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AVIATION SECURITY

DHS and TSA Have Researched, Developed, and Begun Deploying Passenger Checkpoint Screening Technologies, but Continue to Face Challenges

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Highlights

Highlights of GAO-10-128, a report to congressional requesters

Why GAO Did This Study

Since fiscal year 2002, the Transportation Security Administration (TSA) and the Department of Homeland Security (DHS) have invested over $795 million in technologies to screen passengers at airport checkpoints. The DHS Science and Technology Directorate (S&T) is responsible, with TSA, for researching and developing technologies, and TSA deploys them. GAO was asked to evaluate the extent to which (1) TSA used a risk-based strategy to prioritize technology investments; (2) DHS researched, developed, and deployed new technologies, and why deployment of the explosives trace portal (ETP) was halted; and (3) DHS coordinated research and development efforts with key stakeholders. To address these objectives, GAO analyzed DHS and TSA plans and documents, conducted site visits to research laboratories and nine airports, and interviewed agency officials, airport operators, and technology vendors.

What GAO Recommends

GAO recommends, among other things, that TSA (1) conduct a risk assessment and develop a cost–benefit analysis and performance measures for passenger screening technologies, and (2) to the extent feasible, ensure that technologies have completed operational tests and evaluations before they are deployed. DHS concurred with the recommendations; however, its implementation plans do not fully address six of the eight recommendations in the report.

View GAO-10-128 or key components.
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What GAO Found

TSA completed a strategic plan to guide research, development, and deployment of passenger checkpoint screening technologies; however, the plan is not risk-based. According to TSA officials, the strategic plan and its underlying strategy for the Passenger Screening Program were developed using risk information, such as threat information. However, the strategic plan and its underlying strategy do not reflect some of the key risk management principles set forth in DHS's National Infrastructure Protection Plan (NIPP), such as conducting a risk assessment based on the three elements of risk—threat, vulnerability, and consequence—and developing a cost-benefit analysis and performance measures. TSA officials stated that, as of September 2009, a draft risk assessment for all of commercial aviation, the Aviation Domain Risk Assessment, was being reviewed internally. However, completion of this risk assessment has been repeatedly delayed, and TSA could not identify the extent to which it will address all three elements of risk. TSA officials also stated that they expect to develop a cost-benefit analysis and establish performance measures, but officials could not provide timeframes for their completion. Without adhering to all key risk management principles as required in the NIPP, TSA lacks assurance that its investments in screening technologies address the highest priority security needs at airport passenger checkpoints.

Since TSA's creation, 10 passenger screening technologies have been in various phases of research, development, test and evaluation, procurement, and deployment, but TSA has not deployed any of these technologies to airports nationwide. The ETP, the first new technology deployment initiated by TSA, was halted in June 2006 because of performance problems and high installation costs. Deployment has been initiated for four technologies—the ETP in January 2006, and the advanced technology systems, a cast and prosthesis scanner, and a bottled liquids scanner in 2008. TSA's acquisition guidance and leading commercial firms recommend testing the operational effectiveness and suitability of technologies or products prior to deploying them. However, in the case of the ETP, although TSA tested earlier models, the models ultimately chosen were not operationally tested before they were deployed to ensure they demonstrated effective performance in an operational environment. Without operationally testing technologies prior to deployment, TSA does not have reasonable assurance that technologies will perform as intended.

DHS coordinated with stakeholders to research, develop, and deploy checkpoint screening technologies, but coordination challenges remain. Through several mechanisms, DHS is taking steps to strengthen coordination within the department and with airport operators and technology vendors.