8TH WORLD CARGO SYMPOSIUM
LOS ANGELES 11-13 MARCH 2014

Security Track

Rapiscan systems
An OSI Systems Company
Items to Note:

- Please keep in mind the compliance to competition law guidelines
- Coffee Breaks & Lunch are located in the exhibition hall
- Kindly silence electronic devices
- For all agendas and event information visit the event app: www.eventmobi.com/wcs14
Opening Remarks

Doug Brittin

Secretary General, The International Air Cargo Association (TIACA)
Welcome Address

 Oliver Evans

 Chief Cargo Officer, Swiss International Air Lines Ltd.
Session I:
Cargo Security Building Blocks – Are we all interlinked?

- **Carolina Ramírez-Taborda**, Head, Secure Freight, IATA
- **Helena Hallauer**, Security and Facilitation Policy Section (SFP), ICAO
- **Debra Henninger**, Section Chief, Cargo Compliance, Cargo, Transportation Security Administration (TSA)
- **Kirsty Westra**, Policy Officer, EU Commission, DG MOVE Unit A2, Aviation Security
- **Jim McCaffrey**, Vice President Global Security, IAG Cargo
- **Steve Hutter**, Director of Aviation Security, OHL Global Freight Management and Logistics
Session I:

→ Helena Hallauer

→ Security and Facilitation Policy Section (SFP), ICAO
The ICAO Framework for Air Cargo Security

From regulation to implementation
Evolution of Air Cargo Security SARPs

- **29 OCT**
  - Printer-cartridge incidents

- **2010**
  - Recurrent ICAO Aviation Security Panel

- **2011**
  - Working Group on Air Cargo Security

- **2012**
  - High Level Conference on Air Cargo Security
  - Amendment 12 to Annex 17

- **2013**
  - 38th ICAO Assembly
  - 15 JUL
    - Amendment 13 to Annex 17
    - Guidance Material revised

- **2014**
  - 14 NOV
    - Proposed Amendment 14
    - Annex 17
Role of ICAO

Regulatory Role
- International legal framework since 70 years
- International forum for aviation security regulators and experts since 25 years

Implementation and Assistance Role
- Provides training and implementation support
- Conducts ICAO audits
- Offers assistance to States
Annex 17 - Amendment 13

- Common Standards for both passenger and all-cargo aircraft
- Enhanced security measures for high-risk cargo
- Secure supply chain, including at transfer points, with security controls to be applied by a regulated agent or an entity approved by the appropriate authority (Known Consignor)
- Screening of cargo which cannot be accounted for by a regulated agent or by an entity approved by the appropriate authority
- Security Status accompanying cargo in electronic or paper format → Consignment Security Declaration (CSD)
Upcoming Annex 17 - Amendment 14

- Screening method to be chosen according to the nature of the consignment
Priority on implementation

- ICAO has developed a comprehensive **global framework** for air cargo security
- Priority now lies on **implementation** according to the ICAO framework and **minimum baseline** standards
What is harmonization?

Harmonize:

“to make consistent or compatible.”

Oxford dictionary

“to cause (two or more things) to be combined or to go together in a pleasing or effective way.”

Merriam Webster dictionary
Pre-requisites for harmonization

- Agree on **key principles and direction** for air cargo security
  - ICAO High Level Conference on Aviation Security (HLCAS) - Key Principles
  - 38th ICAO Assembly «global approach »

- Define **minimum baseline** requirements and responsibilities for **equivalent security outcomes**
  - Annex 17 Security requirements
  - Guidance Material Framework for implementation

- Agree on «**common language**»
  - ICAO Annex 17 definitions
  - Detailed and clarified in Guidance Material
Options for harmonization

- Harmonization through detailed regulation
  - ICAO Guidance Material as direction
  - Example of regional regulations

- Harmonization through implementation
  - ICAO Aviation Security Training Packages (ASTP)
  - Tools: Consignment Security Declaration

- Harmonization through cooperation
  - Aviation, customs and mail authorities
  - Cooperation with industry bodies
  - Multilateral or bilateral cooperation
From regulation to implementation

- ICAO has developed a **framework** for air cargo security and set the **minimum baseline** for implementation.

- ICAO continues to provide the **international forum** for the development of international civil aviation SARPs.

