Test and Evaluation Workforce Report

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Office of Systems Engineering and Architecture

Office of the Under Secretary of Defense for Research and Engineering

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1 Introduction

The U.S. Department of Defense (DoD) is dedicated to continuously acquiring, developing, and retaining skilled government civilian and military professionals to address both current and future requirements in a fast-changing technological landscape. This document provides a comprehensive report of initiatives to ensure the health and technical capability of the current and future Test and Evaluation (T&E) workforce.

T&E is one of seven functional areas (FAs) that make up the defense acquisition workforce (Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) Memorandum, 2020). The acquisition workforce consists of professional, agile, and high-performing military and civilian professionals who meet uniform eligibility criteria, make smart business decisions, act in an ethical manner, and deliver timely and affordable capabilities to the warfighter. The T&E workforce is responsible for, or is an integral part of, the conceptualization, initiation, design, development, contracting, testing, and evaluation of defense systems across all commodity areas. This requires workforce members to develop and optimize test designs, execute testing, and perform evaluations of system performance, interoperability, reliability, maintainability, and cybersecurity posture. T&E also includes responsibilities to address the maturity of test planning, resolve T&E infrastructure shortfalls, and offer unbiased information to support design improvements and inform production and fielding decisions.

1.1 Acquisition Workforce Governance

As outlined in DoD Instruction (DoDI) 5000.66[1], "Defense Acquisition Workforce Education, Training, Experience, and Career Development Program," the DoD established a management oversight structure for the strategic planning, governance, and execution of the DoD acquisition workforce program. This oversight structure includes the Workforce Leadership Team (WLT), the Workforce Management Group (WMG), and Functional Area Leaders (FALs).

The WLT provides oversight and direction for the DoD acquisition workforce program, integrating enterprise requirements and aligning supporting initiatives with strategic workforce goals and resources. The WMG is an action officer level group supporting the WLT. FALs serve as the subject matter lead of their respective FA. FAL responsibilities include, but are not limited to, establishing and maintaining position category descriptions (PCDs), competency models, certification standards, key leadership position (KLP) functional specific requirements, and continuous learning (CL) recommendations for their FA. The FALs fulfill these responsibilities with the aid of a functional integration team (FIT), which the FALs are tasked with chartering and chairing. Other FAL responsibilities are outlined in DoDI 5000.66.

[1] DoDI 5000.66 implements Chapter 87 of Title 10, United States Code.

The Executive Director for Systems Engineering and Architecture (SE&A)[2] in the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) serves as the FAL and designates the FIT Chair for the T&E FA. The T&E FIT is composed of functional and workforce management representatives from the Military Services and Defense Agencies (from this point forward referred to as Components) and partners from the Defense Acquisition University (DAU). The FIT supports the FAL in carrying out requirements (Table 1-1) by providing workforce perspectives and data-driven recommendations to guide decisions affecting the workforce. The FIT reviews the requirements annually and updates them as needed. The FAL approves any changes.

Table 1-1. FAL Requirements

Requirement	Description	Purpose
PCD	Reflects the primary duties associated with the FA	Used by Components for assigning defense acquisition positions to a FA
Competency Model	Reflects the knowledge and skills required to be a successful member of the FA	Used by DAU to develop FA training curriculum
Certification Standards	Education, training, and experience requirements for any defense acquisition workforce personnel pursuing certification in the FA	Used by FA members to meet their position certification requirements
KLP Functional Specific Requirements	Additional requirements beyond the certification standards to successfully perform in a KLP	Used by Components for selecting and assigning KLPs
CL Recommendations	Recommended CL activities to remain current within the FA	Used by FA members to select CL activities best suited to their position and individual development

1.2 Workforce Focus Areas

SE&A collaborates across the Department to identify workforce challenges and champion cross-cutting workforce initiatives (for the acquisition workforce, as well as the broader technical workforce overall) concentrated on building technical capability and capacity to support current and future leadership priorities through actions (Plan, Identify, Execute, and Enable) across four focus areas (Figure 1-1):

- Forecast Future Talent Needs
- Strengthen Talent Pipeline

[2] References to SE&A may include the predecessor office referred to as Engineering.

- Advance Our Workforce Skills
- Close Capability Gaps

This report outlines how the T&E FIT Chair, in collaboration with the T&E FIT, will support the focus areas and carry out actions specifically for the T&E FA. These actions support the continued development of the T&E workforce as the needs of the DoD and the warfighter adapt to present and future challenges. The bullets associated with each action list all workforce development activities that SE&A may conduct; the activities applicable to the T&E workforce are covered in sections 2 through 5.

