**Twenty First Meeting of the Africa-Indian Ocean Planning and Implementation Regional Group (APIRG/21)**
**(Nairobi, Kenya, 9 – 11 October 2017)**

**Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation**

# STATUS OF IMPLEMENTATION OF ICAO ASBU

[Presented by the Agency for the Safety of Air Navigation in Africa and Madagascar]


| SUMMARY |
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| The purpose of this information note is to inform the meeting on ASECNA's ASBU modules implementation status of ASBU.<br><br>Particularly it presents the implementation status of blocks 0 and 1 as well as the planned planning within the framework of its five-year investment program called ASECNA's Services and Facilities lan (PSE). |
| **REFRENCE(S):**<br>DOC 9750: Global Air Navigation Plan;<br>- Resolution A-38, relating to ASBU;<br>We conclude APIRG 19 and 20 on the adoption of a plan for the implementation of the AFI regional air navigation system in line with the upgrading of the ICAO Bloc aviation system (ASBU);<br>-ASECNA's SERVICEs and Facilities Plan (PSE ASECNA) |
| **Related ICAO Strategic Objective(s)**<br>strategic objectives: A, B, C and E. |


## 1. INTRODUCTION

1.1 The Global Air Navigation Plan (GANP) and ASBU's Aviation System Upgrade Methodology, which is integrated into GANP, provides a framework for future improvements in air navigation technologies and procedures structured in a strategic consultative approach that combines specific global performance capabilities with timely flexibility for improvements associated with each component.

1.2 The ASBU modules are structured in blocks and their implementation must be in line with the operational requirements of the region. The ASBU framework and the technological roadmap have been established to ensure that all conditions for planning activities at national and regional level are met.

1.3 The AFI Region has adopted and ranked the eighteen modules of block 0 for its implementation, and only 9 modules have priority 1 as they cover most AFI states. The remaining modules are Priority 2 and apply only to specific AFI Region States.

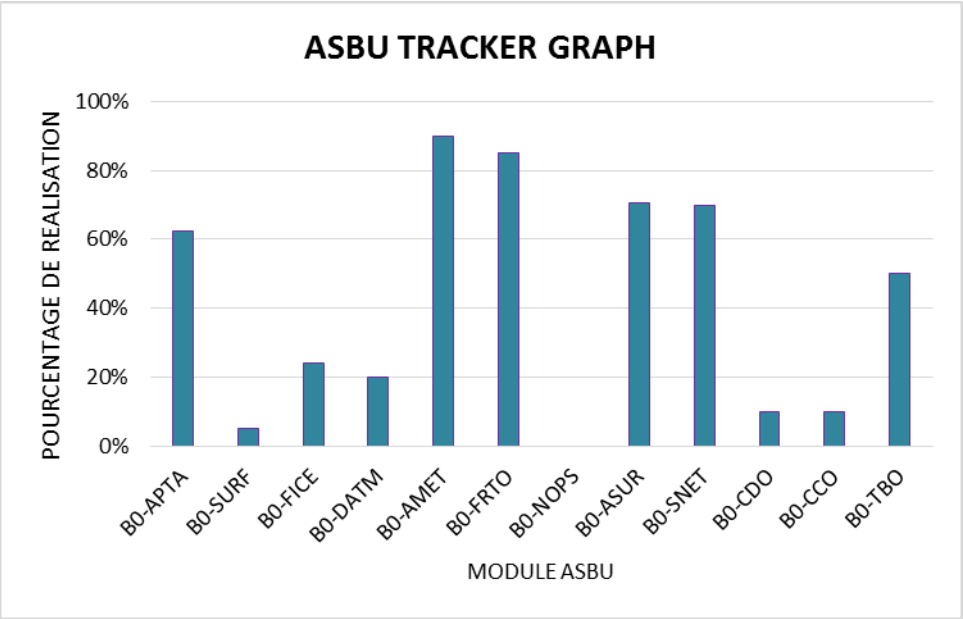
## 2. STATUS OF IMPLEMENTATION

2.1 ASECNA participated in the two (2) workshops organized by ICAO related to the implementation of the ASBU concept, including discussions on key safety performance areas.

