
Competency Models In Action:

Manufacturing Industry Association Develops Nationally-Recognized Certificate Program

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- Closing the career interest and skill gaps: industry-education partnership
- Accelerating pathways to industry-recognized credentials
- Bridging the communication disconnect between educators and employers

Introduction

The manufacturing industry sector faces two significant challenges: interests and skills. Prospective workers often harbor misperceptions about the opportunities manufacturing occupations can afford them. At the same time, manufacturing employers have difficulty finding work-ready individuals to fill their vacancies.

The Manufacturing Skills Institute (MSI), the workforce development affiliate of the Virginia Manufacturers Association, has developed the Manufacturing Technician Level 1 (MT1) certificate program. The MT1 is designed to reduce employer hiring costs, increase the pool of qualified applicants and enhance the baseline of existing workers.¹

The Workforce Need

According to the Skilled Trades Gap Analysis Report commissioned by the Virginia Manufacturers Association, the Virginia Workforce Council and the Virginia Manufacturing Advisory Council, the adequacy of the skilled trade pipeline has become an issue of increasing importance to manufacturers because of the general slowdown in the growth of the U.S. labor force, coupled with a large pending wave of retirements and the increasingly high-tech nature of manufacturing.²

From a national perspective, the outlook for manufacturing-related occupations is strong, particularly as workers attain industry-recognized credentials. National employment projections from the Bureau of Labor Statistics indicate that employment opportunities for machinists will increase by 9.8 percent between 2014 and 2024, greater than the average of 6.5% for all occupations.³ National data indicates that employment opportunities for computer controlled machine tool operators will increase by 17.5% from 2014 to 2024, significantly more than the national average for all occupations.⁴ Furthermore, for both of those occupations, opening due to replacement needs also provide additional opportunities.

¹ ManufacturingSkillsinstitute.org

² Skilled Trades Gap Analysis Report: Final Report, October 2007

³ Bureau of Labor Statistics, <https://www.bls.gov/emp/tables/emp-by-detailed-occupation.htm>

⁴ <https://www.onetonline.org/link/summary/51-4011.00>

Addressing the Skills Gap

“The Skilled Trades Gap Analysis Report provided the foundation of MSI’s development of the MT1 certificate program,” says Katherine DeRosear, Partnership Architect, MSI. “From 2007 to 2010, we worked collaboratively with subject matter experts from industry and private and public educational institutions to establish the foundation for the MT1 certificate. Industry partners identified 12 critical skills and corresponding standards for the MT1 credential. Of these 12, three were identified as the core technical competencies: Math and Measurement; Manufacturing Technology and Spatial Reasoning; and Business Acumen and Quality. These mirror two key components of the Advanced Manufacturing Competency Model’s Industry-Wide Competencies tier, namely Manufacturing Process Design and Development and Quality Assurance/Continuous Improvement.

The MT1 credential is competency-based, industry endorsed, and third-party validated. It is also included in the National Association of Manufacturing endorsed National Skills Certification system, making it portable throughout the nation. “We used the Advanced Manufacturing Competency Model as a conceptual framework when making presentations on the MT1 credential,” says Ms. DeRosear. “It helps to bridge the language gap between employers and educators, graphically depicting what potential workers know as compared to what employers need them to know.”

The target market for the MT1 credential is diverse. It qualifies incumbent workers, transitioning military (and spouses), emerging workers and dislocated workers for employment and careers in technology-based advanced manufacturing occupations.



Addressing the Interest Gap

MSI has also developed an advanced manufacturing-focused career engagement system for Virginia that provides an accurate depiction of advanced manufacturing occupations in Virginia at <https://va.headed2.com>. This cloud-based online tool powered by Headed2 enables users to explore advanced manufacturing occupations in Virginia and identify educational institutions that provide relevant training. It provides access to career information so that individuals: 1) have a better understanding of advanced manufacturing careers; 2) know what types of skills are required to pursue these careers; 3) obtain information about training that results in transferable and portable skills; and 4) access a customer industry-only job board. It also includes access to career coaching tools for teachers, program administrators and workforce professionals to facilitate the career planning process for target populations such as career/technical education students, transitioning military and job seekers.⁵

Next Steps

“We want to build out experiential learning opportunities that will bridge the gap from talk to action,” says Ms. DeRosear. “Providing career information and aligned training provide a great beginning, but the biggest influence is personal experience. Our Advanced Technology Action Learning Lab simulates the processes, systems and technology in modern manufacturing, allowing individuals to experience ‘raw materials to finished goods’ in a fun and competitive 3-day format. We are also working on an MT2 certificate program which is more supervisory in nature.”

Related Links

Manufacturing Skills Institute

<http://manufacturingskillsinstitute.org/>

Virginia Career Explorer

<https://va.headed2.com/>

⁵ <https://va.headed2.com/>