INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO AFI/MID ASBU IMPLEMENTATION WORKSHOP

(Cairo, Egypt, 23 - 26 November 2015)

SUMMARY OF DISCUSSIONS

1. INTRODUCTION

1.1 The ICAO AFI/MID ASBU Implementation Workshop was successfully held at the ICAO Middle East (MID) Regional Office (Cairo, Egypt, 23-26 November 2015). The objective of the Workshop was to bring together all air navigation stakeholders (Regulators, Air Navigation Service Providers, Aerodrome Operators, Aircraft Operators, International Organizations and Industry) from both the Africa-Indian Ocean (AFI) and Middle East (MID) Regions, to review the regional Air Navigation priorities and targets and get a clear understanding of the airspace users' needs and recommend a regional performance baseline, based on the Aviation System Block Upgrade (ASBU) methodology, users' requirements, major traffic flows, cost effectiveness considerations, and global/regional objectives/priorities.

1.2 The Workshop was attended by a total of fifty five (55) participants from nine (9) States, and five (5) Organizations/Industries. The list of participants is at **Attachment A** to the Summary of Discussions.

1.3 Mr. Mohamed Smaoui, ICAO Deputy Regional Director, Middle East Office, and Mr. Prosper Zo'o Minto'o, Deputy Regional Director of the ICAO Eastern and Southern African Regional Office, welcomed the participants to the Regional Office in Cairo and thanked them for their attendance to this important Workshop and wished successful deliberations and outcome.

1.4 In his opening, Mr. Smaoui highlighted that based on the Air Navigation priorities identified in both the AFI and MID Regions and associated ASBU Block 0 Modules, the Workshop was expected to address, inter-alia, the following:

- a gap analysis between the user requirements and the status of implementation at national level;
- the States' capabilities and plans supported by cost-benefit analysis and best practices;
- human resources and training needs; and
- regulatory requirements and constraints.

1.5 Mr. Zo'o Minto'o thanked the ICAO MID Regional Office for coordinating and hosting this Workshop. He also reminded the audience that the 12th Air Navigation Conference (AN-Conf/12) not only reached a consensus on the strategy to be adopted but also set commitments and formulated recommendations to achieve a harmonized global air navigation system for international civil aviation. At regional level, the Planning and Implementation Regional Groups (PIRGs) have aligned their Air Navigation Plans (ANPs) with the ASBUs, and States are now expected to align their national plans with the regional plans and timelines and, hence, with the ASBU methodology.

1.6 Both Mr. Smaoui and Mr. Zo'o Minto'o emphasized on the need to integrate aviation planning at both regional and State levels. They also highlighted the importance of interregional coordination, interoperability and harmonization for the identified ASBU modules implementation.

1.7 The Workshop was moderated by Mr. Raza Gulam Regional Officer CNS, ICAO Middle East Office, who was supported by Ms. Olga De Frutos, Technical Officer ICAO HQ, Mr. Adel Ramlawi, Regional Officer AGA, Mr. Elie El Khoury Regional Officer ATM/SAR, from the ICAO MID Regional Office in Cairo and Mr. Seboseso Machobane, Regional Officer ATM/SAR, from the ICAO ESAF Regional Office in Nairobi.

1.8 The Workshop appreciated the support from States, Organizations and industry partners. The detailed work programme, showing the list of presentations and presenters is at **Appendix A.** The presentations are available on the ICAO MID Office website at:
http://www.icao.int/MID/Pages/2015/AFI-MID%20ASBU%20Workshop.aspx

2. DISCUSSIONS

2.1 The Workshop followed the agenda which was divided into sessions; each day's last session was dedicated for a panel discussion. The discussions covered the following:

Session 1.2: Global Air Navigation Performance Framework – ASBU methodology

2.2 The Workshop received a presentation from ICAO HQ (Ms. Olga De Frutos), on how to adopt a performance-based (PBA) approach for the ASBU implementation. This presentation addressed three main points:

- What a performance-based approach (PBA) is?
- What are the steps required to adopt a PBA for the ASBU implementation?
- What are the ICAO initiatives (local, regional and global) in place to support the adoption of this approach.

