

**ESTABLISHMENT OF AIM RESULTS-BASED IMPLEMENTATION SUPPORT (RBIS)
PROCESS FOR THE AFI REGION**

ICAO SECRETARIAT

1. Background and Justification

1.1 The ICAO Council has recently adopted a new amendment (Amendment 40) to Annex 15 to the Convention on International Civil Aviation (Chicago Convention) and approved a first new edition of PANS-AIM covering *Aeronautical Information Services (AIS)*. The new provisions enable global air transport operations to complete the transition from product-centric and paper-based AIS legacy processes to a fully data-centric, quality-assured and digital aeronautical information management (AIM) environment.

1.2 The 13th ICAO Air Navigation Conference (AN-Conf/13) held in October 2018 in Montreal, Canada highlighted the importance and the benefits associated with these new provisions which provide a harmonized approach to transition to AIM, an enhanced understanding of the roles and responsibilities of stakeholders along the aeronautical data process, better means for States to increase quality at origination and to maximize integrity along the data chain and efficiencies in managing and processing aeronautical data through the use of digital products; however their impact on States, including the transposition of Annex 15 and PANS-AIM into national and regional regulations, the reinforcement of quality measures at the origination and along the aeronautical data process, the completion of the transition to digital AIM, etc. is significant.

1.3 In light of these latest developments, ICAO has been urged to establish a robust and collaborative framework to support States to expedite implementation and to help them overcome difficulties that may be faced by users, if aeronautical information products are not of the right quality and are implemented in different ways without harmonization nor standardization.

1.4 In the AFI Region, specific ICAO AIM Projects have been initiated to advance implementation in the aeronautical information domain:

- a) **AFI AIM Project /2019/001**, designed to assist selected AFI Region States with Quality Management System (QMS) implementation;
- b) **AFI AIM Project /2019/003**, designed to assist selected AFI Region States with TOD Implementation;
- c) **AFI AIM/Project /2019/002**, designed to assist selected AFI Region States with AIXM and eAIP implementation.

1.5 Among these projects, high priority is given to the one supporting the implementation of QMS in a digital/electronic AIM environment. An analysis of selected USOAP Protocol Questions (PQs) for the African Region shows that the effective implementation of properly organized QMS as applied to AIS processes is only 33%; therefore still low as an average value. An important pre-requisite for States to effectively transition from AIS to AIM is to ensure that quality measures are in place.

1.6 In order to increase capacity of AFI States to effectively implement the ICAO AIM provisions, it is proposed to further enhance its mechanisms through the establishment of an “**AIM Results-Based Implementation Support (RBIS) for the AFI Region**”, with an initial focus given to support the

implementation of QMS in digital AIM environments. Once the concept proves to be successful, the same mechanism will be applied to assist States with TOD, AIXM and eAIP implementation.

1.7 The AFI Plan Steering Committee (SC) is requested to evaluate this identified priority. If the AFI Plan SC will decide that a higher priority should be given to the TOD or AIXM/eAIP implementation, the RBIS Concept will be adapted accordingly.

2. Key elements of the AIM RBIS Concept, as applied to the AFI Region

2.1 The primary objective of the AIM RBIS Concept is to bring AFI States to a good implementation stage through a standard process which includes two main phases, as follows:

- a) Phase I: AFI AIM regional workshops, to help AFI States better understand to a greater depth of the activities needed to achieve the requirements contained in the ICAO AIM-related provisions (Annex 15, PANS-AIM); to provide insights on how effectively transition to AIM through States best practices; to provide opportunities for interaction with the States in the AFI region; and to promote the AIM Go-Team visit process (Phase II).
- b) Phase II: AIM Go-Team visits, to assist AFI States with a tailored implementation support process.

2.2 Phase I will include:

- a. Gap-analysis of the AFI Region status of implementation of AIM-provisions, through existing AFI projects, Protocol Questions, States questionnaires, etc.;
- b. Feedback on Gap-analysis based on Presentations of Respective APIRG AIM Project Coordinators on status of implementation of existing AFI projects
- c. Preparation of the regional workshops programmes, based on the outcome of the gap-analysis;
- d. Regional workshops;
- e. Identification of candidate States willing to engage with the AIM Go-Team visit process (Phase II).

2.3 Phase II will include:

- f. Identification of and engagement with AFI State receiving assistance;
- g. in-depth analysis of their shortcomings with implementation;
- h. provision of tailored guidance to address those challenges;
- i. **identification of follow-up actions after on-site visits**;
- j. States executing the follow-up actions; and
- k. monitoring the **execution of those follow-up actions** through specific Key Performance Indicators (KPIs).

