COMPETENCY MODELS – COMMUNICATING INDUSTRY'S EDUCATION AND TRAINING NEEDS

COMPETENCY MODEL DEVELOPMENT AND USE – A TECHNICAL ASSISTANCE GUIDE

October 2019

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Foreword

This guide is a resource for the stakeholders and partners of the public workforce development system supported by the U.S. Department of Labor, Employment and Training Administration (ETA). The 2014 passage of the Workforce Innovation and Opportunity Act (WIOA) calls on the workforce development system to ensure that:

- The needs of both businesses and workers drive workforce solutions
- One-Stop Career Centers (or American Job Centers) focus on providing excellent customer service to these two sets of customers and focus on continuous improvements
- The workforce system supports strong regional economies and plays an active role in community and workforce development.

Competency models are a resource for both the business and jobseeker customer. They provide a framework for business and industry to clearly articulate their workforce needs. Competency models also provide a basis on which curriculum developers and training providers can ensure courses and programs include the relevant content. The models provide a map for jobseekers of the skills required for successful careers in an industry. They help to articulate the essential competencies required for occupational licenses and certifications, the credentials that ensure that a worker has the necessary skills to be successful at work.

In addition, the models are regularly updated by industry experts, ensuring that the workforce development system has the most current information on the needs of business and industry to guide the systems' continuous improvement. The competency models support strong regional economies by providing a framework that can be adapted to regional sector strategies.

ETA serves as a broker of information in the area of competency models and skill development by supporting development of, promoting the use of, and disseminating competency information. This guide is an integral part of that effort.

This guide was originally developed by Personnel Decisions Research Institutes, Inc. (PDRI) in 2005, was updated in 2012 by JBS International, Inc., Aguirre Division, and updated again in 2015 by Coffey Consulting, LLC and JBS International, Inc.

Chapter 1. Learn About Competency Models

The U. S. economy is influenced by global competition, rapidly changing technology, and a move to sustainable and environmentally sound practices. The workforce must constantly learn and adapt to new skill requirements for American businesses to remain competitive. Workers must demonstrate that they have the right skills to enter and compete in today's labor market. ETA responds to these challenges through several strategies that support the agency's goals to:

- Prepare workers for good jobs.
- Increase workers' incomes and narrow wage and income inequality.
- Ensure skills and knowledge that prepare workers to succeed in a knowledge-based economy, including in high-growth and emerging industry sectors such as "green" jobs.
- Help workers who are in low-wage jobs or out of the labor market find a path into middle class jobs.
- Help middle class families remain in the middle class.

To meet these goals, it is essential that the skills necessary for workplace success be clearly articulated by business and industry and fully understood by educators, those who provide career guidance, and the workforce system. The Industry Competency Model project is a strategy whereby ETA works with business and industry leaders to create comprehensive and readily accessible industry competency models that document the skills and competencies required in a variety of high-growth and economically vital industries.

An industry competency model serves as a resource for opening a dialogue with employers, providing them an opportunity to articulate their workforce skill needs. The models can also be used as blueprints for developing curricula, performance standards, and the assessment instruments that measure the acquisition of knowledge and skills. Competency model graphics show the foundation, workplace and technical competency areas required in an industry.   They serve as a framework for linking stackable credentials that workers can obtain to verify that they have attained the various competencies in the model. Competency models form the foundation for career ladders or lattices. By showing the commonality and inter-connectedness of basic personal, academic, and workplace skills, it becomes possible to demonstrate how the attainment of those competencies supports upward mobility and progression along a career pathway.

What is a competency?

A *competency* is the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform "critical work functions" or tasks in a defined work setting. Not to be confused with **competence**, a competency describes a behavior, but does not attempt to describe a level of performance.

Competencies often serve as the basis for skill standards that specify the *level* of knowledge, skills, and abilities required for success in the workplace, as well as potential measurement criteria for assessing competency attainment.

What is a competency model?

A *competency model* is a collection of competencies that together define successful performance in a particular work setting. Competency models are the foundation for important human resource functions—e.g., recruitment and hiring, training and development, and performance management---because they specify what is essential to select for or to train and develop. Competency models can be developed for specific jobs, job groups, organizations, occupations, or industries.

Industry competency models depict the common knowledge, skills, and abilities in an industry or industry sector. The resulting model forms the foundation on which career paths can be developed. The articulation of broad industry-wide knowledge and skill needs supports the development of a workforce that can perform successfully in a variety of cross-functional teams and make the transition from one job to another.

Elements of a Competency Model

Competency models can take a variety of forms. Typically, they include the following elements:

Competency names and detailed definitions

For example, a competency model could include a competency called "Teamwork" defined as follows: Working cooperatively with others to complete work assignments.

Descriptions of activities or behavior associated with each competency

For example, the following behaviors could be associated with the competency "Teamwork":

- Abiding by and supporting group decisions

- Facilitating team interaction and maintaining focus on group goals

- Handling differences in work styles effectively when working with co-workers

- Capitalizing on strengths of others on a team to get work done

- Anticipating potential conflicts and addressing them directly and effectively

- Motivating others to contribute opinions and suggestions

- Demonstrating a personal commitment to group goals.

A diagram of the model

Typically, the model (or a summary of the model) is presented as a visually appealing graphic. Presentation of the model in graphical form helps users to grasp quickly its key features.

Figure 1. Sample image of Competency Model
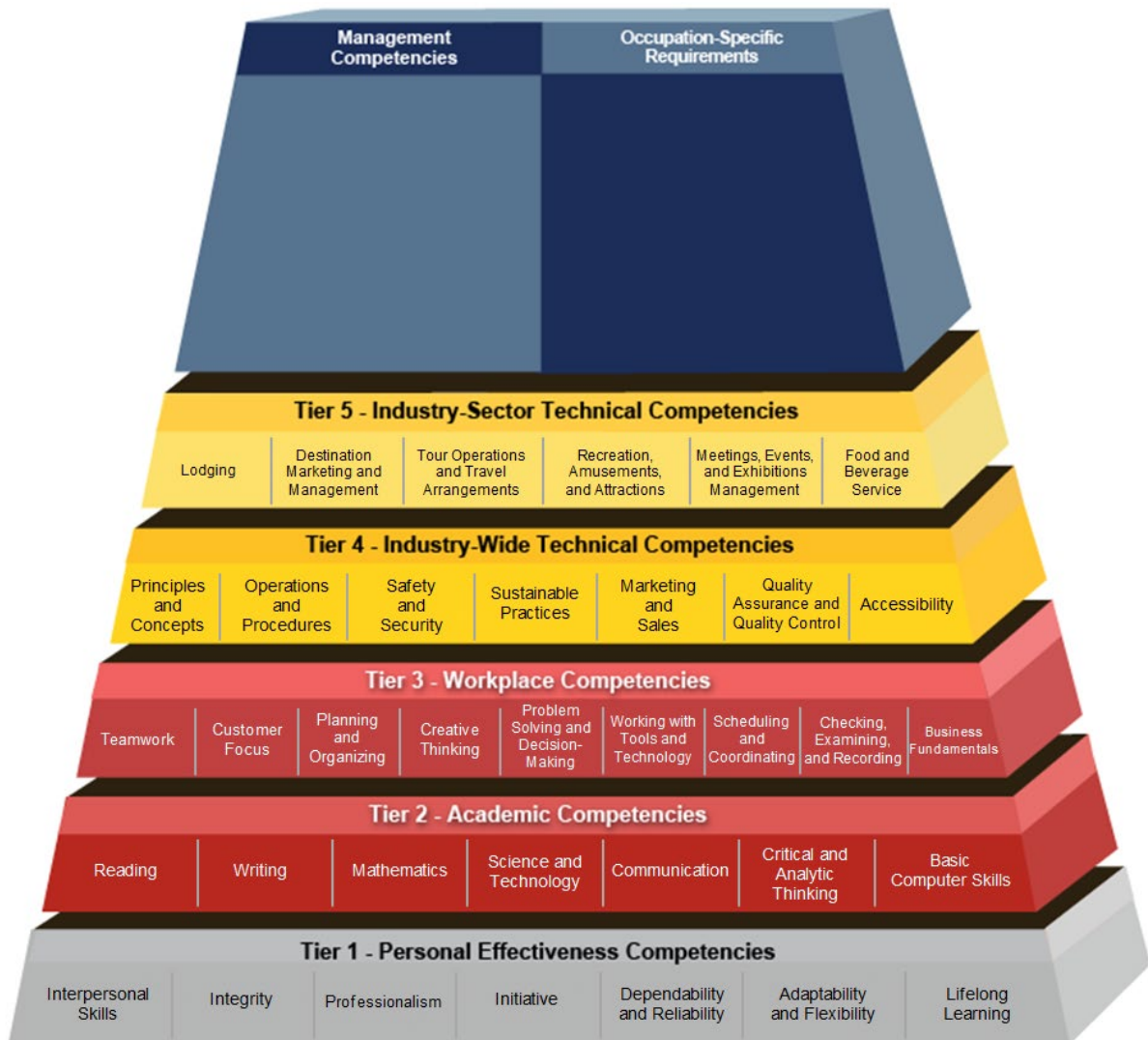
In addition, some competency models include information about the skills and abilities required for different levels of mastery, or information about the level of competence required at different occupational levels.