2.3 The Workshop noted the concept of PBA, its principles, advantages, and requirements, as well as the seven steps required to adopt this approach for the ASBUs implementation.

2.4 A video message from the Deputy Director Air Navigation Capacity and Efficiency, Air Navigation Bureau presenting the ASBU Performance Assessment INteractive Tool (A-PAINT) was displayed. A-PAINT is still under development at ICAO HQ and will be rolled out in phases. This tool will help States to identify their needs and associated optimum solutions.

Session 1.3: Regional ASBU Implementation Strategies

2.5 The Workshop noted that the MID Air Navigation Strategy includes eleven (11) ASBU Block 0 Modules identified as priority one for implementation in the MID Region. It identifies the elements that need to be implemented as well as where they need to be implemented, along with the implementation targets.

2.6 The Workshop also noted that the AFI Region have nine (9) ASBU Block 0 modules as priority one for implementation. The Workshop acknowledged the challenges in the AFI region, the infrastructure requirements, the outcome of APIRG/19 and the targets.

Session 1.4: Users' views on the Regional ASBU Implementation Strategies

2.7 The Workshop received with appreciation two presentations, the first one regarding the user requirements from an airline perspective and the need to increase collaboration with the industry. The key short term targets were noted and the support from IATA and airlines was reassured. In the second presentation some of Qatar Airways operations/challenges were illustrated.

Session 1.5: National ASBU Implementation Plans

2.8 Two examples of how to harmonize national plans with the ASBU strategy were presented. One from Iran explaining the ongoing planning steps for the ASBU implementation and challenges/difficulties faced along with the recommendations to solve them. The second presentation by ATNS - South Africa, explained also the steps taken for the implementation of the Block 0 Modules and the deployment interdependencies.

Session 2.1: Performance Improvement Area: Airport Operations (B0-APTA)

2.9 ICAO presented the status of PBN Implementation in the AFI and MID Regions as of September 2015, highlighting the challenges impeding the implementation and the mitigation measures undertaken to overcome these challenges in both regions, which include the establishment of the AFI and MID Flight Procedure Programmes (FPPs). The Workshop noted that MIDANPIRG/15 endorsed the MID Region PBN Implementation Plan as (MID Doc 007). The Workshop highlighted the challenges facing States to meet the deadlines reflected in Assembly Resolution 37/11.

2.10 PBN Implementation in Egypt was presented including an overview of the Egyptian PBN Implementation Plan and the progress achieved. Egypt underlined the need for a legal framework template for the use of GNSS.

2.11 Airbus ProSky delivered a presentation on PBN from an industry perspective highlighting the available and future on-board capabilities of the aircraft.

Session 2.2: Performance Improvement Area: Airport Operations (B0-SURF and B0-ACDM)

2.12 The main concepts of B0-SURF and B0-ACDM modules and their implementation in MID and AFI Region were presented. The Workshop noted that B0-SURF implementation requires supporting systems in the airports, qualified personnel and necessary training. The Workshop also noted the outcome of the ACDM Seminar, Bahrain, 11 - 13 October 2015. The German experience on ACDM implementation was presented in detail showing implementation requirements, phases and challenges.

2.13 Egypt experience on the implementation of B0-SURF was presented. The Workshop acknowledged that one of the main challenges in the implementation of the B0-SURF in Cairo International Airport was the integration between the various systems.

2.14 ATNS - South Africa presented their experience on B0-ACDM implementation. The Workshop noted different components of the systems and procedures used by the ATNS that include: Digital Automatic Terminal Information Service (DATIS), ASMGCS Level 2, Runway Incursion Monitoring and Conflict Alerting System (RIMCAS), and the Voice Communication and Control System (VCCS); and the different phases of implementation.

