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Nielsen Kellerman happily wages unending war on waste

Philadelphia Business Journal - by [Natalie Kostelni](#) Staff Writer

BROOMALL — On any given workday at **Nielsen Kellerman Inc.**'s headquarters here, small groups of employees piece together pocket weather meters, air-flow trackers, rowing instruments, or various other products the manufacturer designs and builds.

Working step by step, unit by unit, and at a self-regulated pace, these employees complete their tasks and make the company seemingly run seamlessly.

"If there's a problem, it will show up right away," said Bill Lauer, director of business development at the **Delaware Valley Industrial Resource Center**, or DVIRC.

With the help of DVIRC 12 years ago, Nielsen Kellerman instituted companywide what is called "lean" production manufacturing principles, shedding all remnants of so-called "batch" manufacturing that dominated companies' output during the 1950s and 1960s.

Under the old batch process, mass quantities of items were produced regardless of the number of orders. When a mistake was found in a product, it often translated into waste. What to do when a company already made hundreds if not thousands of items that have a flaw?

Lean is the American version of manufacturing techniques borrowed from Japan, particularly the Toyota Production System. The goal of lean is to "define value through the eyes of the customer and eliminate waste," said Jeff Kopenitz, director of advanced manufacturing at DVIRC. "It's an organized war on waste."

Kopenitz studied at the Shingijutsu Institute in Nagoya, Japan, under the direction of several pupils of Taiichi Ohno, who created the Toyota Production System.

The war on waste starts with identifying its source, whether it's long lead times, transportation issues, overprocessing, delays or defective units.

Waging war on waste through lean manufacturing has become the culture at Nielsen Kellerman, but it wasn't always that way.

The company has its roots in rowing. It was formed in 1978 by Richard Kellerman and Paul Nielsen in Rochester, N.Y. Kellerman was a chemist at Xerox Inc. and was asked to develop an instrument that would help coxswains steer a rowing crew along the water. Nielsen and colleague Kellerman came up with a CoxBox and that planted the seeds for Nielsen Kellerman.

The company expanded into other products that helped rowers and by 1985 relocated to the Philadelphia area, first setting up in Marcus Hook and later in Chester. It now owns a 25,000-square-foot flex building it had constructed at 21 Creek Circle in Boothwyn and employs 75 people. Before moving to Boothwyn in 2004, it had 54 employees.

"It was a basement business until then," said Alix Kocher, chief operating officer and an avid rower.

Rowing accounts for a third of its business and it supplies to rowing teams across the world. Half of its rowing products are exported. "Every single boat at the Olympics had our equipment," Kocher said.

While rowing is still a growing part of its business — 75 percent of its rowing business came to the company within the last seven years — it has expanded into other product lines.

In 1996, the company delved into wind and weather instruments and it now has 13 products geared toward that.

"Our customers find us," Kocher said.

For example, contractors use its portable Kestrel Pocket Weather Meters to measure wind limits for cranes, evaporation rates for concrete.

Nielsen Kellerman is embarking on a third product line that Kocher believes has the potential to become as big as its rowing equipment business: electronics for the sport of gliding. Soaring, or flying without motors, has an affluent and stable customer base in the United States and is fast growing in Europe.

The company's success has been steady and strong. During the past eight years, it has averaged 10 percent to 12 percent in revenue



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Nielsen Kellerman uses an employee-directed, "continuous improvement" manufacturing approach borrowed from Japanese factories to wring out waste and frustration.

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growth and is “on a clear path to \$15 million” in revenue, Kocher said.

Though Nielsen Kellerman has maintained an upward trajectory, the idea of incorporating lean manufacturing made sense to one of its founders after he read a book about it, Kocher said.

“We weren’t a bad manufacturer, but we didn’t have to work hard to succeed,” she said.

The company, with the help of DVIRC, held its first *kaizen* meeting, lasting three days, to review operations and come up with a plan that would incorporate lean principles. *Kaizen* is a Japanese term referring to continuous improvement. It involves every employee, who knows first-hand, for example, where they are frustrated in a production line or where waste is occurring. The employees not only identify waste but seek out solutions to getting rid of it and implement manufacturing improvements during their work.

The company’s plan was laid out in what is called a value stream mapping analysis and solutions were outlined. The plan was implemented in three days.


One outcome of the *kaizen* was to put in place “cellular” manufacturing, where employees work in centers called cells. The cell produces a single piece of equipment. For example, at Nielsen Kellerman, six people in a cell may be putting together a pocket weather meter. Each person has their own task and if a defect or problem crops up, it’s immediately identified along with a solution.

The company also cross trains employees so they can work in different cells, which helps beat out boredom and puts a fresh set of eyes on a product and cell manufacturing process.

The company receives job training grant money through a state Department of Community and Economic Development program called WedNetPA, which provides up to \$50,000 per company for basic skills and information technology training. This year, Nielsen Kellerman received \$22,000 from the program, though the company said that because of restrictions tied to the money it spent only \$12,000 of the grant.

Aside from employee involvement, another important key to lean manufacturing is that it’s constantly evolving. “You are never done,” Lauer said. “You can always make it better.”

That first *kaizen* Nielsen Kellerman held was just the beginning. It holds three a year.

“That’s a big commitment from management, but it’s a long-term benefit,” Kocher said. 

Up Close

Company: Nielsen Kellerman Inc.

Type: Manufacturers of instruments for rowing, soaring and weather

Headquarters: Boothwyn

Founded: 1978

Employees: 75

Revenues: Nearing \$15 million

Source: Company

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