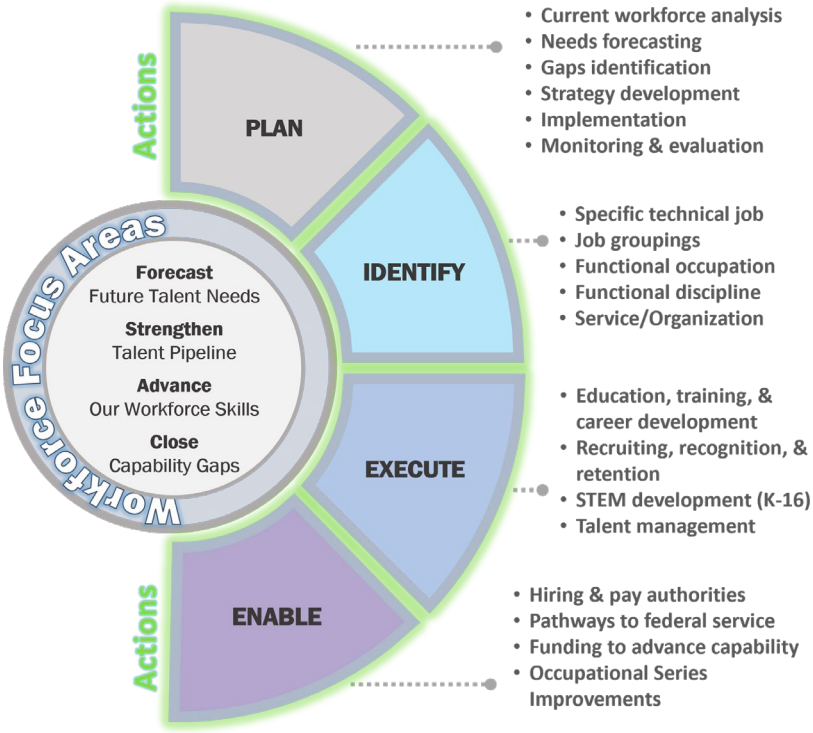

Figure 1-1. Workforce Focus Areas and Actions

1.3 Strategic Alignment

This report aligns with DoD strategies, policies, and guidance. The T&E FAL is dedicated to maintaining a competent, technical, mission-oriented workforce that can quickly and effectively adapt to dynamic mission needs, enabling the Department to make well-informed decisions in acquiring and sustaining DoD systems. To remain relevant and effective, the T&E workforce must possess a diverse set of knowledge and skills to succeed in a rapidly changing technological environment. The T&E workforce must be trained in emerging and critical technologies, strategic and critical thinking, and other technical disciplines, relying on training that is current, effective, and yields positive results. As such, this report discusses how the T&E FAL intends to fill technical

competency gaps to ensure the workforce is equipped with the necessary expertise for the DoD to maintain its technological superiority and advantage over adversaries.

This report will evolve as needs change. Future updates to this report and the referenced DoD strategies, policies, and guidance will provide additional direction and prioritization for the T&E workforce.

2 Plan: Workforce Analysis

Workforce analysis is a crucial step in understanding the current state of the workforce, identifying strengths and potential skill gaps, forecasting future needs, and making informed decisions about recruitment, retention, and skill development to align talent management efforts with strategic goals and future needs. The T&E FAL's staff accesses T&E workforce data from the OUSD(A&S) Defense Acquisition Workforce Data Mart, Defense Civilian Personnel Data System (DCPDS), and Defense Manpower Data Center to analyze trends in workforce size, distribution among Components and civilian and military occupations, key demographics, retirement eligibility, and gains and losses. In addition, T&E FAL staff analyzes annual workforce engagement data and trends of the DoD through analysis and reporting of the Office of Personnel Management (OPM) Federal Employee Viewpoint Survey (FEVS). This data supports talent development efforts, recruitment and retention initiatives, and executive outreach activities.

Education level and fields of study analysis for engineers led to the creation of the Advanced Technical Degree Guidebook (2020) discussed in section 4.2.2. Further analysis of key demographics and FEVS results reinforced the need for continued involvement in DoD Science, Technology, Engineering, and Mathematics (STEM) Development Office initiatives. SE&A developed a DoD Engineering Recruitment Brochure, "DoD Engineers Make a Difference," which has been distributed at multiple STEM-focused outreach events. The brochure illustrates examples of innovations DoD engineers have contributed and opportunities available to students aspiring to a defense engineering career.

In addition to analyzing workforce-specific data, the T&E FAL staff works closely with DAU to evaluate certification course metrics and survey responses to include the number of student completions, student ratings of courses, course relevancy to job, and likelihood of recommending courses to colleagues. Through analysis of these key metrics, the T&E FIT is able to make recommendations to the FAL on workforce competencies (section 3.2), certification standards (section 3.3), and supplemental training opportunities (section 4).

3 Identify: Current Test and Evaluation Workforce

The T&E workforce is the third smallest defense acquisition FA, containing nearly 10,000 personnel. Approximately 80 percent of these personnel are civilians, and the Air Force consistently maintains the largest portion. The most common occupational series and military occupational codes are defined and outlined in the PCD.

3.1 Typical Occupational Series and Codes

Typical T&E civilian occupational series, in order from largest to smallest portions of the FA, are:

- Engineering and Architecture (08xx).
- Mathematics and Statistics (15xx).
- General Administrative, Clerical, and Office Services (03xx).
- Information Technology Management (22xx).
- Physical Sciences (13xx).
- Business and Industry (11xx).

Typical T&E military occupational codes, specific to each Service, are:

- Army: Not Applicable
- Navy: ATx
- Air Force[3]: 11xx, 12xx, 13xx, 15xx, 17Dx, 18xx, 2xxxx, 5xxxx, 62Ex, 63Ax
- Marine Corps: 8057, 8058, 8059, 8060, 8061

3.2 Competencies

The T&E competencies (Figure 3-2.) reflect the knowledge and skills required to be successful as a member of the FA. The T&E FAL follows the five-tier DoD competency management framework outlined in DoDI 1400.25, volume 250, "DoD Civilian Personnel Management System: Civilian Strategic Human Capital Planning (SHCP)," and adapted for the acquisition environment in Figure 3-1.

[3] Space Force is included within Air Force because DCPDS does not currently have a separate organizational code for Space Force.