Session 3.1: Globally Interoperable Systems and Data – Through Globally Interoperable SWIM

2.15 The Workshop received a presentation covering the status of implementation of B0-AMET, B0-DATM, and B0-FICE in the MID Region and the plan to conduct an APAC/EUR/MID Interregional Seminar on "Service Improvement through Integration of Digital AIM, MET and ATM Information" that will support the planning for Block 1Modules related to AIM, MET, SWIM and FICE. Another presentation on B0-FICE implementation in the MID Region and OLDI implementation in UAE showing all the benefits gained from these implementations was delivered.

2.16 The Workshop received a presentation from ATNS - South Africa on B0-DATM implementation and noted that many systems have been upgraded or were under the process of upgrading (e.g. AFTN to AMHS, AIS to AIM etc.)

Session 3.2: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM

2.17 The Workshop received a presentation on the status of implementation of B0–FRTO, B0-NOPS, B0-ASUR and B0-ACAS in the AFI and MID Regions. The Workshop noted the various challenges for implementation of each Module. Furthermore, it was noted that although the B0-NOPS is not a regional priority in AFI, South Africa had implemented the module due to the high traffic density.

2.18 The Workshop received with appreciation a presentation on the implementation of B0-FRTO, B0-NOPS, B0-ACAS and B0-ASUR from ATNS - South Africa and noted the different challenges and implementation phases.

Session 3.3: Efficient Flight Paths – Through Trajectory-based Operations

2.19 The Workshop received a presentation on the status of implementation of B0–CDO, B0-TBO and B0-CCO in the AFI and MID Regions. The Workshop noted the various challenges for the implementation of each Module. Furthermore, the Workshop noted the AFI approach for B0-CDO where it was agreed that every new STAR should be designed to accommodate continuous descent approaches. With regard to B0-TBO it was noted that twelve (12) States in AFI have operational CPDLC and the challenges facing the establishment of a Central Reporting Agency (CRA) for the AFI Region were highlighted.

2.20 Qatar shared their experience with the implementation of the ASBU Block 0 modules, mainly the CDO and CCO. Furthermore the Workshop noted that Qatar had already implemented many modules which are not priority 1 in the MID Region however the implementation was necessary according to the identified operational requirements.

Session 4.1: Harmonization of implementation activities based on Regional Strategies and interregional coordination and interoperability

2.21 Two presentations were received. The first one on the harmonization of implementation of Ground-Ground Communications, mainly VSAT and IP Networks, and a second one on the harmonization of ATS Routes between AFI and MID, highlighting the importance of interregional coordination.

Session 4.2: Towards ASBU Block 1 Implementation

2.22 A presentation on Remotely Piloted Aircraft Systems (RPAS) was received and it was noted that Eighteen (18) out of the nineteen (19) Annexes will be amended to accommodate RPAS/UAS requirements. The Workshop noted that the main focus is currently on the development of SARPs for the RPA operations for the safe integration in the non-segregated airspace; priority has been given to the IFR operations.

2.23 EUROCONTROL provided a presentation on System Wide Information Management (SWIM) via WebEx. The Workshop noted that SWIM consists of standards, infrastructure & governance, enabling the management of ATM information and its exchange between capable parties via interoperable services. Furthermore, the Workshop noted the availability of a free EUROCONTROL SWIM Concept prototype (Jumpstart).

2.24 The third presentation covered detailed comparison between Block 0 and Block 1 operational improvements and the need to adopt performance-based approach for the ASBU implementation was reinforced.

