INTERNATIONAL CIVIL AVIATION ORGANIZATION
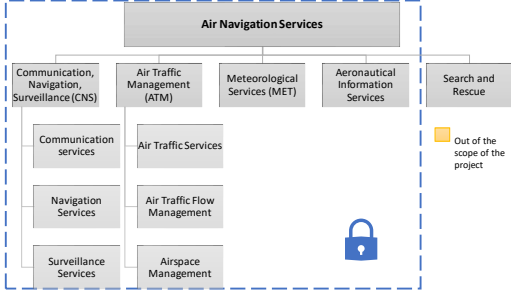## AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG) PROJECT

DOMAIN : IIM (Infrastructure & Information Management)

Project Team Coordinator: **Côte d'Ivoire**

COM Project 5: Assessment of AFI Air Navigation Services Cyber Safety and Resilience

AFI Region	PROJECT DESCRIPTION	DP N° C	
Programme	**Title of the Project**	**Start**	**End**
Assessment of AFI Aeronautical Networks cyber security	Assessment of AFI Air Navigation Services Cyber Resilience **Project coordinador**: Côte d'Ivoire **Experts contributing to the project**: Côte d'Ivoire, Benin, Gambia, Ghana, Kenya, Nigeria, South Africa, Somalia, ASECNA, IATA, Cameroun, Madagascar	01/08/2017	31/12/2022
Objectives	Develop and implement a global Cyber resilience framework over the AFI region for Air Navigation Services to prevent internal and external threats impacting availability, reliability, integrity and continuity of Air Navigation Services		
Scope	The scope of the project includes: • the assessment of the cyber threats on Air Navigation Services in Africa ; • the development of a cyber resilience framework over the AFI region. This framework will be voluntary guidance, based on existing standards, guidelines, and practices for organizations to manage and reduce cybersecurity risk. It would assess all issues including the definition of common cyber threats, training & awareness, response, recovery performances, security studies, systematic process of cyber risk evaluation on all new systems, audits and controls.		

AFI Region	PROJECT DESCRIPTION	DP N° C	
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Metrics	1) Number of cybersecurity threats notified with impact on the availability, the reliability, the integrity and the continuity of the CNS/ATM Systems and AFI aeronautical networks
	
	2) Number of Cyber resilience awareness campaign conducted by ANSPs/ CAAs in AFI Region
	
	3) AIR Navigation Services Performance and effectiveness of cybersecurity measures for Air Navigation Services (including CNS/ATM Systems, AFI aeronautical networks and data protection) :
	    • M2 = Number of cyber-attacks effectively detected, and stopped / Number of cyber-attacks effectively detected %
	    • Number of AFI ANS Systems s with an effective cyber policy put in place / Number of AFI ANS Systems %
	    • Number of disruptions due to malicious cyber activities		

Goals	Ensure that the Air Navigation Services are provided in compliance with ICAO SARPs, guidelines		
Strategy	All tasks will be carried out by COM/ IT experts nominated by AFI States participating in the project, led by the Project-Team Coordinator and under the supervision of the Project Facilitators (ROs/CNS, Dakar and Nairobi) through the IIM SG working methodology. Upon completion of the tasks, the results will be sent to the Project Facilitators as a final document for submission to, and if necessary approval by the APIRG Projects Coordination Committee (APCC). The project will rely on the following phases: 		

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Justification	The air transport infrastructure is an attractive target for cyber-attacks due to its importance and prominence. The networks and systems, interconnecting the various ANSP are IP-based and are exposed at several levels to cyber-attacks. The cyber threats are real and can take several forms depending on the means of the hackers. Therefore, organizations must identify their critical information systems and implement appropriate cyber security measures in complement to existing cyber security objectives. There is a need for a cyber resilience approach for the aviation over the AFI region, which would assess all cyber issues.		

Related projects	1. All APIRG specifically projects related to:
	   • **B0-FICE** Increased interoperability, efficiency and capacity through ground-ground integration
	   • **B0-DATM**: Service improvement through digital aeronautical information management
	2. Projects related to aeronautical information
	
	3. Sub-regional projects and other bilateral initiatives
	
	   • Project of surveillance data exchange between ASECNA, GHANA and NIGERIA
	4. Links with other IIM Sub group projects: SUR Project, NAV Project, COM Project.4, COM Project 3, COM Project.1, SPEC Project, AIM Project.1, AIM Project 2, MET Project 1, MET Project 2(see the project linkage matrix)
	5. Links with AAO projects: A7, PBN		

Project Deliverables	Relationship with the regional performance-Objectives (RPO) and ASBU B0 modules	Responsible Party	Status of Implementation[1]	Date of Delivery	Comments
[D01] Project Description	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		31/12/2018	Following the IIM SG 2nd meeting from 9th to 11th of July 2018, the scope of the project had been amended. Therefore, the project description was amended.
[D02] Project Organization Description	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		31/12/2018	Following the IIM SG 2nd meeting from 9th to 11th of July 2018, the scope of the project had been amended. Therefore, the project organization was amended
[D03] Terms of reference	B0-FICE B0-DATM	IIM SG/COM/Project 5 project coordinator		30/06/2018	
[D04] Project linkage	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		30/09/2018	**Objective:** To identify the links between the IIM COM 5 project and the other IIM and AAO projects.
[D05] Project questionnaire	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		30/09/2019	Submitted to IIM Chairman & Secretariat by 03/10/2018 and **15/12/2020**
[D06] Assessment of the current ANS cyber resilience and diagnostic of the potential threats to the safe provision of the air navigation service in the AFI region	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		~~31/03/2019~~ 30/10/2021	**Objective**: To assess the current ANS cyber resilience and diagnostic the potential threats to the safe provision of the air navigation service in the AFI region The feedbacks rec
[D07] Global cybersecurity framework for a secured operation of the AFI ANS systems, data and networks	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		~~30/12/2019~~ 30/12/2021	**Objective:** to define standards, guidelines, and best practices to manage cybersecurity related risks for the AFI region member organizations

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[1] *Grey   Task not started yet*
  Green   Activity being implemented as scheduled
  Yellow   Activity started with some delay, but will be implemented on time
  Red   Activity not implemented on time; mitigation measures are required

Project Deliverables	Relationship with the regional performance-Objectives (RPO) and ASBU B0 modules	Responsible Party	Status of Implementation[1]	Date of Delivery	Comments
[D08] Teleconferences, Workshops/Seminars/webinars, working sessions (French and English) on global cyber resilience policy	B0-FICE B0-DATM	IIM SG/COM/Project 5 project team		2021 2022	**Objective**s: Working Sessions are an essential tool to: • Discuss with main African Stakeholders about key essential aspects of Cyber resilience in Aviation • Network people and contribute to build capacity in Cybersecurity in aviation • Deliver valuable information to decision makers about Cyber safety and cyber resilience • Gather best practices from other regional initiatives on Cyberspace issues for Aviation There is a need for ICAO and Designated Experts to conduct Technical workshops to support the development of the project
Resources needed	• Adequate human resources to be appointed by States (experts from States) • Expertise in Aviation Cybersecurity , Cyber resilience, Cyber safety • Funds to conduct meetings, Workshops, Seminars Missions and to translate reports, regional guides and manuals. Likewise, participants must be given facilities to participate in teleconferences and coordination meetings. • Funds for meetings with project Team Members to assess the results and propose corrective actions.				

Grey	*Task not started yet*
Green	*Activity being implemented as scheduled*
Yellow	*Activity started with some delay, but will be implemented on time*
Red	*Activity not implemented on time; mitigation measures are required*