Job Connection

How Machine Shops Can Overcome Labor Shortages

Kip Hanson | Sep 20, 2022

Although reshoring initiatives have slowed over the past two years, a ***recent survey*** from global management firm Kearney suggests that U.S. manufacturers are poised to change that trend in a big way.

Some 92 percent of executives "express positive sentiments toward reshoring," and many have begun moving operations out of low-cost countries back to the United States, the survey found.

There's just one problem: Despite higher pay, ongoing training efforts, and pushback against public perceptions that machining and metalworking are in decline, there aren't enough workers to go around.

A ***Deloitte Insights*** study from May of last year noted that the U.S. Bureau of Labor Statistics reported more than 500,000 open manufacturing positions at any time during the previous six months. The same study estimated the figure would reach 2.1 million jobs by 2030.

Working to Fill Tomorrow's Jobs Today

The industry is scrambling to fill those slots. The Manufacturing Institute, a 501(c)(3) workforce development and education partner of the National Association of Manufacturers, is hosting its annual ***Manufacturing Day*** on Friday, Oct. 7, encouraging "thousands of companies and educational institutions around the nation to open their doors to students, parents, teachers, and community leaders."

At the Society of Manufacturing Engineers, another nonprofit organization working to address the ***workforce shortage and skills gap***, Chief Workforce Development Officer Jeannine Kunz suggests that manufacturers of all sizes must prioritize and plan now for how they will attract and retain their future workforce.

"These steps are critical to sustaining business as manufacturing enters the next industrial revolution," she says.

Kunz says the organization and its training and development division, Tooling U-SME, have been partnering for years with educational and community-based organizations as well as local workforce entities, infusing its industry-based curriculum, training programs, and certifications into schools and

communities to build the talent pipeline.

Its classes and interactive virtual training labs cover topics such as additive manufacturing, robotics and automation, digital twin and digital thread, inspection, maintenance and quality, allowing students to practice skills in a safe virtual 3D world and achieve a higher level of competency.

She encourages manufacturers to collaborate with their local community colleges and high schools, *manufacturing extension partnership (MEP) offices*, and industry associations like the Society of Manufacturing Engineers to assist with recruiting skilled talent and developing programs that promote career advancement and necessary skills for new technology implementation.

On new technologies related to Industry 4.0 and Smart Manufacturing, her organization is teaming with National Institute of Standards and Technology-sponsored Manufacturing USA Innovation Institutes to provide new education and training programs for industrial workers to adapt to the evolving factory, Kunz says.

Designing for Career Success

"In the design and manufacturing industry, digital transformation has led to the creation of new jobs and opportunities," says Simon Leigh, senior manager of design and manufacturing education strategy at Autodesk. "The problem is that the existing workforce isn't yet equipped with the skills necessary for these emerging roles. We only expect this gap to widen in the next decade as the workforce struggles to keep up with further technological advances."

To help address the manufacturing industry's labor shortage, Autodesk focuses its education efforts on helping the next generation *grow into the highly skilled workers* who are so critically needed, he adds.

Learners interested in pursuing a career in design and manufacturing can access Autodesk's free *education plan*, which gives eligible students and educators access to the full professional versions of Autodesk software together with learning content.

A student works in a CNC Lab at one of Autodesk's educational institution clients. Photo courtesy of Autodesk.

The company also provides CAD and CAM resource centers to support educators through curriculum development and project-based learning, and has created the Autodesk Certification program, which he says offers industry-aligned learning pathways and certifications for professionals.

"As we look to the future, having the right skills to solve not only today's problems but forge tomorrow's innovations will be crucial," Leigh says. "Making that happen will be a team effort between industry and educators."

Automation Job Opportunities

As many ***manufacturers have begun to realize***, automation will be vital to any reshoring efforts. Neither robots nor CNC machine tools program themselves, however, which is why automation company FANUC America is pushing hard to get young people interested in manufacturing technology and train them accordingly.

