



Office dogs, yoga classes, good pay — welcome to the modern Mass. factory



JONATHAN WIGGS/GLOBE STAFF

Jimmy Jeanbart was at work at Symmons Industries, a company embracing the digital era.

By [Katie Johnston](#)

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BRAINTREE — Symmons Industries, a 79-year-old plumbing manufacturer, still makes the part that started it all: a shower valve that prevents scalding when a toilet is flushed, invented by the chief executive's grandfather.

But after decades in the hardware business, the family-owned company is making a big bet on the digital world, working on a water management system for commercial buildings that can detect a problem, and send out an alert via smartphone, within seconds.

ADVERTISING



Symmons and other local manufacturers are using technology — from robots on the factory floor to computing in the cloud — to develop new products and streamline their production lines.

After a prolonged period of little or no growth in the manufacturing industry, Massachusetts — one of the country's original powerhouses — is reasserting itself as a leader in what is known as advanced manufacturing, selling products that are transforming the industry nationwide. Innovation helped drive production output in the state to a record \$50 billion last year and boost employment by 1,700 jobs in the first quarter, the biggest year-over-year increase since 2000-2001.

Many manufacturing facilities, including some longtime ones like Symmons, look nothing like the grimy plants of years past. They have open offices and onsite gyms and vegetable gardens; they cater lunches and allow dogs and hold yoga classes.

Wages are decent, too. Nationwide, manufacturing companies are paying bachelor's degree earners an average starting salary of more than \$53,000 a year, the highest of any major industry group, according to a recent Michigan State University [study](#).

In Massachusetts, experienced engineers can earn six figures, while machinists can make upward of \$35 to \$40 an hour.

The high-end parts Massachusetts manufacturers make are often hidden inside other products — shafts for machines that create flu vaccines, lens housings for night-vision goggles, sensors for submarines — as well as in robotics that manufacturers increasingly rely on to automate their processes. And this upscale niche has contributed to the state's manufacturing strength, whereas production of some lower-value items has shrunk or moved overseas, said Branner Stewart, a senior research manager at the University of Massachusetts Donahue Institute.

“We're kind of like Japan or Germany, where we're competitive in very high-value-added, technologically advanced goods, as opposed to China, which, though advancing quickly, is better known for mass-produced goods,” Stewart said.

Even assembly work is becoming more professional here. This month, Interstate Electrical Services Corp. in Billerica is launching the state's first apprenticeship program for manufacturing assemblers, a one-year program that will teach equipment and software skills that can be used in a range of high-tech manufacturing jobs.

“For the next generation of workers, manufacturing may be about producing something, but it's going to be a job that combines data analytics with software use, with robotics use, and computer interfaces,” said Liz Reynolds, executive director of the MIT Industrial Performance Center.

“Massachusetts has always been involved in a lot of this cutting-edge, early stage, new product introduction.”

The state has roughly 7,000 manufacturing companies, according to the Bureau of Labor Statistics, down from nearly 10,000 in 2001. And although hiring has ticked up recently, the [number of jobs](#) in the industry has dropped to 246,000 from close to 500,000 in early 1990, due to automation and the shifting of production offshore.

At the same time, however, the total value of goods produced has been rising, up 14.6 percent in Massachusetts between 2009 and 2017, outpacing the national average.



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— Tim O’Keeffe, Symmons Industries CEO

Nationwide, Massachusetts is the fourth-largest producer of miscellaneous manufactured products, which includes medical devices, and of electronics and computers — and has held steady as one of the country’s top producers of these products for decades.

The Baker administration has signaled its support by committing more than \$100 million in funding for the Massachusetts Manufacturing Innovation Initiative, which awards grants to develop cutting-edge manufacturing technology.

Outside Symmons headquarters, hydroponic lettuce is being grown in a shipping container, shared with workers for now, and eventually with a food bank. Office workers, machinists, packers, and the vice president of sales play volleyball on an artificial turf court. Inside, chief executive Tim O’Keeffe is overseeing a digital evolution of a \$90 million-a-year company that has survived for decades by making showers, faucets, and other bathroom accessories.

O’Keeffe, 46, who worked as a data aggregation manager at a software startup before joining the family business in 2002, plans to continue manufacturing plumbing parts, but is pushing the company into e-commerce, artificial intelligence, and the Internet of Things.

Currently, Symmons is testing its digital water-management system — which can alert hotel staff to, among other things, a room that’s not getting enough hot water before a guest complains — at a handful of Boston locations. To create it, the company partnered with a consulting firm in Somerville and is hiring engineers, software developers, and data analytics specialists.

“What Nest did for thermostats, we’re going to do for water,” O’Keeffe said. “We believe that products should do more for you than you do for them, and the only way you can do that is by connecting them and making them more intelligent.”

Newer tech-savvy manufacturers are also setting up shop in Massachusetts, including Formlabs, a 3-D printer company in Somerville founded in 2011 by MIT graduates that

employs more than 400 people.

“Being in Boston for the talent, that’s the number one reason to be here,” said Max Lobovsky, the company’s 30-year-old chief executive.

Part of what is allowing hardware companies to delve into software is the increased accessibility to technology, from smaller, cheaper robots that perform rote tasks to digital platforms offered by Google and Amazon that make it easier for businesses to connect products and store and analyze data.

At the same time, there are signs that more manufacturing is coming back from overseas — known as “reshoring” — as the costs of separating production from research, and the risks of far-flung quality control, become more apparent.

“There’s a surge of work coming back in,” said Michael Tamasi, chief executive of Avon-based AccuRounds, which makes high-end mechanical components for a wide range of products, including actuators that control the wings of airplanes. “We’re actually turning away work because we don’t have the people to do it.”

The company has quadrupled its revenue and doubled its staff over the past 12 years or so, Tamasi said, and is always in need of workers.

AccuRounds just purchased a cloud-based monitoring system from a Northampton company that measures machines’ output and displays the results on screens around the shop. All Tamasi has to do is look at his phone to see which machines aren’t operating efficiently.

Earlier this year, the company spent \$1.5 million on four new machines that use computerized controls to cut metal. One of those machines is fully automated and can do the work of four people, Tamasi said, noting that employees who previously did this work will be redeployed to other areas.

As the nationwide labor shortage continues, and manufacturers struggle more than most to find workers, many in the industry say automation is crucial to keeping up with demand. Machines are more efficient at rote tasks, they say, freeing up people to move into more highly skilled roles, although low-skilled workers are at greater risk of losing their jobs.

At the same time, these technological advances are attracting more potential workers.

Getting students into welding or other programs geared toward manufacturing has traditionally been a tough sell, said Luis Lopes, superintendent of Southeastern Regional Vocational Technical High School in Easton. But interest in vocational training is on the rise, and the influx of robotics and 3-D printing could help spur students' interest.

“We have to get them hooked,” Lopes said, noting that manufacturing workers fly under the radar, compared to doctors, lawyers, or software engineers.

“If they're watching TV, they're not seeing a lot of shows about advanced manufacturing.”

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