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# U.S. industry going “lean” to compete with China

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\* Lean movement finds cost savings with little investment

\* Getting smarter about efficient use of materials, labor

By Jon Hurdle

MIQUON, Pennsylvania, Dec 18 (Reuters) - U.S. industry is discovering how to improve output and compete with cheap overseas labor by turning to a low-cost school of manufacturing known simply as lean.

Lean proponents say the system of eliminating waste and streamlining production allows companies to reduce costs and respond more quickly to customer orders without laying off employees.

In the face of economic downturn and competition from China and others, an estimated 60 percent of U.S. manufacturers have gone lean, according to the Delaware Valley Industrial Resource Center (DVIRC), a trade organization that recently held a lean seminar in this Philadelphia suburb.

The practice reaches into every part of a company's processes, examining whether they can be accomplished more quickly, with less labor, materials, or floor space, allowing them to meet customer orders more quickly.

Probes Unlimited, a manufacturer of temperature probe assemblies in Lansdale, Pennsylvania, implemented the lean regimen in part by consolidating the part numbers of more than 1,100 components and succeeded in reducing stock inventories, boosting space utilization and reducing costs.

The company went so far as to change its labeling system so that parts were easier and quicker to find during assembly, a move that was accomplished at very little

cost.

“Bags with parts were taped to the sides of their boxes so they were easier to find,” owner Ernie Delaney said. “There’s a lot you can do without spending a lot of money.”

Lean practices are helping manufacturers like Probes Unlimited offset the decline in U.S. manufacturing. According to the Federal Reserve, manufacturing production was down 4.9 percent in November compared with a year earlier. Manufacturing operated at 68.4 percent of capacity during the month compared to an average of 79.6 percent from 1972 to 2008.

## COMPETING WITH CHINA

Since adopting lean practices in 2004, Probes Unlimited has increased output by 90 percent without adding staff or expanding space, Delaney said.

By reducing wasted space at its factory, the 30-employee company was able to cancel plans to rent another building.

“A job that previously took five to eight hours is reduced to an hour and a half,” Delaney said. “Epoxy processes have reduced the cure time from overnight to two to three hours, with less waste.”

Such efficiencies are the only way that U.S. manufacturers can hope to compete with the developing world, Delaney warned.

“The Chinese are not going back to just making sneakers and T-shirts. They are coming after you,” he said.

According to DVIRC, lean originated with Henry Ford but was seriously adopted by Toyota after World War Two, and was taken on by significant numbers of U.S. manufacturers starting in the mid-1990s.

Since then, it has spread, and some companies, such as Probes Unlimited, use

consultants such as DVIRC to set it up. It hasn't been adopted more widely simply because many people haven't known about it, and everyday business pressures deter such innovations.

“You get so caught up running your business that you don't see these opportunities,” said Jeff Kopenitz, DVIRC's director of advanced manufacturing.

The uprooting of long-established working practices is hard for some employees, said Peter Rapp, vice president of operations at Thomas Medical Products Inc, a unit of General Electric Co (GE.N), in Malvern, Pennsylvania, which adopted the lean program four years ago.

“We had people crying in the bathrooms,” said Rapp, who said his company improved sales 25 percent and cut costs by \$1.2 million since March 2006 after employees came to accept lean through regular staff meetings and incentives for achieving production goals like dedicated parking spots.

He said the program also depends on cooperation by suppliers, who are required to deliver materials in quantities and at times that meet the low-inventory standard.

“Suppliers who have not bought into it are not going to be our suppliers in the future,” Rapp said.

Lean production is the only way U.S. manufacturers can compete with low-cost producers in China, India and elsewhere in the developing world, said Cliff Waldman, an economist with Manufacturing Alliance/MAPI, a research organization in Virginia.

“It has become a basic paradigm,” he said. “There is really no other choice at this point.” (Reporting by Jon Hurdle; Editing by Daniel Trotta and Eric Beech)