How can competency models be used?

Competency models are not an "end product," but are developed as a resource for multiple uses as summarized in the table below. The table describes eight potential uses of an industry model for workforce development activities.

Using Competency Models for Workforce Development

Use	Description
Communicate Industry Needs	To remain competitive businesses and industry need to communicate changing knowledge and skill demands to: • Potential workers • Career development professionals • Education and training providers • Workforce program planners • Curriculum development specialists
Career Exploration and Guidance	Career exploration is a process that includes assessing interests and abilities, gathering information on potential careers, and learning about the education and training required. Competency models provide the resources for individuals and career counselors to: • Set career goals. • Explore a career path. • Identify education and training required. • Map a plan of study.
Career Paths, Ladders & Lattices	A career pathway outlines a sequence of work experience, education and/or training activities needed to secure a job and advance over time to successively higher levels of employment. Competency models identify the foundation, academic, and industry technical competencies required to: • Identify the education and training required. • Progress up a career ladder. • Move along a career lattice.
Workforce Program Planning and Labor Pool Analysis	Workforce program planning requires an analysis of the skill needs of employers in the area, the skills of the available labor force, and the education and training programs in place to train the workforce in the required skills. Competency models provide a blueprint for identifying and comparing the: • Knowledge and skill needs of employers • Competencies of the available labor pool • Programs to train in the required competencies
Curriculum Evaluation, Planning, and Development	Competency models that identify the foundation and technical competency required for satisfactory on-the-job performance are a resource for program planners and curriculum developers. The models serve as curriculum maps, ensuring that programs equip students with the knowledge and skills needed to secure a job and advance along a career path. Competency models assist curriculum developers to: • Develop competency-based training objectives and outcomes.

	• Tailor courses to specific student populations or industry needs. • Evaluate and update existing program content. • Identify gaps between curriculum outcome objectives and employer expectations.
Human Resource Services to Business	Competency models support human resource functions such as: recruitment, hiring, and performance management. Models serve as a benchmark to match candidates' qualifications to employer requirements and are a resource for: • Creating position descriptions • Developing selection criteria • Making placement decisions • Defining performance expectations • Assessing performance
Certification, Licensure, and Assessment Development	Credential requirements for certification or licensure often include the set of standards used to measure proficiency in a particular career field or skill. A competency model is a resource for identifying the competency components of a certification or licensure requirement. Using a competency model helps to ensure that the credential includes the range and depth of knowledge and skills needed for success at work. Industry and occupation competency models can be used to: • Identify basic literacy, numeracy, and academic competencies required for success. • Articulate technical competencies. • Ensure that professional certification and licensure requirements include the wide range of knowledge and skills needed. • Inform the development of achievement tests that measure desirable work-related knowledge and skills.
Industry Models and Registered Apprenticeship	Registered Apprenticeship programs provide structured on-the-job learning combined with classroom training. An alternative to traditional classroom training, apprenticeship programs are customized to match employers' needs. Competency or performance-based Registered Apprenticeship programs should have the following characteristics: • Competencies should be identified and defined through a job/task analysis and directly related to the job/role. • Organized learning activities should be structured and wherever possible, self-paced with open entry and open exit. • Measures or tests of competency attainment should be observable, repeatable and agreed to in advance. • Work experience process schedules and related instruction outlines should include the approximate time/hours or

	minimum - maximum times/hours for each competency attained in order to document successful completion.

Read more about how competency models have been used as a resource to support workforce development efforts in the Models in Action found on the Competency Model Clearinghouse.

Communicate Industry Needs

Workforce development strategies must be based on the workforce needs of growing and economically vital industries to ensure that the education and training efforts support the knowledge and skill needs of the employers in a region. Competency models provide a voice for an industry to articulate skill needs and to keep the workforce system aware of changing demands.

Competency models help the workforce investment community identify and understand industry needs by:

- Providing a common language to facilitate discussion and collaboration among all workforce investment partners

- Giving industry a forum to continually document and communicate changes in skill needs and competency requirements

- Providing a resource for developing employer skill surveys

- Articulating short-term training needs within and across industries

Career Exploration and Guidance

Resources for career guidance promote career pathways by helping individuals explore career interests and identify educational and workforce options to prepare for entry and advancement in a career field. Individuals may seek guidance from a career counselor, Career One-Stop staff, an academic advisor, printed materials, or the Internet. To help individuals identify available career paths and training opportunities, credible career guidance must be based on knowledge of industry growth, anticipated job opportunities and the core competencies required in the industry and occupational path selected.

Competency models might be used in guidance activities to:
- Define work-readiness, academic, and workplace competency requirements.

- Interpret career assessment results so individuals can view their strengths and weaknesses in the context of careers and industries that offer the greatest potential for employment and advancement.

- Identify and discuss individual skill gaps.

- Suggest relevant postsecondary education and training opportunities.

- Help students plan course selection in accordance with industry requirements.

- Match the skills of graduating students to appropriate industry networks.

Career Paths, Ladders, and Lattices

Career paths identify the educational and experiential work-related activities that prepare a worker for entry into and advancement within a designated career area. Career guidance counseling, professional development opportunities, certifications, and assessments are all resources used to forge career pathways. Career ladders and lattices are devices that help people visualize and learn about the job options that are available as they progress through a career.

Competency models play an important supporting role in the development of career pathways, by showing the personal, academic, workplace, and industry technical competencies that form the foundation for a career ladder or lattice. By defining the knowledge, skills, and abilities needed to succeed, an industry model can be used to:

- Prepare for an entry-level job within an industry or career field.

- Attain the foundation competencies needed to advance within a career or change careers.

- Identify the credentials – i.e., academic certificates, degrees, certifications, and licenses-- needed to advance within a career.

Workforce Program Planning and Labor Pool Analysis

Workforce development strategies are based on a thorough understanding of a region's labor dynamics. Regional workforce analysis provides insights for program planning by including information on the regional skill needs of predominant industries; potential skill needs of industries targeted for economic development efforts; and assessments of the skills possessed by the existing and incoming labor force.

