

Go with the flow

Lean ideas, tools help Material Management organization best support BCA customers

BY DEBBY ARKELL

Andon lights. Dashboards. Work cells. See those and you might think you're in a Boeing factory.

Yet these and other Lean enablers related to the Boeing Production System are finding their way into office environments, in support of aggressive goals. Case in point: Material Management in Seattle and its "four hours end-to-end vision."

Commercial Airplanes' Material Management organization is responsible for spare parts sales and distribution to the worldwide Boeing fleet. With about 1.7 million transactions annually, Material Management helps commercial jet operators keep their airplanes flying, said Mark Owen, vice president of Material Management. "With the continued recovery and growth of the airline industry and more flights per day, the forecast for spare parts demand is strong, and we want to be a preferred part supplier," he said.

It's our future

Actions cited in this story show how employees are applying concepts of the Boeing Management Model to support the company's business strategies. Here's how.

- **Growth and productivity: Lean+, through spreading factory improvements to office workplaces**

To learn more about the Management Model, visit <http://bmm.web.boeing.com> on the Boeing intranet.

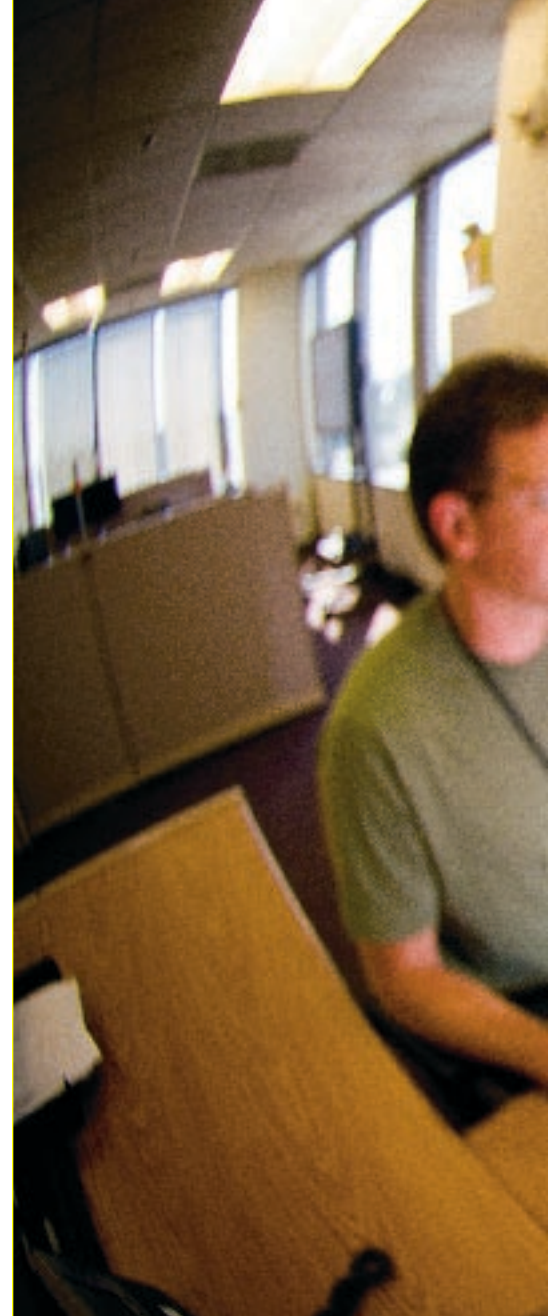
To that end, Material Management has developed a vision to have the right part in the right place at the right time—within four hours. This requires the ability to accurately forecast and acquire parts. If the parts are not available, then the organization needs to provide a part or an alternative solution fast. "We want the part on deck for shipment within four hours," said Mary Dowell, Material Management director of Lean. "We have to transform our business to develop the competitive advantage of preference for Boeing."

Thanks to a tremendous amount of commitment and effort on the part of Material Management employees since 2005, the team has made huge strides in implementing and refining the concepts needed to facilitate their journey, using the same Lean+ and Boeing Production System principles that have been the foundation for success across Boeing's factories.

Material Management's work supporting the airlines' after-market parts needs is being organized into work cells called "process and response cells." These groups are very much like work cells in a manufacturing environment. Each cell performs a clearly defined statement of work, with work flowing in a single direction. (As in the factory, the cells have andon lights and dashboards—displays that communicate the status of specific projects to the teams.)

Here's how they work. A customer's initial contact comes into a cell called a "first responder cell," a group of collocated employees ready to evaluate and support all requests. Their goal is to resolve the issue within 30 minutes by working as a team to overcome challenges to achieve that goal.

If this team can't solve the problem, the request is sent to a follow-on response cell, which provides specialized support in cases that will exceed the 30-minute target of the first responder cell. That might happen amid problems such as suppliers not meeting target delivery, parts being unavail-



able, or shipping discrepancies occurring. These response cells have up to two and a half hours to resolve the issue.

If the customer's part is successfully located, the distribution cell has one hour to pick, pack and ready the item for shipment.

Since the start of 2005, more than 16 cells have been implemented, and the team is working towards coverage 24 hours a day, seven days a week. Dowell said she expects the last work cells will be set up around the first quarter of 2008 with a target of second quarter 2008 to be prepared for a repeatable four-hours-end-to-end process.

Second shift team leader Kathy Larkin said, "It can be a very fast-paced, stressful environment." The first responder team developed a hands-on training program to ensure that new employees come into the cell ready to go. The training, Larkin said, has made a big difference in the ability to



Andon lights are a common sight at Boeing factories, but they're a new addition to Material Management's work area. The green, yellow and red lights provide Material Management employees Bill Luedtke and Lisa Anderson with a visual cue to the status of the job being performed.
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meet the standard work processes.

Determining how to prevent exceptions from recurring is a vital part of Material Management's vision. By bringing together the organizations responsible for the value stream of products or services, the cells can cut wait times as they work together to design process breakthroughs.

Consider the new "get the part cell," which works the process of contracting a part to be built. The lead time prior to cell implementation averaged 21 days. By bringing Finance, Manufacturing Engineering and Supply Chain employees together, they have been able to bring that down to 10 days. Their target: 24 hours.

"By bringing us together, we now all have a different view of the process of contracting a part and are able to analyze the steps, get rid of the ones we don't need, streamline the ones we do, while

making sure we have the quality built in," said Supply Chain Procurement Agent Walt Birdseye.

The cells ultimately are designed to achieve one-piece flow, which is comparable to continuous movement in the factory.

By going to cellular one-piece flow processes, the work in process is cut in half, and teams no longer need the complicated systems and processes. All the work is analyzed to balance processes and create a system that produces a high-quality service in a drastically shortened lead time.

CHALLENGES AMID CHANGES

Changes of this magnitude are not without their challenges. What began in 2005 with a vision to respond to customer requests and provide solutions in four hours is now evolving into a highly structured system using the same Boeing Production

System which transformed the way Boeing makes jetliners. Indeed, the spread of Lean enablers from production environments to offices supports the Lean+ companywide growth and productivity initiative.

Dowell acknowledged that there are challenges to implementation and it can be difficult to see the vision. This kind of culture change isn't easy: Trying to create a work flow often means breaking up the overall process to more defined steps, changing how people work and where they work, and trying to get agreement on the best way to process items at low cost with high quality through standard work.

Yet the transformation continues, as the challenges are worked through. "At the end of the day, to achieve our vision of four hours end-to-end we must embrace this challenge," Owen said. ■

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