

DHS Science and Technology Directorate

Understanding DHS S&T's Barriers to Transitioning Technology to DHS Components

Managing the DHS Technology Development and Transition Process

One of the primary responsibilities of the U.S Department of Homeland Security Science and Technology Directorate (DHS S&T) is to manage the development and transition of technologies to DHS' operational components. For the purposes of this document, "transition" is defined as a technology that has been commercialized, or is at the end of its lifecycle.

As a result of the dynamic nature of the DHS S&T environment - rapid technological change, congressional oversight, evolving customer needs and requirements - successful technology development, transition and adoption is no easy task. Based on prior experiences, DHS S&T has identified that most technology transition failures are due to a lack of understanding of how organizations interact with key stakeholders.

FACTORS CONSIDERED BY DHS S&T DURING THE TECHNOLOGY TRANSITION PROCESS



Understanding the Barriers to the Adoption of Transitioned Technology

To more clearly understand the overall technology transition process, DHS S&T commissioned a study to identify the barriers, issues and challenges specific to the adoption of its transitioned technology.

Many technology development partners were engaged during the interview process, including internal stakeholders (i.e., DHS S&T Program Managers (PMs) and Division Directors) and those from other DHS components (i.e., Transportation Security Administration, Customs and Border Protection, Federal Emergency Management Agency, and U.S. Coast Guard).

According to the study, key issues identified as critical for strengthening the technology development and transition process for DHS S&T included:

- *Involve Stakeholders Early and Often:* Ensure expectations are met and create user buy-in.
- *Know Your Customer:* Understand needs, acquisition processes and business cases for adopting the technology.
- *Assess the Risks and Benefits from All Perspectives:* Identify technology development, transition, adoption risks and benefits to S&T and the customer before proceeding.
- *Plan with the End in Mind:* Define the end state of the project, and help manage expectations for both S&T and the adopter.
- *Consider Timing Carefully:* Assess the compatibility of customer needs and technology development timelines.
- *Determine how Success will be Measured:* Consider both near-term and down-stream indicators, and where S&T's commitments begin and end. The POINTER system is unobtrusive to the first responder. Responders wear a small receiver, which obtains the signal from transmitters at a base-station or command post. These receivers have low energy needs and batteries will last through multiple responses.

Mitigating the Identified Barriers

The aforementioned key issues can be resolved through increased consistency across DHS S&T projects, programs and PMs. Based on the key barriers to a successful transition, the study offered several recommendations to help DHS S&T achieve a more successful technology transition process, including:

- Emphasize formal mechanisms for developer-adopter cooperation;
- Strengthen formal criteria for measuring transition success;
- Encourage a customer- and user-focused orientation for PMs;
- Engage in technology foraging as one component of front-end analysis;
- Support both short- and long-term customer and end user needs; and
- Develop tools to support PMs in transitioning technology and evaluating implementation success.

