

INTERNATIONAL CIVIL AVIATION ORGANIZATION



REPORT OF THE EIGHTH MEETING OF THE  
SAT FANS 1/A INTEROPERABILITY TEAM  
(SAT FIT/8)

*(Dakar, Senegal, 15-16 July 2013)*

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*ICAO Western and Central African (WACAF) Office*

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## HISTORY OF THE MEETING

### 1. Introduction

1.1 The Eighth Meeting of the SAT FANS 1/A Interoperability Team (FIT) was held at the Conference Room of the ICAO WACAF Regional Office in Dakar, Senegal, from 15 to 16 July 2013, at the kind invitation of Senegal. The SATFIT8 and SAT18 meetings were supported by ASECNA the regional ANSP of which Senegal is member State.

1.2 The SATFIT8 and SAT18 meetings were jointly opened by Mr Magueye Maramé NDAO Director General of ANACIM (CAA of Senegal) in the presence of the Deputy regional of the ICAO WACAF Office, Mr Gaoussou Konaté.

### 2. Officers and Secretariat

2.1 Mr. **Johnny Smit**, (ATNS, South Africa) as Rapporteur of the FIT, facilitated the proceedings of the meeting.

2.2 Mr. **Sadou Marafa** ATM/SAR Regional Officer from the ICAO WACAF Office was the Secretary of the meeting. He was assisted by **François-Xavier Salambanga**, CNS Regional Officer from ICAO Dakar Office.

### 3. Attendance

3.1 The meeting was attended by 64 participants from twelve (12) ICAO contracting States namely, Angola, Brazil, Cape Verde, Cote d'Ivoire, Ghana, Liberia, Mauritania, Morocco, Portugal, Senegal, South Africa, Spain, and six (6) International Organizations (ASECNA, ARINC, IATA, IFALPA, Roberts FIR and SITA).

3.2 The list of participants and their contact addresses is at **Appendix A** to this report.

### 4. Working languages

4.1 The meeting was conducted in the English language and the relevant documentation was presented in this language.

### 5. Agenda of the meeting

5.1 The meeting adopted the following agenda:

- |                       |  |
|-----------------------|--|
| <b>Agenda Item 1:</b> | Adoption of the Agenda   |
| <b>Agenda Item 2:</b> | Review of SAT/FIT/7 Report   |
| <b>Agenda Item 3:</b> | Review of ADS/CPDLC programmes and implementation activities in SAT FIRs |
| <b>Agenda Item 4:</b> | System performance monitoring and maintenance                            |
- a. *Interoperability requirements*
  - b. *Safety monitoring aspects*
  - c. *Problem identification, reporting and resolution procedures*

## History of the meeting

**Agenda Item 5:** Review of the terms of reference of the FANS 1/A Interoperability Team and Future work programme

**Agenda Item 6:** Any other business

## 6. Conclusions and Decisions of the meeting

The meeting adopted six (06) Conclusions and four (04), Decisions:

### DRAFT LIST OF CONCLUSIONS

Number	Title
<b>Decision SAT FIT 8/01</b>	<p><b>ADS/CPDLC implementation status in the SAT Area</b></p> <p>That</p> <p>The Rapporteur request Argentina and Uruguay to forward to the secretariat an update on the ADS-C/CPDLC implementation status in their States for insertion in the report of SATFIT8 meeting.</p>
<b>Conclusion SAT FIT 8/01</b>	<p><b>Data Collection for FANS services performance analysis and CFRA functions</b></p> <p>That:</p> <ul style="list-style-type: none"> <li>a) In order to perform the Analysis of FANS services in the EUR/SAM Corridor and the South Atlantic, involved SAT States to provide SATMA the required data (listed in <b>Appendix C</b> to this report )</li> <li>b) Data related shall be forwarded to SATMA at the latest, on the last working day of each month.</li> <li>c) SAT States to notify to SATMA (as example in <b>Appendix D</b> to this report) any problem detected along the corridor/South Atlantic</li> </ul>
<b>Decision SAT FIT 8/02</b>	<p><b>Terms of Reference of the CFRA</b></p> <p>That:</p> <p>The SAT/FIT members adopt the Terms of Reference of the CFRA as at <b>Appendix E</b> to this report.</p>
<b>Conclusion SATFIT/8/02</b>	<p><b>CPDLC Message Set</b></p> <p>That</p> <p>The Rapporteur to investigate ways in consultation with each SAT State in order to conduct an ad hoc survey on FREE TEXT operation and provide feedback to SATFIT/9.</p>
<b>Conclusion SAT FIT 8/03</b>	<p><b>ADS-CPDLC operations by Airlines</b></p> <p>That:</p> <p>IATA continues encouraging Airlines, to increase their level of participation in ADS-C/CPDLC operations in order to enhance safety and efficiency of operations within the SAT area.</p>

