



Written Testimony
Committee on Small Business
Subcommittee on Contracting and Workforce
“How Small Manufacturing Companies Are Utilizing Apprenticeship to Fill the Skills Gap”
United States House of Representatives
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Thank you, Chairman Knight and Ranking Member Murphy, for the opportunity to provide some insight into why and how small manufacturing companies are utilizing apprenticeship to fill the skills gap. I am representing SME and its training and development division, Tooling U-SME. For 85 years, SME has dedicated itself to ensuring the health and competitiveness of the manufacturing industry by developing the workforce and promoting advanced technologies. For the past decade and into the foreseeable future, the skills gap threatens the progress of this important sector in our country. According to the 2015 census, small businesses represent 89 percent of manufacturing establishments in the United States, and most don't have the resources capable or dedicated to building strong structured workforce programs from the ground up. These businesses, employing 44 percent of the manufacturing workforce, are often experiencing extreme challenges to the operation and growth of their organizations, which ultimately threatens our economic progress as an industry and nation.

In response, we have worked with manufacturers, educators and workforce organizations throughout the country to build training programs that support workforce learning initiatives and offer a national perspective with localized solutions. Hundreds of thousands of individuals from more than 5,000 companies and 600 educational facilities partner with us to strengthen the knowledge and skills of today and tomorrow's manufacturing workforce. Now more than ever,

manufacturing is in critical need of help to combat challenges facing the industry at unprecedented levels.

As many already know, the skills gap is widening due to several factors colliding at once. The retirement of millions of experienced and knowledgeable workers is creating a worrisome vacuum. Other factors, such as the introduction of new technologies and misperceptions about the image of manufacturing, contribute to a shortage of workers entering the field. In fact, over the next decade, nearly 3.5 million manufacturing jobs will likely need to be filled. Because of the skills gap, 2 million of those jobs are expected to remain unfilled.

Yet, the industry is not prepared. Tooling U-SME's Workforce 2021 Assessment, a five-year study, reveals companies are falling dangerously behind when it comes to addressing the manufacturing skills gap. Nearly nine out of 10, or 88 percent, say that their company is having problems finding skilled workers in manufacturing. And small companies, on average, are more challenged to find skilled workers than larger companies, as they have additional disadvantages when it comes to factors such as health and benefit plans. Small businesses often cite the challenge of hiring and training an employee, only to have the larger company down the street recruit that employee away.

Since the workforce and skills gap challenge runs deep, there is not a one-size-fits-all solution for small businesses. Rather, they need an arsenal of several accessible, interwoven options, so they can address various needs as they arise and evolve.

There is no doubt that the small-business arsenal should include apprenticeship, a positive solution with a measurable return on investment. Small businesses in manufacturing are known for informal, tribal knowledge-driven approaches that do not validate the transfer of skills to new workers. This puts their organizations at significant risk, especially with the retirement of baby boomers. Manufacturers must have formalized programs in place for onboarding and on-the-job training, such as formal competency-based apprenticeship programs.



As manufacturers struggle to find qualified workers, they are tapping into an age-old training approach with a modern twist. Around for generations, apprenticeships — which allow employees to earn while they learn — are seeing a renaissance as the industry addresses the skills gap. By establishing apprenticeship programs around industry-wide standards, U.S. employers who sponsor such programs can more quickly build a pipeline of skilled workers, boost retention, reduce recruiting costs and improve productivity.

We believe that training and professional development is the key to the future success of manufacturing. Additionally, we believe that forward-thinking technical schools and community colleges are our critical partners in this effort. Manufacturers are the keepers of vital knowledge and technologies, but this knowledge will be lost through transition and a retiring workforce unless it is passed on. We have developed an extensive, diverse catalog of manufacturing-specific content and innovative learning tools to help manufacturers bolster their expertise and leverage their people to successfully compete in today's economy.

SME supports nationwide Department of Labor apprenticeship programs with a competency-based approach to traditional apprenticeship models. In the past, apprenticeships have involved completing Related Training Instruction and On-The-Job Training hours to attain journey worker and journey-level status. However, today's apprenticeships differ from earlier iterations. Informal, time-based programs are being replaced by formal, competency-based programs. SME believes that competency-based learning and development programs are essential to successful learning of specific job roles. Our Apprenticeship Acceleration Framework examines the necessary knowledge and skills that support common apprenticeship job functions. This is especially important for small businesses, as they typically don't have a Human Resources Department or Learning Officers to create these programs from scratch. Instead, they must rely on government and associations to provide a framework, standard or structure to work within.

