

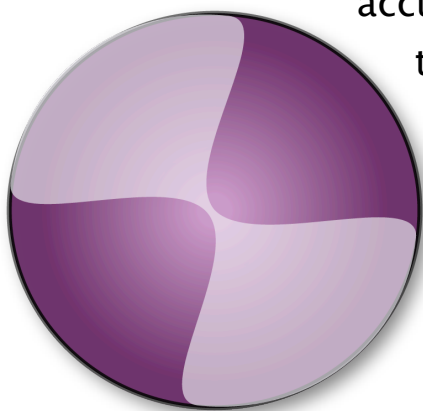
# LEAN MANUFACTURING

## EaglePicher Achieves Lean Manufacturing and Growth With Plex Online

EaglePicher's Wolverine Gasket Division was overwhelmed when sales grew 10–13 percent per year from 2002–2004. Its manual systems for raw material orders, inventories, shipping and scheduling systems couldn't keep up with the new demand, and lead times grew to 10 weeks.

Setting its sights on lean, demand driven manufacturing, EaglePicher management turned to Plex Systems of Auburn Hills, MI to help initiate a manufacturing-based ERP system for its manufacturing facilities in Virginia, Florida and Germany.

Two years later, the Wolverine Division has achieved extremely accurate perpetual inventory, cut its lead time to five weeks, and more than doubled its aftermarket business. Its new lean manufacturing abilities have enabled it to accurately determine cost and profitability by part, allowing it to become increasingly competitive, especially against offshore competitors who go after its high margin parts.



## Optimizing Production by Controlling Raw Materials and Inventory

EaglePicher's Wolverine Division has a complex, seven to eight layer bill of material with multiple processes and multiple exit points. It does not have a single piece work flow or order system. It has to carefully sequence multiple orders to optimize its coating, slitting and stamping operations. Manually trying to optimize production was difficult because employees didn't have the information they needed at the right time.

"We were constantly changing over lines and had much more scrap than desired," says Wolverine Division President Jay Pittas.

"The only time we had an accurate inventory count was when we did a physical inventory twice a year. We couldn't keep track of our raw materials, work-in-process and finished goods. We had to get our inventory under control so we could order raw materials for and produce only what was needed."

There had been several earlier unsuccessful attempts to install ERP systems. Mature employees, many of whom were unfamiliar with computers, resisted the changes. But Plex Online's screens were so easy to use that employees embraced the system. "I've been around many ERP systems, and this is the first time I haven't seen a user revolt," Pittas emphasizes. "Plex is more of a user-designed system."

Full scale implementation of the Plex Online ERP system started in January 2004. The Purchasing Module, one of the first of the system's modules to be implemented, focused on raw material ordering and inventory management to ensure Wolverine had the right grade of steel at the right time. The Production Control and Scheduling modules soon followed.

"We saw a huge improvement when Receiving went online," says implementation manager Jill Boliver. "Everything was bar coded. We knew immediately what was received and could track it. Our information was real time. As other parts of the system came online, everything integrated, and we now have an accurate, real time picture of raw materials, work-in-process, finished goods and customer orders. We're also able to more accurately track the cost per job throughout the entire process. Before, we averaged it out at the end of the month."

## Productivity Soars With Accurate Information

As each module of the Plex System came online, efficiency continued to improve. Plex Online is at all work centers on the floor, and data is entered immediately. By December 2004, all core modules of the integrated systems were running.

"Most of our raw materials are now done with releases, so we've reduced our Receiving manpower by 25 percent," says Pittas. "We reduced three people in Purchasing. We've eliminated paper handling and three-way match problems in Accounts Payable. Raw materials and work-in-process inventory are down by over 30 percent. We know what's available and exactly where it is. Before, our raw material was not marked by serial number, and it wasn't monitored once it left the shipping dock. We depended upon spreadsheets and hand written production reports and never knew what we had till the end of the month. It was impossible to keep track of our work-in-process inventory.

"The twice-a-year inventories used to take two full shifts and 60-70 employees. Now that the Plex system bar-codes everything, inventory is accomplished in less than one shift with fewer than 30 people. All pallets are bar-coded, and lift trucks are equipped with scanners. Since implementing the Plex ERP system, two fork lift trucks have been idled and eight people have been assigned to other jobs.

## Quality Improves As Costs Decline

Plex Online allows the shop floor to see all customer orders and efficiently group them by material for scheduling purposes. This has enabled Wolverine to dramatically improve productivity and reduce costs.

"Four employees used to work in Slitting Operations, manually trying to group and schedule orders before Plex. Now, only two are needed," says Pittas. The same applied to the coating operation. "By more efficiently grouping orders, we are able to make more coated footage without overtime. "Before, every time we changed a coating, we had to flush out the lines. Now we can make enough coated footage at one time to fill several orders, reducing the number of times we need to flush lines. Overtime is down by 60 percent—an enormous savings.

"The improved efficiency and reduced costs from fewer changeovers has been great, but we experienced another side benefit. Our first pass quality has improved 15–20 percent varying by grade and line. This was an unexpected bonus."

## Plex Packing System Saves Time and Money

Prior to the Plex implementation, the Press floor would stamp pieces and send them to Shipping. Shipping would then package them and ship. The packaging procedure consisted of calculating a piece weight and then filling up the box to the correct weight. No actual piece count was taken; it was assumed the correct number of pieces was packaged.

"Worried about shorting the customer, we'd throw in extra just to be sure," Boliver recounts. "We asked Plex to customize a system for us. Now, we enter the package requirements. Parts are now stamped and boxed at the press. A new scale tied to the Plex system can tell us if we're off by even one piece. We were probably shipping 5–10 percent overages. We were able to eliminate five people in Shipping. We had our payback on the Plex shipping weigh scale system in only a couple of months!"

"What we got with Plex far exceeded my expectations," says Pittas. "What we're able to look at and see, how we're able to tie sales forecasts into production schedules...it's great. We figured about a four-year payback. We have clearly exceeded that payback."

Plex Online is the first and only on-demand browser-based manufacturing performance system. It is a fully-integrated system built for manufacturing companies and provides over 350 software modules. Modules include Online ERP Software, Quality Management Software, Manufacturing Execution System (MES), Lean Manufacturing Software, Kanban, Online SPC Software, APQP Software, Inventory Control Software, Bar Coding, Traceability Software, Production Scheduling Software, EDI Software, Release Accounting Software, Job Costing Software, Production Tracking Software, Tool Tracking Software, Human Resources Software, Document Control Software and more --everything you need to increase production, improve quality, and boost profits.

## About Plex Systems

Since 1995, Plex Systems, Inc. (Auburn Hills, Mich.) has maintained a singular vision – to drive significant cost, quality and productivity improvements for manufacturers, from the shop floor to the top floor. Plex Online is an on-demand software for the manufacturing enterprise, delivering a powerful, real-time interface.

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