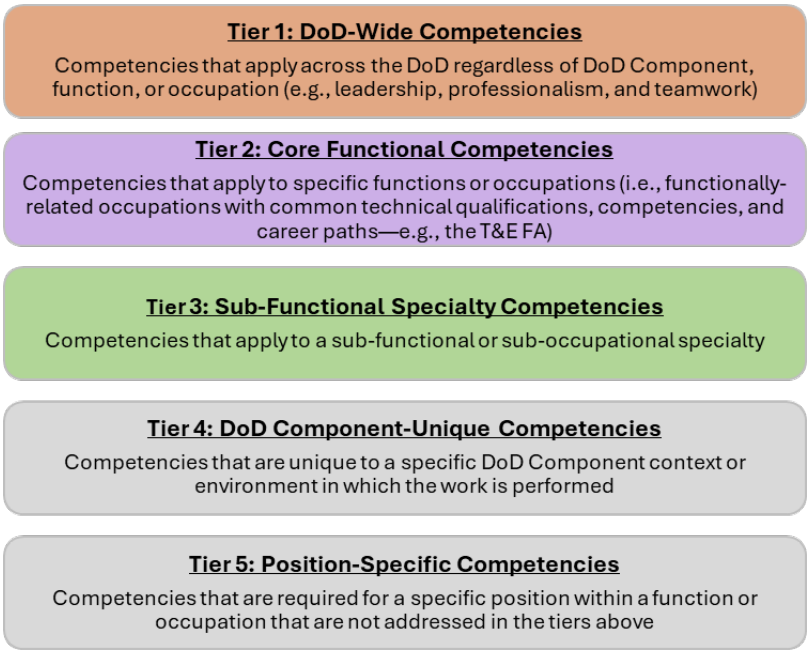

Figure 3-1. Five-Tiered Competency Framework

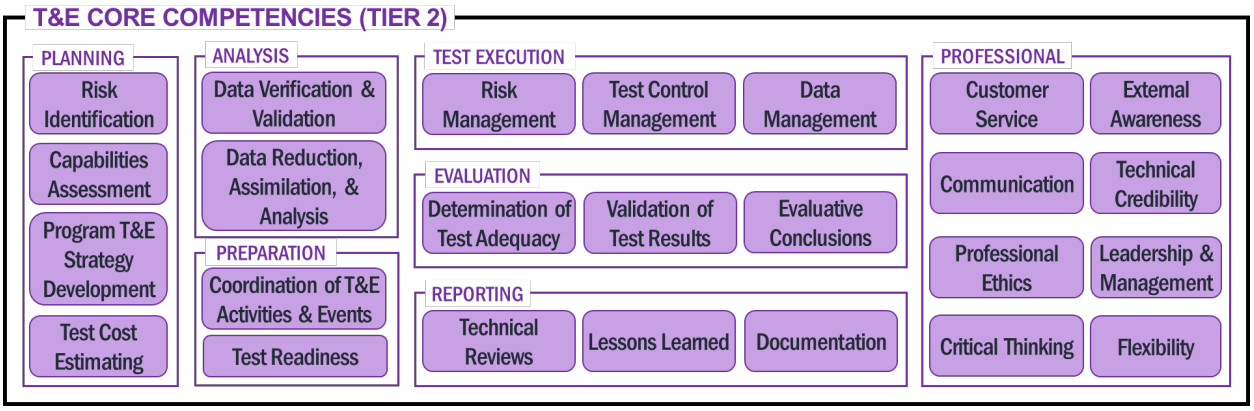

Figure 3-2. T&E Competencies as of June 2025

Tier 1 (i.e., leadership/soft skills) competencies (not pictured) apply across the DoD acquisition workforce and are the responsibility of the WLT. Tier 2 competencies apply across discrete occupational series and functions (i.e., acquisition FAs) and drive the T&E certification training required by every T&E workforce member, as well as self-directed credential training. Tier 3 competencies are unique to sub-occupational and sub-functional specialties. The T&E FA is not divided into sub-specialties; therefore, a Tier 3 competency model was not developed. Tier 2 and 3 competencies are the responsibility of the FAL. Tier 4 competencies are Component-specific and unique to the context or environment in which the work is performed. Tier 5 competencies are those that are required for a particular position that are not addressed in any other tier. Tier 4 and 5 competencies are the responsibility of the individual Components.

3.3 Certification Training and Standards

The T&E training is based on targeted proficiency levels for T&E competencies. Figure 3-3 depicts the five-level proficiency scale outlined in DoDI 1400.25, volume 250, used by the DoD.

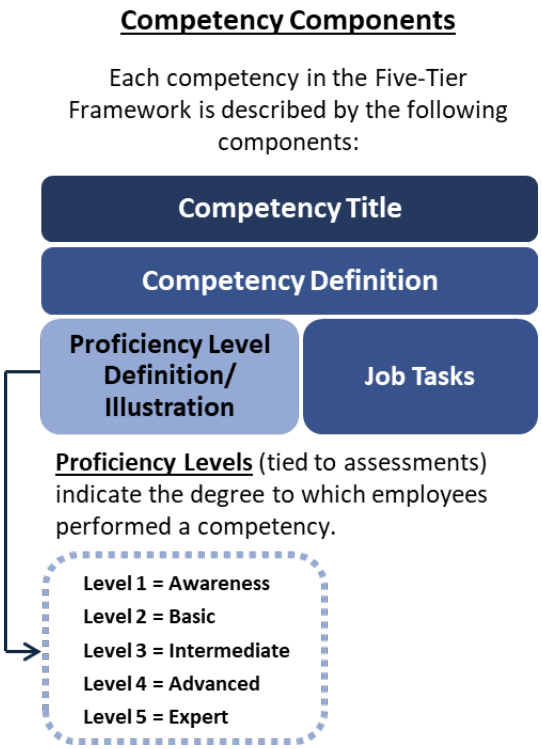

Figure 3-3. Competency Proficiency Levels

This method empowers the entire workforce by enhancing their awareness and basic skills, allowing them to comprehend the complexities and interconnections of their specific tasks within the broader FA. Such comprehension is vital in supporting the mission. DAU's responsibility lies in determining the optimal approach for developing the targeted proficiency of competencies through various learning assets (e.g., online training courses, instructor-led training, virtual instructor-led training, etc.).

The T&E workforce progresses through dedicated training based on targeted proficiency levels for T&E competencies. This training results in a workforce that has the Foundational and Practitioner skill levels needed for T&E positions. Supplemental training for specific competencies at a higher level of targeted proficiency is available in the form of job-centric credentials (see section 4.1).

All T&E acquisition workforce members are required to meet the Foundational or Practitioner certification standards shown in Figure 3-4 within 3 or 5 years, respectively, from the date of their position assignment.

Courses are listed in the recommended order of completion. Completion of all T&E foundational-level courses is recommended prior to beginning the practitioner-level courses. In addition, there is no baccalaureate degree requirement for T&E personnel; however, individual occupational series may still have positive degree requirements.

