



**Homeland
Security**

S&T Stakeholders Conference

The Way Ahead: Bodies

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PARTNERING FOR A SAFER NATION

Human Factors Division

Vision:

A safer, more secure nation by integrating the human element into homeland security capabilities.

Mission:

Safeguard the nation's security by integrating the human element into homeland security science and technology.

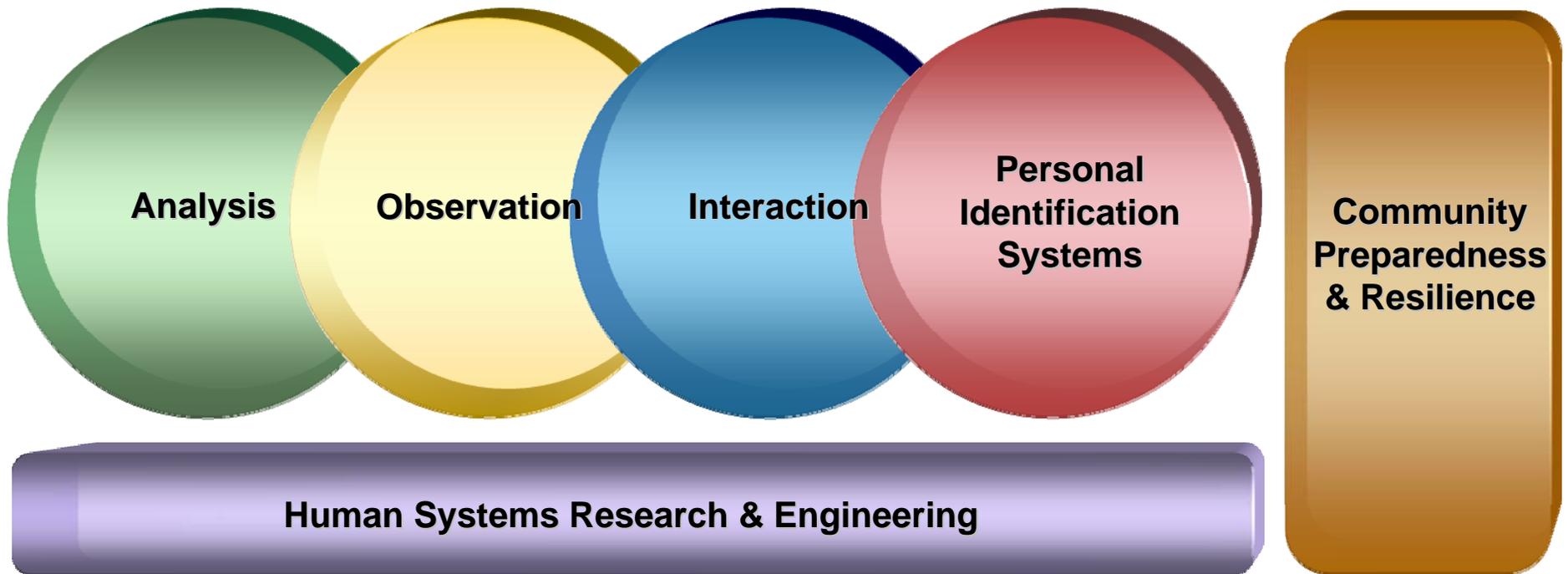


Human Factors Division

Goals of the Division:

- ▶ Enhance the analytical capability of the Department to understand terrorist motivation, intent, and behavior.
- ▶ Improve screening by providing a science-based capability to identify *unknown* threats indicated by deceptive and suspicious behavior.
- ▶ Improve screening by providing a science-based capability to identify *known* threats through accurate, timely, and easy-to-use biometric identification and credentialing validation tools.
- ▶ Enhance safety, effectiveness, and usability of technology by systemically incorporating user and public input.
- ▶ Enhance preparedness and mitigate impacts of catastrophic events by delivering capabilities that incorporate social, psychological and economic aspects of community resilience.

