

Why the Manufacturing Skills Gap is Serious

Anna Wells, Executive Editor, IMPO - @IndustrialAnna
Learn how educational institutions, government entities and businesses alike are working to develop the skills needed to fill vacant positions in manufacturing. This article is part of IMPO's 2014 Jobs Report. [For the full report, click here.](#) [1]

The manufacturing skills gap. It seems you can't go a week without a politician, media outlet or industry leader wringing their hands over this issue, perhaps because it's just so confounding. In an industry that has yet to recover the jobs lost in the recession, we're dealing with vacancies in the skilled trades that threaten to derail production growth and sector expansion.

According to Manpower Group's latest "Talent Shortage Survey," skilled trades positions are the most difficult to fill, and have ranked #1 for the past four years. According to Manpower Group's report: among the more than 1,000 U.S. employers surveyed, respondents say they are having difficulty filling open positions because candidates lack technical competencies/hard skills (48 percent); candidates lack workplace competencies/soft skills (33 percent) and because of a lack of/no available candidates (32 percent).

Why Not Manufacturing?



So what are the factors that keep this skill schism at such a meaningful size that we're all still talking about it?

"There are significant opportunities and jobs within manufacturing that are not being filled. It's about training and matching those skills with the jobs that exist," says Bob McCutcheon, U.S. Industrial Products leader for the professional services

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network PricewaterhouseCoopers (PwC).

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“It’s also a perception issue,” he adds. “These are still some of the most technologically sophisticated jobs that we have, and many of these jobs are actually sitting in front of computer terminals, but public perception is still a few decades old. I think some manufacturers have work to do to change public perception, in order to attract and retain the talent.”

While the perception problem isn’t a new one, it’s now coupled with an aging baby boomer demographic — a group that’s well represented in manufacturing and retiring at a rapid rate. In a way, manufacturers are being held hostage by a Millennial generation that doesn’t find the industry appealing. Dan Campbell, 2014 chairman of the American Staffing Association and CEO of the staffing and professional recruitment organization Hire Dynamics, thinks there is a prevailing stigma that has resulted in Millennials being reticent to enter into some industries. “But these are outdated views,” he says. “We have thousands of open trades jobs at the same time as millions of jobless Millennials — who are facing twice the national unemployment rate.”

Peer Input & Apprenticeship



So perhaps it’s a bit of a combination of a skills gap and an interest gap. Campbell suggests that prospective manufacturing employers look at specific generational traits when looking to hire Millennials, noting how “Millennials consistently seek to improve the workplace in terms of how they can apply creativity and empower their own positions and teams.” He goes on to suggest that employers – within the process of hiring a Millennial – should put them face to face with another peer who is employed by the company. “Have the

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young employee stress the accomplishments, innovation and benefits of the company and its culture, as well as all the ways the potential hire could immediately start contributing their ideas and innovations to the organization.

Some manufacturers have likewise placed emphasis on peer input by developing apprenticeship programs in order to circumvent some of the missing skills. SCHOTT North America of Lebanon, PA, a manufacturer of special glass and glass-related systems, has elected to take a more active role in training its next generation of workers through a home-grown apprenticeship program for electro-mechanical technicians (EMTs), a decision the company said was based on a growing skills gap and an aging workforce. "We currently have three apprentices who started in January 2013," says Lauren Lake, HR Director at SCHOTT North America in Lebanon. "We set up the program because of a need for new talent since we are investing in new capital equipment for glass forming." Since these new machines rely heavily on PLCs for their operation, the company needed specially trained talent to manage their maintenance, and didn't want to wait for someone else to provide the skilled people. "Few EMTs are available on the market, and other companies are competing for their skills since many automated machines are equipped with PLCs."

The Workaround

Some manufacturers have gone a different route when attempting to address production needs in a spotty labor market. Mark Greenman runs a small startup called Gearward, which produces outdoor gear for men. The company is currently developing a lot of new products that are coming out in the upcoming months, "many of which far exceed our in-house manufacturing skills," explains Greenman, the company's founder. While things like forging titanium, injection moulding and complex sewing could produce bottlenecks without the right skills to address them, Greenman has found success through the use of contract manufacturing. "We simply find companies that specialize in the skills we lack, and have them build the products to our design specifications."

Greenman says this method has been extremely efficient, both in terms of product turnaround time, and also quality, since the contract manufacturing sources are each experts in these specific production skills. "Most importantly, it allows us to be extremely nimble in our manufacturing," he adds, "allowing us to pursue an extremely wide range of products that would be impossible if we had to build them in-house."

Higher Education

SCHOTT's Lake adds that there are other ways to resolve the skills gap, specifically companies working together with local educational institutions to communicate needed skills and help develop training programs. Additionally, today's manufacturing plants are increasingly integrating high tech equipment that requires specific knowledge and overlaps into design and programming, which means an emphasis on STEM skills is usually a good start.

Rob Hewlett, D.A., is the dean of the College of Business at Bellevue University,

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which recently launched an Advanced Manufacturing degree program. According to Hewlett, some of the program has been designed around issues raised by manufacturers and trade groups, including weak areas they've identified like problem solving. The program also targets the use of positive behaviors that lend themselves to building trust-based collaborative relationships within a manufacturing team as well as value-chain partners. "These weaknesses are hindering repatriation of many of the advanced manufacturing jobs slated for the U.S.," warns Hewlett. "The new manufacturing environment isn't your father's manufacturing job. It requires deep planning, thinking, judging and collaborating skills in addition to technical skills. These manufacturing professionals are dealing with agile systems, lean systems, flex systems and working to demanding requirements; they are leaders and need leadership skills."

Besides leadership skills, the industry needs a blend of more technical skills as well. Professionals are needed that are proficient as coders, flex/agile/Lean manufacturing designers and possess sophisticated client skills capabilities to work with recurring or non-recurring manufacturing of components in a 3D manufacturing or 3D printer environment. "The need to blend technology, creativity, problem-solving, IT and client service skills into a single professional is essential," says Hewlett. "We are building manufacturing craft professionals, not factory workers tied to rigid processes and practices."

As a manufacturer, SCHOTT also sees value in becoming an advocate partner, and keeping the lines of communication open with educational institutions. Says Lake, "Another aspect to look at is trade school promotion to help advocate manufacturing jobs. Companies should also consider marketing these positions as highly paid, so young talent will be more interested in pursuing these careers."

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