

## Getting the skinny on **The State of Lean**

**SEEMS THAT EVERY BUSINESS WANTS TO "GET LEAN", AND WITH GOOD REASON. CONNECTICUT COMPANIES ACROSS THE BOARD THAT HAVE ADOPTED A "LEAN" APPROACH HAVE RACKED UP A PROVEN TRACK RECORD OF SUCCESS.**

By Sue Cornell

**L**ean as applied to any business field means doing things faster, with less waste and fewer resources. Lean as an applied process means embracing excellence — trimming the “fat” wherever it stands to streamline production tailored to customer demands. Lean as a philosophy came out of Ford Motor Company, but it’s the Japanese that really developed it in the 1950s.

Hey, it’s not just manufacturing folks getting lean; there’s the office and the government getting in on the skinny. However, let’s start with aerospace in Connecticut.

The head of a Japanese consulting firm visits Connecticut to help a network of aerospace companies compete more effectively in world markets. **Yoshihisa Doi**, president and chief executive officer of Kaizen Management Co., Ltd., of Yokohama, Japan, has worked with members of Aerospace Components Manufacturers (ACM) to help improve productivity, efficiency, and create an atmosphere that encourages continuous improvement.

Aerospace Components Manufacturers (ACM) is a network of more than 40 Connecticut companies that manufacture components and completed assemblies. Members also provide engineering services for aerospace prime contractors, top-tier subcontractors and related industries, worldwide.

“Simply said, lean is a philosophy of elimination of waste,” said **Allen Samuel**, executive director of ACM. Lean practices mean costs and delivery time drop.

“Kaizen” explains Doi, “is the process based on the flow production system originated by Henry Ford. When the idea of flow is applied to all company activities, velocity and value increases. The activity that makes this possible is Kaizen.”

**Douglas Rose** is ACM president and president of Aero Gear, Inc.

“Increased productivity means we can also take on new work,” said Rose. “The lean initiative has drastically improved our competitiveness. The process significantly improves responsiveness to customers.

“New customers from Europe tell us the best lead-time they could get from anyone else was 12 weeks. We were able to produce the same product in 4 weeks. To step in, solve their problem, and win over new customers brings new work into my company and into Connecticut.”

An outside consultant can help. Rose finds that the consortium has been sharing consultants like Mr. Doi, who rotates through a half dozen or so companies in a week.

“We have some of our employees up at other companies doing Kaizens. That cross-pollination, the sharing of knowledge and improvement in technology of the group as a whole is amazing.”

### **LEAN, MEAN, AND IN CLUSTERS**

The Aerospace Components Manufacturers are a piece of the aerospace cluster in Connecticut.

Cluster?

“It would be very hard to be in aerospace machining as an isolated company,” Rose explained. “What makes the Connecticut area such a good place to do aerospace work is there’s a host of specialized support companies — in heat treating, in plating, in engineering — a whole specialty precision manufacturing network. There’s no way you could operate a gear company like ours anywhere without that supporting structure.”

### **REDUCING COSTS AND LEAD TIME**

**Bill Evans**, president of Delta Industries, another ACM company, explained that adoption of a flow system for production of jet engine vane sub-assemblies resulted in reduction in cost and lead times.

“It once took four workers four hours to produce a part, plus an average queue time of about two weeks. Today, thanks to Mr. Doi, we produce the same product with one worker in a half hour with a lead time of about two hours,” Evans said.

“Another product had to travel 3,750 feet around the plant before it was completed. Now, using manufacturing cells it moves 524 feet.

“In the old days, our lathes were in one department, with another for milling and still another for welding,” Evans said. “Now, the worker continues manufacturing a product without waiting by moving a few steps.”



DOL EMPLOYEES CHRIS MITCHELL, DIANA ARBELAEZ AND STEVE DOMBROWSKI MAP OUT A STRATEGY TO LEAN THE PROCESS USED TO INSTALL THE AGENCY'S COMPUTER HARDWARE AND SOFTWARE.

According to ConnSTEP, companies thinking about starting on the lean path should "learn all you can, then attend a Lean 101 Awareness Seminar and demonstration or simulation. First, the company managers and supervisors should attend, then, all employees.

"A full-time continuous improvement person should be identified within a company, then a continuous improvement team should be formed. Bring in a recognized consultant to map operations and help identify areas for potential improvement."

#### INTEGRATING COMPANY FUNCTIONS

"World-class companies integrate every company function," said Doi. "This is made possible by a foundation of trust and respect between the workforce and management, with both sides working toward a common goal."

For example, Rose points to one practice: "In the past, we used a batch-and-queue production system, with products moving from one specialized department to another. Mr. Doi helped us create separate flow lines for similar groups of products, developing individualized 'cells' for each group.

"He identified products that should be manufactured together — and it's not always obvious. Yes, there was expense up front involved in training, and with relocating equipment. The payback came in less

than a year, however, with a significant increase in cash flow, as we were able to substantially reduce inventory."

#### THE GOVERNMENT GETS LEAN

Lean principles have mighty muscle power when applied outside of the manufacturing arena.

A "Lean Government" program developed by Connecticut Department of Labor (DOL) resulted in a cost savings of more than a half million dollars, and earned the agency a Platinum Connecticut Innovation Prize in 2000. The DOL is the only state agency to ever earn the award.

"We walk the walk, and talk the talk," said **Jan Hasenjager**, DOL program manager. "Other state, federal, and municipal agencies are now recognizing the benefits. As a result, we're often asked to present our experience."

In the program cited by the Connecticut Quality Improvement Award Partnership (CQIAP), four DOL teams applied lean concepts to streamline a spectrum of procedures. Teams eliminated unnecessary paperwork, work backlog and inefficient forms.

Labor Commissioner **Shaun Cashman** said "I'll tell you that once you start the journey, you're always striving for perfection."

#### LEARNING ABOUT LEAN

So, getting "lean" is a continuous improvement journey, not a destination. One resource to plug into is Rensselaer's Center for Lean Business Management (CLBM).

"If you're going to go down this path, approach it as an entire business entity and with faith because it works," said **Thomas DeForge**, principal of JDI Associates, a coalition of process management practitioners with experience implementing lean techniques in aerospace, service, health organizations and government agencies.

"Management must fully support the commitment and give it a good 5-year run. Go after it with intensity so that results impact your customers and your bottom line."

DeForge said that most companies enter the process when their back is against the wall, rather than early on.

"It's a huge competitive weapon and advantage for companies who implement the tools. In a nutshell, you're unraveling old practices including the ways customers are viewed and treated."

To enter the path, there are two schools of thought, DeForge noted. "Internal implementation is very difficult." He recommends that companies utilize consultants.

JDI offers a five-day workshop entitled "Train the Trainer," an intensive course that includes conflict resolution, tools and techniques for getting lean, and case studies.

"Training breeds success," said DeForge. "For Connecticut companies, part of lean is being able to capture the efficiency of the workforce. Employees look at their jobs in a much different light nowadays. We get workers involved, and tap that creativity." ■