2.2 For the 18 modules of block 0, only 12 modules were selected for the ASECNA member states and then ranked in order of priorities 1 and 2. Then 9 modules are classified in priority 1 and the 3 others in priority 2.

2.3 The table in appendix A shows the implementation status of modules in block 0 at the level of ASECNA member states.

2.4 The ASBU tracker realized on the implementation level of the ASBUs in the ASECNA zone gives the graph above.




**NB : Please note this table is only for information**.

## 3. DISCUSSIONS

3.1 Some modules are very advanced in ASECNA area in terms of implementation.
These include B0-FRTO and B0-AMET. However, their completion can not be done without coordination with adjacent centers in some cases. This is why ASECNA wants to know the level of implementation in these areas of its neighbors in order to carry out a proximity work prior to the full implementation of certain modules.

## 4. FOLLOW-UP

4.1 The meeting is invited to take note of the implementation plan and implementation planning attached in Appendix A and B for ASECNA centers for air navigation service supplies.

4.2 Call on all centers to include in their proximity meeting the ASBU tracker review and analysis question of each center to ensure interoperability and coordinated implementation

4.3 Designate focal points per State and ANSP of ASBU trackers

**APENDIX A: ASBU and ASECNA Projects on Investment Plan**

| Performance Improvement Areas (PIA) | ASBU BLOCK 0 Modules | Module description | Implementation status | ASECNA |
|---|---|---|---|---|
| **PIA 1 –airports operations** | B0-APTA | Optimization of approach procedures including vertical guidance | A. 70 % of the international airports of 17 Member states of the ASECNA are endowed of STAR RNAV ( GNSS).<br>B. The activities are in progress for the elaboration of SID and STAR RNP1 for the international airports of Antananarivo, Libreville, Brazzaville, Douala and Bamako.<br>C. Except for the international airports of Bangui (Central African Republic), N'Djamena (Chad), Lomé (Togo), Cotonou (Benin), Bamako (Mali) and Douala (Cameroon) for whom the answers of demand of approval with the authorities of the civil aviation are expected, all other international airports of 17 Member states of the ASECNA are endowed with APV (Baro VNAV) procedures.<br>D. The CDO / CCO procedures were realized on the international airports of Dakar and Abidjan. The ASECNA waits for the approval of States concerned before the implementation. | 2018-2022 |
| | | | GBAS experimentation in Dakar airport beginning on 2013 | |
| | | | -Phase B studies towards EGNOS deployment including CBA<br>- Ionosphere characterization<br>- SAFIR/JPO Project for capacity building and to oversee baseline of GNSS implementation on AFI region<br>- RAIM monitoring and prediction tool | |
| | B0-SURF | Improved Airport operations through Departure, Surface and | - already installed in Dakar new airport, extension on other airports planned on 2017/2018 | 2018-2022 |

| | | | | |
|---|---|---|---|---|
| | | Arrival Management | | |
| PIA 2 – Global interoperable system and data | B0-FICE | Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration | - Activation of AIDC functionality of EUROCAT X et TOPSKY Systems for 100% coordination and transfer of intra ASECNA messages ; tests between DKR and ABJ to be generalized<br>- program for harmonization and coordination of messages between ASECNA and adjacent FIRs by testing AIDC/OLDI compatibility<br>- AMHS ongoing implementation over ASECNA states | End of 2017 |
| | B0-DATM | Service Improvement through Digital Aeronautical Information Management | -AIMANT project relating to the transition AIS to AIM<br>- QMS obtained on year 2014<br>- e-TOD project<br>- Pursuit of WGS-84 campaign<br>- AIXM in development (using AMHS support and data exchange based on IP)<br>- e-AIP using web site www.ais-asecna.org<br>- NOTAM project | 2019-2022 |
| | B0-AMET | Meteorological information supporting enhanced operational efficiency and safety | 1. SADIS 2G/FTP=100%<br>2. VOLCANIC OBSERVATORIES (VO)=75%<br>3. AD WRNG/WS WRNG=100%<br>4. METAR/SPECI/TAF/SIGMET=100%<br>5. QMS/MET=100%<br>6. VOLMET=0%<br>7. ATIS=0%<br>8. AMBEX=100% | Wind shear detection project And Thunderstorms warning and alert systems project scheduled for 2018 |

