INTERNATIONAL CIVIL AVIATION ORGANIZATION

AFRICA-INDIAN OCEAN (AFI) AVIATION SAFETY, SECURITY AND FACILITATION SYMPOSIUM

Malabo, Equatorial Guinea, 27 June 2016

SESION 4:-Capacity building: ACI SMART SECURITY Programme

(Presented by Airports Council International - ACI)

EXECUTIVE SUMMARY

This paper presents the joint ACI/IATA Smart Security Programme which seeks to implement the next generation of security checkpoints; ACI will also present its APEX in Security programme during the SECFAL Steering Committee meeting; a programme that aims to assist airports in improving all aspects of airport security.
The "Smart Security" project "envisions a future where passengers proceed through security checkpoints with minimal inconvenience, where security resources are allocated based on risk, and where airport facilities are optimized, thus contributing toward an improved journey from curb to airside."
Today, this vision has been widely recognised throughout the world by airports, airlines and regulators. An increasing number of airports are implementing measures and processes recommended by the Smart Security programme.

Action: *The Symposium is invited to:*

a) Note the encouraging development of the Smart Security programme and the growing implementation of components by airports;
b) Express its support for the further implementation of "Smart Security" components and trials; and
c) Encourage States to facilitate participation in Smart Security activities as appropriate.

1. INTRODUCTION

1.1 The aviation security community is increasingly aligned on the need for more flexible, sustainable, outcome-focused and risk-based solutions, especially at passenger screening checkpoints.

1.2 "Smart Security" seeks to deliver:

a) Strengthened security – Focus resources based on risk, increase unpredictability, make better use of existing technologies, and introduce new technologies with advanced detection capabilities as they become available.
b) Increased operational efficiency – Increase throughput, optimize asset utilization, reduce cost per passenger, and maximize space and staff resources.
c) Improved passenger and staff experience – Reduce queues and waiting times, reduce manual handling and use technology for less intrusive and less time-consuming security screening.

1.3 Innovation in aviation security is a key driver for the Smart Security programme. The programme is fully aligned with the work of the AVSEC Panel's Working Group on Innovation in Aviation Security (WGIAS), and takes an active role in the exchange of information and concepts.

2. SMART SECURITY TRIALS AND PILOTS

2.1 Smart Security components have been trialled and successfully deployed at airports including Amsterdam Schiphol, Dublin, Doha, Melbourne and London-Heathrow.

2.2 The trials have demonstrated significant improvements in operational efficiency, passenger satisfaction and security value. Components deployed include:

a) **Centralized image processing (CIP)** to enable x-ray machines to be networked, and images viewed away from the checkpoint location or across lanes. This provides airports with increased ability to optimize the use of x-ray machines, and increase the efficiency of x-ray operators.
   Trials have demonstrated significant efficiency improvements, especially when CIP is combined with other concepts Most notably, airports have seen increases in image throughput and resource/asset optimization as well as reductions in total passenger processing times (by an average of 30sec per passenger at some airports).
b) **Checkpoint environment and management** enhancements include greater automation (e.g. tray handling systems), resource optimization (innovative divestment solutions) and automated checkpoint performance monitoring solutions.
   By implementing a combination of lane automation and innovative configuration, some airports reported a flow increase of up to 20% and significant reduction in x-ray starvation.

c) **Security Scanners (also referred to as body scanners) either as a primary or secondary measure for passenger screening** provide effective security while improving passenger experience and reducing the need for full manual searches.
Smart security pilots have demonstrated that an airport using a WTMD and a security scanner as a secondary screening device can facilitate over 800 passengers per hour on a dual lane (provided other elements of the lanes are optimized).

d) **Advanced screening technologies for cabin baggage screening** will allow for effective threat detection while reducing the burden for passengers with less items to divest. While dual/ multi-view X-ray technology has already improved the operator's ability to detect threats, new technologies such as computed tomography and x-ray diffraction are coming to the forefront and paving the way for a new generation of explosive detection systems and other automated target recognition algorithms..
For the time being, these technology are trialled in some airports in order to fine tune them in view of operational deployment. Those new elements are very promising and will greatly enhance the security effectiveness of the whole system.

3. HOW SMART SECURITY WORKS

3.1 The programme has two parallel activities;

a) Continuing research and development, which includes identification of possible solutions, trials and pilots in both lab and airport environments and documentation of results into best practices, published as guidance material that all stakeholders can use.
b) The sharing of those solutions with the broader community to facilitate widespread implementation. This is achieved through engagement with airports to recommend solutions (opportunity assessments), showcasing solutions at events and the distribution of guidance material.

3.2 As more and more airports are becoming interested in Smart Security solutions, it will be necessary to move to a workshop environment rather than performing individual assessments. We expect to hold several workshops over the coming months and years so that airports can benefit from the knowledge gained through the trials, pilots and projects.

4. GUIDANCE MATERIAL

4.1 Guidance material has been developed for mature components of Smart Security, and is available to States, airlines and airports.

4.2 The guidance contains regulatory, operational and facilitation considerations and examples to help each airport tailor its implementation of Smart Security component(s) to its own needs and environment. The guidance is considered to be a living document and will be

updated and expanced as further experience and feedback is gained from airports implementing components of Smart Security.

5. NEXT STEPS

5.1 For 2016 and onwards, several streams of activity are planned;

a) Research, and trials will continue to identify and validate innovative approaches and technologies. The application of differentiated security measures will be further investigated, comparing different models for passenger differentiation, and developing the technology infrastructure to operationalize them. Unpredictability also remains a key focus area, as do advanced detection technologies for passenger and cabin baggage screening.
b) There are many opportunities for airports to benefit from Smart Security, by either implementing solutions already developed and tested, or by getting involved in further research efforts.
c) Not all components need to involve major changes to screening itself, some changes to checkpoint configuration and environment can have significant impacts on efficiency and passenger experience.
d) Equally, new technology is nothing without security culture, proper training and quality assurance processes. Smart Security will consider Human Factors in the coming year, and these areas are also covered by an APEX review.
e) In order to better share information from Smart Security, and gather information on other innovative approaches being deployed globally, IATA and ACI are also working together to develop a dashboard of aviation security initiatives.
f) Finally, to encourage broader implementation of Smart Security concepts, IATA and ACI will offer regional workshops and further develop guidance material as the programme matures.

6. CONTACT DETAILS

6.1 The Smart Security secretariat can be contacted through local IATA and ACI representatives or directly via smartsecurity@iata.org and smartsecurity@aci.aero.

7. ACTIONS BY THE SYMPOSIUM

7.1 The Symposium is invited to:

d) Note the encouraging development of the Smart Security programme and the growing implementation of components by airports;
e) Express its support for the further implementation of “Smart Security” components and trials; and
f) Encourage States to facilitate participation in Smart Security and APEX activities as appropriate.

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