

## IDENTIFICATION AND DEVELOPMENT OF AAO/IIM PROJECTS

AFI Region	PROJECT DESCRIPTION (DP)	Project reference:	
<i>Programme</i>	Title of the Project	Start	End
<i>AAO</i> <b>ICAO Programme  Facilitator: ROs/AIM-  ATM-CNS</b>	<b>System Wide Information Management (SWIM) Project</b>	2025	2031
<b>Objective</b>	Provide the necessary support to ensure adequate preparation of States and air traffic management (ATM) stakeholders within AFI region for a safe, effective and harmonized implementation of System Wide Information Management (SWIM).		
<b>Scope</b>	<p>The scope of the project is to address the various technical and operational topics for the implementation of SWIM with deliverables centered around the 4 key areas namely:</p> <ol style="list-style-type: none"> <li>a) Systems and infrastructure affected</li> <li>b) Regulatory amendments required by the AFI States</li> <li>c) Training requirements for all stakeholders</li> <li>d) Review and amendment of processes and procedures.</li> </ol>		
<b>Metrics</b>	<ul style="list-style-type: none"> <li>- The percentage of common information services available within the AFI Region in accordance with air traffic management information reference model (AIRM)</li> <li>- The percentage of States having implemented a SWIM service registry of common information services for AFI Region</li> <li>- The percentage of States having defined and implemented SWIM Governance bodies within AFI Region</li> <li>- The accuracy and integrity of data exchanged between stakeholders (Information Services Providers and Information Services Consumers)</li> <li>- The percentage of successful interoperability tests between Information Services Providers and Information Services Consumers</li> <li>- The percentage of stakeholders who have completed SWIM training programs</li> <li>- The percentage of State that have implemented FF-ICE services within AFI Region.</li> <li>- The percentage of States that have implemented Information Security Frameworks within AFI Region (layers of information security we need to deploy, test and implement from either interfacing end.)</li> <li>- <b>To ensure timely access of information to relevant participants for the information to be useful.</b></li> </ul>		
<b>Goals</b>	<ul style="list-style-type: none"> <li>- 100% of states implemented SWIM not later than 2030</li> </ul>		

<p><b>Strategy</b></p>	<ul style="list-style-type: none"> <li>• <b>Project Composition:</b> A project team will be established by AASPG</li> <li>• <b>Coordination of the project:</b> The coordination of the project will be carried out by the Project Team Coordinator State.</li> <li>• <b>Implementation of the Project activities:</b> Each member of the project team will be assigned specific task to be achieved as per the project work plan. The Project Team shall work with minimum of formality.</li> <li>• <b>Supporting experts:</b> Project team members will be supported by State National Coordinator for planning and implementation (NCPI) and State technical Focal Point (TFP) in ATM/CNS/AIM.</li> <li>• <b>Meetings:</b> The Project Team shall convene meetings considering the schedule of project team activities. It shall make use of available electronic communication means including teleconferencing to prepare and progress its work in between meetings and keep its members up to date on issues of concern, as well as to discuss specific issues.</li> <li>• <b>Reporting on the project implementation:</b> Annual progress reports submitted to APCC will enable the IIM and AAO Sub-Groups and ICAO Secretariat to assess the progress of the project and plan the next stage of the activities</li> </ul>
<p><b>Rationale</b></p>	<p>The ATM system is evolving towards a highly digital, data-driven, and connected system, leveraging advanced technologies to support the safety, efficiency and sustainability of Global Air Navigation. In order access and utilise the significant amount of information available in the ATM system requires a shift towards net-centric operations, where information is readily available and accessible to all stakeholders, regardless of their location or system – enabling a globally harmonised and interoperable ATM system as envisaged in Global Air Traffic Management Operations Concept (GATMOC).</p> <p>System Wide Information Management (SWIM) is the common framework and standards that enables seamless, efficient, and reliable exchange of information between all parties involved in air traffic management (ATM). It replaces current ground-ground point to point information exchanges, reducing the need for custom interfaces and multiple systems, with the exchange of information via interoperable services based on internet protocol technologies, in alignment with the air traffic management information reference model (AIRM).</p> <p>Many of the ATM services like Flight and Flow Information for Collaborative Environment (FF-ICE), as described in the Global Air Navigation Plan (GANP), are dependent on the implementation of SWIM global interoperability framework (GIF) supported by standardized exchange modules where information is exchanged using machine readable formats such as the Flight Information Exchange Module (FIXM), ICAO Weather Information Exchange Model (iWXXM) and Aeronautical Information Exchange Model (AIXM).</p> <p>The ICAO Information Management Panel (IMP) has developed various guidelines for SWIM implementation with many ATM stakeholders are not aware of the requirements.</p> <p>Current AFI projects which is critical for SWIM implementation include Aeronautical Message Handling System (AMHS) and Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS). As States adopt SWIM Standards, Infrastructure and Governance globally, it is essential for AFI region to establish a SWIM Project which will identify operational and technical requirements needed to ensure that no ATM stakeholder is left behind to leverage upon SWIM.</p>
<p><b>Related projects</b></p>	<ul style="list-style-type: none"> <li>- COMI-B0/7 - ATS Message Handling System (AMHS)</li> <li>- COMI-B1/1 - Ground-Ground Aeronautical Telecommunication Network/Internet Protocol Suite (ATN/IPS)</li> <li>- COMI-B2/3 - Links meeting requirements for non-safety critical communication</li> <li>- SWIM-B2/1 - Information service provision</li> <li>- SWIM-B2/2 - Information service consumption</li> <li>- SWIM-B2/3 - SWIM registry</li> <li>- SWIM-B2/5 - Global SWIM processes</li> </ul>

