Opening Remarks

Ken Dunlap
Global Director, Security & Travel Facilitation,
IATA
Challenges in Cargo Security 2013 and Onwards

Moderator

Des Vertannes, Global Head of Cargo, IATA

Panelists

Elizabeth Shaver, Director, Cargo Services, Airlines for America (A4A)

Mike White, Assistant Director, Cargo Facilitation & Standards, Cargo Network Services Corp

Harald Zielinski, Global Head of Security and Environmental Management, Lufthansa Cargo

Tim Figures, Head of Aviation Security, Department for Transport, UK
Pressing The Edge: 20 Years Beyond

Moderator
Marie Caroline Laurent
Assistant Director, Security & Travel Facilitation, Europe, IATA

Panelists
Andrew Goldsmith, Vice-President, Global Marketing, RAPISCAN

Vahid Motevalli, Director, Purdue Center for Technology Development, and Professor, Purdue University

Jim Slevin, Aviation Business Unit Manager, Human Recognition Systems, United Kingdom
Pressing The Edge: 20 Years Beyond

Andrew Goldsmith
Vice-President, Global Marketing
RAPISCAN
ONE COMPANY - TOTAL SECURITY

www.rapiscansystems.com
Pressing the Edge: What Should We Expect from Technology in 20 Years?
Many important changes will be “behind the scenes” …

- Increased “pre-screening” and “pre-check in”
- Software management systems that allow multiple security devices to be managed and operated via one user interface
- Increased use of remote inspection and automated inspection technologies

Reducing Labor Costs for Security Will Be Major Driver of Technology Change
No more divestiture at the checkpoint ....

• Either high speed CT or X-Ray diffraction or multi-view X-Ray technology or some combination will be widely deployed.

• All electronics will stay in bags.

• All liquids will stay in bags.

• All coats and shoes will stay on passengers.
… but will a global “trusted traveler model” emerge?

• Within EU, US, Japan domestic markets – there will be trusted traveler systems

• Big political question: will there be adequate data sharing among countries to support “international” trusted traveler systems?
Thank you

www.rapiscansystems.com
Pressing The Edge:
20 Years Beyond

Vahid Motevalli,
Director, Purdue Center for Technology Development
Professor, Purdue University
Airport Checkpoint of the Future
Frontiers of Technological Possibilities

Vahid Motevalli, PhD, PE
Professor and Director
Center for Technology Development
Purdue University
Objectives for COF

• Passengers and carry-on to walk through gateways without stopping
• Detection of any device or substance that can cause harm
• Isolation of threat
• Unhindered and efficient flow of passengers
• Ability for continual surveillance
Three Laws of Sir Arthur C. Clarke*

1) When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong.

2) The only way of discovering the limits of the possible is to venture a little way past them into the impossible.

3) Any sufficiently advanced technology is indistinguishable from magic.

Research with Potential Applications in COF

- Use of Diffused Infrared for volumetric detection of particulates and gaseous species
- Nano-technology use in sensor development
- Nano-particle detection
- Spectrometric analysis
- Ultrasonic technologies
- Trace analysis using in-situ sniffing technologies
Imagination: Most powerful driver for technological innovation

PADD: Personal Access Display Device
Thank You

Vahid Motevalli, PhD, PE
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http://www.tech.purdue.edu/CTD
Pressing The Edge: 20 Years Beyond

Jim Slevin
Aviation Business Unit Manager
Human Recognition Systems
United Kingdom
AVSEC World

Pressing the edge

Jim Slevin

March 2013
Identity Management
20 Years for technology...

Eigenface technique developed for face recognition

First Face Recognition Vendor Test (FRVT 2000)

HRS deploys passive anonymous facial recognition for journey measurement at London Gatwick enrolling and matching >12 million faces per annum
UK Government legislate for Machine Readable ID cards for Airside Staff

In the UK biometric based staff access control a rarity

UK Department for Transport rezone access control and change ID Card Colours

1990

2001

2012

2013
Identity Management
20 Years for societal changes...

1991
CERN Launch the World-Wide Web (www)

1991
Facebook founded

2004
Facebook breaks 900 million users

2004
Facebook launches and disables facial recognition in Europe

2012

2013

'91

'13
Identity Management
In next 20 years?

Towards 2032 in general?

- End of Proxies as the primary means of identification
  - Driver’s Licenses, ID Cards, Bank Cards, Passports, Smart Phones, etc.
- Complete mobility of biometrics
- Integration of soft biometric data
- Pervasiveness of identification for personalisation of services
- New commercially available biometric measures
- Privacy concerns overwhelmed by utility

Towards 2032 in transport?

