Competency Models In Action:  
Aerospace and Defense Manufacturing Competency Model Developed

September 2013

- Collaboration with Industry and Government Stakeholders Results in Identification of Five Tiers of Sector-Specific Competencies
- Competencies Reflect Both Defense Industry and Government Requirements
- Model Focuses on Developing the Existing Workforce and Defining Competencies for New Entrants

Introduction

In November 2012, SME (formerly known as the Society of Manufacturing Engineers) and the Institute for Defense Analyses (IDA) released a groundbreaking study, “Aerospace and Defense Manufacturing Competency Model (ADMCM) – Improving Communication among Employers, Training Providers, and the Workforce.” The study was conducted jointly by SME and IDA and capitalized on SME’s work in the documentation and advancement of manufacturing knowledge and workforce skills. Another partner was the workforce committee under the National Defense Industrial Association (NDIA) Manufacturing Division.

The Workforce Need

“In discussions with NDIA’s workforce development group, it emerged that there was no real documentation of what competencies are required of their workforce,” says Pam Hurt, SME Industry Manager for Workforce Development. “There needed to be some standardization of skill levels.”

The report notes that there are not enough government procurement personnel with experience in designing, developing, and producing today’s technologically advanced manufacturing products. In addition, it points out that companies are having difficulty hiring skilled labor. According to a fall 2011 survey conducted by Deloitte LLP and The Manufacturing Institute, 67 percent of respondents reported a moderate to severe shortage of skilled laborers and 56 percent anticipated that the shortage will worsen in the next three to five years.

How They Did It

“Everyone agreed that Tiers 1 through 4 of ETA’s Advanced Manufacturing and Aerospace Competency Models provided a good foundation for this initiative,” says Ms. Hurt. “We cross referenced and merged individual aspects of both models in Tiers 1-4 of the ADMCM. We then focused on populating Tiers 5-9 with the goal of developing the existing workforce and defining competencies for curricula for new entrants.”

1 http://www.sme.org/competency-model/
Subject matter experts representing industry and government stakeholders were convened for two focus groups in September 2012 to verify the ADMCM. Employers and workforce stakeholders included representatives from the major defense firms who are members of the NDIA or the Aerospace Industries Association, other aerospace and defense manufacturers and the Department of Defense’s acquisition organizations. The Defense Acquisition University and SME also contributed to the verification. “We also brought the U.S. Army Tank Automotive Research Development and Engineering Center into the discussion,” says Ms. Hurt. “The population of Tiers 5-9 required some very significant discussions involving defense industry interests and government requirements.”

Related Links

Society of Manufacturing Engineers
http://www.sme.org/competency-model/

National Defense Industrial Association
http://www.ndia.org/Pages/Default.aspx

Institute for Defense Analysis
https://www.ida.org/

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2 Ibid.