Competency models are a resource for regional workforce analysis efforts by:
- Providing the big-picture of industry skill needs

- Serving as a resource for assessing workforce competencies

- Highlighting emerging and declining skill needs within industries and occupations

- Facilitating the identification of transferable skills of occupations within an industry

- Providing a blueprint for identifying commonalities of skill needs across industries

Curriculum Planning, Development, and Evaluation

Competency models serve as a bridge for information sharing between employers and the education system. By providing a common language for discussions of regional skill needs, competency models foster industry-education collaboration in developing curricula, planning and assessing career and technical education programs, and developing apprenticeship

programs.   Models are a resource for the planning, design, and delivery of educational and training opportunities that meet employers' needs.

By providing a framework of the knowledge, skills, and abilities required for satisfactory performance in an industry or occupation, competency models present education and training providers with an industry-validated resource.

Competency models support curriculum development by:
- Identifying essential skill requirements within industries and occupations
- Providing a business-oriented framework for developing teaching and learning objectives
- Supplying content for enriching instructional materials
- Providing a resource for instructional designers to tailor courses to specific student populations or industry needs
- Reducing the development time of instructional materials, courses, and program curricula
- Establishing common terminology for use by business and education communities to facilitate collaboration on technical education projects
- Highlighting gaps in current training offerings

Human Resource Services to Business

Competency models also serve to guide human resource activities, such as matching qualified workers with available positions. They are a resource for employers, HR professionals, and Career One-Stop staff who provide human resource services to business.

Competency models are used in human resource solutions to:
- Develop strategies to prepare and attract new workers in an industry.
- Create competency-based position descriptions to facilitate recruitment, job matching, and performance appraisals.
- Establish talent development programs, such as apprenticeships or employee enrichment programs.
- Assess succession plans in preparation for reorganizations or pending retirements.

Certification, Licensure, and Assessment Development

Credentials such as personnel certifications and licenses are intended to ensure that a worker possesses certain knowledge or skills required for performance in an occupation. Frequently,

an assessment is required prior to the award of those credentials. Competency-based assessments are used to document mastery of personal, academic or technical competencies.

Competency models inform the development of certification, licensure or assessments by:

- Identifying the basic literacy, numeracy, and academic competencies required for success in an industry or occupation

- Specifying the foundational and workplace competencies expected in specific industries and job fields

- Identifying the essential competency components to be included in professional certification and licensure requirements

- Informing the development of achievement tests (assessments) that measure desirable work-related knowledge and skills such as computer programming, or statistical process control

Registered Apprenticeship

Registered Apprenticeship is a proven strategy that combines on-the-job learning with classroom instruction. Developing an apprenticeship program, which is robust yet flexible enough for today's fast-paced work environments, requires time and research. Fortunately, today's businesses can jump-start this process by using competency models to identify the crucial knowledge, skills, and abilities to include in Apprenticeship Work Process Schedules.

Competency models are used to develop Apprenticeship Work Process Schedules by:

- Identifying the competencies (not simply the tasks or time requirements) that an apprentice must master

- Providing an outline or guide for peer and on-the-job mentoring

- Illustrating different career pathways which can add depth and flexibility to an apprenticeship program

- Detailing essential academic competencies to be covered in classroom instruction.

Partners in workforce development activities may decide to build or customize a competency model to support the various activities described above. Several resources have been developed to support this process. See User Guides to learn how to develop, customize and use competency models to support workforce development efforts.

Chapter 2. "Building Blocks" for Competency Models

There is a wealth of information available for the development and use of competency models. To simplify the process, competency modeling experts reviewed the literature as well as past competency models developed for a wide range of corporations and government agencies. They identified the competencies most commonly referenced as contributing to success in the workplace and incorporated the findings in a single reference source that can be used to guide efforts to construct competency models.

This reference consists of a set of "building blocks" for competency model development, which is referred to as the Building Blocks Model. Each building block is a competency area defined by key behaviors. The building blocks are grouped by type and are arranged in tiers.

Figure 2. Building Blocks Model
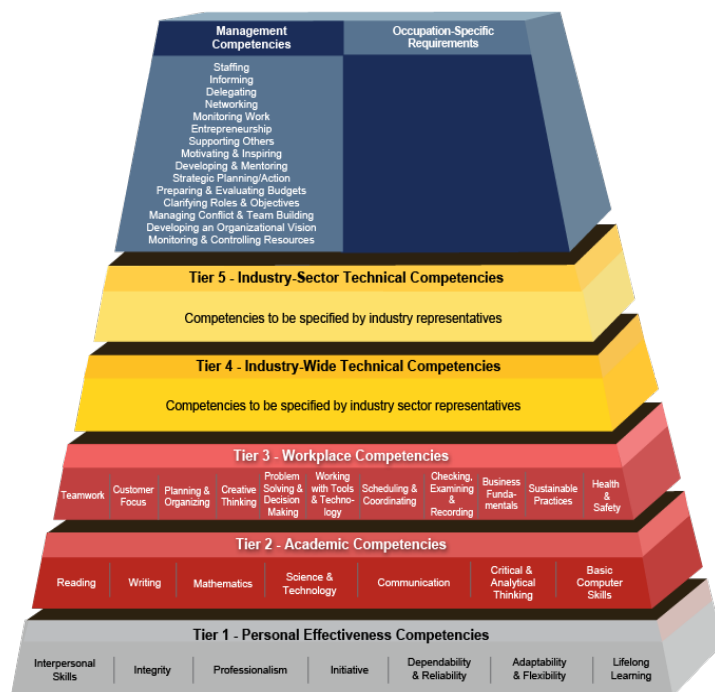
The upper tiers represent the specialization that occurs within specific *occupations* within an industry. Information on occupational competencies can be found in O*NET OnLine https://www.onetonline.org/.

Tier 5 is to be filled in with the competencies specific to a sector within an industry.

Tier 4 is to be filled in with industry-wide competencies.

Tier 3 – Workplace Competencies represent motives and traits, as well as interpersonal and self-management styles.

Tier 2 – Academic Competencies include cognitive functions and thinking styles.

Tier 1 – Personal Effectiveness Competencies are often referred to as "soft skills".

The pyramid-shaped graphic depicts how competencies become more specific as you travel up the tiers of the pyramid. The tiers of the model are divided into blocks representing the skills, knowledge, and abilities essential for successful performance in the industry or occupation represented by the model. Each competency is described by key behaviors or by examples of the critical work functions or technical content common to an industry. It is helpful to note that a competency describes a behavior but does not attempt to describe a level of performance, or competence. Not every worker in an industry needs the same level of performance in a competency area.

Figure 3. Competency Model Tiers
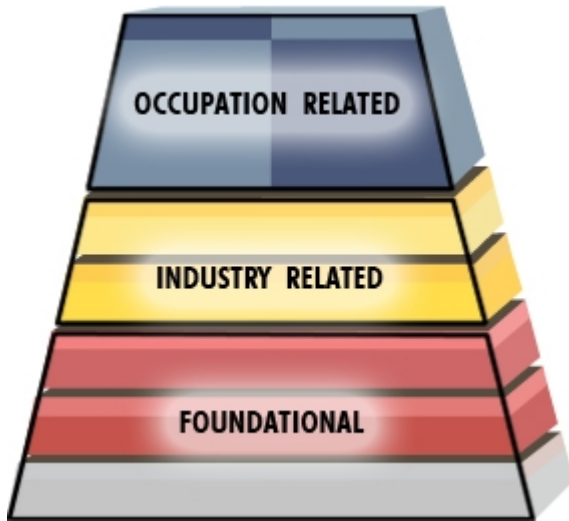
The upper tier would be used to describe the knowledge, skills and abilities specific to an occupation within an industry.

Tiers 4 and 5 show the cross-cutting industry-wide technical competencies needed to create career lattices within an industry wherein a worker can move easily across industry sub-sectors. Rather than narrowly following a single occupational career ladder, this model supports the development of an agile workforce.