Human Factors S&T Focus Areas



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Capability Gaps

ID	Priority	Capability Gap	Description
PS01	H	Real-time, positive verification of an individual's identity utilizing multiple biometrics.	Multimodal biometrics technologies, protocols, standards, and methods for rapidly identifying and tracking known threats and other personnel. Used in conjunction with biographical data, these will provide more accurate and timely identity verification.
PS03	H	Rapid (ultimately within minutes) DNA testing	Verify family relationships during interviews for disposition of benefits
PS04	H	High-speed, high-fidelity ten-print capture device	Ergonomically correct, high-speed fingerprint collection for enrollment operations
PS06	H	Mobile biometrics screening capabilities, to include hand-held, wireless, and secure devices	Biometrics screening technologies and other identity management tools for use at sites of terrorist incidents or natural disasters and at locations remote from US borders, for example, at sea.
PS07	H	Remote, stand-off biometrics collection and measurement technologies	Real-time operation of stand-off biometrics technologies and processes for identifying individuals at a distance will enable personal screening processes to begin before individuals arrive at a checkpoint and result in rapid identity verification. This will speed up the movement of legitimate travelers or workers and reduce the number of secondary screening activities.
PS08	H	Secure, non-contact electronic credentials; contactless readers or remote interrogation technologies for electronic credentials	Secure active or passive identification card capable of being read (interrogated) at long range. Also required are next-generation non-contact or remote interrogation technologies for collecting biographical and biometrics information from credentials, travel documents, and other identity materials will enable personal screening processes to begin before individuals arrive at a checkpoint and result in rapid identity verification. This will speed up the movement of legitimate travelers or workers and reduce the number of secondary screening activities.

Capability Gaps

ID	Priority	Capability Gap	Description
PS10	H	Commercial or corporate data sources for identity verification	Qualitative assessment of the utility of biographic commercial data in accurately determining identity of foreign and domestic persons or entities
PS11	H	Non-invasive monitoring: Identifying and tracking unknown or potential threats from individuals at key checkpoints. Real-time detection of deception or hostile intent through an integrated system of human and machine methods.	Behavioral and physiological measurement technologies, protocols, and methods for detecting and tracking individuals exhibiting suspicious or deceptive behavior or hostile intentions among travelers or other individuals attempting to enter the U.S., gain access to critical infrastructure and key assets, or gain employment in the U.S.
PS13	H	Maximizing screener performance at checkpoints through selection and training	Tools for selecting screeners; training programs; performance metrics for screening tasks; optimal performance parameters and workflow processes
PS18	H	Maximizing screener performance at checkpoints through use of advanced imaging technologies	Imaging technologies, image processing tools, data integration, and automated system designs for improved passenger screening
PS19	H	Systems for real-time, positive verification of identity documents and credentials	(1) Rapid, on-site validation of the documents or credentials of an individual attempting to gain access to critical infrastructure and key assets, participate in disaster response activities, and enter or gain employment in the U.S.(2) Close a current vulnerability by detecting and deterring individuals attempting to board aircraft with fraudulent documents by adding enhanced means to inspect documents, such as document scanners, black lights, and magnifying equipment (3) Development, installation and training on state of the art document examination technology (i.e., Video Spectral Comparator units)

Capability Gaps

ID	Priority	Capability Gap	Description
PS 23	H	Systematic collection and analysis of information related to understanding terrorist group intent to engage in violence	Understanding and analysis of terrorist mobilization, intent, and behavior through the systematic application of social and behavioral science research and theory. Provide complex social and behavioral research data and theories to enhance our understanding of analytical, operational, and policy concerns related to terrorist activities.

Human Factors Division

Facilitated Feed Back

- Confirmation of overall programmatic approach
 - Additional research areas highlighted:
 - Radicalization and De-Radicalization
 - Community Resilience
 - Risk Communications
 - Behavior Surveillance and Tracking
 - Continue engaging in active partnerships

Broad consensus on the expansive role of Human Factors throughout DHS' operational missions



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