- Proof positive, self service the norm
- Identity based, risk assessed security and passenger facilitation
- Ticketless Travel
AVSEC World

Pressing the edge

Jim Slevin

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Pressing The Edge: 20 Years Beyond

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Jim Slevin, Aviation Business Unit Manager, Human Recognition Systems, United Kingdom
Networking Break

#AVSECWLD
Getting Maximum Value from Security

Moderator
Steve Jackson, Group Head of Security & Facilitation, Qantas

Panelists

Nick Cartwright, Consultant, former Director, Operational Performance Framework, Aviation Security, Transport Canada

Francis Morgan, Security Director, Heathrow Airport

Martin Eran Tasker, Technical Director, Association of Asia Pacific Airlines (AAPA)
Getting Maximum Value from Security

Nick Cartwright
Consultant, Former Director
Operational Performance Framework Aviation Security, Transport Canada
Getting Maximum Value from Aviation Security

“Measuring difficult to measure things”

Nick Cartwright
IATA AVSEC World - New York
7 March 2013
“Maximum value”

- “Security Value” unfortunately has no absolute measurement scale and can be very much dependent on the context of the stakeholder.

<table>
<thead>
<tr>
<th>Group</th>
<th>Priority</th>
<th>“Ideal”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger</td>
<td>Effective,</td>
<td>Friendly, hassle free, invisible</td>
</tr>
<tr>
<td>Industry</td>
<td>Effective</td>
<td>No impact, no delays, no space, no cost</td>
</tr>
<tr>
<td>Regulator</td>
<td>Effective</td>
<td>Complete “buy-in”, Known threat (Intel-based), low impact, “durable” solutions</td>
</tr>
</tbody>
</table>

- Most are not completely achievable today – therefore compromises are required

- Defining a maximum value requires a blending of these somewhat conflicting “ideal” goals into a defined set of outcomes that are realistic and that can be measured
Requirements

- Need to have a way of defining what outcomes need to be achieved that will provide the optimum aviation security system (i.e., maximum value);

- Need to have the capability to make “informed” decisions on the trade-offs that may be required to achieve the desired outcomes (i.e., relative gain in security value for level of effort and/or impact); and

- Need to have methodologies that can effectively evaluate whether what is being done for Aviation Security is actually achieving the desired outcome(s).
A Systematic Approach - One option

Finally, these dashboards tell us not only about compliance, but also about legislation. Ultimately, legislation can be also enhanced to improve compliance.

In step one, legislation is converted to a semi-structured text ready for consumption by jUCMNav.

In step two, a goal model is constructed that reflects the hierarchies and links between legislation nodes.

In step three, the goal model is enhanced with KPIs that are derived from the inspection sheets. Here, contribution weights for model elements are also added by domain experts.

In step four, goal satisfaction levels are calculated by the jUCMNav evaluation strategies. This data is then fed into the data base system.

This approach resulted in part from an academic research collaboration

University of Ottawa
Daniel Amyot, Omar Badreddin, Saeed Behnam, Gunter Mussbacher, Rouzbahan Rashidi-Tabrizi, Azalia Shamsaei

Transport Canada
1 - Build

2 - Extract

3 - Select

4 - Input

5 - Periodic Re-inspection

6 - Enterprise Change

7 - Evolve

Regulations

Generic Goal Model

Scoped Model

Inspection Questionnaire

Actual Performance
Benefits of a systematic approach

- **Data Collection** - More rigorous collection process for monitoring/inspection data
  - will provide a more consistent assessment of regulatory compliance and effectiveness

- **Performance Modeling** – graphical simulations of sections of an aviation security system and its regulatory elements
  - using the data to populate the models will give a reproducible measure of the performance of a system and
  - will provide a reproducible measure of the contribution of individual regulatory elements to the overall security value
  - could provide an ability to model from different perspectives

- **Dashboard** – provides a visual display of the complex data set
  - the visual display will facilitate the analysis and understanding of the status of an aviation security system,
  - will allow for “drilling down” through the data to better understand cause and effect relationships and
  - facilitate communication of status (as appropriate)
Questions?

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Getting Maximum Value from Security

Francis Morgan
Security Director
Heathrow Airport
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Support and Assistance - Capacity Building for Global Security

Moderator

Dorothy Reimold
Assistant Director, Security & Travel Facilitation, IATA

Panelists

David Hammond
Counsellor (Transport) Australian Embassy Washington, DC

Patricia Reverdy
Deputy Executive Secretary, ECAC

Charles Yvinec
Director of Security, Air France
Draw:
JetBlue Getaways
Air and Land Package Prize

jetBlue®
Conference Wrap-up and Official Closing

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