RECOMMENDATIONS

2.25 The Workshop developed the following Recommendations:

a. Encourage States to develop/update national air navigation performance plans (if not yet done) and implement ASBUs in line with the regional strategies adopted by their respective PIRGs, based on demonstrated cost-effectiveness, needs and user requirements.

b. Urge States to provide periodic feedback (necessary data) to the relevant ICAO Regional Office on the implementation of ASBU Modules including the identified challenges, for monitoring purpose at both regional and global level.

c. ICAO to facilitate interregional coordination to ensure ANS system interoperability and seamlessness of air transport operations, through exchange of information and experience among States and joint activities, as deemed necessary (meetings, seminars, workshops, etc.).

d. Encourage collaboration between all stakeholders (ANSPs, Regulators, aerodrome operators, airlines, military authority, etc.) for the implementation of identified ASBU modules in an efficient and harmonized manner.

e. ICAO and States to coordinate implementation of IP-based regional/interregional networks.

f. Encourage States to consider implementation of cost-effective precision approach procedures using GBAS/GLS.

g. States to initiate planning and relevant activities related to ASBU Block 1 modules such as RPAS and SWIM, and take advantage of available tools.

h. In order to facilitate and expedite implementation, States are encouraged to conduct workshops on specific Modules at national level.

i. States are encouraged to implement performance monitoring systems to measure the operational improvements.

j. ICAO to develop a Forum at a global level to share challenges and best practices regarding the implementation of the ASBUs.

k. ICAO to consider the development of additional details to the guidance material related to ASBU implementation including the improvement of the current ASBU document.

Wrap-up and closing ceremony

2.26 The Workshop was closed by thanking all the speakers and attendees for their active participation.

2.27 The participants thanked ICAO for the organization of such an important inter-regional Workshop and requested ICAO to consider the conduct of similar events in the future.

ICAO AFI/MID

ASBU Implementation Workshop

(Cairo, Egypt, 23-26 November 2015)

Day 1 – 23 November 2015

Time	Session Title/Presentation(s)	Speaker/Moderator
08:00 - 09:00	**Registration**	
Session 1.1: Opening Ceremony 09:00 - 09:30	*Welcome and opening remarks*	MC (R.Gulam/ICAO) M. Smaoui/ICAO P. Zo'o Minto'o/ICAO
Session 1.2: Global Air Navigation Performance Framework – ASBU methodology		
09:30 - 10:30	*Performance-Based Approach for ASBUs Implementation* *A-PAINT Video*	O. De Frutos/ICAO R. Macfarlane/ICAO
10:30 - 11:00	**Group Photo & Coffee Break**	
Session 1.3: Regional ASBU Implementation Strategies		MC
11:00 -11:30	*MID Region Air Navigation Strategy*	M. Smaoui/ICAO
11:30 - 12:00	*AFI Air Navigation System Implementation Action Plan*	P. Zo'o Minto'o/ICAO
Session 1.4: Users' views on the Regional ASBU Implementation Strategies		MC
12:00 - 12:20	*Airline Requirements*	G. Hounsell/IATA
12:20 – 12:40	*A Regional ATM Plan for M.E.A. Airline View*	S. Caunt/IATA
12:40 - 13:00	**Coffee Break**	
Session 1.5: National ASBU Implementation Plans		MC
13:00 - 13:30	*Iran ASBU B0 Implementation*	A. Khodaei/Iran
13:30 - 14:00	*ATNS Block 0 Implementation Status*	J. Rossouw/South Africa
Session 1.6: Panel Discussions		MC
14:00 - 14:30	*- Moderator* *- Panelist* *P. Zo'o Minto'o, O. De Frutos , S. Caunt, A. Khodaei, J. Rossouw, G. Hounsell*	M. Smaoui/ICAO
End of Day 1		

