DHS Science and Technology Directorate
Next Generation Passenger Checkpoint Program

Advances in technologies impact passenger and carry on screenings effectiveness and efficiency

As threats to aviation security continue to evolve, the ability to detect weapons, explosives and other prohibited items at airport checkpoints, is a top priority for citizens and government officials alike. To keep pace with the sophistication of these emerging threats, the Department of Homeland Security, Science and Technology Directorate (S&T) is developing the next generation (NexGen) threat detection system for Transportation Security

Aviation security checkpoint

Administration (TSA) passenger checkpoints.

Airport passenger checkpoints are managed by an integrated set of technologies, where no single technology is capable of addressing all screening requirements. The NexGen Checkpoint program will integrate advanced technologies to allow for improved detection capability of homemade explosives and liquid-based explosives in carry-on items through the use of phase-based imaging and X-ray diffraction methods.

Innovation is helping to reduce vulnerabilities and improve passenger experience

The NexGen Checkpoint will enhance the security system for passengers. It will include multiple technologies activated during each passenger walk-through.

Through the use of integrated technologies, NexGen Checkpoint is testing and evaluating the following screening capabilities:

- Advanced technology X-ray systems with enhanced/automated homemade explosives and liquid threats detection
- Automated advanced imaging technology personnel screening systems with improved anomaly detection
- Integrated, advanced bottled liquid scanner systems
- Handheld anomaly resolution tools for secondary screening
- Integrated, advanced shoe screener systems
- High resolution, trace technology development

Increasing the rate of screenings & saving costs

TSA has set aggressive objectives for NexGen Checkpoint capabilities:

- Increase passenger checkpoint throughput from the current 150 passengers per hour to 230
- Reduce labor costs by 30 percent
- Minimize the footprint of screening equipment by 30 percent

Homeland Security
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