The T&E certification courses teach to tier 2 competencies, which are addressed at different proficiency levels depending on the certification tier (i.e., Foundational or Practitioner). The full course titles, descriptions, course delivery mode, and course length are listed in Appendix A: T&E Certification Training Courses for both certification tiers. The T&E Foundational curriculum, plus three courses in the T&E Practitioner curriculum (i.e., ACQ 2020, CLE 030, and TST 2100), is delivered asynchronously online. The remaining T&E Practitioner curriculum (i.e., ACQ 2030 and TST 2040) is taught both in-person and in a virtual instructor-led environment with real-time instructor facilitation.

To ensure certification currency, acquisition workforce members are required to complete 80 hours of CL every 2 years. The T&E CL Memo recommends CL opportunities that are accessible from DAU to assist the T&E workforce in identifying meaningful developmental activities (DAU, "Functional Area Certification Standards Test and Evaluation (Foundational)"). Since a large percentage of the workforce is currently certified, focusing on defense acquisition credentials and supplemental education and training avenues is key to ensure technical superiority.

Test and Evaluation (T&E) Functional Area Certification Framework						
Certification Tier	**Foundational** (within 3 years of position assignment)			**Practitioner** (within 5 years of position assignment)		
Description	• Has a basic understanding of the T&E concepts and is developing skills on a routine set of tasks through interactions with other workforce members and on-the-job experiences. At a minimum, has demonstrated the ability to support and assist in T&E activities while interacting with multiple organizations.			• Has an in-depth understanding of the concepts and basic set of skills to perform T&E activities. Has gained knowledge and experience within the T&E community by performing routine tasks with limited supervision. At a minimum, has demonstrated the ability to manage and direct T&E activities while interacting with multiple organizations.		
Education	• No degree requirement (Hiring agencies determine Occupational Series which may have requirements)					
Training [1]	**Type**	**Course Title**	**Length (hrs)**	**Type**	**Course Title**	**Length (hrs)**
	ACQ Core	• ACQ 1010, Fundamentals of Systems Acquisition Management	13 hrs	**ACQ Core**	• ACQ 2020, Intermediate Systems Acquisition, Part A	19 hrs
					• ACQ 2030/V, Intermediate Systems Acquisition, Part B (R)	32 hrs
	T&E Core	• TST 1100, Intro to Systems Engineering for Testers [2]	10 hrs	**T&E Core**	• CLE 030, Integrated Testing	2 hrs
					• TST 2040/V, Test and Evaluation for Practitioners (R)	72 hrs
		• TST 102, Fundamentals of Test and Evaluation	17 hrs		• TST 2100, Applied Systems Engineering for Testers [3]	8 hrs
	Estimated Total Hours: 40 hrs (including ACQ Core Training)			*Estimated Total Hours: 133 hrs (including ACQ Core Training)*		
Experience	• At least 1 year relevant T&E experience with evidence of demonstrated proficiency (Awareness/Basic) in T&E competencies			• At least 4 years relevant T&E experience with evidence of demonstrated proficiency (Intermediate) in T&E competencies		
Assessment	• No comprehensive exam – test embedded in coursework					
Validation	• Agency/Organization validates completion of above requirements and provides DoD T&E Certification					
Certification Currency	• 80 hours of Continuous Learning [4] (CL)/2 years – in accordance with DoDI 5000.66, current version					

Figure 3-4. T&E Certification Framework as of June 2025

4 Execute: Talent Development and Recognition

Defense acquisition credentials and other education and career enrichment opportunities allow the T&E workforce to curate a knowledge base that adapts with evolving technology topics of interest to the Department. In addition, the recognition of significant contributions and accomplishments made by T&E workforce members reinforces the value the workforce provides.

4.1 Defense Acquisition Credential Development and Status

The goal of certification training is to provide the basic acquisition and functional knowledge needed across all specialties within the T&E workforce. Certification training is intended to be supplemented by defense acquisition credentials. DAU, under the direction of the T&E FAL and in partnership with the T&E FIT, leads credential development to make available specialized training that meets the needs of the T&E workforce. Credentials provide a documented indicator of an individual's knowledge, skills, and abilities to perform an acquisition-related function and equip workforce members through a set of learning assets or other means of learning and assessments. Credentials consist of two or more learning assets at an intermediate or higher proficiency level along with a capstone project or assessment where students must demonstrate mastery of all prescribed skills.

The status of each credential in the development process is shown in Figure 4-1. At the time of writing, 10 credentials are in the Analysis/Planning phase when the overall design parameters for a credential are conceptualized, to include where learning asset source material will be derived.

There is one credential in the Design phase, during which a more detailed breakdown of the design for each individual learning asset within the credential starts to take shape. The five credentials in the Development phase include learning assets that are actively being developed and deployed so the workforce may start working toward the credential. A snapshot of currently available learning assets for credentials that have not yet deployed can be found in Figure 4-2 as well as the Resources section of the SE&A Workforce web page.

When all learning assets and the capstone for a credential have deployed, the credential itself officially deploys and enters the Deployment phase. Currently, one credential, *Applying Scientific Test & Analysis Techniques*, has deployed. After being available for a year, the credentials will then move to the Sustainment phase where they are revalidated on an annual basis for currency and relevance. For full descriptions of the deployed credentials, see Appendix B: Deployed T&E Credentials.