Tiers 1 through 3 form the foundation competencies generally needed for entry and success for most jobs in the workplace. These competencies represent 'soft-skills' that most employers demand.

At the base of the model, the competencies apply to a large number of occupations and industries. See *Figure 4.* on page 14 for an illustration of the Building Blocks Competency Model.

A listing of competency definitions and associated key behaviors follows the graphic. The detail is a resource for building or customizing a competency model.

Figure 4. Building Blocks Competency Model

Management Competencies	Occupation-Specific Requirements
Staffing Informing Delegating Networking Monitoring Work Entrepreneurship Supporting Others Motivating & Inspiring Developing & Mentoring Strategic Planning/Action Preparing & Evaluating Budgets Clarifying Roles & Objectives Managing Conflict & Team Building Developing an Organizational Vision Monitoring & Controlling Resources	

Tier 5 - Industry-Sector Technical Competencies

Competencies to be specified by industry representatives

Tier 4 - Industry-Wide Technical Competencies

Competencies to be specified by industry sector representatives

Tier 3 - Workplace Competencies

Teamwork	Customer Focus	Planning & Organizing	Creative Thinking	Problem Solving & Decision Making	Working with Tools & Technology	Scheduling & Coordinating	Checking, Examining & Recording	Business Fundamentals	Sustainable Practices	Health & Safety

Tier 2 - Academic Competencies

Reading	Writing	Mathematics	Science & Technology	Communication	Critical & Analytical Thinking	Basic Computer Skills

Tier 1 - Personal Effectiveness Competencies

Interpersonal Skills	Integrity	Professionalism	Initiative	Dependability & Reliability	Adaptability & Flexibility	Lifelong Learning

See https://www.careeronestop.org/CompetencyModel/competency-models/building-blocks-model.aspx for an interactive version of the Building Blocks Model.

Tier 1: Personal Effectiveness Competencies

Personal Effectiveness Competencies are at the base of the pyramid, and influence all of the other competencies. Competencies included in this domain represent motives and traits, as well as, interpersonal and self-management styles. Often referred to as 'soft skills' competence in these areas is generally required for success in the workforce.

Personal Effectiveness Competencies include:

Interpersonal Skills

Integrity

Professionalism

Initiative

Dependability & Reliability

Adaptability & Flexibility

Lifelong Learning

Tier 2: Academic Competencies

Academic Competencies are shown on Tier 2 of the model. This domain contains critical basic skills primarily learned in an academic setting, as well as cognitive functions and thinking styles. These competencies are likely to apply to all organizations represented by a single industry or industry association nationwide. They serve as the foundation for occupation-level and industry-level technical competencies. Academic competencies include:

Reading

Writing

Mathematics

Science & Technology

Communication

Critical & Analytic Thinking

Basic Computer Skills

Tier 3: Workplace Competencies

The next competency domain included in the model is Workplace Competencies. Competencies included in this domain represent those skills and abilities that allow individuals to function in a work setting. As with the Academic Competencies, these are generally applicable to a large number of occupations and industries on a national level. The competencies in this domain include:

Teamwork

Customer Focus

Planning & Organizing

Creative Thinking

Problem Solving & Decision Making

Working with Tools & Technology

Scheduling & Coordinating

Checking, Examining & Recording

Business Fundamentals

Sustainable Practices

Health & Safety

Tier 4: Industry-Wide Technical Competencies

Industry-Wide Technical Competencies represent the next domain in the hierarchy of "building blocks." Competencies included in this domain represent the cross-cutting knowledge, skills, and abilities needed by workers within an industry. These competencies remain undefined in the Building Block Model. Through the Industry Competency Model project, ETA works with business and industry leaders, educators, and workforce professionals to specify, define and validate the competencies for each industry. For example, representatives of the Advanced Manufacturing industry used the building blocks as the starting point for the development and update of an Advanced Manufacturing competency model. (A graphic of this model is shown in *Figure 5* on page 18.)

The industry-wide competencies identified by these industry representatives include:

Manufacturing Process Design & Development

Production

Maintenance, Installation & Repair

Supply Chain Logistics

Quality Assurance/Continuous Improvement

Sustainable and Green Manufacturing

Health, Safety, Security, & Environment

Figure 5. Advanced Manufacturing Industry Competency Model

See https://www.careeronestop.org/competencymodel/competency-models/advanced-manufacturing.aspx
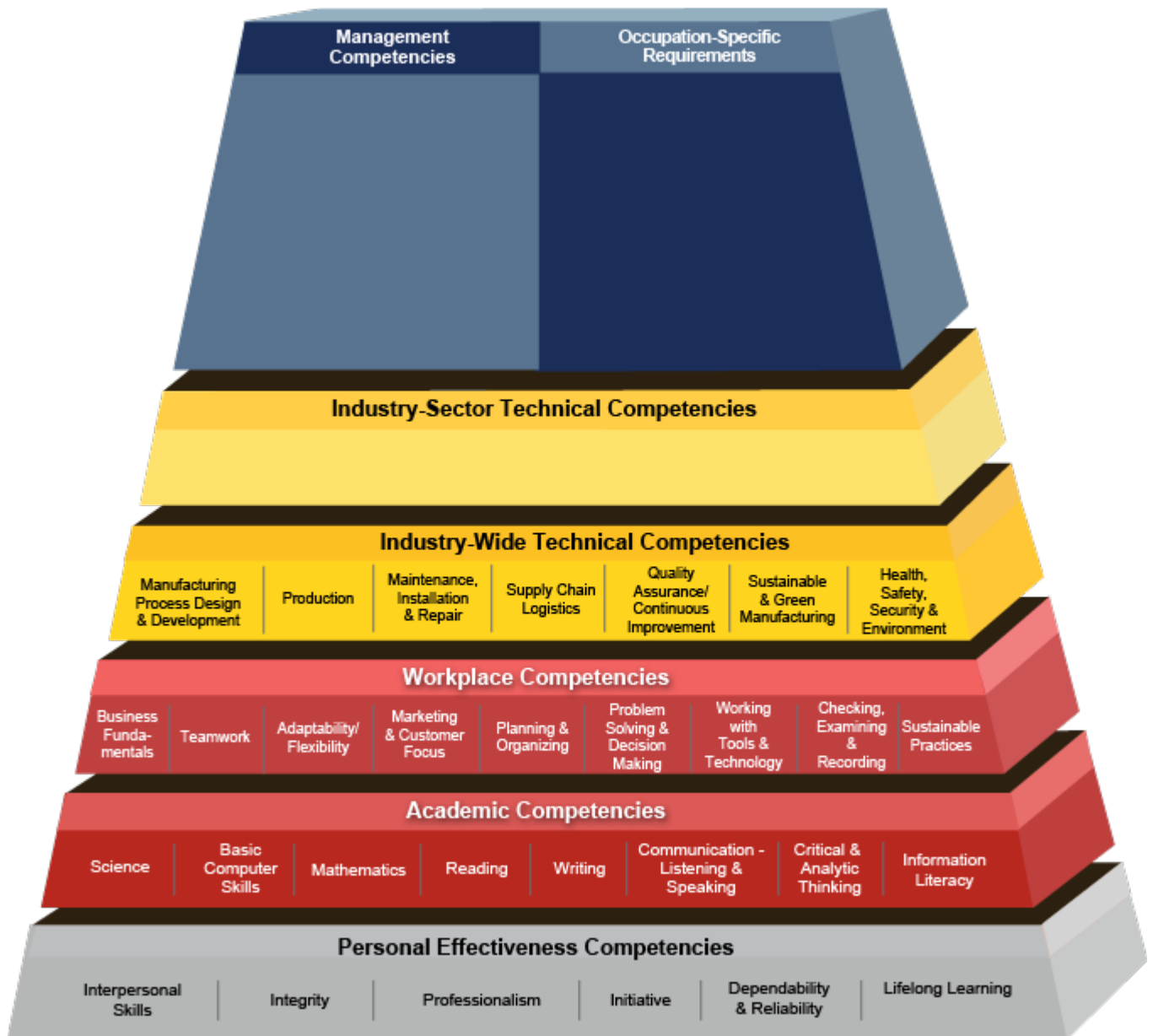
Tier 5: Industry-Sector Technical Competencies

At the next level in the model are the Industry-Sector Technical Competencies. Competencies included in this domain represent the knowledge, skills, abilities and other characteristics that are specific to an industry segment-- e.g., the Chemical Manufacturing sector of the Advanced Manufacturing industry, or a technical specialty--e.g., Automation or Mechatronics. Figure 3 below shows how the Automation Model was built as an industry-sector model on the Advanced Manufacturing Model.