Paul Aiello, FANUC's executive director of education, explains that as companies face rising labor shortages, they are increasing their use of automation to help meet productivity goals.

> **Employees are the backbone of any company. Manufacturers rely on skilled labor to not only perform the work but, more importantly, contribute to the company's future growth and innovation.**
> Sean Holt
> Sandvik Coromant

“With more automation comes a need to hire more people who have the skills to manage advanced automation,” he says. “For more than a decade, FANUC has been committed to helping upskill the current and future workforce. Although we already partner with more than 1,400 schools, our country has a long way to go if we want to maintain our competitive edge.”

One example of FANUC’s commitment is its ongoing participation ***in the International Manufacturing Technology Show (IMTS) Student Summit***.

“We’re demonstrating the latest advanced technologies and hoping to encourage young people to seek out workforce training in robotics and automation,” Aiello says.

Workshops for Warriors

Many of these prospective manufacturing workers have served in the U.S. armed forces.

Hernán Luis y Prado, a 15-year Navy veteran, recognizes this, and in 2008 founded the non-profit ***Workshops for Warriors*** (WFW) in San Diego.

“America's veterans are an underutilized resource that has the maturity, discipline, and focus needed to rebuild American manufacturing and our nation's economic foundation,” Luis y Prado says.

At Workshops for Warriors, students learn the skills needed for well-paid careers in welding and CNC machining. Photo

courtesy of Workshops for Warriors.

WFW is a proven, trusted, repeatable and scalable school, Luis y Prado says. He and his team have trained, certified and placed more than 1,000 veterans in advanced manufacturing careers in every state, earning 11,000 nationally recognized certifications in the process.

“American manufacturing companies and individuals can support Workshops for Warriors in building a national training infrastructure that will provide our veterans with productive and purposeful advanced manufacturing careers,” he says. “The more students and instructors we can train per year, the quicker we’ll be able to expand nationally and create the training infrastructure necessary for a self-sufficient manufacturing base in America.”

Promoting Career Benefits

With nearly 8,000 employees worldwide, Sweden-based Sandvik Coromant is well-acquainted with the challenges of finding and retaining skilled workers.

President of the Americas Sean Holt says coping strategies include using third-party recruiting sources, reaching out to professional organizations and alumni groups for potential candidates and identifying alternative resources to locate candidates.

The latter might mean employee referral programs, and technical schools, universities, or professional organizations companies haven’t worked with in the past.

“We should all be keeping in mind what candidates want from their employers,” he says. “Are your benefits attractive and aligned with what other companies offer in your job market? Candidates also want to know what it’s like to work for your company. Make sure you show them, and let them know you will provide a good work environment and growth opportunities.”

For the long term, every company should also consider how it can attract students in its own communities. “We should all participate in programs with local schools and universities to ensure students see the benefits of working in our industry and the opportunities it provides.”

Sandvik Coromant is also establishing trainee and co-op or internship programs to attract candidates who are beginning their careers and has put more energy behind employer-branding initiatives.

“Social media is a new way for us to connect with potential employees by showing them what it’s like to work with our company and the ways they can grow with us,” Holt says. “We’ve also looked at our benefit offerings to make sure we're offering competitive and attractive benefits to our employees.”

Once a company has landed a good employee, the question is how to retain that employee. Holt warns that competitors often reach out to employees from other companies, so even if those people aren’t actively looking for new roles, they might be tempted to leave.

Proven retention strategies include offering development opportunities to employees, manager training, career advancement opportunities, and implementing employee recognition and appreciation initiatives.

“The current labor shortage has resulted in production and distribution challenges throughout our industry, among them the need for higher employee wages that have a direct impact on production costs,” he says. “Despite this, employees are the backbone of any company. Manufacturers rely on skilled labor to not only perform the work but, more importantly, contribute to the company’s future growth and innovation. As employers, we must be committed to our workers’ ongoing development to ensure that we keep up with industry advancements and the needs of our customers.”