2.4 The team supporting Phase I of the process will be composed of:

- a) ICAO Headquarters Technical Officer/s
- b) ICAO relevant Regional Officer/s
- c) Respective APIRG AIM Project Coordinators
- d) Recipient States Focal Points
- e) Partner organizations/States

2.5 The team supporting Phase II of the process will be composed of:

- a) ICAO Headquarters Technical Officer/s (only the first visit/s in the Region)

- b) ICAO relevant Regional Officer/s
- c) Respective APIRG AIM Project Coordinators
- d) Recipient State Focal Point
- e) Partner organizations/States

2.6 The key element of the RBIS Concept is the Go-Team support and the associated follow-up actions. This is where the implementation support significantly differs from the standard seminars/workshops support.

2.7 The AIM Go-Team outreaches to one State and provides tailored support. The Go-Team is composed of stakeholders covering the key roles and responsibilities to support the aeronautical data process, from origination to distribution. The AIM Go-Team composition will be adapted to the specific needs of the recipient State.

2.8 The AIM Go-Team follow-up actions imply that:

- a) States/ANSP are expected to develop a detailed AIM Implementation Action Plan, based on the Go-Team Recommendations, within 6 months after the on-site visit;
- b) the Go-Team is expected to monitor States` implementation as well as the operational benefits achieved, through effective feedback mechanisms.
- c) The Go-Team will also engage with the regulatory authorities and the service providers to ensure that implementation is executed as planned.
- d) The ICAO Regional Offices, based on the Recommendations and the feedback provided by the Go-Team will guide States closely in their implementation efforts (additional States` visits).

2.9 The follow-up actions will monitor and guide implementation. The AIM Go-Team does not have direct control over the implementation process within a State; decisions relating to the implementation of Aeronautical Information Services enhancements rests with the State and its designated ANSP. However an active engagement from States, all the concerned stakeholders within the States and the Go-Team members in the execution of the follow-up actions is the key to success.

2.10 By the end of the project, AIM implementation will be strengthened not only within the States receiving support, but also within the region which will be verified through the future USOAP CMA activities. States will benefit from receiving ad-hoc guidance; regions will benefit because the successful AIM Go-Team experiences will be shared with all the other States in the region, as best practices. This will also encourage coordination among States in the region. Furthermore, the awareness on AIM will be increased, generating more resources that could be made available for AIM.

3. Scope of Activities

PHASE I:

Phase 1 – Regional workshop	
<i>Activities</i>	
<i>1.1</i>	<i>Description</i>
	Assessment of the activities undertaken under AFI AIM Project /2019/001 , analysis of the Protocol Questions, preparation and submission of States

	Questionnaire. This is used to identify States` major roadblocks with implementation of QMS-provisions.
	Responsible entity
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	Deliverables
	High-level gap-analysis of the AFI Region status of implementation of AIM-provisions
1.2	Description
	Preparation of the AIM regional workshops programmes, based on the outcome of 1.1
	Responsible entity
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Recipient States Focal Points, Respective APIRG AIM Project Coordinators , Partner organizations/States
	Deliverables
	Regional workshop programmes
1.3	Description
	AIM Regional workshops
	Responsible entity
	ICAO Headquarters Technical Officer/s, ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	Deliverables
	Regional workshop, whose main expected outcomes are: <ul style="list-style-type: none"> 1) Effective sharing of knowledge, practices and technologies in support of the implementation of AIM Provisions; 2) Better understanding of regional challenges to tailor ICAO implementation support; 3) Identification of candidate States engaging with the Go-Team visit process.

PHASE II:

Phase 2 – Go-Team visits	
Part 1 – Selection of the Candidate State	
Activities	
2.1	Description

	<p>Identification by ICAO Headquarters, in coordination with ICAO Regional Offices and eventual partner organizations of the State receiving assistance, based on outcome of the regional workshops.</p> <p>Responsible entity</p> <p>ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators , Partner organizations/States</p> <p>Deliverables</p> <p>Selection of the candidate State</p>
2.2	<p>Description</p> <p>Co-ordination between ICAO Headquarters, ICAO Regional offices, and eventual partner organizations on the suitability of the State selected.</p> <p>Responsible entity</p> <p>ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Partner organizations/States</p> <p>Deliverables</p> <p>Suitability of the candidate State</p>
2.3	<p>Description</p> <p>Send State letters to brief DGs and high-level officials for acceptance.</p> <p>Responsible entity</p> <p>ICAO Headquarters/ICAO Regional offices</p> <p>Deliverables</p> <p>State letter</p>
Part 2 – Go-Team Composition	
Activities	
2.4	<p>Description</p> <p>Initial assessment by ICAO Headquarters, ICAO Regional Offices, Respective APIRG AIM Project Coordinators, and eventual partner organizations on the potential Go-Team composition</p> <p>Responsible entity</p> <p>ICAO Headquarters Technical Officer/s, ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Partner organizations/States</p> <p>Deliverables</p> <p>Identification of Go-team members</p>
2.5	<p>Description</p> <p>Contact potential Go-Team members and engage them in the process.</p> <p>Responsible entity</p>