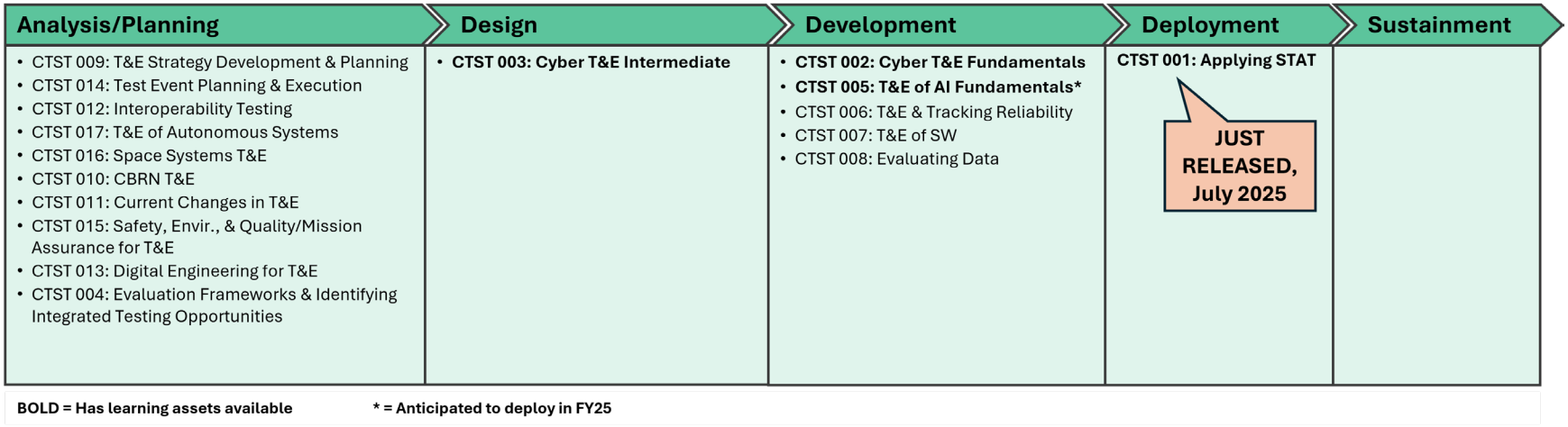

Figure 4-1. T&E Credential Development Status as of July 2025

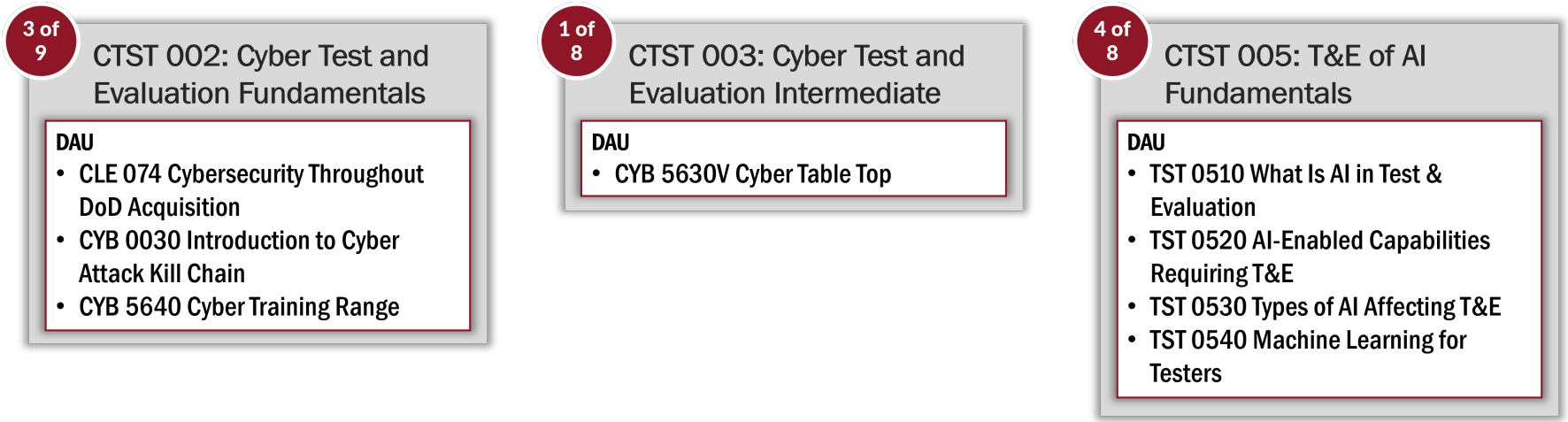

Figure 4-2. Available T&E Learning Assets as of July 2025

4.2 Education Opportunities

In addition to the credentialing opportunities, many other educational opportunities are available to current and future T&E workforce members. Following are examples.

4.2.1 Defense Acquisition University Training

DAU's goal is to develop a high-performing defense acquisition workforce through talent management, acquisition training, online resources, and organizational support to deliver effective warfighting capabilities. DAU training supports the development of knowledge, skills, and abilities to perform specific functions and tasks related to the acquisition workforce. DAU holds accreditations with the Council on Occupational Education (COE) and the International Accreditors for Continuing Education and Training (IACET). DAU provides a wealth of educational opportunities, including stand-alone training courses, webinars, workshops, the aforementioned defense acquisition credentials, and playlists. Playlists provide curated lists of resources (including stand-alone training courses, webinars, workshops, articles, books, videos, and other reference materials) organized by specific topics and can be found on the DAU website (Defense Acquisition University, Playlists). The DAU iCatalog provides additional information and access to these educational resources.

4.2.2 Academia

The T&E FAL supports the education and knowledge expansion of the workforce by promoting the following key opportunities, which build a talent pipeline and encourage the pursuit of higher education. This list is not exhaustive, as the DoD continues to develop and provide additional educational opportunities for the workforce (DoD Civilian Careers, Students, and Recent Graduates).

- Advanced Technical Degree Guidebook (2020)

  The Advanced Technical Degree Guidebook was created to assist civilian workforce members to understand the process of selecting, applying, paying for, and attaining an advanced degree within any technical profession (Advanced Technical Degree Guidebook).

- Scholarship for Service Programs

  Scholarships for Service are designed to provide students, at various degree levels, with financial support in exchange for service to the DoD as a civilian employee.

  - Science, Mathematics, and Research for Transformation (SMART) offers scholarships for students pursuing a STEM degree (Department of Defense, Scholarship-for-Service Program).

  - The DoD Cyber Service Academy (formerly the DoD Cyber Scholarship Program) promotes higher education in all disciplines of cybersecurity as a means to prepare the DoD workforce to deal with threats against the Department's critical information systems and networks. This program is also available to active military personnel (DoD Emerging Technologies).
  - CyberCorps Scholarships support education in degree areas relevant to cybersecurity (OPM.gov, CyberCorps).

