



ICAO

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

Cybersecurity Webinar on Air Traffic Management (ATM) and Communications, Navigation and Surveillance (CNS) Activities

6 October 2021

SUMMARY OF DISCUSSIONS

Date 6 October 2021
Location Online
Opening Ceremony The Workshop was attended by 132 delegates from 31 States/Territories and 4 International Organization from the NAM/CAR Regions. The list of participants is shown in the **Attachment**.

1. REFERENCE

1.1 According with letter Ref.: NT-NR 7-2 — E.OSG-NACC90716, States from NAM and CAR Regions were invited to participate in the *Cybersecurity Webinar on Air Traffic Management (ATM) and Communications, Navigation and Surveillance (CNS) Activities* supported by the Eurocontrol and Thales.

2. OBJECTIVES

2.1 This third webinar is part of the cybersecurity project approach led by the ICAO NACC Regional Office with the aim of supporting CAR States in their cybersecurity approach on Air Navigation Services (ANS).

2.2 In order to discuss on cybersecurity challenges in ATM and CNS, it was shown how they are growing, that the cybersecurity threat landscape is ever evolving, and how cyber-risks have to be continuously and pro-actively managed, concluding that ATM/CNS cyber-resilience has to be enhanced.

2.3 Documentation of the event can be found at:
<https://www.icao.int/NACC/Pages/meetings-2021-cswatm.aspx>.

2.4 This webinar was an excellent opportunity to learn what risks Air Navigation Service Providers (ANSPs) and Civil Aviation Authorities (CAAs) are facing, which approach is recommended to identify weaknesses, improve the protection, and maintain business continuity and safety in case of cyber-incidents. The content of the webinar was based on lessons learned by EUROCONTROL and the solutions implemented by the industry in the ATM field.

2.5 The webinar was addressed to ANSPs and CAAs, and designed for personnel belonging to different air navigation areas such as Aeronautical Information Management (AIM), Aerodromes and Ground Aids (AGA), ATM, CNS and Aeronautical Meteorology (MET).

3. ICAO AVIATION CYBERSECURITY STRATEGY AND OTHER ICAO ACTIVITIES

3.1 The digitization and communication is a fundamental part of the integration and confidentiality of information. ICAO's 40th Assembly approved the cybersecurity strategy and invited to work harmoniously and systematically to develop a stronger approach to address cybersecurity. Our region is automated, largely digitized and therefore many of the services and systems currently require protection.

3.2 Aviation needs to work on cybersecurity taking into account the following items:

1. Global cyber-trends
2. Cybersecurity scope
3. Air transport ecosystem
4. Concerning scenarios
5. Acts of unlawful interference
6. Annex 17 Standards and Recommended Practices (SARPs) and guidance material
7. Air Traffic Management Security Manual
8. More users and devices
9. Wider networks and faster connections
10. Easier data storage and new efficient data types
11. More usages and new services
12. Less isolated architectures
13. Quick adoption of new technologies

3.3 Aviation is a system of systems, which means that aviation integrates many different stakeholders, many operations. Aviation needs to integrate different aspect, information to achieve cybersecurity in a correct way,.

3.4 Physical protection, access control, personal security programs, risk categorization, identification of responsibilities, security when accessing the system and the existence of contingency plans, are minimum aspects that must be taken into account when working in cybersecurity.