	ICAO Headquarters Technical Officer/s, ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Confirmation from Go-Team members
Part 3 - Data collection	
<i>Activities</i>	
2.6	<i>Description</i>
	The established Go-Team to engage with the recipient State to collect data or refine the data collected within the scope of the AFI AIM Project /2019/001 and during Phase I activities.
	<i>Responsible entity</i>
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	<i>Deliverables</i>
	Quantitative and qualitative data collection methods
2.7	<i>Description</i>
	Perform a gap analysis, based on the collected data, on AIM implementation, knowledge and experience so as to develop a programme tailored to the State.
	<i>Responsible entity</i>
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	<i>Deliverables</i>
	Detailed gap-analysis of the receiving State status of implementation of AIM-provisions
2.8	<i>Description</i>
	Develop a report of the initial gap-analysis.
	<i>Responsible entity</i>
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Gap-analysis report
Part 4 - Coordination	
<i>Activities</i>	
2.9	<i>Description</i>
	Co-ordination with State and Go-Team members on the On-site visit programme , including logistics.
	<i>Responsible entity</i>

	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	<i>Deliverables</i>
	Go-team visit logistics
2.10	<i>Description</i>
	Definition of a tailored agenda for the Go-Team Visit.
	<i>Responsible entity</i>
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	<i>Deliverables</i>
	Go-Team visit agenda
Part 5 – On site visit	
<i>Activities</i>	
2.11	<i>Description</i>
	<i>Execution of the on-site visit</i>
	<i>Responsible entity</i>
	ICAO Headquarters Technical Officer/s , ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	<i>Deliverables</i>
	Go-Team visit, whose main expected outcomes are: 1) Tailored support to implementation; 2) Identification of action items to drive the follow-up activities
2.12	<i>Description</i>
	The Go-Team to deliver a draft report at the end of the visit
	<i>Responsible entity</i>
	ICAO Headquarters Technical Officer/s, ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Go-Team visit draft report
Part 6 – Follow-up	
<i>Activities</i>	
2.13	<i>Description</i>
	The Go-Team to deliver a final report development within 1 month from the visit, in coordination with the recipient State.
	<i>Responsible entity</i>

	ICAO Headquarters Technical Officer/s, ICAO relevant Regional Officer/s, Respective APIRG AIM Project Coordinators, Recipient States Focal Points, Partner organizations/States
	<i>Deliverables</i>
	Go-Team visit final report
2.14	<i>Description</i>
	State to develop action plan, based on the report, within 6 months from the visit.
	<i>Responsible entity</i>
	Recipient State
	<i>Deliverables</i>
	State action plan
2.15	<i>Description</i>
	The Go-Team to work with regulatory authority to ensure regulatory approval process is in place
	<i>Responsible entity</i>
	ICAO relevant Regional Officer/s, Recipient States Focal Points, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Implementation actions as per Go-Team final report
2.16	<i>Description</i>
	The Go-Team to work with ANSP to ensure implementation is executed
	<i>Responsible entity</i>
	ICAO relevant Regional Officer/s, Recipient States Focal Points, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Implementation actions as per Go-Team final report
2.17	<i>Description</i>
	The Go-Team to perform baseline measurement - comparison between pre- and post-implementation
	<i>Responsible entity</i>
	ICAO relevant Regional Officer/s, Recipient States Focal Points, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Baseline implementation measurement
2.18	<i>Description</i>
	The Go-Team to perform an annual performance measurement assessment of the operational benefits achieved.
	<i>Responsible entity</i>
	ICAO relevant Regional Officer/s, Recipient States Focal Points, Respective APIRG AIM Project Coordinators, Partner organizations/States
	<i>Deliverables</i>
	Annual performance measurement assessment

4. Summary of Planned Schedule

4.1 The proposed project builds upon the existing AFI AIM Project /2019/001 and happens in conjunction with the other AFI AIM Projects (**AFI AIM Project** /2019/003 and **AFI AIM/Project** /2019/002). Therefore the starting date will be adapted, taking into consideration the three projects all together. The timeframe of the project will be 18 months.