- Defense Civilian Training Corps (DCTC)

  The DCTC provides a direct pathway to DoD acquisition positions upon graduation. The 2-year program operates similarly to Reserve Officer Training Corps programs, except participants enter civilian careers within the DoD, not active military service (Defense Civilian Training Corps).

- National Defense University is a higher education institute funded by the DoD, with a special focus on educating joint warfighters and other national security leaders in critical thinking and the creative application of military power (National Defense University).

- Pathways Programs

  The Pathways Programs provide two unique civil service entry opportunities: Internship and Recent Graduates (OPM.gov, Students and Recent Grads).

  - Internships are paid work opportunities available to current high school and college students as well as those who have completed qualified career or technical education programs. Some opportunities may convert to permanent positions but are not guaranteed.
  - The Recent Graduates Program is a 1- to 2-year developmental program that promotes Federal Government careers to recent graduates within 2 years of graduation, or up to 6 years for veterans, and can lead to permanent positions.

- National Defense Science and Engineering Graduate (NDSEG) Fellowship Program

  - The 3-year NDSEG Fellowship Program promotes doctoral degree pursuits in designated science and engineering research areas (Systems Plus).

4.2.3 Online Training Resources

Training opportunities are also available through partnerships and knowledge sharing agreements with the following educational providers.

- DAU Commercial Learning Opportunities

  DAU offers training and supplemental resources through several commercial partners at no additional cost to the workforce. All commercial offerings can be accessed through the DAU Virtual Campus (Defense Acquisition University, Virtual Campus).

  - LinkedIn Learning offers an array of online training options in a variety of formats (LinkedIn Learning).
  - Coursera provides access to a range of online learning from world-class universities and companies (Coursera).
  - Harvard Manage Mentor provides online training in business skills as well as an opportunity to engage with a global network of learners (Harvard Manage Mentor).
  - Skillsoft Percipio offers online training coving technology, artificial intelligence, leadership, and business skills as well as compliance and ethics through a variety of training modes (Skillsoft Percipio).

- Digital University, a joint U.S. Air Force and Space Force venture, provides anytime access to Silicon Valley accredited technology training and fosters a community of learners (Digital University).

4.2.4 Public-Private Talent Experience Program

The Public-Private Talent Experience (PPTE) program allows for the temporary assignment of a DoD employee to a private-sector organization or vice versa. This talent exchange program is a unique way for the Department to acquire new skills and expertise, learn new and best practices, and gain an influx of fresh and innovative ideas. It also encourages talent exchanges with personnel who are working on modernization priorities of the Department (DAU, "What We Do.").

4.2.5 Component-Specific Training

Each Component offers unique training specific to their mission needs and areas of expertise. This training may be a combination of organically developed or outsourced training and is delivered at several proficiency levels to ensure the development of the workforce is comprehensive.

These workforce development activities may also be shared within the DoD and other Components and adopted across the broader workforce.

4.2.6 On-the-Job Training and Development

On-the-job training and development enhance the overall knowledge and experience of the workforce and increase the capability to perform designated job functions.

- Mentorships are a formal or informal relationship between two people. The arrangement involves a mentor, who is typically outside of the employee's supervisory chain, sharing their knowledge, skills, and experience with the mentee, or protégé, to guide improved professional performance, technical competence, personal growth, and career decision making.

- Coaching catalyzes individuals and teams to release their potential and build expertise and confidence through new challenges and experiences. Coaches help employees achieve their goals by questioning to facilitate awareness and self-directed learning.

- Rotational assignments afford employees the opportunity to participate in internal or external career broadening activities over a period of 3 to 6 months. These assignments are designed to foster the development of cross-functional and leadership abilities.

- Workshops are interactive sessions, led by a subject matter expert, structured to develop a specific skill or solve a problem through hands-on activities and collaborative group discussion. They can range from a couple hours to multiple days.

- Apprenticeships provide paid employment in skilled trades and supervised training under actual job conditions. Understanding of the occupation is enhanced through supplemental coursework and instruction (DoD Civilian Careers, Apprenticeships).

4.3 Employee Recognition

While there are many avenues to recognize exceptional work and dedication to the mission, the OUSD(A&S) developed a series of annual individual and team awards specifically to recognize acquisition professionals and teams who make significant contributions across the Department to build enduring advantages and preserve the DoD's competitive edge (Human Capital Initiatives). The T&E FAL is responsible for recommending winners of:

- The Software Innovation Team Achievement award, which recognizes teams who are driving speed, innovation, and the use of best practices in software development and acquisition.

- The FA Individual Achievement Award for T&E, which recognizes the highest levels of excellence and professionalism applying test and evaluation methods to develop and optimize test designs, execute testing, and perform evaluations of system performance, interoperability, reliability, maintainability, and cybersecurity posture.

- The cross-functional Individual Achievement Awards for

    - Software Development, which recognizes the highest levels of demonstrated excellence and professionalism applying iterative software development

methodologies and tools to design, test, deliver, and use software-intensive systems.

- Value Engineering, which recognizes the use of value engineering principles or methodology that significantly demonstrates achievement of essential functions throughout the DoD at the lowest life-cycle cost, consistent with required levels of performance, reliability, quality, and safety.

In addition, each Component may offer awards to their acquisition professionals in the T&E FA.

5 Enable: Advancing the Workforce

The DoD is focused on attracting the right talent efficiently and effectively. Once the right people are in place, it is imperative to continue building and improving their skill sets. The T&E FAL accomplishes this through the initiatives contained in this report (e.g., credential development) and will continue to reassess how to grow the T&E workforce as the Department's needs evolve. In addition, Congress grants the DoD several authorities to acquire and retain qualified talent. These authorities include direct hiring, enhanced pay, special pay, and incentives.