Figure 6. Automation Competency Model

See https://www.careeronestop.org/competencymodel/competency-models/automation.aspx
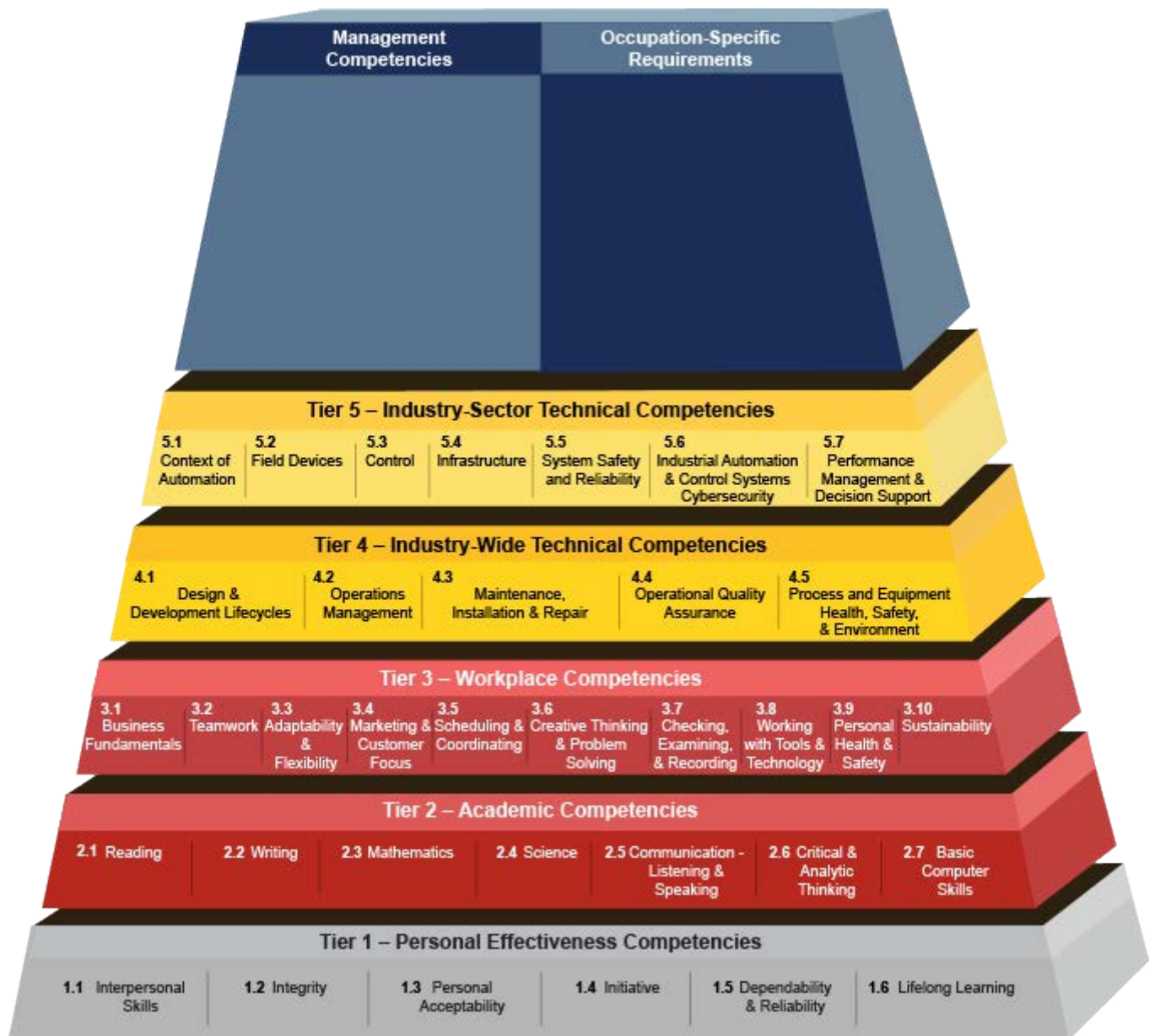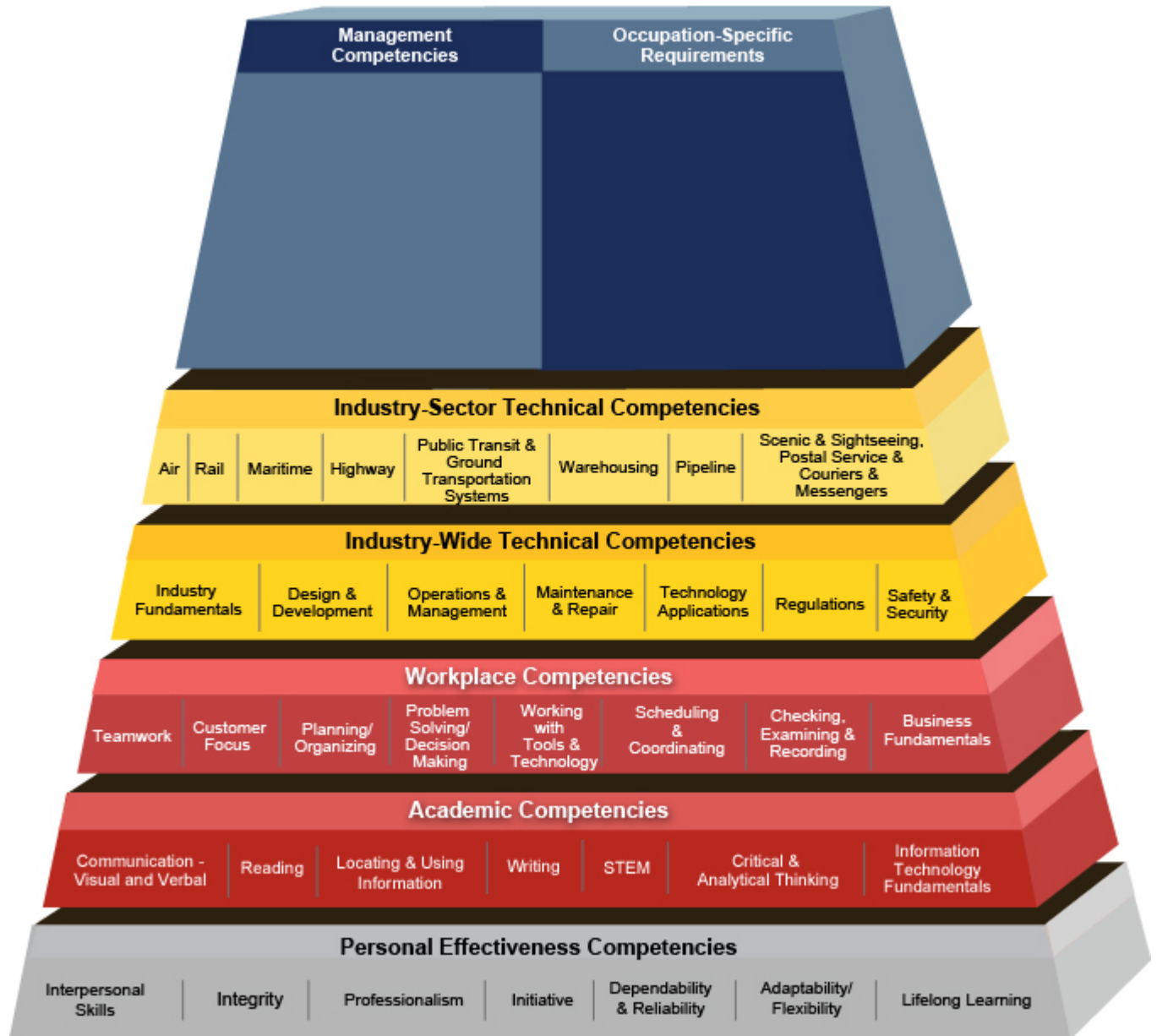
In some models, Tier 5 represents the sectors of the industry. Figure 4 below shows how Tier 5 of the Transportation, Distribution and Logistics model displays the sectors within the TDL industry.

