

Improving Acquisition Outcomes: Lessons Learned from Major Acquisition Program Operational Test and Evaluation



Homeland
Security

Science and Technology

OFFICE OF TEST AND EVALUATION

Of the 99 programs on the Department of Homeland Security (DHS) Master Acquisition Oversight List, 43 are subject to Director, Office of Test and Evaluation (DOT&E) oversight. From 2010 - 2019, DOT&E has issued 56 Letters of Assessment (LOA) following completion of operational test.

The LOA provides results regarding the adequacy of the operational test and the operational effectiveness and operational suitability of the system under test. In July 2014, DOT&E began including independent evaluations of cybersecurity in the LOA.

UNBIASED EVALUATION

Test and Evaluation (T&E) reveals the capabilities and limitations of a system in its intended operational setting. Some programs meet or exceed all the requirements of the mission gap they intend to fill; others reveal that they are not ideal solutions for missions DHS operators perform. T&E informs wise investment decisions and allows for adaptation of prospective solutions early in development, when change is most cost-effective.

63 PERCENT SUCCESS RATE

56 OT&E activities conducted between 2010 and 2019:

- 15 systems (27 percent) were evaluated as both effective and suitable.
- 20 systems (36 percent) were evaluated as effective and/or suitable with limitations, a finding that acknowledges when requirements are not completely satisfied but the system provides enhanced operational capability.
- 16 systems (28 percent) were found either not effective or not suitable.
- 5 operational tests (9 percent) could not resolve effectiveness or suitability.

NEEDED: IMPROVEMENTS IN DEVELOPMENTAL TESTING, RELIABILITY, CYBERSECURITY

Unfavorable operational test outcomes indicate shortcomings in developmental testing likely due to narrowly designed tests conducted to verify compliance with contract specifications. An operational assessment is a key developmental test activity that all programs should conduct to determine if the developmental system is likely to satisfy the user's mission needs.

Users expect systems to work when they are needed. The most common factor contributing to unfavorable outcomes is poor system reliability. If program managers were to pick one area to focus additional resources, it should be improving system reliability.

Major programs should also begin a rigorous campaign of threat-realistic cybersecurity testing. Our cyber adversaries are not limited to exploiting vulnerabilities within the set of security controls established for our systems. Therefore, it is essential that we find potential vulnerabilities during testing so that programs can take remedial action prior to deploying systems into operations.

OTE HELPS PROGRAMS MEET THEIR GOALS

Beyond overseeing test and evaluation for \$200 billion in DHS major acquisitions, the Director of Test and Evaluation serves as the principal advisor on T&E to the Office of the Secretary and the Component heads, develops DHS-wide T&E policies, and manages training development for the T&E Career Field of the DHS Acquisition Workforce. Major acquisition programs rely upon OTE for assistance in developing and implementing Test and Evaluation Master Plans, Operational Test Plans, Cyber T&E, and other documents and activities necessary to plan, conduct, and report T&E throughout the acquisition life cycle.