5. Estimated Costs

5.1 In order to proceed with this project, it is therefore crucial to receive an initial investment of 22K USD for 2019 and 68K USD for 2020 to support the following activities.

2019:

3 day AIM Regional workshop in the ESAF Region	11 15 K
3 day AIM Regional workshop in the WACAF Region	11 15 K
TOTAL	22 30 K

5.2 The costs have been calculated considering the following elements:

- a) Travel costs for 1 AIM Technical Officer from the ICAO Headquarters
- b) Travel costs for 1 AIM Regional Officer
- c) Travel cost for 1 Respective APIRG AIM Project Coordinator
- d) Interpretation Costs for 3 days (WACAF and ESAF)
- e) Miscellaneous costs coffee/tea and ESAF Conference Hall rental

2020:

1 AIM Go-Team Visit – ESAF (with ICAO HQ Support)	19 K
1 AIM Go-Team Visits – WACAF (with ICAO HQ Support)	19 K
2 AIM Go-Team Visits – ESAF (only ICAO RO APIRG Project Coordinator)	15 K
2 AIM Go-Team Visits – WACAF (only ICAO RO APIRG Project Coordinator)	15 K
TOTAL	68 K

5.3 The costs have been calculated considering the following elements:

1 AIM Go-Team in the ESAF Region (with ICAO HQ Support):

- a) Travel costs for 1 AIM Technical Officer from the ICAO Headquarters
- b) Travel costs for 1 Respective APIRG AIM Project Coordinator
- c) Follow-up activities:
 - a. Travel costs for 1 Respective APIRG AIM Project Coordinator
 - b. 7 work days of 1 Respective APIRG AIM Project Coordinators

1 AIM Go-Team in the WACAF Region (with ICAO HQ Support) :

- a) Travel costs for 1 AIM Technical Officer from the ICAO Headquarters
- b) Travel costs for 1 Respective APIRG AIM Project Coordinator
- c) Follow-up activities:
 - a. Additional Travel costs for 1 Respective APIRG AIM Project Coordinator

b. 7 work days of 1 Respective APIRG AIM Project Coordinator
2 AIM Go-Team Visits – ESAF (only ICAO RO):

- a) Travel costs for Respective APIRG AIM Project Coordinator
- b) Follow-up activities:
 - a. Additional Travel costs for 1 Respective APIRG AIM Project Coordinator
 - b. 7 work days of 1 Respective APIRG AIM Project Coordinator

2 AIM Go-Team Visits – ESAF (only ICAO RO):

- a) Travel costs for 1 Respective APIRG AIM Project Coordinator
- b) Follow-up activities:
 - a. Additional Travel costs for 1 Respective APIRG AIM Project Coordinator
 - b. 7 work days of 1 Respective APIRG AIM Project Coordinator

5.4 Some miscellaneous expenditures have been considered as a contingency plan.

6. Selection of Candidate States for the AIM Go-Team visits

6.1 Based on the USOAP-CMA Protocol question PQ 7.267 results, a list of potential candidate States for the AIM Go-Team is provided in the Table below for both the ESAF and WACAF Regions.

ESAF Region: the States that are highlighted in blue are potential candidate States.

State	Name	PQ 7.267: <i>Does the State ensure that a properly organized quality management system in the AIS has been established?</i>	Satisfactory
TCD	Chad	7.267	0
STP	Sao Tome and Principe	7.267	0
GIN	Guinea	7.267	0
UGA	Uganda	7.267	0
MRT	Mauritania	7.267	0
GNB	Guinea-Bissau	7.267	0
DJI	Djibouti	7.267	0
COM	Comoros	7.267	0
MWI	Malawi	7.267	0
CIV	Cote d'Ivoire	7.267	0
MUS	Mauritius	7.267	0
NAM	Namibia	7.267	0
LBY	Libya	7.267	0
COG	Congo	7.267	0
GAB	Gabon	7.267	0
AGO	Angola	7.267	0
BFA	Burkina Faso	7.267	0
NGA	Nigeria	7.267	0
LBR	Liberia	7.267	0
ETH	Ethiopia	7.267	0
SDN	Sudan	7.267	0
SWZ	Swaziland	7.267	0
CAF	Central African Republic	7.267	0
SYC	Seychelles	7.267	0

