



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office

ICAO/CANSO/AIRBUS Webinar on Aviation Cybersecurity Implementation
(1 December 2020, GTM-05; 9:00 AM to 12:00 PM, Mexico)

Summary of Discussions

Date	1 December 2020
Location	Online Webinar
Attendance	The Webinar was attended by 253 participants from the NAM/CAR and SAM Regions, and from Africa, Asia and Europe. The list of participants is included in the Attachment .
Opening Ceremony	Opening remarks were provided by: Mr. Melvin Cintron , Regional Director International Civil Aviation Organization North American, Central American and Caribbean Regional Office Mr. Saulo Da Silva , Chief of the Global Interoperable Systems Section, ICAO Mr. Javier Vanegas , CANSO Regional Director for the Americas Mr. Julien Touzeau , Chief Product Security – Airbus Americas

1. References

- 1.1 According with the State Letter Ref.: NT-NR7-2 — E.OSG - NACC83907, NAM/CAR States were invited to participate in the first event of cybersecurity supported by the CANSO and AIRBUS.
- 1.2 The ICAO SAM Regional Office sent the invitation letter Ref: LT 3 – SA370 accordingly
- 1.3 The event was support by the ICAO Global Interoperable Systems Section.

2. Objectives

- 2.1 According with the State’s request, ICAO NACC Regional Office started to work on cybersecurity two years ago, when for the first time security, facilitation and air navigation services were integrated under one cybersecurity approach. Reference to that first event can be found in <https://www.icao.int/NACC/Pages/meetings-2018-csec.aspx>
- 2.2 ICAO identified the need to work on cybersecurity integrated with all the stakeholders, in that sense since 2019, the ICAO NACC Regional Office developed a cybersecurity initiative in conjunction with CANSO and AIRBUS. This initiative has the aim of supporting CAR States in the development of their Aviation Cybersecurity Approach.
- 2.3 The ICAO/CANSO/AIRBUS Webinar on Aviation Cybersecurity Implementation had the objectives of counting with an introduction about Cybersecurity, covering the Cybersecurity ICAO Strategy, and providing information to understand the threats and

risks associated with a cyber-attack, and examples of a security breach within aviation industry

3. Introduction

- 3.1 Technology and cyber-systems have become essential to modern society, being a component of many activities that have become dependent on information technology. Along with the benefit of the cyber technologies, insecurities arise, affecting all systems and infrastructures. Cyber threats and cyber-attacks have a transnational component as worldwide systems are interconnected. Furthermore, their complexity has implications for various actors at national, regional and international levels. The spirit of the strategy rests in ICAO Assembly Resolution A40/10 *Addressing Cybersecurity in Civil Aviation*, by which ICAO seeks to develop actions to support States and industry in the adoption of the Cybersecurity Strategy; and continue to ensure that cybersecurity matters are considered and coordinated in a crosscutting manner through appropriate mechanisms.
- 3.2 Under P/01, ICAO presented the document about “ICAO Cybersecurity Strategy”. The civil aviation sector is increasingly reliant on the availability of information and communications technology systems, as well as on the integrity and confidentiality of data. The threat posed by possible cyber incidents to civil aviation is continuously evolving, with threat actors focusing on malicious intents, disruptions of business continuity and the theft of information for political, financial or other motivations.
- 3.3 The Strategy’s aims will be achieved through a series of principles, measures and actions contained in a framework built on seven pillars:
1. International cooperation
 2. Governance
 3. Effective legislation and regulations
 4. Cybersecurity policy
 5. Information sharing
 6. Incident management and emergency planning
 7. Capacity building, training and cybersecurity culture
- 3.4 Under P/02, ICAO presented information on the approach on cybersecurity in accordance with the Annex 17; global cyber-trends, cybersecurity scope, air transport ecosystem, concerning scenarios, acts of unlawful interference, Annex 17 Standards and Recommended Practices (SARPs) and guidance material on Air Traffic Management and the Security Manual.
- 3.5 According with Annex 17; Each Contracting State shall ensure that operators or entities as defined in the national civil aviation security programme or other relevant national documentation identify their critical information and communications technology systems and data used for civil aviation purposes and, in accordance with a risk assessment, develop and implement, as appropriate, measures to protect them from unlawful interference.

- 3.6 Under P/03, CANSO introduced the document “CANSO Standard of Excellence in Cybersecurity” and explained why is important to have an aviation cybersecurity approach. It is necessary to increase sharing of information and the creation of a common situational awareness for all aviation stakeholders with the aim to enhance the efficiency of operations and raise productivity.
- 3.7 The regulatory requirement for cybersecurity to ensure that each State identify its critical information and communications technology systems and data used for civil aviation, was shown. Each Contracting State should ensure that the measures implemented protect, as appropriate, the confidentiality, integrity and availability of the identified critical systems and/or data.
- 3.8 CANSO also explained why to have an alliance with AIRBUS. AIRBUS is pioneer of cybersecurity in aircraft design, “protecting the aircraft” to “protecting the aviation ecosystem” and its company Apsys/Airbus is an Airbus unit expert in security risk management.
- 3.9 CANSO also explained its alliance with ICAO. This strategic teamwork aims to:
1. identification that the States of the region have the same needs and challenges
 2. that both Organizations support States in the development of their regulations and safety improvement facilities
 3. standardization that helps to improve implementation
 4. recognize that working together makes us more efficient and get results in less time.



