

IDENTIFICATION AND DEVELOPMENT OF CNS PROJECTS

1. Project Identification

AFI Region	PROJECT DESCRIPTION (DP)	DP N°AF AFI-IATI	
Programme	Title of the Project	Start	End
CNS Programme Facilitator: RO CNS	AFI-IATI: AFI Integrated Aeronautical Telecommunication Infrastructure Project coordinator: TBD Experts contributing to the project: Experts from States and Organizations Team Member: TBD	01/12/2025	30/12/2026
Rationale	The AFI region currently relies on legacy VSAT-based communication networks (AFISNET, SADC/NAFISAT) that face interoperability challenges and limited scalability. With the increasing demand for digital aeronautical services (e.g., AMHS, SWIM, FF-ICE), there is a critical need to transition to a harmonized, IP-based infrastructure (ATN/IPS) that ensures secure, resilient, and interoperable communications across the region and with adjacent ICAO regions (SAM, EUR, MID).		
Objective	Establish a seamless and interoperable ground-ground communication infrastructure across the AFI Region to support ATM, AIM, MET, and aeronautical services, by integrating existing VSAT networks and transitioning towards ATN/IPS-based systems.		
Scope	The project applies to all ESAF and WACAF States. It targets modernization and interconnection of legacy VSAT networks (AFISNET, SADC/NAFISAT) and adjacent regional networks, enhancement of ground-ground data exchanges, and supports future integration of ATM, AIM, MET, FF-ICE		
Metrics	<ul style="list-style-type: none"> - % of States that adopt ATN/IPS architecture - Number of operational bilateral/multilateral IP interconnections - % of VSAT circuits upgraded - Number of interregional ATN/IPS nodes operational (Number of pilot nodes deployed and tested successfully) 		
Strategy	<p>The implementation will be led by key regional stakeholders to ensure alignment with national and regional priorities.</p> <p>Harmonized policies and architectural frameworks will guide:</p> <ul style="list-style-type: none"> - the upgrade of existing VSAT infrastructure to meet the requirements of current and future ATM services (e.g., AMHS, SWIM) - the deployment of a secure, IP-based network infrastructure (ATN/IPS) across the AFI Region. <p>All tasks will be executed by selected experts, under the leadership of a Project-Team Coordinator and the supervision of Project Facilitators (ROs/CNS, ESAF & WACAF).</p> <p>After the development and validation of guidelines/documents and tools, the project should be closed. Based on states or ANSP needs, the project experts may assist in Pilot interconnections between selected sites will Validated tools and guidance will be deployed through pilot implementations in selected States. Progress will be monitored and reported to the AASPG IIM Subgroup.</p> <p>Coordination will be maintained through regular virtual meetings, supported by the Project Coordinator and Programme Facilitator. Regional workshops and testing campaigns will be organized to build technical and operational capacity.</p> <p>A global security policy will be developed to ensure secure operations, and cybersecurity will be embedded in all phases of the project. This includes training and qualifications of technical and operational staff, supported by ICAO and designated experts through targeted technical workshops.</p>		
Related projects	COM-AIDC/AMHS Implementation of Interoperable Ground-Ground Communication Services COM-CYBER Strengthening Cyber Resilience in AFI CNS/ATM Systems		

Relationship with the regional plans	<ul style="list-style-type: none"> - GANP and - ASBU B1 COM1/2/3 and B2 COM1
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2. Project Deliverables

