

## **The Automation Competency Model**

Created by the Automation Federation and the U.S. Department of Labor

A “Competency Model” is a formal federal document that clearly defines what a person needs to know and be able to do to perform well in an occupation—the knowledge, skills, and abilities required. Competency models are developed through research and industry validation; and, once completed, are promoted, maintained, and updated.

In 2009, the Automation Federation, in collaboration with the Employment and Training Administration (ETA) of the U.S. Department of Labor (DOL), completed the Automation Competency Model (the first produced by the DOL). Automation industry leaders and ETA staff worked together to develop this comprehensive competency model for careers in automation with the intent of aiding and increasing the number of individuals pursuing careers in this vital profession. In addition to the expertise contributed by industry leaders, *A Guide to the Automation Body of Knowledge, 2<sup>nd</sup> Edition*, Vernon L. Trevathan, editor, served as the basis for the technical competencies portions of the model. To learn more about this publication, visit [www.isa.org/autobok](http://www.isa.org/autobok).

**Model Structure:** The Automation Competency Model clearly describes what a person needs to know and be able to do in order to successfully perform the tasks required in automation careers. The Automation Competency Model is made up of nine tiers: personal effectiveness competencies, academic competencies, workplace competencies, industry-wide technical competencies, automation technical competencies, occupation-specific knowledge areas, occupation-specific technical competencies, occupation-specific requirements, and management competencies. For a visual representation of the Automation Competency Model tiers, see Figure 1.

The Automation Competency Model is designed to help individuals prepare for job opportunities in the automation profession and to aid existing professionals in attaining the knowledge and skills for improving job performance. The model was also designed to help academic institutions update their education curriculum to incorporate the course work necessary to prepare students to enter a professional field in automation.

**The Automation Federation’s Role:** Now and in the future, engineers and technicians knowledgeable in automation are and will be needed to ensure that a nation’s manufacturing sector stays competitive in a global economy. For this and many other reasons, AF, as the “Voice of Automation,” is working hard to build the next generation of automation professionals. Given this goal, AF intends to use the Automation Competency Model as a key resource in a sustained approach for preparing current and future workers at all skill levels for automation careers.

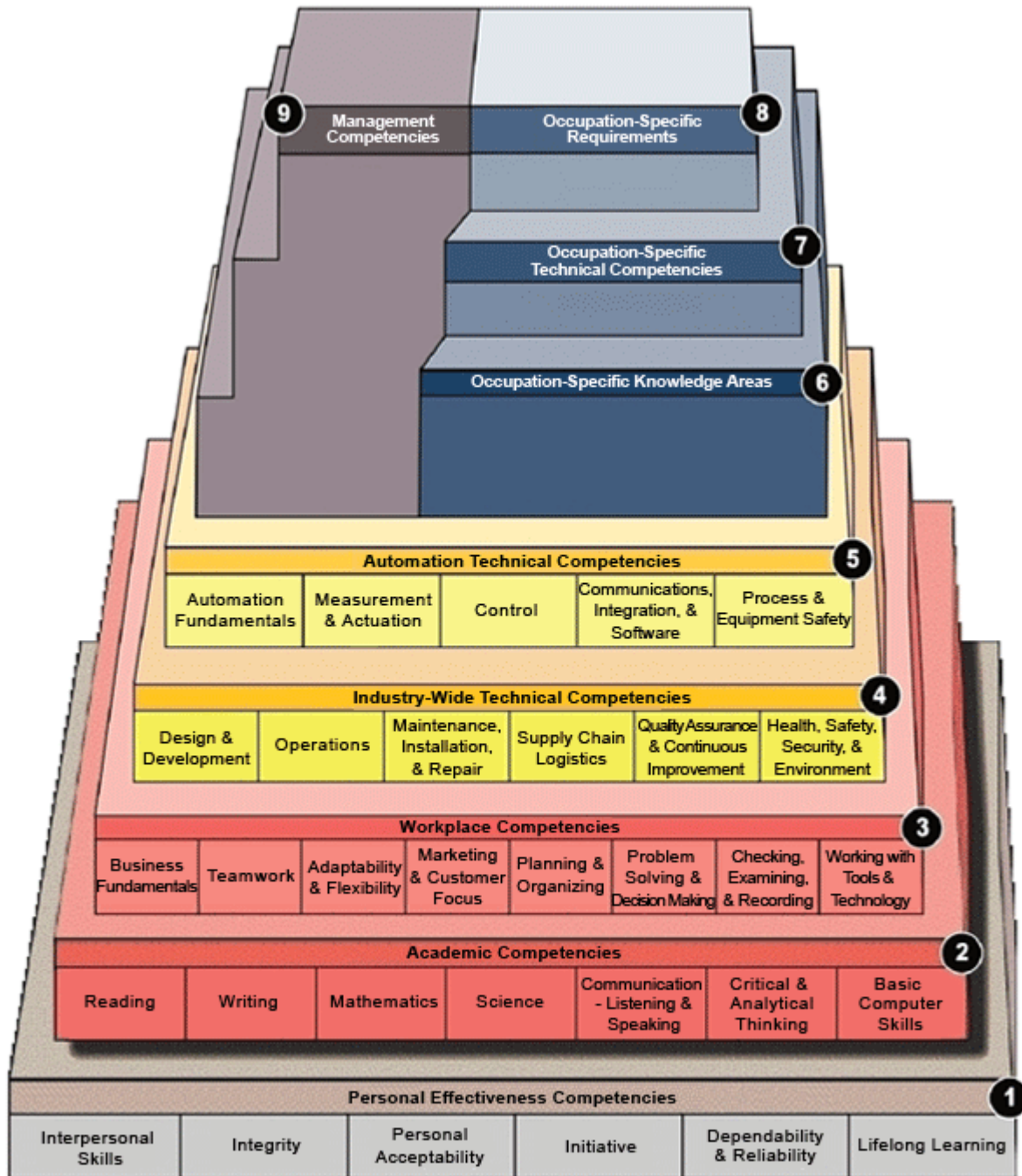
AF is also actively working to establish an accredited Bachelor of Science undergraduate degree program. AF intends for the Automation Competency Model to serve as the building block that universities and technical colleges can use to give students the multi-disciplinary educational and practical background necessary to be able to begin performing automation engineering work, in any industry, as soon as they are hired.

**Next Steps:** The Automation Federation is working to build strategic partnerships with academic, industry, government, and private groups that will expand the use of the Automation Competency Model globally. AF also is actively pursuing funding resources for the development of pilot programs, academic education forums, and career-day events that focus attention on the importance of using and referencing the Automation Competency Model.

To learn more about the Automation Competency Model, visit [www.automationfederation.org/Model](http://www.automationfederation.org/Model). For more information about AF, building a partnership with AF, or supporting or funding the dissemination of the Automation Competency Model, contact:

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# The Automation Competency Model



**Figure 1: The Automation Competency Model**

([www.automationfederation.org/Model](http://www.automationfederation.org/Model))