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|---|---|---|---|---|
| **PIA3 - Optimum Capacity and Flexible Flights – Through Global Collaborative ATM** | B0-FRTO | Improved Operations through Enhanced En-Route Trajectories | - PBN strategy<br>-UPR through the INSPIRE initiative in the Indian Ocean region<br>-IFLEX through AORRA airspace in the oceanic FIR | 2018-2022 |
| | B0-NOPS | Improved Flow Performance through Planning based on a Network-Wide view | Project planned on year 2017 | 2019-2022 |
| | B0-ASUR | Initial surveillance capability ADS-B Out, MLAT | - Successful assessment by ASECNA/Seychelles and La Reunion of ground based ADS-B surveillance in Antananarivo FIR in 2013 ;<br>- Successful ADS-B space based tests at Dakar, N'Djamena, and Nouakchott Airports on 2015;<br>- Total airspace surveillance coverage with ADS-B ground based to complete actual Radar coverage. Ongoing project;<br>- Study case and CBA for ADS-B space based for oceanic airspace and remote airspace planed after 2018 initial tests planned on 2016). | 2017-2022 |
| | B0-SNET | Baseline ground-based safety nets | - Automated ATM and Surveillance systems related safety nets (TOPSKY) ;<br>- 17 CCR are equipped with automation systems (TOPSKY) with ADS- C/CPDLC, FDPS, FPASD, RDP, SDP functions | 2017 |
| **PIA4 - Efficient Flight Path – Through Trajectory-based Operations** | B0-CDO | Improved Flexibility and Efficiency in Descent Profiles (CDOs) | - Dakar and Abidjan airports as Pilots sites in 2014<br>- Ongoing projects at Libreville, Brazzaville, Bamako airports | 2022 |
| | B0-CCO | Improved Flexibility and Efficiency in Departure Profiles (CCOs) | - Dakar and Abidjan airports as Pilots sites in 2014<br>- Ongoing projects at Libreville, Brazzaville, Bamako airports | 2022 |
| | B0-TBO | Improved Safety and Efficiency through the initial application of Data Link En-Route | - ADS-C/CPDLC and Mode S Radar systems implemented in all ASECNA FIRs<br>- Experimentations with HFDL and VDL planned for 2017<br>- Study case for D-ATIS and D-VOLMET | 2018 |

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|---|---|---|---|---|
| | | | implementation in progress | |

**APPENDIX B: PLANNING THE IMPLEMENTATION OF BLOCKS ASBU 0 and BLOC 1 FOR THE ASECNA AREA Up to 2024 (Source PSE ASECNA)**

| Domaines de Performance (PIA) | Module | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|
| PIA 1<br>Aérodrome Operations | B1-APTA | X | X | X | X | X | X |
| | B1-WAKE | X | X | X | | | |
| | B1-RSEQ | | | | | | |
| | B1-SURF | | | | | | |
| | B1-ACDM | X | X | X | X | | |
| | B1-RATS | | | X | | X | X |
| PIA 2 | B1-FICE | X | X | X | X | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Global interoperable system and data** | **B1-DATM** | | | | **X** | **X** | **X** |
| | **B1-SWIM** | | | | **X** | **X** | **X** |
| | **B1-AMET** | **X** | **X** | **X** | **X** | | |
| **PIA 3 Optimum Capacity and Flexible Flights – Through Global Collaborative ATM** | **B1-FRTO** | **X** | **X** | **X** | **X** | **X** | **X** |
| | **B1-NOPS** | **X** | **X** | **X** | **X** | **X** | **X** |
| | **B1-ASEP** | **X** | **X** | **X** | **X** | **X** | **X** |
| | **B1-SNET** | **X** | **X** | **X** | **X** | **X** | **X** |
| **PIA 4 Efficient Flight Path – Through Trajectory-based Operations** | **B1-CDO** | **X** | **X** | **X** | **X** | **X** | **X** |
| | **B1-TBO** | | | | | | |
| | **B1-RPAS** | | | **X** | **X** | **X** | **X** |

**END**