



ICAO

**Twenty Fourth Meeting of the Communications/
Navigation and Surveillance Sub-group (CNS SG/24) of
APANPIRG**

Web-conference, 30 November – 4 December 2020

Agenda Item 11: Cybersecurity of CNS/ATM systems

- 11.1 Review outcomes of ICAO Regional Cyber Safety & Resilience Workshop with Tabletop Exercise (TTX); and

**OUTCOME OF APAC CYBERSAFETY AND RESILIENCE WORKSHOP
WITH TABLETOP EXERCISE**

(Presented by the Secretariat)

SUMMARY

This paper presents the summary and recommendations of the ICAO Asia Pacific Cyber Safety and Resilience Workshop with Tabletop Exercise (APAC CSR TTX) to this meeting for review and action.

1. INTRODUCTION

2.1 The ICAO Asia Pacific Cyber Safety and Resilience Workshop with Tabletop Exercise (APAC CSR TTX) was held at the ICAO Regional Office in Bangkok, Thailand from 19 to 21 November 2019.

2.2 The workshop was attended 24 participants from Australia, Bangladesh, Bhutan, Hong Kong China, India, Philippines, Singapore and Thailand.

2.3 The APAC CSR TTX was facilitated by Ms. Olga de Frutos Martin (TO/AN) and Mr. Michael Goodfellow (TO/GIS) from Air Navigation Bureau, ICAO Headquarters and Mr. Li Peng and Mr. Luo Yi, Regional Officers CNS from APAC Regional Office provided Secretariat support to the workshop. Mr. Shane Summer and Ms. Zhou Ying, Regional Officers ATM also assisted in the discussions during the workshop.

2. DISCUSSION

2.4 The objective of the Cyber Safety and Resilience Workshop was to empower CAAs and ANSPs with measures to mitigate the exploitation of critical information systems, develop awareness on cyber issues affecting aviation, and foster a cyber-safety culture that promotes a resilient and secure cyberspace. Particular focus was placed on the development and promotion of a common understanding of cyber threats, vulnerabilities and resultant risks across the aviation ecosystem. The workshop was

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also expected to identify gaps in State policies and operations and identify and promote regional mechanisms for information sharing on emerging threats and incident response.

2.5 A number of presentations were made preceding the TTX including *Future of global ANS*, the regional Perspective and Activities, Setting the Cyber Scene for the workshop, ICAO Trust Framework and Workshop Summary and wrap-up. The outcome report and presentations are available at: <https://www.icao.int/APAC/Meetings/Pages/2019%20CSR-TTX%20WS.aspx>

2.6 During the Tabletop Exercise with three scenarios, the facilitators provided the participants an opportunity to simulate a cyber-event affecting international, regional and domestic operations. The scenarios focused on systems, which form an integral part of flight operations. By using a predefined scenario and introducing new challenges throughout the exercise, participants became aware of what coordination efforts would be required at a management level to successfully navigate a cyber-event.

2.7 Discussions on the three Scenarios covered a lot of topics, and various recommendations were proposed, including general recommendations on cyber safety/risk, oversight needs, training needs, organizational needs, coordination mechanisms and other needs, as well as additional TTX observations summary. The main points are provided as following:

- a. Automation and information play as the key enablers for current and future Air Navigation System which have increased the surface of exposure for ATM system to cyber-attack.
- b. Cyber threats are currently growing at an increasing rate and therefore becoming a concern to civil aviation.
- c. Given the nature of cyber threats to air navigation, airports and other critical aviation systems, it is time for all relevant entities in the national and international levels to work collaboratively in order to provide a more proactive and aligned collective response to cyber threats.
- d. Air navigation and airport infrastructure and information systems are exposed to a multitude of threat sources, including organized crime, motivated activists or so called 'hacktivists', insider threats and accidental or inadvertent system damage due to employee or contractor misuse. Each of these threats is able to cause a large and wide-spread disturbance to the order of air and ground operations.

2.8 The workshop was informed of a global trust framework promoted by ICAO, including concept, latest development, recommendation by AN Conf/13 which has been approved by the Council. The work of TRON, Digital Identify and GRAIN working groups, public key infrastructure service and seamless operating resilient federated digital network under the global trust framework study group (TFSG), was presented. States/Administrations and industry/service partners in the APAC Region were encouraged to participate in the activities of the TFSG. To participate in the study group participants were requested to send an email to: GISInbox@icao.int

2.9 It was also informed that Aviation Cybersecurity Strategy published in separate English, Arabic, Chinese, French, Russian and Spanish editions in October 2019 by the ICAO is available at following webpage: <https://www.icao.int/cybersecurity/Pages/Cybersecurity-Strategy.aspx>

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) contribute individual practice and experience to regional event to further improve the aviation communities' awareness on protecting critical CNS/ATM infrastructure under cyber threats; and
- c) discuss any relevant matter as appropriate.