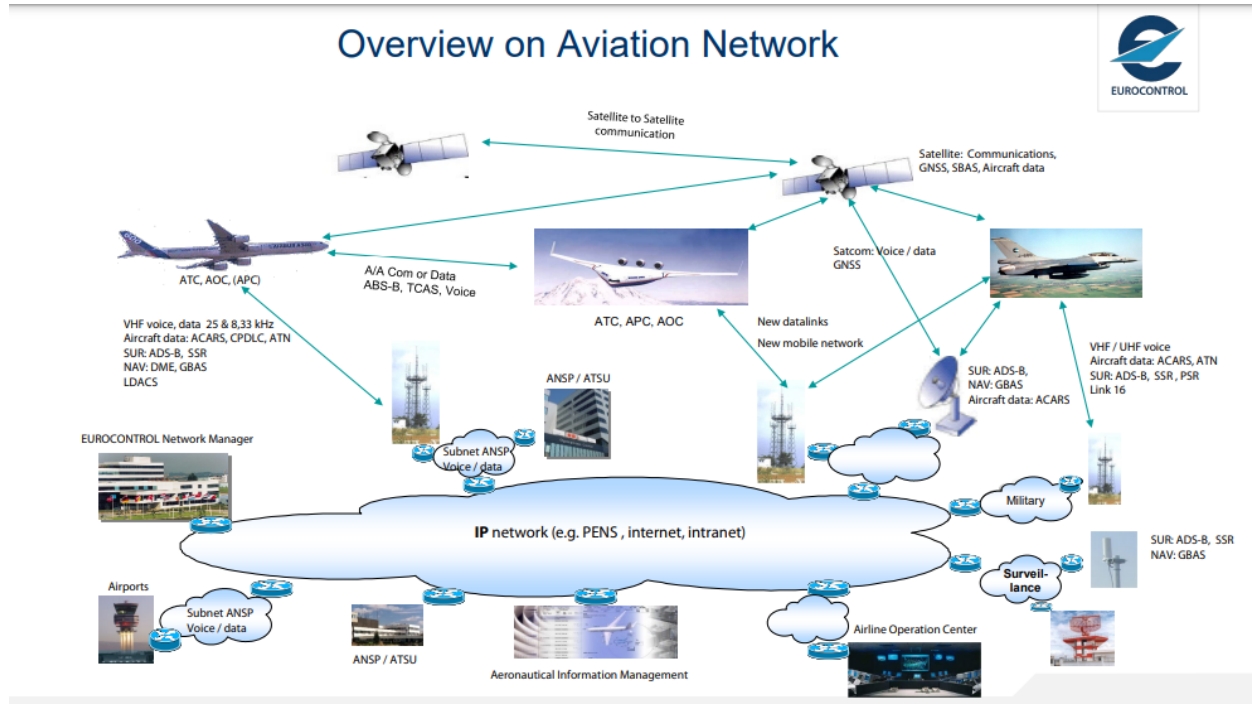
3.5 Annex 17 talks about acts of unlawful interference: Communication of false information such as to jeopardize the safety of an aircraft in flight or on the ground, of passengers, crew, ground personnel, public in general, at an airport or on the premises of a civil aviation facility.

3.6 With regard to cyber threats, Recommendation 4.9.1 (Annex 17) indicates that *“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”*.

3.7 Each State should ensure that measures implemented protect, as appropriate, the confidentiality, integrity and availability of the identified critical systems and/or data. The measures should include, inter alia, security by design, supply chain security, network separation, and the protection

and/or limitation of any remote access capabilities, as appropriate and in accordance with the risk assessment carried out by its relevant national authorities.

4. CYBERSECURITY IN AVIATION (EUROCONTROL AND INDUSTRY)



4.1 EUROCONTROL shared important information about Europe cybersecurity approach and lessons learned from different States.

4.2 Examples of how cyber-attacks affect aviation were provided, with attacks suffered in many countries.

4.3 Finally, the industry, represented by Thales, provided information about its approach to cybersecurity, an integrated information and systems of different stakeholders under one platform.

5. Outcomes/Recommendations

5.1 Aviation is a system that integrates many parts, in that sense cybersecurity must be seen as a whole and not as isolated elements of different parts.

5.2 Cybersecurity must be addressed by a group of experts, directly responsible for this area, in which responsibilities, measurement mechanisms, incident evaluation and improvement procedures must be identified.

5.3 Having examples that show how cyber-attacks affect aviation and how States face economic losses, decreased safety and security, should be taken into account to start working on these issues.

5.4 The evolution of technology has made aviation more efficient, but at the same time more vulnerable to cyber-attacks. Being prepared is the most important thing.

6. Accomplishments

6.1 Provide information about cyber-attack that affect in a direct way ATM/CNS areas.

**Cybersecurity Webinar on Air Traffic Management (ATM) and
Communications, Navigation and Surveillance (CNS) Activities**
**Webinario sobre ciberseguridad para actividades de Gestión de Tránsito Aéreo (ATM) y de
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6 October 2021 / 6 de octubre de 2021

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