- ICAO looks forward to **continued cooperation** with all stakeholders in addressing future challenges.
Thank You

Helena HALLAUER
Air Cargo Security Technical Officer
Security and Facilitation Policy Section (SFP)
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Session I:

Debra Henninger

Section Chief, Cargo Compliance, Cargo, Transportation Security Administration (TSA)
Transportation Security Administration

8th World Cargo Symposium
Los Angeles – March 13, 2014

Transformation through Innovation
Objectives

- Provide an overview of the TSA’s National Cargo Security Program (NCSP) Recognition program
- Introduce TSA’s National Explosives’ Detection Canine Security Program (K9SP) Recognition efforts
- Introduce Targeting and Air Cargo Advanced Screening efforts
National Cargo Security Program Recognition
Each country requesting consideration for recognition should have security requirements meeting ICAO Annex 17, Amendment 13, standards implemented to protect air cargo against acts of unlawful interference and supported with national regulation and oversight/quality control AND

Air cargo global supply chain security measures are determined to be commensurate with TSA security programs through a three-step, standard process.
Benefits of Recognition

- Recognizes the similarities in the application of supply chain security programs among countries.
- Reduces the need for industry to apply potentially duplicative requirements under two national security programs while still meeting a commensurate level of security for cargo inbound to the United States.
- Allows for the development of flexible supply chain models and acknowledges screening completed further back in the supply chain where applicable.
- Strengthens the relationships between the partner governments and TSA.
- Can be a bilateral process and therefore information may be mutually shared between the TSA and the partner country’s civil aviation authorities.
Many different systems exist globally for securing air cargo for transport on aircraft. TSA employs a system-to-system approach when reviewing the NCSP of its international partners.

Commensurate systems may be similar or analogous to the U.S. – not necessarily identical.

This approach aims to ensure that the combination of the components that make up a host country’s NCSP provide a level of security that is commensurate with the components of the U.S. air cargo supply chain security system.
This approach involves a thorough review and validation of a host country’s NCSP using a framework of six fundamental supply chain security criteria.

- Pillars in line with Amendment 13 (Doc 8973) in support of global approach to security.
Recognition Process – System to System Approach

- May include all-cargo operations.
- Additional elements included within existing 6 pillars:
  - Aircraft Access
  - Flightdeck Access
  - Crew Member Validation
  - Screening Individuals and Accessible Property
TSA has established NCSP commensurate recognition with the following countries:

- Canada
- 28 EU Member States
- Switzerland
- Iceland
- Israel
- Australia
- New Zealand
- Japan
- Republic of Korea
- South Africa
NCSP Recognized Countries – Path Forward

- TSA is currently engaged with numerous countries located in the Western Hemisphere, Asia Pacific, Europe, and Middle East regions.

- Continue to incorporate a variety of risk-based criteria into prioritization of country engagement. For example:
  - Volume of cargo and/or passengers per departure location
  - Intelligence information
  - Use of established risk methodology in determining tier ranking of location
  - Accounting for the holistic interaction with respect to other global air cargo supply chains
National Explosives Detection Canine Security Program Recognition
K9SP Recognition Overview

- K9SP recognition supports TSA’s strategy to enable a country to utilize explosive detection dog (EDD) teams as an acceptable screening technology in the aviation mode.

- Recognition will allow the use of EDD teams as an alternative to recognized technologies for the screening of cargo, passengers, checked baggage, accessible property, aircraft, etc.

- The program must be commensurate with TSA requirements via a system-to-system comparison.
K9SP recognition provides benefits to both partner countries and industry:

- Recognizes the similarities in the utilization of EDD teams as deployed in aviation security programs among countries.
- Enables regulated entities in recognized countries to utilize EDD teams as a primary screening method for items destined for the United States.
- Strengthens the relationships between the partner government and TSA.
The other country’s K9SP is evaluated against five standard pillars:

- **EDD Evaluations**
- **EDD Training**
- **EDD Utilization**
- **EDD Explosives Training Aide**
- **EDD Oversight and Compliance**
Air Cargo Advanced Screening (ACAS)
ACAS

- TSA/CBP and Industry partnership is essential.
- Air carriers transmit advance shipment data for security filing while subsequently transmitting post-departure Automated Manifest System (AMS).
- Freight forwarders may transmit House Air Waybill (HAWB) data directly to CBP to meet pre-loading targeting and manifest requirements.
- Air carriers transmit the AMS manifest to CBP prior to loading cargo, and perform all required screening.
ACAS Benefits

- Utilizing CBP’s Automated Targeting System (ATS), ACAS enables TSA/CBP to identify high risk air cargo earlier in the supply chain through intelligence and cargo shipment data.

- Application of additional screening measures to mitigate those risks prior to transport on a commercial flight.

- Improved Air Cargo Security - allows identification of threats earlier in the supply chain.
ACAS Benefits

- More Efficient Screening Protocols - allowing for an appropriate security response without impeding the flow of commerce.

