Overview

• Aviation Threats
• Recent Threats
• Post 9/11
• Pressing Challenges
• Today’s Environment
• Technological Solutions
• Summary
Threats to Aviation

• Threats to airports—all the same…vulnerabilities different
  
  • Targets: No. 1—*aircraft*…No. 2 *terminals*

• Threats x 2
  
  • Forceful takeover
  • Explosives…IED or VBIED

• Threat vectors—multiple directions
Recent Threats

• London, August 2006…
  • Terrorist plot to assemble “liquid compound” IED aboard numerous US flag air carriers
  • Highly motivated…shows innovation

• Glasgow Airport, June 2007…
  • Terrorists drive vehicle bomb into terminal building
  • Patterned after similar attacks
September 11, 2001

- ATSA—major initiatives
  - transitioned screening to federal government – TSA
  - mandated 100% EDS screening for checked baggage
- Passenger & property screening
  - Slightly better than pre 9/11…due to better human performance
  - But, no “new” equipment has emerged!
Three Greatest Challenges

Conventional Threats

- *Threat to Terminals*—vehicle-borne improvised explosive device (VBIED)

- *Threat to Aircraft*—IED or IED components in carry-on baggage

Asymmetric Threats

- *Threats to both Terminals & Aircraft*—chemical, nuclear, biological, and radiological (CNBR)
Today’s Environment

Vehicle-born Improvised Explosive Device (VBIED)

• *No* technological detection capability

Explosives in Carry-on Baggage

• *Limited* technological detection capability
  • backscatter x-ray machine

Chemical, Nuclear, Biological and Radiological

• *Limited* technological detection capability
Technological Solutions

VBIED

- Video analytics coupled with data comparison
- Chemical detection sensors

Carry-on IED

- Computer Tomography (CT)

CNBR

- Enhanced detection sensors
Summary

• Must do research and develop advanced technologies to counter these potential threats

• Embrace, nurture, and practice collaboration…it’s the pathway to success

• Continue outreach…the more you know, the more you can accomplish

• Work with a sense of urgency…there is a great deal at stake