



ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 12: Aviation Security — Policy

FOSTERING SECURITY INNOVATION THROUGH EFFECTIVE REGULATORY POLICY

(Presented by Airports Council International (ACI))

EXECUTIVE SUMMARY

ACI supports the adoption and implementation of the Global Aviation Security Plan (GASeP). One of its five key priorities is to “*Improve technological resources and foster innovation*”.

Industry is working on urgent aviation security innovations, ranging from incremental improvements to “breakthrough” innovations – such a full rethink of passenger screening through Smart Security. This long-running programme has enjoyed the full support of airports, airlines and regulators who have worked collaboratively to develop and test new ways of working to the benefit of all and, most importantly, to the benefit of passengers who pass through airport security screening.

Both incremental and breakthrough solutions require a climate of innovation, which in turn require pro-active support from regulators and from ICAO. ACI suggests specific steps which Member States and ICAO can take to help industry address the major challenges of tomorrow.

**Action:** The Assembly is invited to:

- a) Urge States to make regulation less prescriptive, conduct impact assessments, consult with industry, allow for new technology trials and review the way technology is certified and approved for use;
- b) Request that Council allow for different means of compliance with Annex 17 SARPs that achieve the same objective, based on a risk assessment and justification;
- c) Request that Council consider the development of a separate Document listing alternative means of compliance with Annex 17 SARPs.

<i>Strategic Objectives:</i>	This working paper relates to the Security and Facilitation Strategic Objective.
<i>Financial implications:</i>	
<i>References:</i>	Global Aviation Security Plan (GASeP) (Doc 10118) A40-WP/14 <i>Innovation in Aviation</i>

<sup>1</sup> English, Arabic, Chinese, French, Russian and Spanish versions provided by ACI.

## 1. CHALLENGES AFFECTING AIRPORT SECURITY

1.1 Threats against civil aviation require proactive mitigation measures supported by effective risk assessments. As threats and risk change quickly, both States and industry face challenges trying to implement effective security measures in a timely manner. However, many of today's security measures are a direct result of security being 'bolted-on' in airport infrastructure in response to the latest threat and not being considered, or being considered too late, in the airport design phase. The timeline for testing and approval of new equipment is usually long, so a solution to a problem may be found only after the new threat has been identified.

1.2 In parallel, existing airport infrastructure cannot handle expected growth. ACI expects that passenger traffic will grow at an annualized rate of 4.1% and reach 20.9 billion by 2040. Many airports are near, at, or even exceeding their design capacities, causing congestion, lower levels of service, and passenger frustration.

1.3 Not only are more travellers going through our airports, but their expectations of service quality are changing. Around the world, people expect speed and user-friendliness to drive the services they receive in their day to day life – from self-service options to online tools, automation and customer care. Public services are also changing, and more and more governmental agencies are modernizing the way they regulate and deliver the services they offer citizens. Airport security is not immune from these trends either – the industry is actively thinking of ways to keep up with the expectations of the public, whilst keeping them secure.

1.4 The Global Aviation Security Plan (GASeP)'s objective is supported, among others, by the principle of "Innovation: Encourage States and stakeholders to devise, establish and share new and innovative ways to implement security policies and measures."

## 2. FROM INCREMENTS TO BREAKTHROUGHS: INDUSTRY'S APPROACH TO SECURITY INNOVATION

2.1 In October 2017, Airports Council International (ACI) and the International Air Transport Association (IATA) launched a joint initiative called the New Experience Travel Technologies or NEXTT. This initiative brings together concepts and ideas that will transform the passenger and cargo journey to best fit and cater for tomorrow's demand. NEXTT will define how technology and advanced processes can deliver the needed service and capacity enhancements to the entire ground journey. For instance, NEXTT is researching how advanced processing technology such as tracking and identification, robotics, and automation can improve safety, security, and customer experience. It also considers how data can better be used through predictive modelling and artificial intelligence for real-time decision making and improved efficiency.

2.2 In January 2019, ACI took the lead responsibility for the Smart Security programme – it had previously shared this with IATA. Smart Security identifies solutions, shares best practices and drives change in passenger and baggage screening. For instance, automated tray return systems and parallel loading were solutions proposed by Smart Security and have become the new norm at many passenger checkpoints around the world. The rollout of Explosive Detection Systems for Cabin Baggage (EDS-CB) and of advanced cabin baggage screening systems (for instance Computed Tomography (CT) equipment) is also increasingly used as they could allow for greater detection capabilities, a reduction in the number of trays per passenger, and an increase in passenger satisfaction. Such innovations are incremental, namely, they are better versions of an existing product, in what we know today to be a security checkpoint.

2.3 While innovation can be incremental, it can also be radical and “breakthrough”. Aviation security stakeholders must keep their eyes on the longer-term horizon and be ready for disruption. At the second ICAO High Level Conference on Aviation Security, industry presented a number of themes (HLCAS/2-WP/22) that could transform the overall airport security experience. Following extensive consultations, ACI will produce a 2040 Smart Security Vision that will serve as a compass for our work in the next few years.

