



ICAO

**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG) PROJECT  
COORDINATION COMMITTEE FIRST MEETING (APCC/1)**

**PROJECT: PROTECTION OF SPECTRUM & CNS INFRASTRUCTURE PROJECT**

**Coordinator: Cameroon**  
**DOMAIN: IIM**  
(Infrastructure & Information Management)

AFI REGION	PROJECT DESCRIPTION		REFERENCE IIMSG / Area of Routing # All	
Sub-domain	Title of the Project		Start	End
<p align="center"><i>Aeronautical Communication (COM)</i></p> <p align="center">(ICAO Facilitator: <i>WACAF/ESAF ROs/CNS</i>)</p>	<p><b>PROTECTION OF SPECTRUM AND CNS/ATM INFRASTRUCTURE:</b> Development of policies, systems to protect Aeronautical spectrum and CNS infrastructures <b>Project- Team Coordinator:</b> <i>Cameroon</i> <b>Project Team Experts (8):</b> <i>Senegal, IATA, ASECNA, Kenya, Mauritania, South Africa, Uganda, Côte d'Ivoire,</i></p>		<p align="center">Month/ Year</p>	<p align="center">Month/ Year</p>
<p align="center"><b>Objectives</b></p>	<p>In the framework of the technologies Roadmap for Spectrum defined in the GANP and the AFI strategy, assist States sustain adequate resources for CNS &amp;ATM systems operations by the effective development and implementation of relevant policies for the protection of :</p> <p>a) The Aeronautical Radio Frequency spectrum</p> <p>b) Aeronautical Communication, Navigation, Surveillance and Air Traffic Management systems and infrastructures, in accordance with the operational requirements of ICAO <b>Annex 10</b> Volumes V Telecommunication, Annex 11 Air Traffic Service and the relevant supporting guidance documents (Doc. 9718 Handbook on Radio Frequency Spectrum Requirements for Civil Aviation Volumes I &amp; II).</p>			
<p align="center"><b>Scope</b></p>	<p>The provision of adequate spectrum to aeronautical CNS and ATM services will cover all airspaces involve all phases of flights and all ATCs.</p> <p>The insurance of the electronic protection of CNS/ATM systems is currently a big subject challenging all the security of the ATM community.</p> <p>The implementation schemes will be in accordance with the requirements of the provision of Aeronautical) spectrum as defined in the Handbook on Radio Frequency Spectrum Requirements for Civil Aviation ( Doc. 9718), the forthcoming relevant document under development by the ICAO Communication Panel and the provision of the AFI Air Navigation Plan (AFI/RAN Abuja 1997).</p>			

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Metrics	<p>a) <b>Provision and protection of Adequate frequency band:</b></p> <ul style="list-style-type: none"> <li>▪ Number of State having submitted ICAO position to ITU WRC to their National Authority of Regulation of Telecommunication for support: <b>X</b></li> <li>- % of States with effective support of the National Authority of Regulation of Telecommunication to ICAO Position for ITU WRC : <b>X%</b></li> </ul> <p>b) <b>Cyber Security of CNS/ATM systems</b></p> <ul style="list-style-type: none"> <li>▪ Number of ATCs with security system implemented: <b>X</b></li> <li>▪ % ATM/CNS infrastructure with protection policies and systems defined and implemented: <b>X%</b></li> </ul>					
Outcome	Protected Radio Frequency Spectrum and CNS/ATM infrastructure supporting enhanced aeronautical operational safety, capacity and efficiency					
Strategy	All tasks will be carried out by NAV 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). For the purpose of collaborative decision-making, meetings will be held with the areas involved.					
Rationale/Justification	<p>a) <b>Protection of Radio frequency Spectrum:</b> The requirements for the protection of aeronautical radio frequency spectrum are currently challenged by non-aeronautical user resulting in case of severe interferences that can jeopardize the safe provision of air navigation safety</p> <p>b) <b>Protection of CNS/ATM Infrastructures:</b> The emerging technologies widely introduced in the Aeronautical CNS/ATM safety of life related infrastructure are challenging risk of hacking that must be properly and continuously assessed and mitigated.</p>					
Related Projects	All APIRG PIAs and projects					
Project Deliverables	Relationship with the Regional Performance-Objectives (RPOs/PFFs) and ASBU Modules	KPI	Responsible	Status of Implementation <sup>1</sup>	Date of Delivery	Comments
<b>Protection of Spectrum and CNS/ATM Infrastructure</b>						
Submission of ICAO Position to WRC-19 to National Authority of Regulation of Telecommunication	All Modules PFF-CNS		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		As soon as available	

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Development of policies for the Protection of CNS & ATM Infrastructure	<b>All Modules PFF-CNS</b>		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		December 2017	
Teleconferences, Workshops/Seminars, meetings (French and English) on Spectrum and systems protection	<b>All Modules PFF-CNS</b>		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		TBD	
Assessment/Mitigation of systems vulnerabilities	<b>All Modules PFF-CNS</b>		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		continuous	
Assessment/Reporting on the protection of spectrum and CNS/ATM Infrastructure	<b>All Modules PFF-CNS</b>		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		TBD	
Detailed guidance provided to States not complying with the AFI Navigation Plan	<b>All Modules PFF-CNS</b>		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		TBD	
List of States with Protection measures , implemented	<b>All Modules PFF-CNS</b>		<ul style="list-style-type: none"> <li>✓ AFI NAV Project Coordinators</li> <li>✓ AFI NAV Project Team Leader</li> </ul>		TBD	

AFI REGION	PROJECT DESCRIPTION	REFERENCE HMSG / Area of Routing # All	
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<b>Resources needed</b>	<ul style="list-style-type: none"> <li>✓ Adequate Human Resources to be appointed by States</li> <li>✓ 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.</li> <li>✓ Funds for meetings with project Team Members in order to assess the results and propose corrective actions. States could use their human resources to conduct the foreseen NAV tests and monitoring, and, if necessary, cover the financial costs, since the experience gained will result in an improvement of their own systems.</li> </ul>		

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- 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*