

**AVIATION SECURITY RESEARCH AND DEVELOPMENT AT THE
TRANSPORTATION SECURITY ADMINISTRATION**

TESTIMONY OF

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**TRANSPORTATION SECURITY ADMINISTRATION
THE DEPARTMENT OF HOMELAND SECURITY**

**BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION**

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Good afternoon, Chairman Wu, Ranking Member Gingrey, and members of the Subcommittee. I am pleased to appear before you today on behalf of the Transportation Security Administration (TSA) to discuss the research, development, and testing/evaluation needs of the TSA and how the Science and Technology (S&T) Directorate supports the TSA mission.

TSA is the global leader in transportation security. We operate at airports across the country, 24 hours a day, seven days a week across six time zones. TSA employees screen more than 2 million passengers and 1.8 million of pieces of luggage daily. It is my job to provide the right technology to the field to support our vital security operations.

As an operating agency, we rely heavily on S&T Directorate to satisfy our basic, applied and developmental research and development. We have a strong working relationship within each division of S&T Directorate, with a particularly close affiliation with the Transportation Security Lab (TSL) in Atlantic City, New Jersey.

In 2006, the Department of Homeland Security (DHS) consolidated all research, development, and test and evaluation functions of its component agencies, with the exception of the U.S. Coast Guard, within the DHS S&T Directorate to achieve efficiencies through economies of scale. As required by the FY2006 DHS Appropriations Act, the S&T Directorate assumed responsibility for the TSL from TSA. Since then, TSA has relied almost exclusively on the TSL for testing needs.

TECHNOLOGY AND THE PROCUREMENT PROCESS AT TSA

TSA works with the Independent Test and Evaluation (IT&E) group at TSL to develop programs that test whether or not a new technology meets its stated requirements. After completing testing procedures, the IT&E group provides TSA with thorough, unbiased testing results. We use the results to make policy and investment decisions.

TSA'S ROLE IN TECHNOLOGY TESTING

For each new technology, TSA develops and identifies the requirements that must be met for a procurement to proceed. The IT&E group within the TSL then takes these requirements and develops a testing program to determine whether or not a new technology meets the stated requirements. The role of TSA in designing these technology tests varies and is based on operational needs and the criticality of the technology and corresponding processes and procedures

Both the TSL and the DHS S&T Directorate divisions have a strong working relationship with TSA. Their collective efforts are divided broadly into six areas :

The six areas are described in more detail, below:

- *Basic research* includes all scientific efforts and experimentation directed toward increasing knowledge and understanding in those fields of physical, engineering, environmental, social, and life sciences related to long-term national needs.
- *Applied research* includes all efforts directed toward the solution of specific problems with a view toward developing and evaluating the feasibility of proposed solutions.
- *Advanced development* includes all efforts directed towards projects that have moved into the development of hardware for field experiments and tests.
- *Operational testing* verifies that new systems are operationally effective, supportable, and suitable before deployment.
- *Operational integration* is the process by which TSA enables successful transition of viable technologies and systems to the field environment.
- *Deployment* is a series of actions following the determination that the: base-lined product or system meets TSA's performance, operational, and user requirements and is accepted by the program manager and integrated product team; designated locations are selected, configured, and optimized for product/system integration into the screening operating system and the installed product/system passes acceptance testing at the designated location; logistics support is in place and all users are trained for operational use of the product/system. Only then is the product/system declared commissioned or cleared for use.

Additionally, DHS S&T Directorate is responsible for conducting basic and applied research, advanced development, and developmental test and evaluations. TSA maintains responsibility for operational testing and evaluation, operational integration, and deployment of new checkpoint screening technologies.

Integrated Product Team (IPT) Process

The S&T Directorate Capstone Integrated Product Team (IPT) began with 11 Capstone IPTs: Information Sharing, Border Security, Chem/Bio Defense, Maritime Security, Cyber Security, Explosives Prevention, Cargo Security, People Screening, Infrastructure Protection, Interoperability, and Prep & Response.

At their February 26th, 2008 meeting, the Technology Oversight Group (TOG) determined that the Explosives Prevention Capstone IPT would be split into two IPTs – one focused on Transportation Security and the other on Counter-Improvised Explosive Devices (C-IED). As the result of this breakout, there are now a total of 12 Capstone IPTs. The Transportation Security Capstone IPT will be chaired by the Transportation Security Administration (TSA) and address priorities relative to venues (Airports, Mass Transit, and Maritime), checkpoints including air cargo, and explosives characterization and homemade explosives (HME). The C-IED Capstone IPT will be chaired by the Office for Bombing Prevention (OBP) and the United States Secret Service (USSS) with the objective of providing the technology to address the IED threat per Homeland Security Presidential Directive 19.

The IPTs program has been successful in many of its goals, including establishing budgetary funding priorities as part of the FY09 budget process and to prioritizing the research and development needs of TSA. As of November 2007, the Explosives Detection Division Capstone IPT has shown that TSA is able to articulate to DHS S&T Directorate a clear understanding of its science and technology needs to procure solutions that not only meet stringent detection thresholds, but also meet throughput requirements in support of the aviation sector.

TSA's involvement in setting user requirements for technologies developed or funded by S&T Directorate.

TSA no longer has primary responsibility for funding or managing the research and development of airport screening technologies. TSA does however remain primarily responsible for developing functional requirements for new technologies, including setting threshold standards for detection, and for conducting operational tests and evaluations of these technologies in airports. In the future, TSA's involvement will likely vary based on the maturity and criticality of the technology, as well as the operational rigor required to implement it.

Apart from the research and development efforts under S&T Directorate, TSA invests annually in engineering projects designed to improve or upgrade existing technology as new requirements are generated. In certain cases, existing technology is unable to support new requirements due to hardware or software constraints. In these instances, TSA undergoes a proposal solicitation process to evaluate new technology systems whose enhanced functionality will meet the revised requirements.

CONCLUSION

The needs of people must continue to drive the focus of transportation security. The American people and the traveling public require a transportation infrastructure that can be secured without the expense of unreasonable burdens. The people in our workforce require investments that will allow them to perform effectively and grow professionally. The people within our homeland security partnerships and network require cooperation, communication, and leadership. The strength of these relationships has been fundamental to our progress and must continue to remain a focal point as we move forward.

Mr. Chairman, thank you again for this opportunity to highlight the progress TSA has made in aviation security. I look forward to our continued work together and would be pleased to respond to your questions.