2.4 Aviation security innovation is urgently needed and is a priority for airports – but its realization will depend on the actions taken by States and ICAO.

### 3. HOW MEMBER STATES CAN FOSTER SECURITY INNOVATION

3.1 By making national aviation security rules less prescriptive: Prescriptive regulations are based on past and current risk (including available mitigations) and cannot adapt easily to take account of new threats and new solutions. Similarly, older and dated regulations are often slowly or never removed from the “baseline”. Security regulations should be more performance and outcome based, that is, they should determine the objective to be reached, but not define in detail how it should be reached. This approach should be coupled with strong oversight and a collaborative approach to closing security gaps. Performance-based regulation has the advantage of forcing industry to think about solutions and take ownership of its risk management, as opposed to locking them in a compliance mindset, often costly to airports. For example, in 2013, Australia developed a conceptual framework designed to achieve a more outcome-focused approach to transport security regulation. This framework aligns closely with approaches adopted by other government agencies in Australia<sup>2</sup>.

3.2 By conducting impact assessments and consulting with industry: ACI supports the need for proper impact assessments and collaborative decision making to allow for innovative practices. Impact assessments are an appraisal of the positive and negative effects of the introduction of new and/or modified mitigation measures on the existing aviation systems and all relevant stakeholders taking an active part in those systems. States should carry out an impact assessment every time new and/or modified security measures are designed and preferably prior to them being implemented. By consulting stakeholders early in the development of new and/or modified security measures, States should obtain a higher level of understanding and therefore greater acceptance and support by those involved, which is conducive to greater sustainability.

3.3 By including clauses in regulation that allow for new technology trials: Without affecting the baseline laid out by Annex 17, States should provide clauses within their regulations to allow for future innovation trials that could help identify effective ways to address new threats. For example, the European Union allows its Member States to diverge temporarily from its Regulations when trialling new screening methods and technologies<sup>3</sup>. Such trials must meet certain conditions, and the European Commission must be notified in writing and approve the trial. States should be encouraged to introduce similar clauses in national regulation (allowing stakeholders to trial new technologies that differ from regulations), particularly when regulations are drafted in a prescriptive way.

3.4 By reviewing the way technology is certified and approved for use: The certification and approval of new technology is a long and costly process. There is no one unified global process for certification which means there can be a requirement to certify equipment for different States, duplicating

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<sup>2</sup> “Security Management Systems – Industry Discussion Paper”, Australian Government, Department of Infrastructure and Transport. February 2013

<sup>3</sup> EU Commission Implementing Regulation (EU) 2015/1998 laying down detailed measures for the implementation of the common basic standards on aviation security, Annex Chapter 12.8, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R1998&from=EN>

workload. Similarly, adding new algorithms to screening equipment requires re-approval by regulators, which should not be necessary for non-AVSEC systems (such as wildlife detection software) States should embrace the development of an industry standard such as Digital Imaging and Communications in Security (DICOS) that will allow parties and machines to exchange images and information with each other seamlessly.

#### 4. HOW ICAO CAN FOSTER SECURITY INNOVATION

4.1 By listing different means of compliance with Annex 17 SARPs: There may be different ways to comply with a Standard or Recommended Practice. The approach taken concerning new landside security Standards has been to avoid a one-size-fits-all method of compliance and, instead, include a “basket of measures” in Document 8973 – Security Manual. This approach is beneficial because it allows for some flexibility and speed, while providing a level of control. However, these options for implementation can be argued to be less than SARPs but more than just guidance material. Therefore, ACI suggests that the ICAO aviation security framework should list different acceptable means of compliance more frequently and more clearly. One way to do this would be to mirror the practice of the Dangerous Goods sector, which includes principles and basic provisions in Annex 18 but “amplify” them in a separate “Technical Instructions” document (Document 9284).

4.2 By allowing for alternative means of compliance based on justification: When national regulation is different in character from an Annex 17 SARP but achieves, by other means, the same objective, it should be possible for the State concerned to demonstrate the equivalence of this different approach, based on a risk assessment and justification submitted to ICAO for review. For example, to address the threat of Improvised Explosive Devices (IEDs), stand-off detection equipment coupled with Explosive Trace Detection technology may be argued to be equivalent to a pat down. New and innovative techniques will increasingly be rolled out at airports in the next years, so a mechanism should exist that allows States to justify why they are pursuing these techniques without being considered non-compliant by ICAO.

4.3 By not requiring the notification of different means of compliance as “differences”: ICAO requires States to report differences to Annex 17 in 3 cases: a) when national regulation is more demanding than the SARP; b) when national regulation is different in character from the SARP but “achieves, by other means, the same objective”; and c) when national regulation is less protective than the corresponding SARP. In line with the principles of innovation and sustainability, ICAO should consider removing point b) from the list of notifiable differences. It has been argued that Annex 17 was sufficiently outcomes focused. In this case, it should be accepted that there are different ways of complying with Annex 17 SARPs.