The Global Risk: New & Emerging Threats
Presented by Mr. Douglas Yeo
The Global Risk: New & Emerging Threats
ICAO AVSEC Global Risk Context Statement

Table 2. Threat-type risk levels

<table>
<thead>
<tr>
<th>Threat Type</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Vulnerability</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person-borne IED carried on the person or in cabin</td>
<td>High</td>
<td>High</td>
<td>Medium-High to High</td>
<td>High</td>
</tr>
<tr>
<td>MANPADS in conflict or proliferation zone</td>
<td>Medium-High</td>
<td>High</td>
<td>High</td>
<td>MEDIUM-HIGH</td>
</tr>
<tr>
<td>IED in cargo</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>MEDIUM-HIGH</td>
</tr>
<tr>
<td>Landside Threats</td>
<td>Medium-High</td>
<td>Medium-Low</td>
<td>Medium-High</td>
<td>MEDIUM-HIGH</td>
</tr>
<tr>
<td>Person-borne IED in Hold Baggage</td>
<td>Medium-Low</td>
<td>High</td>
<td>Medium</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Vehicle-borne IED</td>
<td>Medium</td>
<td>Medium-High</td>
<td>Medium</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>MANPADS (non-conflict or proliferation zone)</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>MEDIUM-LOW</td>
</tr>
<tr>
<td>Airborne Threats - aircraft used as weapon</td>
<td>Medium-Low</td>
<td>High</td>
<td>Medium</td>
<td>MEDIUM-LOW</td>
</tr>
<tr>
<td>IED in Services (catering, in-flight supplies, etc.)</td>
<td>Medium-Low</td>
<td>Medium-High</td>
<td>Medium</td>
<td>MEDIUM-LOW</td>
</tr>
<tr>
<td>Airborne Threats - remotely piloted aircraft systems</td>
<td>Medium-Low</td>
<td>Medium-High</td>
<td>Medium</td>
<td>MEDIUM-LOW</td>
</tr>
<tr>
<td>Airborne Threats - conventional hijack</td>
<td>Medium</td>
<td>Medium-Low</td>
<td>Low</td>
<td>LOW</td>
</tr>
<tr>
<td>Cyber Attacks</td>
<td>Low</td>
<td>High</td>
<td>Medium-Low</td>
<td>LOW</td>
</tr>
<tr>
<td>Chemical, Biological, and Radiological Threats</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>LOW</td>
</tr>
</tbody>
</table>
Challenges to Aviation Security – Conflict Zones

- MH 17
- ICAO Senior-level Task Force
- MANPADs
Challenges to Aviation Security – **Insider Threat**

- Metrojet Flight 9268 on 31 October 2015 brought down over Northern Sinai
- IED in a soft drink can likely used
- Insider Threat viewed as an increasingly serious concern
Challenges to Aviation Security – **Landside Attacks**

- Brussels Zaventem airport attack on 22 March 2016
- ICAO AVSEC Panel discusses Landside Measures
- ICAO Council endorses upgrading of Annex 17 landside Recommended Practice to a Standard
Challenges to Aviation Security – Landside Attacks

- Istanbul Ataturk airport attack on 28 June 2016
- Landside attack at terminal building screening point

Source: Ataturk airport
Challenges to Aviation Security – Laser Attacks

- Increasing number of attacks reported
- Several cases of pilots experiencing retina damage
- Cockpit vulnerable during landing
- ICAO AVSEC Panel discussed

Safety distances for a legal green laser pointer (5 mW, 532 nm)

- No distraction indistinguishable from background lights beyond 11,712 ft
- Distraction hazard to 11,712 ft
- Near-flashblindness example at 350 ft (50 μW/cm²)
- Glare/disruption example at 1,200 ft (5 μW/cm²)
- Distraction example at 3,700 ft (0.5 μW/cm²)
Challenges to Aviation Security – Air Cargo

- Printer bomb plot in October 2010
- IEDs in air cargo continues to be a concern
- Increasing need for collaboration between Avsec regulators, Customs and Intel agencies

Device found in Dubai

The printer contained an electrical circuit connected to a mobile phone SIM card.
The printer cartridge contained PETN explosive.
The box contained various handicrafts as well as a management textbook and a copy of The Mill on the Floss.
Challenges to Aviation Security – Non-metallic Threats

- MO has been evolving
- Technology has not kept pace
- Non-metallic threats usually look innocuous
Challenges to Aviation Security – Cyber Security

- Standalone IT systems at airport
- Interdependence of critical IT infrastructure
- Human factor
Challenges to Aviation Security – Remotely Piloted Aircraft Systems

- Big spectrum of abilities
- Industry Innovation shouldn’t be curtailed
- Controlled vs non-controlled airspace
- Civil aviation threat vs Public order nuisance
Challenges to Aviation Security – How Much is Enough?

- Can there ever be 100% security?
- Is that where we want to be?
- Risk-based Threat Assessments
- Private-Public Partnership
Challenges to Aviation Security – The Balancing Act
Challenges to Aviation Security – Who is Going to Pay for This?

- Security viewed as cost centre
- More charges for passengers?
- Technology is expensive
- No silver bullet
Challenges to Aviation Security – **Complacency & Security Fatigue**

- Prolonged heightened state of alert
- Get it security right every time vs Just once for the terrorists
- Posturing for success, defeated by complacency

![Fatigue Cited As Cause Of Many Workplace Mistakes](image1)

- **Critical Slip**
  - 41% of respondents said fatigue has caused them to forget items they’ve needed to do their jobs.
Thank You