



Yoshihisa Doi, President and CEO of Kaizen Management Co., Ltd., of Yokohama

KEEP YOUR EYE ON THE PROCESS

JAPANESE PRODUCTIVITY EXPERT HELPS AEROSPACE FIRMS INTEGRATE ENTIRE OPERATION

By Andy Thibault Editor,
APS Publications

How do small and even large companies keep pace with evolving international standards for lean manufacturing and cost competitiveness? The head of a Japanese consulting firm believes he has the answer.

"True World Class companies are not judged by their results alone but also by the processes they use to achieve those results," said Yoshihisa Doi, president and CEO of Kaizen Management Co., Ltd., of Yokohama.

Doi was in the United States earlier this year to help a network of aerospace companies compete more effectively in world markets. He works with a group called Aerospace Components Manufacturers. ACM is a network of more than 40 companies that manufacture components and completed assemblies. Companies in the group also provide engineering services for aerospace prime contractors, their top tier subcontractors and others in related industries around the world.

Doi, 52, was a senior management consultant at Shingijutsu Co., Ltd for nearly seven years before forming his own consulting firm in 2001. Clients ranged from Porsche and Pratt & Whitney to Wiremold to Hitachi. He spent about 24 years at Isuzu Motors where he specialized in improving efficiency and productivity.

"About six ACM members at a time share the cost of Mr. Doi's visits to our region," said Douglas B. Rose, ACM president and president of ACM member company Aero Gear, Inc. of Connecticut. "At Aero Gear, Mr. Doi helped us reduce lead times for production of aerospace spur gears from 16 weeks down to just four weeks," Rose said. "Similarly, he helped us cut lead times for production of complex gear shafts from 18 weeks to eight weeks."

Doi said that in "true World Class companies" the activities of production, product development, engineering, information management, finance, quality control, production control, sales, purchasing and maintenance all are integrated. He said this is made possible by a foundation of trust and respect between the workforce and management, with both sides working toward a common goal.

"A product we produced had to travel 3,750 feet to various departments around the plant before it was completed. Now, using individualized manufacturing cells for groups of similar products, it only moves 524 feet."

-- Bill Evans, President of Delta Industries

"That is exactly what he did for Aero Gear," Rose explained. "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, integrating milling, grinding and turning into individualized 'cells' for each product group."

"He helped us identify which products should be manufactured together - it's not always obvious," Rose said. "Now a single worker often runs a number of pieces of equipment within a flow line. In the past, workers specialized in a single machine with parts processed one batch at a time."

Rose noted there were expenses involved in training as well as relocating equipment. However, he said, the investment paid off in less than a year, with the added benefit of a significant increase in cash flow as his company was able to substantially reduce inventory.

With ACM helping facilitate sharing of Doi's expertise, lean manufacturing at Aero Gear has become common among ACM member companies.

"The ACM companies today exhibit trust not only between employees of each individual member but, significantly, between companies as well," Doi said. "This makes ACM, as an organization, behave as a World Class competitor in the aerospace industry."

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

"When we used a traditional batch and queue system, it took four workers four hours to produce one 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.

"In one instance, a product we produced had to travel 3,750 feet to various departments around the plant before it was completed," he continued. "Now, using individualized manufacturing cells for groups of similar products, it only moves 524 feet."

In its earlier days the company kept lathes in one department. It had a separate department for milling and another for welding. Now, there is virtually no waiting time between departments because there are no departments.

As soon as a worker finishes one step, the worker can move to the next machine, that's right beside the first, and continue manufacturing the product without waiting for a batch to slowly move from department to department.

Further information on Doi's techniques is available at www.kaizen-mc.com.