WORKING TOGETHER: APPRENTICESHIP & ADVANCED MANUFACTURING

This document summarizes a January 2020 call for State Apprenticeship Expansion (SAE) grantees. The call featured speakers from the North Carolina Community College System, JFF (Jobs for the Future), and the Manufacturers Association of Central New York, who discussed resources and promising practices in using Registered Apprenticeship in the advanced manufacturing sector.

ABOUT THE SPEAKERS

- The Manufacturers Association of Central New York (MACNY) supports over 330 local businesses and organizations across Upstate New York and is working to expand advanced manufacturing apprenticeship in the Central New York region. For additional information, contact Martha Ponge at mponge@macny.org.
- JFF is a national nonprofit that works to ensure that all students and workers have access to the education and training needed to gain credentials and skills that employers require. JFF is a contracted as a National Industry Partner with the U.S. Department of Labor to expand advanced manufacturing apprenticeships. For assistance, contact Idil Ismail at iismail@jff.org.
- The North Carolina Community College System is the home of ApprenticeshipNC, which is responsible for all apprenticeship programs including program quality assurance and regulatory adherence to federal and state guidelines on behalf of the North Carolina Department of Labor. For more information, contact Kathryn Castelloes at castelloesk@nccommunitycolleges.edu.

WHY APPRENTICESHIP WORKS IN ADVANCED MANUFACTURING

Advanced manufacturing is transforming from a sector reliant on manual labor to one being driven by increased automation and technological advancement. According to the *2018 Deloitte and The Manufacturing Institute Skills Gap and Future of Work Study*, this sector continually contributes to over 10 percent of the national gross domestic product (GDP), and in 2017, it represented more than 8 percent of the entire U.S. employed population. The advanced manufacturing Industry may have as many as 2.4 million jobs to fill through 2028.

However, the Deloitte study also says advanced manufacturing is experiencing a significant talent gap, which could cost the United States $454 billion in manufacturing GDP by 2028. To combat this, the advanced manufacturing industry spent $26.2 billion in 2019 on both internal and external training programs, including one-third of manufacturers using apprenticeship programs. Apprenticeship's customizability is a perfect fit for manufacturing because it allows for existing program standards for standard equipment and skills to be easily modified for individual companies' specific production needs.

A LOOK AT APPRENTICESHIP IN ADVANCED MANUFACTURING TODAY

Registered Apprenticeship within the advanced manufacturing sector is growing in popularity, both among employers in the sector, as well as among job seekers, and, in particular, youth. Many young

people in high school and college are seeing apprenticeship as a pathway into a specialized, high-tech career in advanced manufacturing. Businesses are also using apprenticeship to "train up" incumbent workers, even using it as a tool to help current employees attain two- and four-year degrees, both in traditional manufacturing occupations as well as in more cross-industry occupations, such as payroll, human resources, and information technology (IT).

Within the advanced manufacturing industry, the top occupations for apprenticeship are mechatronics technician and industrial engineering technicians.

CHALLENGES AND RECOMMENDATIONS

Advanced manufacturing businesses respond much more positively to hearing about the benefits of apprenticeship from other employers. Some employers are skeptical about apprenticeship when hearing from government, or even industry associations. ApprenticeshipNC holds apprenticeship summits annually where most speakers are businesses who are using and benefitting from apprenticeship, and they share their positive experiences with businesses that might remain apprehensive about starting a Registered Apprenticeship Program.

Small and medium-sized manufacturers find it difficult to stand up Registered Apprenticeship Programs on their own. MACNY and ApprenticeshipNC have found that the consortia model, in which groups of businesses work together to build and/or promote apprenticeship programs, is growing in popularity. These consortia might consist only of manufacturing companies, or they might be composed of companies from related industries, such as IT and HVAC. MACNY acts as a sponsor for many Registered Apprenticeship Programs for small manufacturers and has found companies willing to work together to share training costs. ApprenticeshipNC has companies joining together on their own to not only promote apprenticeship for advanced manufacturing occupations, but for apprenticeship as a whole, visiting high schools to elevate apprenticeship as a viable and valuable career pathway.

Fast-paced technological change means quick emergence of science, technology, engineering, arts, and mathematics (STEAM) jobs over manual labor. While it's true that advanced manufacturing is losing some of its manual labor jobs, its labor need is growing, as is its need for more skilled technical workers. Apprenticeships for these high-tech positions are appealing to high school and college students coming in at entry levels and can be used to help build skills of incumbent workers.

ADDITIONAL RESOURCES

- Apprenticeship.gov's Advanced Manufacturing page links to a toolkit, competency models, apprenticeship standards in high-demand IT occupations, and more.
- The Apprenticeship in Advanced Manufacturing page on Workforce GPS offers program examples, outreach materials, and other resources to help expand apprenticeship in the advanced manufacturing sector.