International Civil Aviation Organization

WORKING PAPER

HIGH-LEVEL CONFERENCE ON AVIATION SECURITY (HLCAS)

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Agenda Item 8: Driving technology developments and innovation

ICAO SYMPOSIUM ON INNOVATION IN AVIATION SECURITY

(Presented by the Secretariat)

SUMMARY

This paper notes the strategic importance of innovation to the future of aviation security and proposes that an ICAO Aviation Security Innovation Symposium be held in 2014 at ICAO Headquarters. The Symposium would bring together State officials responsible for aviation security, international organizations and a wide range of industry stakeholders to discuss and endorse strategies to enhance the effectiveness and efficiency of aviation security technologies and processes.

This Symposium will provide a platform and opportunity to promote and gauge innovative measures to meet both existing and future aviation security challenges.

Action: The High-level Conference on Aviation Security is invited to endorse the conclusions and recommendations in paragraph 4.

1.   **INTRODUCTION**

1.1   The evolving nature of air transport and security technology has been a driving force behind the introduction and refinement of security measures. From the advent of metal detection equipment through to the current emphasis on the use of unpredictability in aviation security measures, innovation has been evident. In consideration of the many challenges ahead, it is proposed that ICAO enhance its strategic leadership role in stimulating innovation in aviation security.

2.   **DISCUSSION**

2.1   Globally, civil aviation faces a complex set of historical, new and evolving threats. Important developments in acts and attempted acts of unlawful interference with civil aviation, such as concealing improvised explosive devices (IEDs) in printer cartridges and refinements to person-borne IEDs, demonstrate that innovation is firmly ingrained in terrorists' efforts to succeed.

2.2   Security measures introduced in response to and in anticipation of these threats make use of varying combinations of processes and technologies to prevent acts and attempted acts of unlawful interference with civil aviation. The policy framework underlying contemporary aviation security stresses reliance on layers of security to detect, deter and disrupt threats, in recognition of the practical limitations of processes and technologies, the inability of any single security measure to successfully counter all threats, and the high consequences of failure.

2.3   Security vulnerabilities in the aviation system persist as a matter of serious concern. For example, the Universal Security Audit Programme (USAP) reveals that, as at 1 April 2012, the global lack of effective implementation of the critical elements of an aviation security oversight system is: 28 per cent for airport operations; 31 per cent for aircraft and in-flight security; 30 per cent for passenger and baggage security; and 30 per cent for cargo, catering and mail security.

2.4   Increasingly, important questions are being asked about the extent to which air transport can support and be supported by additional security measures and additional layers of security measures. The underlying concerns highlight, among other issues, projected increases in traffic that place greater demands on finite security resources, the overall cost of aviation security, optimization of investments in security infrastructure and staff, the return on those investments, facilitation, and passenger satisfaction.

2.5   The 37th Session of the ICAO Assembly, held in October 2010 encouraged Member States to utilize modern technologies to detect prohibited articles and to support the research and development of technology for the detection of weapons and explosives. The ICAO Comprehensive Aviation Security Strategy (ICASS) calls on ICAO to "devise new and innovative ways to implement security policies and measures, which will include employing the use of advanced technology". Progress in this regard is being made. For example:

a) the ICAO AVSECPaedia, developed in collaboration with the ICAO Aviation Security Panel and its Working Group on Technology, has been established as a web-based platform available to all Member States to encourage the exchange of information on a broad range of matters, including, but not limited to, screening techniques and security technologies;

b) risk-based and outcomes-focused security is taking hold in the development of the global aviation security framework, to ensure there is sufficient and valid justification for new security measures, and flexibility is provided to allow for alternative means to achieve security objectives;

c) emerging proposals to strengthen Annex 17 air cargo security Standards and Recommended Practices (SARPs) stress the application of rigorous screening measures only to 'high-risk cargo'; and

d) the lifting of restrictions on the carriage of liquids, aerosols and gels (LAGs) in cabin baggage, as envisaged, depends on the screening of LAGs for explosives being implemented in a gradual and harmonized manner.

