**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** | - % 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** | The implementation will be led by key regional stakeholders to ensure alignment with national and regional priorities.  Harmonized policies and architectural frameworks will guide:   * 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.   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).  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.  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.  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. | | |
| **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** | * GANP and * ASBU B1 COM1/2/3 and B2 COM1 | | |

1. **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 |  | 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).   * 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 |  |  | A comprehensive technical guide to support the seamless interoperability of AFI VSAT networks (AFISNET, SADC/NAFISAT), including:   * 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). * 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 |

1. **Resources**

|  |  |
| --- | --- |
| **Resources required** | - 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. |

1. **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) *(Engage with States, ANSPs, and regional organizations to validate findings, collect feedback on operational challenges and future upgrade plans)* |  | 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** |  |  |  |  |