	<ul style="list-style-type: none"> <li>- AMET-B1/1 - Meteorological observations information</li> <li>- AMET-B1/2 - Meteorological forecast and warning information</li> <li>- AMET-B1/4 - Dissemination of meteorological information</li> <li>- AMET-B2/4 - Meteorological information service in SWIM</li> <li>- AMET-B3/2 - Meteorological forecast and warning information</li> <li>- AMET-B3/4 - Meteorological information service in SWIM</li> <li>- AMET-B4/4 - Meteorological information service in SWIM</li> <li>- DAIM-B2/1 - Dissemination of aeronautical information in a SWIM Environment</li> <li>- DAIM-B2/2 - Daily Airspace Management information to support flight and flow</li> <li>- DAIM-B2/5 – NOTAM Replacement</li> <li>- FICE-B2/6 - Publication Service</li> <li>- FRTO-B2/4 - Enhanced Conflict Resolution Tools</li> <li>- NOPS-B1/2 - Enhanced Network Operations Planning</li> <li>- NOPS-B1/3 - Enhanced integration of Airport operations planning with network operations planning</li> <li>- NOPS-B1/7 - Enhanced ATFM slot swapping</li> <li>- NOPS-B2/3 - Collaborative Network Operation Planning</li> <li>- NOPS-B2/5 - Further airport integration within Network Operation Planning</li> </ul>				
Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	*Status of Implementation	Delivery date	Comments
Deliverable 1: conduct the SWIM webinar to demystifying					Deliverables 1 & 2 can be merged: <i>Conduct: conduct an awareness workshop on the SWIM implementation</i>  *This can either be physical or virtual
Deliverable 2: <i>conduct the SWIM awareness workshop</i>					Organize an initial webinar and subsequent follow up workshops with industry representatives and the project team members to launch the activities of the project and provide status updates.
Deliverable 3: Establishment of SWIM Project Team		APIRG / RO (WACAF/ESAF)			Coordinate with identified States and Organizations for the nomination of subject matter experts possessing the required qualifications and experience to compose the project team.
Deliverable 4: <b>Define the functional requirements for implementation of SWIM within AFI Region</b>		Project Coordinator & Team			Identify, assess and define SWIM functional implementation requirements (Information Services, Standards, Registry, Governance and Infrastructure) for the AFI Region through the development of documents.