- Responsibility Distributed Along the Supply Chain - Data can be submitted by air carriers, all-cargo air carriers, freight forwarders, or their authorized representatives. Screening can be performed by air carriers, all-cargo air carriers, or freight forwarders operating under a TSA-recognized NCSP.
Questions?
Session I:

卡拉·韦斯特拉

政策官员，欧盟委员会，DG MOVE
单位A2，航空安全
IATA World Cargo Symposium
13 March 2014

Kirsty Westra
European Commission
DG Mobility and Transport
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Air Cargo
EU air cargo/mail security principles

All air cargo and mail must either

- be physically screened, or
  (by or on behalf of an air carrier or regulated agent)
- originate from a secure supply chain
  (known consignor, account consignor)

before being loaded onto an aircraft that leaves or enters the EU, irrespective of what kind of aircraft
(passenger or all-cargo/all-mail)
EU One Stop Security area

28 EU MS + IS, NO and CH

All 31 states bound to apply the same regulations
  • Laid down at EU level
  • Monitored through inspections by European Commission

Unique in the world
Move towards common standards

Prerequisites

• Common understanding of principles
  Including terminology
• Equivalent implementation of aviation security standards

Role of ICAO

• Enhance Annex 17 and Doc 8973
  Amendments 13 and 14
• Ensure proper and common implementation
  USAP
EU's efforts

*Participation in ICAO WGACS*
- Involved in amendments 13 and 14 of Annex 17
- Involved in amendments Doc 8973

*Current mutual recognition programmes*
- EU-U.S. since May 2012

*EU ACC3 programme*
Session I:

Jim McCaffrey
Vice President Global Security, IAG Cargo
World Cargo Symposium
Security Track

Jim McCaffrey
March 13, 2014
Supply Chain Security

- Secure cargo protected at every step of the journey
- Network supply chains
- Out of network supply chains
Mutual Recognition

- Simplified, common requirements lead to better security results
- Limitations offset benefits
- What happens to recognition in a crisis? How can we prepare ourselves?
- What more can be done to move toward common standards?
Session I:

Steve Hutter

Director of Aviation Security, OHL Global Freight Management and Logistics
OHL International

8th World Cargo Symposium – Aviation Security
Examples of existing air cargo security programs and others in motion affecting forwarders globally:

- **IAC & Regulated Agent** - Indirect Air Carrier, US, UK, EU, various global locations
- **Air Cargo Screening** – Certified Cargo Screening Program, US, global locations
- **ACAS** – Air Cargo Advance Screening, US
- **PRECISE** - Pre Loading Consignment Information Secure Entry, EU
- **PACT** - Pre Load Air Cargo Targeting, CA
- **ACC3** – Air Cargo-Mail Carrier into the EU 3rd Party Airport, EU
Challenges for Air Forwarders

- Differences in security requirements while operating in a global supply chain: Indirect Air Carriers and Regulated Agents

- Differences in screening technology allowable depending upon country: Air Cargo Screening

- New Advance Data Screening Programs bring operational and technical challenges we are currently working through
  
  - Notification, Communication, Understanding who will handle what and when between Forwarders and the Air Carriers?
  
  - Technology, can my company do the messaging or should we contract it?
  
  - Training, Standard Operating Procedures
  
  - Additional Cost
  
  - Possible disruption in service
Strategy & Solutions

- Forwarders focus and understanding of their global supply chain
  - Not just where we operate but who has involvement in each step of the supply chain to better understand the scope of which pending regulations may affect them
  - Establish stakeholders in each country to stay on top of new programs, changes to programs and changes to their supply chain
  - Develop subject matter experts utilizing existing internal resources

- Government Regulators and Industry Working together
  - Continue Pilot Programs so we all achieve our common goals
  - Standardization and Full Testing
Thank You

END
Coffee Break
in Exhibition
Session II:
Air Cargo Security Screening –
Emerging technologies and the role of human factor.

- **Steve Wolff**, President, Wolff Consulting Services
- **Allan M. Collier**, Air Cargo Branch Chief, Department of Homeland Security (DHS)
- **Ruth Anne Stoll**, Vice President, Rapiscan Systems
- **Dr. Stefan Michel**, Research Scientist & Project Manager, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Institute Humans in Complex Systems (MikS) at the School of Applied Psychology (APS)
IATA World Cargo Symposium
Air Cargo Security Screening –
Emerging technologies and the role of human factors.

Moderator: Steve Wolff
1995 US Army Study: Technology Strategy

Technology Push

Market Pull

Years to Utilization

Degree of Difficulty

NMR Bottle Scanner
Secure 1000

CTX 5000

Atomic Bomb

Atomic Bomb
CTX 5000
NMR Bottle Scanner
Secure 1000
We need a Smart Cargo Security Vision

• Define likely threats
• Use risk-based screening approach
• Plan for spiral deployment of technology
• Best practices for hiring/staffing
A Vision: End-to-End RBS Process

• Low vs. elevated risk cargo screening facilities

Prescreening/ Sorting

Known

• Many, dispersed facilities
• Verify manifests +
• Fast, low cost scanners
• Baseline facility security

Unknown

• Few, central facilities
• High detection process
• Slower/ higher cost
• High facility security