5.1 Direct Hiring Authorities

Direct hiring authorities (DHAs) are available to expeditiously hire candidates into specific positions when a critical hiring need or severe shortage of candidates exists. DHAs allow Components to non-competitively appoint qualified candidates to competitive service positions in the Department. Some DHAs do not require public notice, a job posting, or consideration for veterans or veterans' preference.

The following are special DHAs for the acquisition workforce and members of the Acquisition Personnel Demonstration Project (AcqDemo[4]) (DAU, "Policy").

The DHAs for the acquisition workforce are:

- Direct Hire Authority for Certain Personnel of the Department of Defense (Section 1109 of NDAA for FY 2020)
- Direct Hire Authority for DoD Post-Secondary and Recent Graduates (Section 1106 of the NDAA for FY 2017; and Section 1102 of the NDAA for FY 2019)

The DHAs for AcqDemo members are:

- Direct Hire Appointment for the Business Management and Technical Management Career Paths
- Veteran Direct Hire Appointments for the Business Management and Technical Management Professional and Technical Management Support Career Paths
- Acquisition Student Intern Appointments
- Scholastic Achievement Appointment

[4] AcqDemo provides the DoD acquisition workforce with an alternative civilian personnel management system to better support DoD's acquisition mission (DAU, "Welcome to AcqDemo.").

Additional DHAs, such as those for STRL Demo[5], are available for positions that may fall under the T&E FA (DAU, HCI Mission Overview per Policy).

5.2 Enhanced Pay Authorities and Special Pay Tables

Enhanced pay authorities and special pay tables are designed and designated to help draw private sector candidates to the DoD by aligning compensation with that of the private sector.

- The Directive-type Memorandum 22-005 – "Enhanced Pay Authority for Certain Acquisition and Technology Positions in DoD" establishes and implements policy and guidance for the use of an enhanced pay authority for covered acquisition and technology positions. Through this authority, DoD Components can competitively recruit or retain individuals exceptionally well-qualified for covered positions that require expertise of an extremely high level in a scientific, technical, professional, or acquisition management field and are critical to the successful development or accomplishment of an important acquisition or technology mission (Under Secretary of Defense for Personnel and Readiness).

- OPM may authorize higher rates of basic pay for nearly any category of employee (i.e., by occupational series, specialty, grade level, and/or geographic area) to address staffing shortages. These rates are set by OPM and follow specific guidance regarding which positions are eligible for the higher pay as well as the locality for the pay rate (OPM.gov, Special Rates).

5.3 Civilian Workforce Incentive Fund

The Civilian Workforce Incentive Fund (CWIF) was developed to attract and retain civilian employees with critical skills in designated "hard-to-fill" positions by providing recruitment, retention, relocation, and student loan repayment incentives. T&E workforce members may be in one of these hard-to-fill positions, which are defined within the CWIF guidance as Component-specific mission-critical occupations. The amount afforded to the CWIF fluctuates annually; however, historical amounts have been approximately $10M for recruitment, retention, and relocation and another $10M for student loan repayment.

5.4 Future Initiatives and Goals

Future initiatives and goals will be selected based on the evolving needs of the Department's acquisition workforce and in alignment with DoD strategies, policies, and guidance. As new insights on the strategic environment and technological landscape are gained and workforce

[5] DoD Science and Technology Reinvention Laboratories (STRLs) focus on advancing technological capabilities through S&T, to include direct hiring and enhanced pay authorities (Department of Defense, "Science and Technology Reinvention Laboratory Personnel Demonstration Project Program").

feedback continues to illuminate training needs and improvements, the enclosed initiatives may be reprioritized or expanded, and new initiatives may be introduced.

The workforce initiatives below are not included in this report but are of interest for future consideration.

- Create additional defense acquisition credentials that offer a greater swath of specialized training topics to address technical skill gaps and ensure a technically competent T&E workforce.

- Conduct a thorough gap analysis in coordination with the Components to gain additional insight into the overall needs for the T&E workforce. Such analysis may allow additional workforce metrics to be captured (e.g., forecasting for loss, ensuring proper headcounts, appropriate training offerings, funding support, workforce engagement trends), strengthening the T&E FAL's ability to address workforce challenges.

- Examine how the T&E workforce may be affected by external factors such as disparities between private sector and civil service opportunities, generational differences, and workforce climate. Understanding the impacts of such unique factors can lead to improvements in the overall health of the T&E workforce.

- Explore establishing work roles for additional workforce functions within the Department (e.g., systems engineering). The expansion of work roles to such functions will create visibility into where work is performed, thereby allowing workforce activities (e.g., recruitment, training, development, and retention) to be targeted to specific positions.

6 Summary

The United States currently faces a period of accelerated change, and in order to maintain technological advantage, the Department requires a highly skilled, agile, and adaptable T&E workforce to ensure mission success in a landscape dominated by complex software-intensive systems and systems of systems, rapidly emerging technologies, and the escalating complexity of global threats. T&E workforce contributions are critical to the conceptualization, initiation, design, development, contracting, testing, and evaluation of defense systems across all commodity areas. The Department's investment in T&E talent development will ensure a highly skilled and knowledgeable workforce capable of supporting the warfighter over the long term.

The T&E workforce is embracing a career-long learning approach with a streamlined core set of functionally unique training supplemented by credentials that offer in-depth specialty training (e.g., test and evaluation of cyber, software, artificial intelligence; applying STAT; evaluating data; reliability) at the time it is needed.

The T&E FAL will continue working closely with the Components via the T&E FIT to ensure the health of the current and future T&E workforce. This includes continued development of credentials in support of the workforce's training needs and promotion of various education, recognition, and incentive opportunities outlined herein. This report will be updated when priorities and initiatives affecting the T&E workforce significantly change to support the Department's enduring mission.