2.6   It has long been established that success in aviation security depends on the integrated and coordinated efforts of a broad range of entities: aviation security authorities; security service providers; aircraft operators; airport operators; law enforcement authorities; Customs; military; and national security authorities. In recent years, in recognition of the substantial importance of technology, manufacturers of screening and other security systems have played a more active role in contributing to the development of holistic approaches to aviation security.

2.7   Technological and process innovation in aviation security has introduced important new issues. The use of body scanners has led to concerns about privacy and health effects. In response to these privacy concerns, innovative methods have been introduced to depersonalize body images while retaining the detection capabilities of body scanner systems. Meanwhile, initiatives being explored to complement physical screening measures with the assessment of information about passengers in order to provide a more comprehensive screening outcome, as well as the use of biometrics to enhance security, also attract privacy concerns.

2.8   In practical terms, the context and significance of innovation in aviation security are very different throughout the world. In some developed States, innovation leads to the early deployment of the most advanced technologies and best practices. By contrast, in some less developed States, innovation is much less sophisticated because of limited resources, inaccessible information, the need to address fundamental aspects of aviation security and other considerations.

2.9   A common theme in the foregoing discussion is the essential role innovation must play in effective, efficient and sustainable aviation security. As a matter of public policy, innovation is widely recognized by State administrations and international organizations as fundamental to addressing key challenges, and as a subject for international cooperation and strategic focus.

3.   **THE CASE FOR THE SYMPOSIUM ON INNOVATION IN AVIATION SECURITY**

3.1   ICAO is ideally placed to provide innovation leadership at the global level in the field of aviation security. This is not a new role for ICAO. Through the development and publication of SARPs and associated guidance material, USAP activities, and numerous initiatives and projects to deliver assistance, ICAO has promoted innovation in aviation security.

3.2   Building on this record, it is proposed that ICAO convene the first-ever Symposium on Innovation in Aviation Security, in Montréal in 2014. In doing so, ICAO would send a clear message: the international community is not waiting for another serious incident or attack to improve the security of aviation. By convening such a Symposium, ICAO seeks an opportunity to consider innovative solutions through technology, tools and equipment with all interested partners that will help meet both existing and future aviation security challenges.

3.3   Based on the theme of *Innovation for the Enhancement of Aviation Security*, the Symposium would aim to create a network of stakeholders and experts, serve as a venue for the exchange of knowledge and experience in an open format, promote wider recognition of best practices in aviation security, encourage forward-looking action, and stimulate creative approaches using technology-based and/or human-based systems and processes. Participation would be open to State authorities, industry stakeholders, academics, and others having a legitimate interest in the future success of aviation security.

3.4   The proposed three-day Symposium would feature keynote speakers to 'frame' the proceedings and expert panels dealing with sub-themes such as: optimizing technology; achieving a better balance between security and facilitation; accelerating the transfer of innovative methods to less-developed States; defining tomorrow's equipment needs and capabilities through partnerships between State aviation security authorities and manufacturers; creating and applying knowledge through innovation; promoting research and development; and empowering people and firms toward innovation.

3.5   The Symposium could contribute to a better understanding of the steps necessary for converting research into innovative ways to strengthen the effectiveness of detection equipment in response to emerging events. The Symposium would also facilitate networking between potential applicants of research projects from States and government bodies. Finally, discussions could be initiated with respect to how security research can provide concrete results for end-users, and integrating end-user needs in on-going and future projects.

3.6   For aviation security authorities and technology companies, in particular, there is an opportunity to strengthen collaboration. The Symposium could serve as a platform for information sharing and analysis on a formal and informal basis among public and private sector entities.

3.7   The principal outcomes of the Symposium would be the exchange of information and perspectives, development of relationships and networks, and recommendations on a programme of work for ICAO and/or other parties.

3.8   It is proposed that the Symposium be managed as a revenue-generating event, with costs recovered from admission fees, sponsors, and fees charged to exhibitors.

4.   **CONCLUSIONS AND RECOMMENDATIONS**

4.1   The High-level Conference on Aviation Security is invited to conclude that innovation is a matter of strategic importance for the future of aviation security.

4.2   The High-level Conference on Aviation Security is invited to recommend that ICAO convene a Symposium on Innovation in Aviation Security in 2014.

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