Cybersecurity Task Force



“People Working together can do anything”

- 3.10 Under P/04, AIRBUS presented an Introduction to cyber security for Air Navigation Service Providers (ANSPs). Some cyber-attack in airports, airlines, aircraft and air traffic control system failure were explained during the webinar. Specific case of cyber-attack to technologies also were cover during the presentation: Automatic dependent surveillance – broadcast (ADS-B), communication infrastructure and others.

3.11 AIRBUS introduced the “Manual Cybersecurity Police”, developed by the Cybersecurity Task Force. The document is focused on two key objectives:

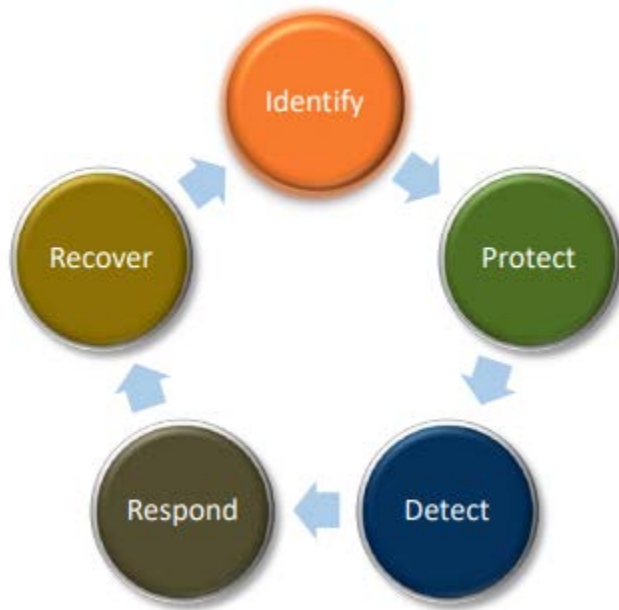
1. Safety
2. Business continuity

3.12 The document is based on ISO27001 and IEC62443 (industrial systems) key principles:

1. Benefits from Airbus Aircraft Security Management System principles
2. To provide consistent end-to-end security: “security by design from ground to air”.

3.13 Under P/05, ICAO explained that the aviation sector, which includes airspace users, air navigation service providers, airport operators, civil aviation authorities and original equipment manufacturers, was targeted by attackers for several reasons, but especially for financial gain and intellectual property theft, also to decrease safety in the aeronautical operations.

3.14 AIRBUS explained about best practices about cybersecurity: Identify, protect, detect, respond and recover to ensure resilience in the aviation system.



3.15 Also the need to implement effective measures to evaluate the different processes must be put into operation. “Remember that what is not measured cannot be improved”.

3.16 An Important part of a strategy cybersecurity approach is the human resource. ICAO explained the importance to integrate all training need under the cybersecurity approach.

4. Workshop Schedule and Activities

4.1 Further information on this subject may be found at the workshop webpage at:

<https://www.icao.int/NACC/Pages/meetings-2020-aci.aspx>

5. Outcomes/Recommendations

1. The need for States to develop a strategic cybersecurity plan focused on their entire aviation system, integrating all stakeholders, was explained.
 2. The panellists introduced the terms of cybersecurity for aviation and different cases were explained, as lessons learned that could interfere with aviation operations and reduce safety.
 3. Cybersecurity Strategy include identification of all stakeholders, understand and manage all aviation operations, implement effective procedures in all cybersecurity approach processes and provide adequate resources to support the processes.
 4. Cybersecurity approach must have to be guidance by policies and directives, governance that comes from high level of the organization.
 5. Responsibilities have to be established in all cybersecurity processes.
- 5.6 Adequate training and knowledge of the personnel have to be established.
- 5.7 Risk management and measure/improve processes to ensure security controls as a way to better measure and manage risk.
- 5.8 Common language in which one can talk about cyber risk and a way to measure it.
- 5.9 Finally, as part of the event, it was explained that the webinar is one of the many activities under the ICAO-CANSO-AIRBUS cybersecurity initiative for the region and the next activities were introduced.

6. Accomplishments

- 6.1 It was the first event in a series of activities focused on supporting States in the development of their Strategic cybersecurity approach. Next activities:
1. establish a project to support cybersecurity Implementation in the region (During 2021).
 2. Introduction of the Cybersecurity Police Manual for the Region (ICAO-CANSO-AIRBUS) (February 2021).
 3. Face to face meetings on maturity level (Cuba), second semester of 2021.

ATTACHMENT/ADJUNTO

No	NAM/CAR Region	SAM Region	Other Regions
1	Antigua and Barbuda	Argentina	Belgium
2	Bahamas	Bolivia (Plurinational State of)	Cameroon
3	Canada	Brazil	France
4	Cayman Islands	Chile	Morocco
5	Costa Rica	Colombia	Russian Federation
6	Curaçao	Ecuador	Spain
7	Dominica	Panama	Taiwan
8	Dominican Republic	Peru	United Kingdom
9	El Salvador	Suriname	
10	Grenada	Uruguay	
11	Guatemala	Venezuela (Bolivarian Republic of)	
12	Guyana		
13	Haiti		
14	Honduras		
15	Jamaica		
16	Mexico		
17	Montserrat		
18	Nicaragua		
19	Saint Kitts and Nevis		
20	Saint Lucia		
21	Saint Vincent and the Grenadines		
22	Trinidad and Tobago		
23	United States of America		

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