INTERNATIONAL CIVIL AVIATION ORGANIZATION

Sixth Meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG6)

(Nairobi, 31 July – 3 August 2023)

Agenda Item 3 ***Achievements in AIM, CNS and MET***

3.2. Implementation of ASBU elements and Achievements of IIM Projects

WP3.2E Achievements in IIM COM 5 Assessment of AFI Air Navigation Services Cyber Resilience project

(Presented by IIM COM 5 Project team)

SUMMARY
This working paper outlines the progress of IIM SG COM 5 project "Assessment of AFI Air Navigation Services Cyber resilience" and the challenges encountered. Action by the meeting in paragraph 3
REFERENCE(S): ▪ Aviation Cybersecurity Strategy ▪ Resolution A41-19 – Addressing Cybersecurity in Civil Aviation.
This working document relates to **ICAO Strategic Objectives**: Safety and Air Navigation Capacity and Efficiency

1. INTRODUCTION

1.1 The IIM SG COM 5 Project "Assessment of AFI Air Navigation Services Cyber resilience" addresses cyber safety, and cyber resilience of air navigation and information management systems in AFI region. The project description is provided in appendix A.

1.2 The project objectives are to:

- assess the cyber threats on Air Navigation systems.
- promote cyber resilience culture in the AFI Region among the stakeholders: CAA, ANSPs, counters parts:
- develop a cyber resilience framework (guidelines) for voluntary use by AFI ANSP organizations / member states to:

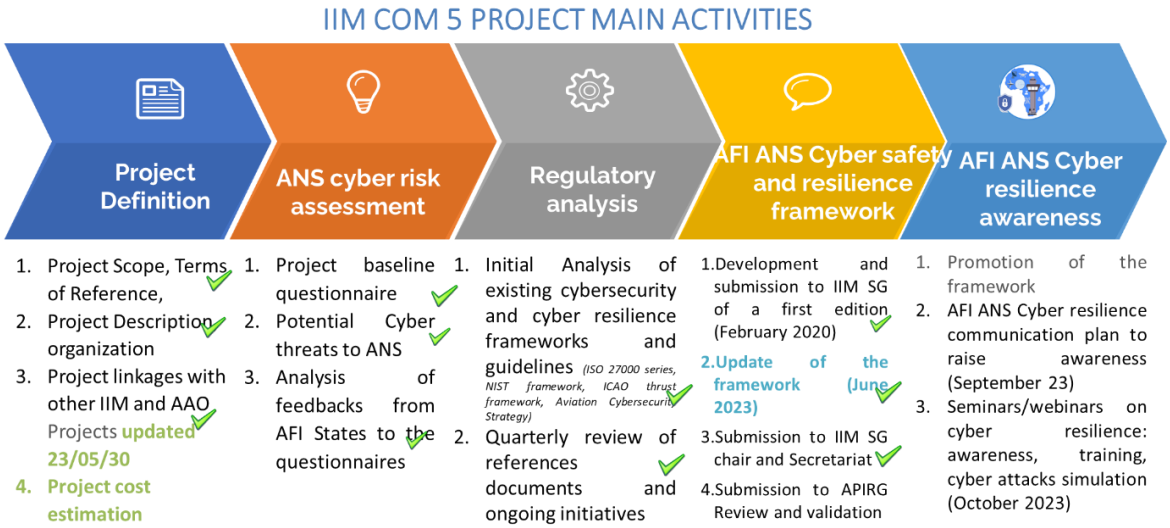
2. DISCUSSIONS

2.1 Key achievements

2.1.1 Status of implementation of 2023 IIM COM 5 Action Plan

The IIM COM 5 project relies on five (5) main activities as depicted on the figure below.

The figure also provides the status of implementation for each activity identified by stage.



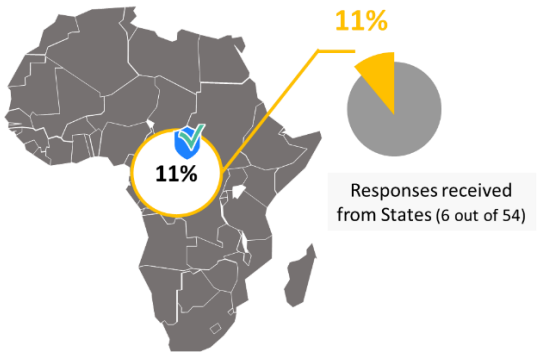
The project activities are scheduled and monitored through the IIM COM 5 project planning (provided in appendix B).