Figure 4. Transportation, Distribution and Logistics Model

See https://www.careeronestop.org/CompetencyModel/competency-models/transportation.aspx

Upper Tier: Occupation-Specific and Management Requirements

Occupation-Specific Competencies

Recall that the competencies become more targeted or specific as you move up the tiers of the model. The upper tier is used to describe the knowledge and technical competencies, and any other occupation-specific requirements such as certification, licensure, specialized educational degrees, or physical requirements. Occupational competencies are not specified in the Building Blocks model and need to be defined by the partners and shareholders who are developing the occupation model.

There are several resources available to support the development of occupation-specific competencies.

The Department of Labor's Occupational Information Network (O*NET) program is the nation's primary source of occupational information. Every occupation requires a different mix of knowledge, skills, and abilities, and is performed using a variety of activities and tasks. These distinguishing characteristics of an occupation are described by the **O*NET Content Model**, which defines the key features of an occupation as a standardized, measurable set of variables called "descriptors". The O*NET database, containing information on hundreds of standardized and occupation-specific descriptors, is available for use at the O*NET OnLine Website.

The Competency Model Clearinghouse Resource Database can be used to identify or develop Occupation-Specific Technical Competencies. The database contains resources that list, describe, or are based on competencies, such as apprenticeship work process schedules, assessment instruments, curricula, and skill standards. These resources have been assembled to provide background information for developing and customizing competency models, career lattices, stackable credentials, and other workforce development products. Search the Resource Database at https://www.careeronestop.org/competencymodel/findresources/search.aspx.

Occupational Licenses are knowledge and skill credentials that are legally required for some occupations. Licensing requirements often vary by state. To identify requirements for specific occupations and states, search Career InfoNet's Licensed Occupations available at https://www.careeronestop.org/explorecareers/find-licenses.aspx?frd=true.

Certifications indicate that an individual has acquired the necessary knowledge, skills and sometimes personal attributes to perform a specific occupation/skill. To identify certifications by occupation, industry or keyword, search Career InfoNet's Certification Finder.

Management Competencies

The upper tier of the Building Blocks model also includes competencies frequently required for supervisory and managerial occupations. They represent the additional knowledge and skill areas that a supervisor or manager should possess in addition to those required in the industry or occupation. Examples of management competencies are included in the Building Blocks model.

Monitoring & Controlling Resources

- *Identifying resources* – Continually seeks to identify resources (e.g. staffing, training and monetary resources), both internal and external, that can be useful to unit and assist in work accomplishment; proactively works to secure additional resources for work unit.

- *Informing* – Develops strategic plans for making a wide array of resources available; ensures that knowledge of those resources is spread throughout organization.

- *Monitoring* – Develops strategic plans to anticipate future resource needs, and accurately identifies, tracks and prioritizes existing resource needs; monitors resource availability and makes contingency plans to ensure the availability of adequate resources in the event of unforeseen circumstances.

- *Creating efficiencies* – Consistently seeks to perform work unit tasks in a cost-efficient manner; identifies ways to produce the same level and quality of work while utilizing fewer resources; creates an organizational climate in which cost effectiveness is valued and rewarded.

Preparing & Evaluating Budgets

- *Gathering information* – Studies all relevant budget material and anticipates future needs by gathering data on forthcoming plans; ensures that budget proposals incorporate all elements; translates organizational objectives, priorities, and analysis of current resources into accurate budget proposals.

- *Preparing* – Prepares highly accurate and precise estimates of costs; obtains the most recent cost estimates from vendors or catalogs.

- *Ensuring accuracy* – Recognizes and corrects misstatements or errors of omission in budget proposals; effectively consolidates budget requests and proposals of multiple units.

- *Ensuring completeness* – Prepares budget justifications and proposals that reflect the needs of the office; submits proposals that are thorough and accurate, and that receive management acceptance with little or no questioning.

Staffing

- *Planning* – Effectively engages in staff planning and helps to ensure that work unit is appropriately staffed to accomplish its goals; anticipates obstacles to staff planning, such as shifting economic and political climates, and makes appropriate contingency plans for these possibilities.

- *Identifying required skills* – Accurately and comprehensively identifies candidate skills needed to perform in vacant positions.

- *Assessing qualifications* – Assesses candidate qualifications thoroughly and accurately, recognizing and hiring /promoting those who possess the skills needed to fulfill vacant positions.

Managing Conflict & Team Building

- *Gathering information* – Identifies sources of conflicts and provides parties with an opportunity to express their point of view; remains impartial in gathering and verifying information relevant to the conflict.

- *Encouraging resolution* – Makes healthy use of conflict and disagreement to promote learning and expand team perspectives; encourages parties to work together towards problem resolution; works with parties to identify a range of acceptable solutions; when appropriate, proposes effective compromises that satisfy some of each parties' needs; ensures mutual commitment to a solution.

- *Discouraging unproductive behavior* – Expresses concern for improving relations among team members; explains how dispute is affecting others; discourages non-productive behavior such as threats, insults, stereotyping or exaggerations.

- *Building cooperative teams* – Encourages and builds mutual trust, respect and cooperation among team members; seizes opportunities and utilizes creative methods to build team cooperation and cohesion.

Clarifying Roles & Objectives

- *Explaining job duties* – Clearly explains job duties, responsibilities and priorities; informs employees of the work for which they will be responsible for and helps them establish priorities; checks to ensure that employees understand duties and responsibilities.

- *Instructing* – Provides instruction on how to accomplish an assignment; explains correct and incorrect ways to accomplish tasks; provides timely and effective feedback about whether task is being performed correctly.

- *Setting performance goals* – Helps employees set performance goals; in consultation with employees, sets goals that are clear, specific and attainable; informs employees of deadlines for goal attainment.

- *Linking tasks to organizational objectives* – Explains relationship between individual work tasks and overall organizational objectives; continually rethinks job duties and responsibilities as organizational objectives shift and communicates new roles and responsibilities to employees as appropriate.

Monitoring Work

- *Identifying performance criteria* – Identifies work-related performance criteria that need to be measured for individual and team performance and determines a means of measuring these criteria.

- *Measuring progress* – Measures progress against timelines set for performance of tasks; asks questions of subordinates and team members to check for problems in work processes; encourages subordinates and team members to report problems and mistakes by creating a non-threatening environment for discussion of problems.

