

# International Perspectives of Aviation Security

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Transportation  
Security  
Administration

# Overview

International Outreach focuses on the application of science and emerging technologies to the security technology field to address emerging threats. Collaboration on the advances in science and technology for the detection of explosives, chemicals, or components of such devices; collaborates with strategic US Federal and International partners to improve countermeasures; and executes development of those improvements.



## ADVISE

Advise in the areas of physical, chemical, and technological nature of explosives and engineering concepts involved in systems, methods, and techniques applicable to explosives.



## COLLABORATE

Interface with and integration of external communications to other Federal components, international partners, industry, and academia in support of new requirements.



## EXECUTE

Plans, directs, and carries out highly complex scientific, engineering, and technological inquiries, analyses, and projects involving the scientific, chemical, and technological nature of explosives.

# International Partnership Opportunities

**1**

**Research and Development Cost Sharing**

**2**

**Stream-of-Commerce Libraries**

**3**

**Exchange of Operational Data**

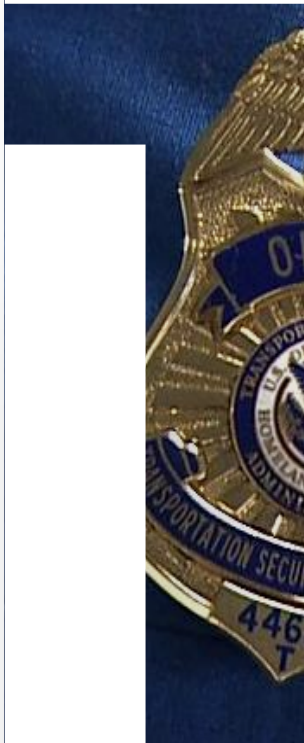
**4**

**Innovation Trials**

**5**

**Human Factors**

# Research and Development Cost Sharing



- The United States (U.S.) and foreign partners are seeking commensurate screening capabilities to effectively and efficiently screen passengers and baggage.
- TSA conducts periodic Targeted Broad Agency Announcements in support of developing innovative solutions that can detect smaller threat masses, detect expanded threat libraries, and mitigate more complex concealments.
- There is an opportunity to enter into a cost sharing arrangement for the development, testing, prototyping, and piloting of emerging aviation screening solutions.



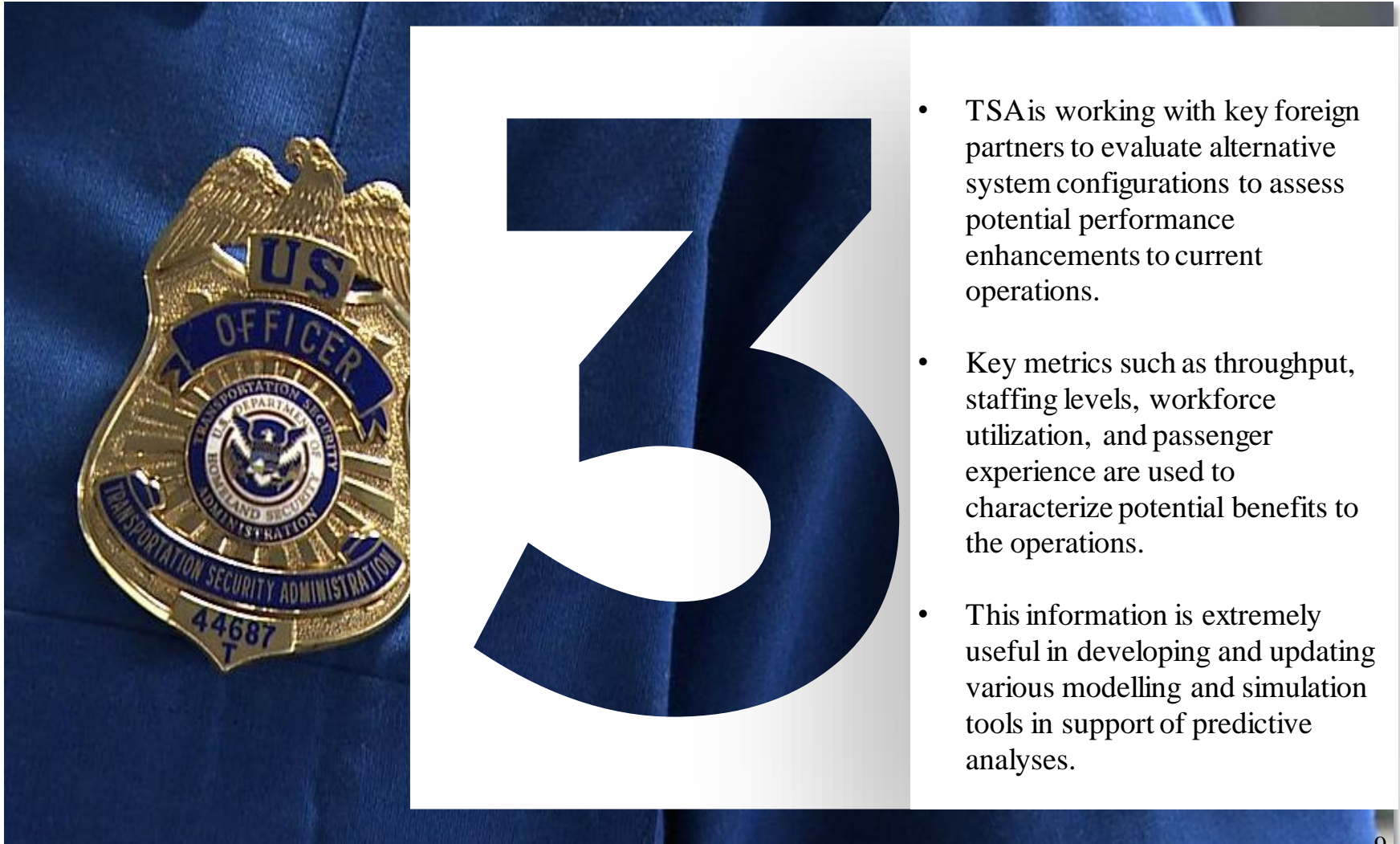


# Stream-of-Commerce Libraries

- TSA is partnering with the Department of Energy Sandia National Laboratory to assess candidate 3<sup>rd</sup> party algorithm developers to ultimately obtain TSA/European certification.
- The 3<sup>rd</sup> party algorithm developers require tens of thousands of checkpoint X-ray Stream-of-Commerce (SoC) images collected from airport trials to effectively train their detection algorithms.
- TSA is developing a central SoC image repository pulled from U.S./International airports operating alternative checkpoint X-ray hardware platforms.



# Exchange of Operational Data



- TSA is working with key foreign partners to evaluate alternative system configurations to assess potential performance enhancements to current operations.
- Key metrics such as throughput, staffing levels, workforce utilization, and passenger experience are used to characterize potential benefits to the operations.
- This information is extremely useful in developing and updating various modelling and simulation tools in support of predictive analyses.

# Innovation Trials



- Periodically, Original Equipment Manufacturers approach TSA seeking airport test beds willing to conduct field trials on innovated technologies.
- These trials serve to inform the airport operators, regulators, and manufacturers about strengths and weaknesses of emerging solutions to further support product development for optimization in an airport environment.



# Human Factors

- TSA and international partners are dealing with very similar human factor challenges.
- Collectively, we are seeking to better understand international work related to screener selection tools, Cognitive Task Analyses (CTAs), aptitude and skills assessments, impacts of a team environment, mistrust in automation, and concepts of screener specialization.

