice president and general manager at the time and leader of the lean-office project. "Our experience in the factory also convinced us that a sound, rational approach could reduce the office cycle time."

The effort pays off still today. Through September 2003, Kato has reduced its sales-order cycle time by 59% (from 23 hours to nine); engineering change-order cycle time by 91% (from 24 hours to two); and response time to customers' quote requests by 83% (from 66 hours to 11), among other improvements. Employees also reduced errors upwards of 69%.

In one example, by reducing the number of times an engineering change order was handed from one person to another and rearranging work locations, the distance employees traveled to distribute these orders dropped from 1,886 feet to 262 feet.

Orcutt has since been promoted to an ex-

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ecutive vice president at another Emerson company, but the lean fire he sparked continues today. It was tough to start, though, because cultural barriers were significant. Orcutt turned to lean and change consultants MainStream Management (www.mainstreamlean.com), Cedar Rapids, Iowa. He had worked with the firm on a lean initiative at another Emerson location and knew he needed help with the office personnel, who tended to view lean as a production-only topic and clung to the long-standing, traditional way of doing things.

MainStream's approach was to focus on building acceptance by the office employees and aligning systems and structures to support lean principles. The first step was a survey, which documented employee concerns and showed that the plant's executives most fervently supported lean, followed by factory employees, then office employees. Next, a lean steering committee was formed (Orcutt and members of engineering, sales and marketing, operations, finance and human resources), and its members addressed em-

ployee concerns head-on. MainStream sums up its formula for sustained results from lean this way: Acceptance by the people involved in the organization's structure, policies and culture is of equal or more importance than the exactness of the technical lean solution.

With the steering committee at the helm, a four-phase process then began: planning, leaning, implementing and sustaining. This involved targeting processes for waste reduction, forming teams out of those involved in the process, defining and mapping the processes, a week-long development of a lean plan, implementing the lean plan and sustaining and documenting the results of the plan. Throughout, emphasizing acceptance and accountability was crucial.

Today, Orcutt says, "Employees are not only more accepting of change but are more proactive in looking for opportunities to improve process efficiencies."

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KATO'S LEAN OFFICE FOUR-STEP PLAN



Above, Kato sales representative Mike Cameron explains the leaned quotation process. Previous page: A Kato process improvement team gathers around Lila Thompson, product testing coordinator.

KATO ENGINEERING FOLLOWED A FOUR-STEP plan from MainStream Management LLC. Here's a summary of the plan:

Planning: Steering team selects a process targeted for waste reduction and appoints a resource support team (RST) to be accountable to the steering team. The RST typically includes the process owner as well as an internal customer and supplier. The first job of the RST is to determine the process definition, process boundaries and goals of the

leaning initiative. Each of these components must be clear and measurable. The RST then selects the process improvement team (PIT), which is a cross-functional team charged with developing and implementing the lean action plan. The final element of the planning phase involves training the RST and PIT in lean skills such as mapping, problem solving and developing team chemistry.

Leaning: Compressed into a one-week kaizen format, the mission, boundaries and goals must be developed in this period. During the leaning activity, the PIT is engaged full time in mapping, identifying waste, testing solutions and developing action plans. The RST oversees the work of the PIT, providing resources as needed and direction towards leaning the old process. Mapping process content is a critical element of this phase. The lean mapping technique is visual to categorize the different activities involved in a process. It focuses on wasteful content.

Implementing: Implementing the lean action plan requires dedication by all team members. Project management techniques to ensure that tasks are completed on time are a critical component. All team members must participate. Constant focus on both technical and acceptance issues is essential. Barriers must be evaluated to understand causes. Acceptance issues, in particular, must be addressed with a sense of urgency to prevent them from becoming long-term obstacles. Frequent sessions that require the RST and PIT to report progress to the steering team are important to ensure the teams remain accountable for achieving action plan results.

Sustaining: Sustaining begins when the steering team approves the leaned process (based on completion of leaning actions). Evidence that the new process is fully implemented is determined by documentation of process steps, training of employees to the new process techniques, and establishment of data collection and measurement to ensure process stability. If the new process does not function as a standard process, it is not ready to be approved. Upon approval, the PIT is dismissed from its duties. The RST continues to monitor the new process by evaluating metrics and staying in close contact with users of the new process. It also conducts periodic audits of the new process. **IW**

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