- *Reviewing work* – Conducts frequent progress review meetings with subordinates and team members to discuss progress and any barriers to progress; conducts after-reviews upon task completion to identify lessons learned and generate ideas for more effective task completion in the future.

- *Soliciting feedback* – Solicits feedback from multiple sources during and following task completion to ensure employee tasks are performed correctly, and to learn how employee and team performance can be improved; conscientiously monitors downstream consequences of work to ensure tasks are completed correctly and have intended consequences.

Informing

- *Gathering and disseminating* – Continually gathers data from diverse sources to determine what information employees need to perform their work; disseminates information to employees in a timely, efficient manner.

- *Keeping employees informed* – Keeps employees well-informed through a variety of means, including productive and informative group and individual meetings and targeted written communications; highlights important information in communications and avoids flooding employees with irrelevant information.

- *Updating information* – Monitors internal and external environments to determine if additional information is required for employees to perform tasks; informs employees when changes occur that affect them and distributes updated information when necessary; provides information to peers and subordinates in a timely way that maintains cooperative relationships among people.

Delegating

- *Delegating efficiently* – Efficiently delegates tasks so that organizational goals are met within established timelines; delegates tasks that are not central to the leader's role and which allow the leader to use his/her time more effectively.

- *Delegating appropriately* – Makes delegation decisions that take into account the size of the task, whether an employee has the necessary background and skills to complete the task, and the sensitivity and importance of the task; delegates tasks that are challenging but not overwhelming; delegates tasks that develop and extend employee skills.

- *Monitoring* – Monitors accomplishment of delegated tasks, and provides constructive, timely feedback; provides support and assistance for goal accomplishment and makes mistakes a learning experience.

Supporting Others

- *Demonstrating positive regard* – Shows acceptance and positive regard for employees; maintains a pleasant, cheerful disposition; provides support and sympathy when others are anxious or upset.

- *Counseling* – Counsels and encourages employees who have motivational or performance problems; indicates a desire to help subordinates learn from mistakes and overcome performance problems.

- *Advocating* – Publicly affirms the importance and value of individual and group tasks in order to minimize the effect of budget cuts or other constraints on resources; skillfully advocates on behalf of employees, teams and their work; works hard to increase the prominence of employee's or team's work within organization.

- *Helping* – Pitches in to help support subordinates when workload is high; minimizes disruptions and helps employees overcome bureaucratic work obstacles; works with leaders in other organizational units to keep work flowing smoothly.

Developing & Mentoring

- *Encouraging self-assessment* – Helps employees identify skill deficiencies; develops mechanisms that elicit feedback from multiple perspectives and encourages employees to solicit feedback from others about strengths and weaknesses; mentors employees by giving specific, constructive feedback on how performance can be improved.

- *Enhancing skills on the job* – Provides opportunities for skill development on the job; plans for and seeks out developmental opportunities and stretch assignments that simultaneously develop employees and help the organization reach its goals; when appropriate, gives employees opportunities to mentor more junior employees.

- *Promoting training* – Encourages employees to attend relevant training and workshops to broaden skills; explains why training is relevant to employee's career and works with employees to identify training goals.

- *Supporting learning* – Provides support and encouragement during learning process; expresses confidence that employees will be able to learn a new procedure or skill.

- *Preparing for the future* – Anticipates future changes in work tasks due to changing economic and/or political climates and provides employees with developmental opportunities that prepare them for these changes.

- *Identifying career issues* – Provides career advice; helps employees identify career problems including lack of advancement, interpersonal conflicts and burnout; helps employees identify career paths and promotion opportunities in the organization.

Motivating & Inspiring

- *Generating enthusiasm* – Generates enthusiasm for task objectives and team accomplishment through standard and creative influence techniques; focuses team effort and enthusiasm on goal attainment; secures behavioral commitment of team members for goal attainment.

- *Recognizing* – Recognizes contributions and achievements of all types, among people in high and low visibility jobs alike; actively searches for contributions to recognize; recognizes improvements in performance as well as commendable efforts that failed.

- *Rewarding* – Rewards employees for high performance; takes the time to determine what is rewarding for individual employees, and fairly and objectively dispenses rewards based on performance indicators that reflect a person's effort and competence.

- *Setting an example* – Sets an example for others by acting in ways that are consistent with organizational goals and objectives; confronts behavior that undermines the reputation of the organization.

Developing an Organizational Vision

- *Developing a vision* – Develops a strategic vision for the future of the organization or unit.

- *Generating excitement* – Identifies fundamental values and beliefs to guide the organization into the future; generates excitement, enthusiasm and commitment for the vision.

- *Gaining commitment* – Skillfully gains commitment to make organizational vision a reality; creates a belief that vision can be achieved.

- *Inspiring others* – Embodies organizational vision and demonstrates conviction in vision in order to inspire others.

Strategic Planning/Action

- *Establishing objectives* – Establishes long-range objectives and specifies the strategies and actions necessary to achieve those objectives; identifies the most probable short and long-term consequences of implementing various strategies; strategically analyzes the risks, benefits and opportunities of various strategies.

- *Implementing strategies* – Confidently implements chosen strategies, despite difficulty and resistance from others; collaborates across organizational units to ensure buy-in and follow-through on strategies; skillfully obtains commitment from affected parties to transform strategic vision into reality.

- *Capitalizing on alliances* – Recognizes alliances, either internal or external to the organization, that are complementary and benefit the competitive position of multiple parties; strategically shifts orientation to capitalize on these alliances.

- *Recognizing and dealing with obstacles* – Comprehensively considers a wide range of problems that could affect the entire work unit; strategically identifies ways to address or capitalize on these problems.

- *Identifying emerging trends* – Identifies emerging trends and forms strategic plans to address them.

Networking

- *Building relationships* – Seeks opportunities to make contacts and build relationships, including through organizational events, social events, external organizations, and professional activities.

- *Partnering* – Establishes strong and lasting partnerships with business contacts; proactively seeks ways of increasing business opportunities with contacts; skillfully influences and negotiates with partners to create opportunities that increase the competitive position of both parties.

- *Leveraging contacts* – Leverages contacts to obtain information relevant to the health and continued growth of the organization, including enhanced perspectives and feedback on organizational performance.

Entrepreneurship

- *Thinking innovatively* – Constantly searches for new ways of improving existing processes and doing things more efficiently; strives to understand what is missing from current product stream, and searches for new ideas for product improvement everywhere; attempts to address product gaps and build the business by creating innovative and unique solutions.

- *Influencing decision makers* – Knows which organizational leaders to influence to win support for new ideas and skillfully persuades key decision makers to invest appropriate resources to

transform new ideas into reality; woos venture capitalists, and other extra-organizational constituents to seek financial support for new ideas.

- *Encouraging entrepreneurial activity* – Encourages innovation and entrepreneurial activity in team members; challenges teams to take calculated risks for innovation, and ensures teams have time to pursue their ideas for new and improved products or processes; holds regular team meetings to solicit bold new ideas.

- *Championing great ideas* – Advances and promotes the best ideas, even in the face of organizational resistance; shields the team from bureaucratic processes that interfere with an innovative climate; and works to change processes that interfere with growth and innovation.

- *Rewarding innovation* – Recognizes the contributions of those who have enabled positive change and gives appropriate rewards for extraordinary achievements.

Chapter 3. Developing Industry Competency Models

Competency models typically describe the knowledge, skills and abilities that are common across an industry, an occupational group, an organization, or a single occupation. There have been numerous publicly funded efforts over the past several years to develop products that identify the competencies or skills that businesses seek or industry demands. Although the projects involved the identification of competencies, the resulting products were frequently not referred to as *competency models*.