Appendix A: T&E Certification Training Courses

Course	Description[6]	Length
ACQ 1010: Fundamentals of Systems Acquisition Management	This Online Training (OLT) course provides a broad overview of the DoD systems acquisition process and covers all phases of acquisitions. It introduces the Joint Capabilities Integration and Development System; the Planning, Programming, Budgeting, and Execution process; DoD 5000 - series policy and procedures documents; and current issues in systems acquisition management. This course is designed for individuals with little or no experience in DoD acquisition management and has proven to be very useful to personnel in headquarters, program management, and functional or support offices.	13 hours
TST 1100: Intro to Systems Engineering for Testers	Designed for T&E professionals, this OLT course introduces Systems Engineering (SE) and examines the various SE Technical and Technical Management Processes with an emphasis on those processes that might enable success when planning and conducting the broad range of activities associated with DoD T&E activities. Composed of three lessons, the first lesson introduces basic SE concepts, laying the groundwork for understanding how testers apply the various Technical and Technical Management Processes. The second lesson focuses on the SE Technical Processes, describing the purpose of each process along with their associated activities. The third lesson focuses on the SE Technical Management Processes, describing the purpose of each process along with their associated activities. Assessments occur at the end of each lesson in the form of an exam consisting of multiple choice and true/false questions.	10 hours

[6] Course descriptions are quoted directly from the DAU iCatalog (DAU, iCatalog).

Course	Description[6]	Length
TST 102: Fundamentals of Test and Evaluation	The OTL, Fundamentals of Test and Evaluation, course emphasizes basic DOD T&E principles, policies, processes, and practices. This course covers the integrated T&E processes outlined in the DOD Directives, Instructions, and Manuals and provides the essential foundation knowledge needed by T&E professionals and others to more effectively participate in DOD T&E activities.	17 hours
ACQ 2020: Intermediate Systems Acquisition, Part A	This OLT course, Intermediate Systems Acquisitions, is Part A of a two-course series designed for mid-level acquisition professionals. It provides a dynamic, real-time learning environment oriented towards developing the requisite skills and knowledge to work in integrated product teams by providing an overview of systems acquisition principles, policies and processes.	19 hours
ACQ 2030/V: Intermediate Systems Acquisition, Part B	This in-person or Virtual Instructor-led Training (VILT) course, Intermediate Systems Acquisition, is Part B of a two-course series designed for mid-level acquisition professionals. It provides a dynamic, real-time learning environment oriented towards developing the requisite skills and knowledge to work in integrated product teams by providing an overview of systems acquisition principles, policies and processes.	32 hours
CLE 030: Integrated Testing	This OLT course provides the T&E workforce member information and resources on T&E in the Defense Acquisition Lifecycle and the Integrated Testing concept. Topics include common types of T&E used by most acquisition programs, T&E Master Plans, and the goals and benefits of integrated testing.	2 hours

Course	Description[6]	Length
TST 2040/V: Test and Evaluation for Practitioners	This in-person or VILT course builds upon professionals' knowledge, skills, and on-the-job experience relating to DoD T&E policies, processes, and practices. A number of problem-solving situations engage participants in the application of T&E concepts and principles. Course topics include the role of T&E in systems acquisition; T&E planning and T&E strategy; T&E master plan development; managing a T&E program; and planning, preparation for, executing, analyzing, evaluating and reporting the results of T&E events.	72 hours
TST 2100: Applied Systems Engineering for Testers	The OLT course, Applied Systems Engineering for Testers, is composed of three modules. These modules provide test professionals with an in-depth look at the engineering principles and application decisions they will need to effectively and competently navigate the DoDs Major Capability Acquisition (MCA) pathway.	8 hours

Appendix B: Deployed T&E Credentials

Credential	Description[7]	Length
CTST 001: Applying Scientific Test & Analysis Techniques (STAT)	This credential will enable students to: **1.** Comprehend concepts, principles, and tools for applying STAT to design an effective and efficient T&E program, in order to balance risk and the level of knowledge required for evaluations. **2.** Maximize test efficiency, utilize a combination of rigorous scientific methods and lessons learned, determine where test designs can improve test effectiveness and ensure efficient use of scarce resources, and then apply this knowledge to the program's T&E strategy development. **3.** Determine the factors, as well as the levels of these factors, expected to drive the technical and operational performance of the system. Determine the anticipated effects of each of the factors on the evaluation metrics and use experimental design techniques to strategically vary factors. **4.** Design powerful tests through appropriate sample size computations, construct efficient test run matrices, develop statistical models, test models for assumptions, and quantify the uncertainty of test results. Factorial, fractional factorial, and custom designs are the methods used throughout this credential training, with projects and exercises to reinforce learning objectives. Design evaluation topics include power, sample size, optimality, and aliasing criteria.	32 hours

[7] Credential descriptions are quoted directly from the DAU iCatalog (DAU, iCatalog).

Acronyms

AcqDemo	Acquisition Personnel Demonstration Project
CL	Continuous Learning
COE	Council on Occupational Education
CWIF	Civilian Workforce Incentive Fund
DAU	Defense Acquisition University
DCTC	Defense Civilian Training Corps
DCPDS	Defense Civilian Personnel Data System
DHA	Direct Hire Authority
DoD	Department of Defense
DoDI	Department of Defense Instruction
FEVS	Federal Employee Viewpoint Survey
FA	Functional Area
FAL	Functional Area Leader
FIT	Functional Integration Team
IACET	International Accreditors for Continuing Education and Training
KLP	Key Leadership Position
NDSEG	National Defense Science and Engineering Graduate
OASD	Office of the Assistant Secretary of Defense
OLT	Online Training
OPM	Office of Personnel Management
PCD	Position Category Description
PPTE	Public-Private Talent Experience
SE	Systems Engineering
SE&A	Systems Engineering and Architecture
SHCP	Strategic Human Capital Planning
SMART	Science, Mathematics, and Research for Transformation
STAT	Scientific Test and Analysis Techniques
STEM	Science, Technology, Engineering, and Mathematics

STRL	Science and Technology Reinvention Laboratory
T&E	Test and Evaluation
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USD(P&R)	Under Secretary of Defense for Personnel and Readiness
USD(R&E)	Under Secretary of Defense for Research and Engineering
VILT	Virtual Instructor-Led Training
WMG	Workforce Management Group

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