4.1 Identify and review applicable ICAO documentation relating to SWIM		Project Team			
4.2 Assess and define functional requirements for SWIM implementation including priorities.		Project Team			
4.3 Develop report on SWIM requirements		Project Team			
4.4 Submit report for AAPSG endorsement		Project Coordinator			
<b>Deliverable 5: Conduct comprehensive GAP analysis to assess the readiness of AFI States to implement provisions of SWIM</b>		Project Coordinator & Team			Conduct comprehensive GAP analysis to assess the readiness of AFI States to implement provisions of SWIM. Considerations for the GAP analysis will include regulatory amendments required by the state, review and amendments to operational processes and procedures, identification of ATM/CNS systems requirements and training requirements for all involved stakeholders.
5.1 Identify AFI related APIRG projects impacted with SWIM Implementation		Project Team			
5.2 Perform a SWIM gaps analysis based on SWIM requirements report (outcome of section 3 above)		Project Team			
5.3 Develop Action Plan to address the deficiencies identified upon the gaps analysis		Project Team			
5.4 Submit GAP analysis report for AASPG		Project Coordinator			

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endorsement.					
<b>Deliverable 6: Develop AFI SWIM transition Roadmap</b>		Project Coordinator & Team			Develop an AFI SWIM transition Roadmap based on SWIM Requirements report and GAP Analysis report. Considerations for the Roadmap shall include list of SWIM mandatory requirements, systems, training. Endorsements of the Roadmap infers agreement with the ICAO strategies for contracting States to development and implement a National strategy in line with the Global Air Navigation Plan (Doc 9750) Aviation System Block Upgrade (ASBU) modules, that will require the transition from legacy systems to SWIM.
6.1 Based on AASPG endorsement of SWIM Requirements report and GAP Analysis report develop AFI SWIM performance-based transition roadmap		Project Team			
6.2 Submit AFI SWIM performance-based transition roadmap for APIRG endorsement.		Project Coordinator			
<b>Deliverable 7: Develop CONOPS for AFI SWIM Implementation</b>		Project Coordinator & Team			Develop a CONOPS for AFI SWIM Implementation. The Concept of Operations (CONOPS) document will describe the envisioned SWIM system concept and how the concept would be operated in an intended environment.
7.1 Develop CONOPS for AFI SWIM Implementation		Project Team			
7.2 Submit AFI SWIM CONOPS for AASPG endorsement.		Project Coordinator			
<b>Deliverable 8: Proposed updates to AFI Regional Air Navigation Plan and Regional Supplementary Procedures</b>		Project Coordinator & Team			Identify and propose changes to the AFI Regional Air Navigation Plan and Regional Supplementary Procedures aligned with SWIM Roadmap and CONOPS.
8.1 Develop draft updates to AFI Regional Air Navigation Plan and		Project Team			

AASPG PROJECT DOCUMENT TEMPLATE

Regional Supplementary Procedures based on SWIM requirements.					
8.2 Submit proposed updates for AASPG endorsement.		Project Coordinator			
<b>Deliverable 9: Define Training requirements</b>		Project Coordinator & Team			Define training area's and requirements per area (Pilots/Airline OPS, ATC, Aerodrome operators, AIM, etc)
9.1 Define and develop training requirements per functional area based on SWIM requirements.		Project Team			
9.2 Submit proposed updates for AASPG endorsement.		Project Coordinator			
<b>Deliverable 10: Conduct SWIM Testing and validation</b>		Project Team			Based on the SWIM Roadmap and CONOPS, conduct period assessments of the system evolution to identify and implement corrective actions.
<b>Resources required</b>	<ul style="list-style-type: none"> <li>- Selection of experts to conduct the project activities.</li> <li>- Commitment by States to support the coordinators and experts and to implement the recommendations of the performance reports.</li> <li>- Commitment of States to communicate feedback to the project team as required.</li> </ul>				

- \*Grey*      *Task not started*
- Green*      *Activity underway as scheduled*
- Yellow*      *Activity started with some delay but expected to be completed on time*
- Red*      *It has not been possible to implement this activity as scheduled; mitigating measures are required*