Those efforts produced end products such as skill standards, certifications, or curriculum for a specific occupation within an industry or across an industry sector. An analysis of the content of these skill standards, certifications, and curricula indicate a wide variance in approach and content. The focus tends to be either rather broad dealing primarily with academic and workplace competencies, or very narrow describing specific technical competencies. Few products include content across all tiers of the Building Blocks Model described in the previous section of this guide.

In an effort to maximize the return on previous investments, ETA works with industry leaders to develop industry-wide, cross-sector frameworks that can be used as a basis for developing the foundation and technical competency products needed to serve the dual customers of the workforce system: employers and jobseekers. Refer to Chapter 2 for information about how competency models are used as a resource.

The objective for creating industry competency models is to provide resources that can keep pace with changing technology and reflect the various requirements of specific regions or businesses. The industry competency model does not include performance indicators (standards) or measurement criteria (assessments) for competency content area. Standards and assessment instruments must be developed by industry partners to meet specific regional and business needs. The following process describes how ETA, in collaboration with industry leaders, used existing resources developed and validated by industry to develop the framework of competencies for the industry. Another useful resource in developing a competency model for posting on the Competency Model Clearinghouse is "A Guide for Developing Competency Models" which can be accessed here:
https://www.careeronestop.org/CompetencyModel/Info_Documents/Guide-for-Developing-CompetencyModels.pdf

A Process to Develop Competency Models:

Step 1. Conduct Research: Gather and analyze background information.

The development of an industry competency model is based on an analysis and synthesis of existing national and state resources, skills standards, technical curriculum, and certifications in the industry sector. This step is best accomplished using industry or subject matter experts who familiar with the terminology, processes, and skills required in the industry.

The process of gathering information involves:

- Defining the industry

- Identifying the key occupations in the industry

- Analyzing the required knowledge, skills, and abilities (KSAs) using the O*NET database to determine commonalities across the key occupations

- Identifying and cataloging existing resources

- Aligning the KSAs defined in the resources to the building blocks framework

Step 2. Develop draft competency model framework

The draft competency model framework includes competency names with definitions and descriptions. ETA undertakes this step with the knowledge that the original developers may have used slightly different terms to indicate a competency--e.g., using the term *communication* rather than *listening and speaking*. Competencies might also be shown on a different tier of the building blocks model than what was indicated in the original material--e.g. *critical thinking* might have been referred to as a workplace or organizational competency whereas it is shown with academic competencies in the Building Blocks Model. The critical issue is to ensure that the required competencies are included in an industry model. It is less important to display them on any particular tier.

Use the Building Blocks Model to ensure that the draft industry framework is comprehensive:
- Identify themes and patterns existent in the information.

- Relate the terms to the building block content areas.

- Develop a draft competency model for the industry.

Step 3. Gather feedback from industry representatives

Refine the draft model developed in Step 2 through input from subject matter experts and target users of the competency model. Focus groups' members representing high growth/high demand industry sectors were selected based on:

- Familiarity with the competency requirements of the industry

- Representation across geographic and industry sub-sectors

- Representation of diverse viewpoints.

The following activities were used to gather feedback from the focus group members either in person or through a series of telephone and electronic communications:

- Summarize the purpose and process of the competency model development project at the beginning of the session.

- Review draft competency model. The group members were provided an opportunity to familiarize themselves with the competency model.

- Discuss each competency in turn.

Gather input regarding:

- The competency names, definitions, and (as relevant) the specific behaviors used to describe each competency. Discuss how this material should be edited to ensure that it accurately captures the essence of the competency in language that will "ring true" to users.

- Whether any of the competencies in the draft model should be deleted because they are not relevant to, or important to, the target occupation(s), organization, or industry

- Whether any competencies should be added. If so, work with the group to derive definitions and behaviors describing those competencies.

Step 4. Refine the competency model framework

Using industry experts as in Step 1, refine the draft model:

- Analyze the information gathered through the focus group session.

- Edit the competency names, definitions and (as relevant) behaviors to reflect the input gathered

- Add or delete competencies from the model as appropriate.

Step 5. Validate the competency model framework

To ensure acceptance by the target community of users, the behaviors associated with the competencies identified in the framework should be those that are important for successful job performance. The competency model framework should be distributed widely to industry associations and their membership. It is ETA's expectation that business and industry will then assume responsibility for ensuring that the model becomes a useful and usable tool that is updated regularly to meet their changing workforce needs.

Step 6. Finalize the model framework

Industry models are available on the Competency Model Clearinghouse Web site. The framework for an industry model is displayed as a graphic representation of the content building blocks customized to the industry. See *Figure 3*. on page 18 for an example of the Advanced Manufacturing Competency Model graphic.

Chapter 4: Industry Competency Model Maintenance

Competency models become valuable resources if they are kept up to date. It is important to conduct an informal review of an industry model every year. Consider the impact of new technology, work processes, or the requirements of new or revised regulations. Determine if there is a need to reconvene the subject matter and technical experts to update and re-validate the model. It is helpful to develop a mechanism or process that allows users of the model to provide feedback and suggestions for needed updates. The feedback provides insight about how the model is used and serves as a resource of information when deciding whether a model needs to be updated. It is recommended that a formal update of an industry model be done at least every three years.

Consider the following questions:

- What feedback has the current version received?

- What works well in the current version of the model?

- What needs improvement in the current version of the model?

A Process to Update Competency Models:

1. Identify stakeholders and subject matter experts
2. Create a timeline and a plan of action
3. Conduct research
   a. Identify resources that provide insights about new skill and knowledge requirements
   b. Identify laws, regulations, policy, or credential requirement changes that impact the model
   c. Gather and review resources
4. Analyze the information
   a. Identify recurring themes--e.g., sustainability, continuous improvement
   b. Compare themes to the existing model
   c. Add or delete competencies as indicated from the research
   d. Draft wording changes to model detail
5. Validate the updated model in collaboration with stakeholders and subject matter experts

Chapter 5: Competency Development Resources

Twenty-six industry models have been completed as of October 2019:

>Advanced Commercial Buildings Energy Management
>Advanced Manufacturing
>Aerospace
>Automation
>Bioscience
>Commercial and Industrial Construction
>Cybersecurity
>Energy Generation, Transmission and Distribution
>Engineering
>Enterprise Security
>Entrepreneurship
>Financial Services
>Food and Beverage Service
>Fundamentals of Health Care
>Geospatial Technology
>Health Information Management
>Heavy Highway Civil Construction
>Hospitality, Tourism and Events
>Information Technology
>Long-term Care, Supports, and Services
>Mechatronics
>Renewable Energy
>Residential Construction
>Retail
>Transportation, Distribution, and Logistics
>Water and Wastewater

These models found on the [Competency Model Clearinghouse](#) (CMC) serve as resources for the creation of customized competency models tailored to a local region or specific sector in an industry. ETA will also post new models currently under development and any revisions to or updates of existing models on the CMC. Check the site often or sign up for an RSS feed or e-mail notice to be informed when new models are added.

The CMC also provides an interactive tool - Build a Competency Model – to assist with the customization of a model. The Build a Competency Model tool enables users to customize one or more of the national industry competency models to reflect specific workforce needs in a region. For example, a user can start with the framework for Advanced Manufacturing and customize it to reflect the competencies for pharmaceutical manufacturing or create a model by blending existing models.
To access the Build a Model tool as well as other resources that will help you learn about and use competencies to support workforce and talent development, visit the [Competency Model Clearinghouse](#). Instructions and online animated tutorials are available in the lower left-hand corner of the Build a Model page. To start using the tool, click on "Build a Model."

The CMC also offers developers and users of competency models a variety of resources, tools, and links including:

- A searchable database of over two thousand competency-based resources
- Competency Models in Action summaries showing how the industry models have been used for workforce development activities
- Case in Point briefs about promising practices concerning the use competency models.