Project deliverables					
Reference	Description	Responsible party	Delivery date	Status of Implementation	Comments
DEL01.1	Composition of the project team	Programme Facilitator			Coordinate with identified States, and Organizations (ANSP) for the nomination of subject matter experts possessing the required qualifications and experience to compose the project team
DEL01.2	Project Kick off meeting	Programme Facilitator			Organize a virtual meeting with industry representatives and the project team members to launch the activities of the project.
AFI Aeronautical Telecommunication Infrastructure Regional strategy					
DEL02.1	Baseline technical assessment report	Project coordinator	31/12/2025		<p>Gap Analysis Report on AFI VSAT Networks and infrastructure: A comprehensive assessment of existing VSAT networks (AFISNET, SADC/NAFISAT) and their interoperability with adjacent regional networks (REDDIG II, NEWPENS).</p> <ul style="list-style-type: none"> • Mapping of existing AFI aeronautical VSAT networks. • Gap analysis on interoperability challenges. Inventory of current ATN infrastructure and IP-based services.
DEL02.2	AFI Aeronautical Telecommunication Infrastructure Implementation Strategy	Project coordinator			AFI ATN/IPS Regional Implementation Roadmap, AFI Addressing Plan for ATN/IPS
DEL02.3	AFI Interoperability Implementation Plan	Project coordinator			A roadmap for achieving Level 3 interoperability among AFI VSAT networks and with adjacent networks.
Documents and tools					
DEL03.1	Guidance Material for VSAT network interoperability	Project coordinator			<p>A comprehensive technical guide to support the seamless interoperability of AFI VSAT networks (AFISNET, SADC/NAFISAT), including:</p> <ul style="list-style-type: none"> • Standards and protocols for interconnecting heterogeneous VSAT systems. • Configuration templates for routing, addressing, and quality of service (QoS). • Interfacing procedures with adjacent regional networks (e.g., REDDIG II, NEWPENS).

Project deliverables					
Reference	Description	Responsible party	Delivery date	Status of Implementation	Comments
					<ul style="list-style-type: none"> Use cases and lessons learned from successful interoperability pilots.
DEL03.2	Pilot IP VPN Interconnection Procedures	Project coordinator			Documented procedures and configurations for bilateral IP VPN links (e.g., Dakar–Las Palmas, Dakar–Johannesburg), including performance benchmarks.
DEL03.3	Guidance Materials on IP VPN Connectivity	Project coordinator			Practical guidance for the use of IP VPN connectivity in support of aeronautical communication services across the AFI region.
	Capacity building				
DEL04	Training and Capacity Building Programme (workshops) -	Project Coordinator Programme Facilitator			Workshops on VSAT network interoperability, ATN/IPS implementation, IP VPN Connectivity, Cybersecurity for CNS/ATM Systems
	Pilot implementation of interconnections between selected sites				
DEL05	Pilot implementation of interconnections between selected sites	Project Coordinator Programme Facilitator			Plan, execute, and follow up on pilot implementation missions to establish interconnections between selected sites At least one site

3. Resources

Resources required	<ul style="list-style-type: none"> - Selection of experts to conduct the project activities (Technical experts (ANSPs, ICAO, industry partners) - Funding for workshops - Commitment of beneficiary States to fund the assistance mission, - Commitment by States to support the coordinators and experts.
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4. Project Costing

Activities	Expenditures			
	Total	2026	2027	2028
Deliverable 1: Composition of project team		x		
Activity #1.1: Selection of experts		x		
Activity #1.2: Kick off meeting		x		
Deliverable 2: AFI Aeronautical Telecommunication Infrastructure Regional strategy		x		
Activity #2.1: Gap Analysis Report on AFI VSAT Networks and Infrastructure		x		

Activity #2.2: Validation workshop (online) <i>(Engage with States, ANSPs, and regional organizations to validate findings, collect feedback on operational challenges and future upgrade plans)</i>		x		
Activity #2.3: Development of AFI Aeronautical Telecommunication Infrastructure Implementation Strategy		x		
Deliverable 3 : Documents and tools				
Activity #3.1: Guidance Material for VSAT network interoperability		x		
Activity #3.2: Pilot IP VPN Interconnection Procedures			x	
Activity #3.3: Guidance Materials on IP VPN Connectivity			x	
Activity #3.4: Documents and tools validation workshop	47,666	-	47,666	
Deliverable 4: Capacity building				
Activity #4.1: Workshops on VSAT network interoperability, ATN/IPS implementation, IP VPN Connectivity, Cybersecurity for CNS/ATM Systems		x		x
Deliverable 5: Pilot implementation of interconnections between selected sites				
Activity #5.1: Site selection and readiness assessment			x	x
Activity #5.2: Pilot implementation of interconnections between selected sites (one)				10,500 USD
Total				