Day 2 – 24 November 2015

Time	Session Title/Presentation(s)	Speaker/Moderator
Session 2.1: Performance Improvement Area: Airport Operations (B0-APTA)		MC
09:00 - 09:30	*PBN Implementation in ICAO AFI and MID Regions (B0-APTA)*	E. El Khoury/ICAO
09:30 - 10:00	*PBN Implementation in Egypt*	E. Raslan/Egypt
10:00 - 10:30	*PBN Implementation from industry perspective*	H. Elboukfaoui/AirbusProsky
10:30 – 11:00	**Coffee Break**	
Session 2.2: Performance Improvement Area: Airport Operations (B0-SURF and B0-ACDM)		MC
11:00 – 11:30	*ASBU Modules B0-SURF and B0-ACDM*	A. Ramlawi/ICAO
11:30 – 12:00	*Egypt B0-SURF*	K. Reda & A. Aly/Egypt
12:00 – 12:30	*A-CDM in Germany*	A. Ramlawi/ICAO on behalf of DFS
12:30 - 13:00	*ATNS ASBU Block 0 Implementation Status*	J. Rossouw/South Africa
13:00 - 13:30	**Coffee Break**	
Session 2.3: Panel discussion		MC
13:30 - 14:30	- *Moderator* - *Panelist* *E. El Khoury, S. Machobane, A. Ramlawi, K. Reda, A. Aly, J. Rossouw*	P. Zo'o Minto'o
End of Day 2		

Day 3 – 25 November 2015

Time	Session Title/Presentation(s)	Speaker/Moderator
Session 3.1: Performance Improvement Area: Globally Interoperable Systems and Data – Through Globally Interoperable		MC
09:00 – 09:30	*B0-DATM, B0-AMET and FICE Implementation in MID and AFI*	M. Smaoui/ICAO
09:30 – 10:00	*B0-DATM, Implementation at National Level*	J. Rossouw/South Africa
10:00 – 10:30	*FICE Implementation in UAE*	R. Gulam /ICAO on behalf of UAE
10:30 – 11:00	**Coffee Break**	
Session 3.2: Performance Improvement Area: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM		MC
11:00 – 11:30	*B0–FRTO, B0-NOPS, B0-ACAS and B0-ASUR Implementation in the AFI and MID Regions*	E. El Khoury/ICAO
11:30 – 12:00	*B0–FRTO, B0-NOPS, B0-ACAS and B0-ASUR Implementation in South Africa*	J. Rossouw/South Africa
12:00 – 12:30	**Coffee Break**	
Session 3.3: Performance Improvement Area: Efficient Flight Paths – Through Trajectory-based Operations		MC
12:30 – 13:00	*B0-CDO, B0-TBO and B0–CCO Implementation in the AFI and MID Regions*	S. Machobane/ICAO
13:00 – 13:30	*Qatar - Block 0 Implementation*	A. Al Eshaq/Qatar
Session 3.4: Panel discussion		MC
13:30 – 14:30	- *Moderator* - *Panelist* *M. Smaoui, E. El Khoury, S. Machobane, J. Rossouw, , and A. Al Eshaq*	J. Faqir/IATA
End of Day 3		

Day 4 – 26 November 2015

Time	Session Title/Presentation(s)	Speaker/Moderator
Session 4.1: Harmonization of implementation activities based on Regional Strategies and interregional coordination and interoperability		MC
09:00 – 09:30	*Harmonization for implementation G-G Communication*	P. Zo'o Minto'o/ICAO
09:30 – 10:00	*Harmonization of ATS Routes between AFI and MID*	E. El Khoury/ICAO
10:00 – 10:30	**Coffee Break**	
Session 4.2: Towards ASBU Block 1 Implementation		MC
10:30 – 11:00	*RPAS*	E. El Khoury/ICAO
11:00 – 11:30	*SWIM*	P. Bosman/Eurocontrol *via WEBEX*
11:30 - 12:00	*ASBU Block 1 Comparison and preparations*	O. De Frutos/ICAO
12:00 – 12:30	**Coffee Break**	
Session 4.3: Wrap-up and closing ceremony		MC
12:30 – 13:30	*Conclusion and Recommendation*	M. Smaoui & P. Zo'o Minto'o
13:30 – 14:00	*Closing Ceremony and certificates distribution*	All
End of Day 4		

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