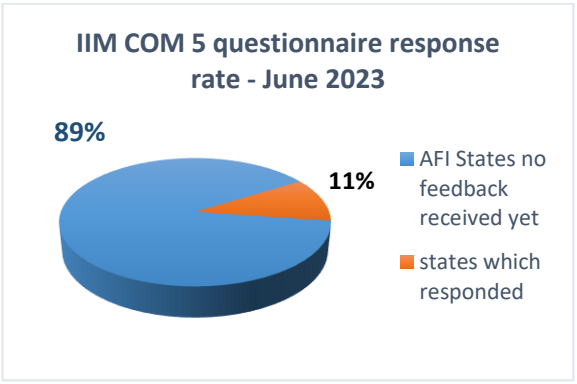
2.1.2 Assessment of current cyber resilience of ANS in AFI region *(project baseline questionnaires)*

A survey questionnaire addressing cyber resilience of air navigation services in the AFI region had been developed by the Project team. The questionnaire was distributed to 54 African states, and only six (6) states responded, indicating a low response rate (11%).

An analysis of the responses to the questionnaire is provided in appendix C (Project deliverable D10).

The responses to the fourteen (14) questions provide some insights into the current state of cyber resilience of Air Navigation Services in the region.





2.1.3 AFI Air Navigation Services Cyber resilience Framework

2.1.3.1 The AFI ANS Cyber resilience framework provides general guidelines on how to assess the cybersecurity risks, threats and vulnerability to Air Navigation Services and methods of mitigating such risks. This framework is based on Aviation Cybersecurity Strategy and the proven cybersecurity standards and frameworks (ISO 27000 series, NIST, etc.).

2.1.3.2 The ANS Cyber resilience framework, submitted to IIM Subgroup Chairman and Secretariat in February 2020, had been updated in 2023 to ensure alignment with the Aviation Cybersecurity Strategy, ICAO cybersecurity action plan edition 2 January 2022, ICAO cybersecurity culture in civil aviation (edition 1 January 2022) and the current aviation cyber safety initiatives (considering what is relevant/appropriate for AFI region).

2.1.3.3 The final edition of the framework submitted to the IIM SG secretariat and all Project team coordinators by 30th of June 2023 (Appendix D).

2.1.4 IIM COM 5 Project cost estimation

The project cost estimation is provided in appendix E.

2.1.5 Air Navigation Services cyber resilience awareness and training

2.1.5.1 Workshop on Air navigation services cyber resilience

A workshop or webinar is planned for September/October 2023. Initially intended as a face-to-face workshop, the project faced challenges in organizing it. Consequently, the alternative solution will be to conduct a webinar instead.

2.1.5.2 Analysis of training offers on the cyber resilience of civil aviation in general and air navigation services.

As part of the project's initiatives, the IIM COM 5 project conducted an inventory and evaluation of training programs in aviation cybersecurity (deliverable provided in appendix F).

The outcomes of this undertaking encompass:

- Compilation of a comprehensive list of available aviation cybersecurity training programs.
- Concise analysis of cybersecurity training offerings pertinent to air navigation services.

2.2 The Way forward

The organization of the ANS cyber resilience workshop/webinar should be expedited, and a specific date will be determined in consultation with the Secretariat. Preparatory efforts have already been initiated, including engagement with industry stakeholders. Notably, members of the IIM COM 5 project actively participate in the ICAO Cybersecurity panel, bringing valuable insights and fostering knowledge exchange. Their involvement in the workshop/webinar will enrich the discussions and contribute to its success.

3. ACTIONS BY THE MEETING

3.1 The meeting is invited to:

a) Take note of the progress made so far by the project team.

3.2 ***Draft Conclusion /Decision 6/xx: Effective support to the IIM Projects activities related to cyber resilience in AFI region***

That;

Recognizing the need to enhance technical personnel capabilities in improving cyber resilience of Air Navigation Services (ANS) systems, ICAO, in collaboration with industry stakeholders within the APIRG framework, to increase its support for activities focused on raising awareness and promoting cyber resilience of ANS systems in the AFI Region, through the organization of webinars, workshops, and seminars dedicated to the topic of cyber resilience of ANS systems.

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Appendix A: IIM COM 5 Project description
Appendix B: IIM COM 5 project planning
Appendix C: Analysis of the questionnaire responses
Appendix D : AFI ANS Cyber resilience framework
Appendix E: IIM COM 5 Project Cost estimation
Appendix F: Analysis of training offerings on cyber resilience of civil aviation.