BWA	Botswana	7.267	0
GHA	Ghana	7.267	0
RWA	Rwanda	7.267	0
SEN	Senegal	7.267	0
COD	Democratic Republic of the Congo	7.267	0
ZWE	Zimbabwe	7.267	0
LSO	Lesotho	7.267	0
ERI	Eritrea	7.267	0
SLE	Sierra Leone	7.267	0
GMB	Gambia	7.267	0
TUN	Tunisia	7.267	1
ZMB	Zambia	7.267	1
KEN	Kenya	7.267	1
DZA	Algeria	7.267	1
MOZ	Mozambique	7.267	1
MLI	Mali	7.267	1
GNQ	Equatorial Guinea	7.267	1
BEN	Benin	7.267	1
MAR	Morocco	7.267	1
TZA	United Republic of Tanzania	7.267	1
ZAF	South Africa	7.267	1
TGO	Togo	7.267	1
MDG	Madagascar	7.267	1
CPV	Cabo Verde	7.267	1
CMR	Cameroon	7.267	1
EGY	Egypt	7.267	1
NER	Niger	7.267	1

WACAF Region: the States that are highlighted in blue are potential candidate States.

State	Name	PQ 7.267: <i>Does the State ensure that a properly organized quality management system in the AIS has been established?</i>	Satisfactory
TCD	Chad	7.267	0
MRT	Mauritania	7.267	0
GIN	Guinea	7.267	0
GNB	Guinea-Bissau	7.267	0
STP	Sao Tome and Principe	7.267	0
CIV	Cote d'Ivoire	7.267	0
NGA	Nigeria	7.267	0
BFA	Burkina Faso	7.267	0
GMB	Gambia	7.267	0
GAB	Gabon	7.267	0
SEN	Senegal	7.267	0

COD	Democratic Republic of the Congo	7.267	0
LBR	Liberia	7.267	0
COG	Congo	7.267	0
SLE	Sierra Leone	7.267	0
CAF	Central African Republic	7.267	0
GHA	Ghana	7.267	0
CPV	Cabo Verde	7.267	1
BEN	Benin	7.267	1
MLI	Mali	7.267	1
NER	Niger	7.267	1
TGO	Togo	7.267	1
CMR	Cameroon	7.267	1
GNQ	Equatorial Guinea	7.267	1

6.2 Among those States in the ESAF and WACAF Region that have a PQ 7.267 score equal to “1”, a more in-depth analysis will be performed by ICAO (Headquarters and Regional Office) to identify those States eligible to receive the first Go-Team visits; these Go-Team visits will aim at helping them in finalizing an implementation process that had been already initiated.

6.3 Through the best practice examples of those States receiving the initial Go-Team support, additional Go-Team visits will be organized for those States that have a score equal to “0”, in order to help them implementing quality management systems from scratch.

7. Resources

7.1 The team supporting the RBIS Process should be composed of max 6 members, including experts, as part of in-kind contributions, from International Organizations, States and ANSPs that have proved to be successful in AIM implementations and Industry representatives, including representatives from the user community and AIM software development companies.

7.2 The team supporting the RBIS Process should include various types of expertise, encompassing the main roles and responsibilities needed to support the aeronautical data process. This includes:

- a) experience and knowledge of international standards and recommend practices;
- b) experience in the establishment of State regulatory framework that support the transition to AIM environments;
- c) experience in AIS organizations that have transitioned to an AIM data-centric environment and that have an AIS organizational set-up based on processes;
- d) experience in the collection of aeronautical data and information (data originator);
- e) experience in facilitating AIM System and Infrastructure expert implementation;
- f) experience in AIM Training.

7.3 The team supporting the RBIS Process does not represent the interest of any particular State, Region or Organization. Rather they act independently and utilize their expertise in the interest of the entire international civil aviation community.

8. Project Progress and Results Indicators and Implementation Risks and Mitigations

8.1 The indicators to be used to measure the effectiveness and the progress of the project are:

- a. Number of State action plans received (based on the template defined by the Go-Team)

b. Fulfilment of the implementation milestones by States, based on the State action plan

8.2 The risks associated with this project may be:

a. The team supporting the RBIS Process work priorities are shifted: in order to mitigate this risk it is necessary to engage with other potential members that can offer the equivalent type of service;

b. The team supporting the RBIS Process does not show adequate competencies: in order to mitigate this risk it is necessary to engage potential members that can offer adequate support to the activities.

c. Go-Team visits are not happening or are shifted, due to issues associated with the State hosting the event: in order to mitigate this risk the ICAO Regional Offices might help in identifying other potential States to host the visit.