Screening

• LRCSF
• LRCSF
• LRCSF
• LRCSF

Security/ Manifest Data Record

Customs

ACAS
Moving forward

- **Panelists**
  - Regulator: US DHS/ TSA
  - Manufacturer: Rapiscan Systems, Inc.
  - Human Factors: Univ. of Applied Sciences, Switzerland

- 15 min. Q/A after 3rd presentation
Session II:

- Allan M. Collier
  - Air Cargo Branch Chief, Department of Homeland Security (DHS)
World Cargo Symposium 2014
Transformation through Innovation

Allan Collier

March 13, 2014
Objectives

- Current Policies and Technologies
- Amendment Process
- Path Forward
Current Policies and Technologies

• NCSP Participant
  • Approved Procedures and Technologies

• TSA Accepted or Approved Procedures
  • Trusted and Non-Trusted
    • USA Domestic ACSTL
    • International Approved Technologies
    • Request Amendment
Amendment Process

• Amendment Request Through IIR
  • For Technology or Procedures
• Previously Approved
• Submitted for Evaluation and Approval
Path Forward

• Policy Risk-Based Outcome Approach
• 37 NCSP Participants
• Currently 8 Different Security Programs
  • Variances of Procedures
• Alignment with Domestic Programs
• Alignment with Program
  • Simplify and Provide Flowcharts
• Release for Comment
Session II:

- Ruth Anne Stoll
  - Vice President, Rapiscan Systems
What’s Next in Air Cargo Screening Technology
IATA World Cargo Symposium
RuthAnne Stoll
Manufacturers understand the need for:

- Better
- Faster
- Greater Value
Understanding the Regulatory Environment

People, Process & Technology

TSA.gov

Certified Cargo Screening Program

Air Cargo Screening Technologies List
Working with the End-User

How to best understand their needs:

- Reviewing customer input from training and service calls
- Building technologies that are flexible & mobile

Focus Groups

- End-User input

Industry Groups

- Security Manufacturers Coalition
SECURITY MANUFACTURERS COALITION

- Working with Regulators in requirements development
- Acquisition & Deployment planning
- Multi-year funding
Research & Development Funding
Global Harmonization of standards
Thank you,
RuthAnne Stoll
Session II:

Dr. Stefan Michel

Research Scientist & Project Manager, University of Applied Sciences and Arts Northwestern Switzerland (FHNW), Institute Humans in Complex Systems (MikS) at the School of Applied Psychology (APS)
Cargo Screening: Enhancement of Human Factors

Dr. Stefan Michel
Research Scientist & Project Manager

8th World Cargo Symposium, March 13th, 2014
Introduction

› Cargo X-ray screening systems for the inspection of containers is becoming a common feature

› Identification and detection of prohibited items depends on human operators

› Pre-employment assessments, computer-based training (CBT) and competency assessments are very important
Pre-employment Assessment

- Large differences exist between individuals regarding abilities and aptitudes
- Object recognition tests are important tools for selection procedures in pre-employment assessments
- Ability to cope with image-based factors should be measured independently of training

Computer-based Training

- Computer-based training (CBT) can be a very powerful tool to increase X-ray image interpretation competency.
- Training is important to learn which items are prohibited and what they look like in X-ray images (knowledge-based factors).
- Our best aviation security tool is the human brain – when trained appropriately.
Image Interpretation Competency

Image-based factors

- Visual processing abilities
- Pre-employment assessment test

Knowledge-based factors

- Computer based training
- Competency assessment

Competency Assessment and Training Evaluation: Example of a Research Project

Aim: Increasing X-ray image interpretation competency of cargo security screeners at Amsterdam Airport Schiphol (Dutch Customs)

Experimental Group (N=31)
- Test*
- CBT (3 months)
- Test*

Control Group (N=9)
- Test*
- No Training
- Test*

*X-Ray Competency Assessment Test (X-Ray CAT)

Results

Significant increase of detection performance as a result of CBT

**Experimental Group:**
\[ t(30) = -6.47, p < .001, d = 1.28 \]

**Control Group:**
\[ t(8) = -0.12, p = .909, d = 0.04 \]
Summary

- The detection of prohibited items in X-ray images depends on knowledge-based and image-based factors.
- The most expensive technology is of little value if the humans who operate it are not selected and trained appropriately.
- Regular competency assessments (also for certification) are important to achieve and maintain common standards.

Most X-ray systems are only as good as the people tasked to interpret the X-ray images they generate!
Thank you for your attention!

Dr. Stefan Michel
stefan.michel@fhnw.ch
Q&A
Closing Remarks

Doug Brittin

Secretary General, The International Air Cargo Association (TIACA)
8th World Cargo Symposium
Los Angeles 11-13 March 2014

Don’t Miss the Closing Plenary!

- Innovation Jam Session
- Launching of IATA Innovation Awards
- And more…
Networking Lunch
in Exhibition