Through our partnerships, SME has seen how well the apprenticeship model has worked for small businesses. For example, the Manufacturers Association of Central New York, known as MACNY, represents more than 300 manufacturers and business organizations across Central and Upstate New York. These small- to mid-sized companies have the same challenge as bigger companies — a rapidly retiring workforce. But unlike bigger companies, they don't have the resources, time and money to start their own training program and address their workforce needs.

MACNY is part of a bigger organization called the Manufacturers Alliance of New York State, which brings smaller associations together for statewide economy of scale on issues such as working with the government, taxation, workers' compensation, understanding new processes and grant funding. Martha Ponge, Director of Apprenticeships for MACNY, said, "As a group, we realized that not only did we need to raise up the middle skills for manufacturing, but that entry-level positions were in jeopardy. Collaborating to solve the problem gave us positive results and a pathway for expanding our growth."

MACNY partnered with Tooling U-SME to define the standards of apprenticeship for its program, and to deploy training and measurement tools to both develop and assess apprentices. Tooling U-SME facilitated multiple workshops with MACNY stakeholders and representative employers to finalize the knowledge and skill requirements of each occupation.

MACNY is also collaborating with Working Solutions New York, a Workforce Investment Board that serves as a connector between the U.S. Department of Labor and American Job Centers. Working Solutions was awarded American Apprenticeship Initiative grants, and turned to MACNY to provide the Tooling U-SME competency-based outline for apprenticeships in seven occupations. In addition, Tooling U-SME was asked to design a pre-apprenticeship program so Working Solutions could provide companies that were not quite ready for a full apprenticeship with an alternative to begin their workforce education and fill their pipelines. This program is focusing on high school students, dislocated workers and veterans. MACNY is in discussions with leadership to take that pre-apprenticeship program and implement it in the Syracuse Public School system in 2018.



Another superb example of how apprenticeship can positively affect small business is Cox Manufacturing in San Antonio, Texas. For more than 60 years, Cox has been a maker of precision cut metal components. Since 2010, Cox has grown from 70 employees to 140 employees. Sean Althaus, training coordinator for Cox, said,

“It’s difficult to grow in manufacturing without the right people in place. Companies need to have apprenticeship programs in place for the long run. I’ve been able to see, firsthand, the apprenticeship program grow to a state-of-the-art model that can compete with other businesses and programs across the country. The biggest advantage for a company is related to culture and retention. Turnover has been on a downward trend the last two years. It’s an investment in the future.”

Sean went on to say that apprenticeships are a risk-free, debt-free way for people to gain skills and education. Apprentices get paid by their companies to perform normal duties and earn while they learn. The key component is that they come out with Department of Labor credentials, which are objective third-party credentials recognized at any facility.

Cox and other small companies are having a lot of success pursuing an apprenticeship strategy that helps build an appealing culture and the talent pipeline. There are cost savings, too. According to the 2014 Accenture Manufacturing Skills and Training Study, the average manufacturer can lose 11 percent of annual earnings due to the skills shortage.

One last example of how small businesses are using apprenticeship to fill the skills gap is the Westside Industrial Retention & Expansion Network, also known as WIRE-Net, based in Cleveland. WIRE-Net, a nonprofit economic development organization, has been supporting local manufacturers since the late '80s. The organization had heard from many manufacturers who were ready to invest in apprenticeship programs in order to grow their talent base, but did not have the time and expertise to implement them.

To address this, WIRE-Net created an apprenticeship program for a consortium of smaller companies, called the Northeast Ohio Manufacturing Apprenticeship Consortium. With this plug-and-play approach, local manufacturers rely on WIRE-Net to handle the administration and logistics of establishing an apprenticeship program, removing a major barrier to implementation. WIRE-Net also negotiates with educational providers on behalf of the consortium, and provides expert, structured, on-the-job training for the apprentice mentors at each company.

The consortium approach translates into buying power. It also helps persuade trainers to be responsive to the needs of consortium members, especially in terms of scheduling technical course work. This ensures apprentices meet standard credentials such as those of the National Institute of Metalworking Skills. WIRE-Net also identifies sources of training dollars to keep training costs affordable for small- and medium-sized manufacturers, working with both local and national partners.

In summary, the health of small businesses is vital to manufacturing's success. The largest OEMs in the world rely on the supply chain of small businesses. All too often, we are hearing of small businesses turning down orders or delaying expansion because they don't have the right talent in place. Apprenticeships are a proven and needed piece of a company's workforce strategy to combat the skills gap. They help small businesses build a pipeline of skilled workers, grow internal talent, retain employees, reduce recruiting costs and improve productivity. Undoubtedly, support of small businesses needs to be at the forefront of our conversations about strong economic and workforce development. We thank the Subcommittee on Contracting and Workforce for taking the time and care to better understand the role apprenticeship plays, and to stress its importance as part of a strategic and multi-pronged attack on the skills gap.

Thank you.