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Number	Title
<b>Conclusion SATFIT/8/04</b>	<b>Data link Interoperability Environment in South Atlantic</b>  That:  IATA encourages member airlines to take advantage of the Emirates Airline initiative to compile periodically a survey of ADS-C/CPDLC service in the South Atlantic.
<b>Conclusion SAT FIT 8/05</b>	<b>Missing flight plans</b>  That:  SAT States shall nominate focal points to the FIT Rapporteur ( <a href="mailto:johnnys@atns.co.za">johnnys@atns.co.za</a> ) with copy to ICAO WACAF Office, in the aim of finding bilateral solutions to mitigate the problem regarding missing plans and provide a report to SATFIT members on a monthly basis.
<b>Decision SATFIT 8/03</b>	<b>TOR and work programme of the SATFIT</b>  That the TOR and work programme of the SATFIT team are amended as per <b>Appendix F</b> to this report
<b>Decision SATFIT/8/04</b>	<b>The Strategic Partnership to Reduce Emissions in the South Atlantic (SPRESA)</b>  That:  The SPRESA programme, aimed at the reduction of emissions, as proposed by South Africa (WP 12) be adopted as a multi-lateral partnership for SAT members and referred to the SAT18 meeting for endorsement.
<b>Conclusion SATFIT/8/06</b>	<b>SAT Capacity enhancement Table</b>  That:  SATFIT members shall update the SAT Capacity Enhancement Table ( <b>Appendix G</b> ) to this report) and forward to the FIT Rapporteur ( <a href="mailto:johnnys@atns.co.za">johnnys@atns.co.za</a> ) when requested.

## II - REPORT ON DISCUSSIONS

### 2.1 Agenda Item 1: Adoption of the Agenda

2.1.1 As per the agreed principle, Mr. Johnny Smit, Manager ATS Johannesburg ATNS and member of the South African delegation as Rapporteur of the SATFIT moderated the meeting's sessions. The provisional agenda as shown above in paragraph 5, was appended to the invitation letter and adopted by the meeting without changes.

### 2.2 Agenda Item 2: Review of SAT/FIT/7 Report

2.2.1 The meeting reviewed the Conclusions and Decisions adopted by the SAT/FIT/7 Meeting which was held in Las Palmas, Canarias (Spain), from 16 to 17 April 2012. The meeting noted that the implementation of most of these conclusions was on going, or needed continuous actions to be taken by concerned parties. The meeting therefore reformulated or complemented all the conclusions and decisions emanating from the SAT/FIT/7 Meeting which were ongoing or still valid. The general status of the implementation of SATFIT/7 conclusions and decisions is shown at **Appendix B** to this report.

2.2.2 It is to be noted that, for the specific issue of lack of auto transfer along UA560 between ARLEM and IPEKA (**Decision SAT/FIT7/03**), a side meeting between was convened in the fringe of the SATFIT/8 meeting between Abidjan, Dakar and Roberts ACCs and a solution acceptable for the three parties was found. LOPs have been updated accordingly. The meeting commended the spirit of coordination and cooperation prevailing among SAT members and congratulated the three ACCs for the good work done.

### 2.3 Agenda Item 3: Review of ADS/CPLC programmes and implementation activities in SAT FIRs

2.3.1 The meeting reviewed the table pertaining to the status of implementation of ADS-C/CPDLC in the SAT area.

2.3.2 For the specific case of the Luanda FIR highlighted by the previous SATFIT, the meeting was informed that, in accordance with **Decision SAT/FIT7/01(ADS/CPDLC implementation status in the SAT Area)** a mission to Luanda, composed of M. **Albert Aidoo TAYLOR**, Operations Director GCAA, SAT Chairperson, **Peter RAW**, Manager AS &ATM FL/Ops, Emirates Airlines and **François-Xavier SALAMBANGA**, ICAO Regional Officer CNS was conducted from 01 to 05 May 2013, in order to assist Angola Empresa Nacional de Exploração de Aeroportos e Navegação Aeria (**ENANA**) implement ADS-C/CPDLC in Luanda FIR in accordance with the AFI regional Surveillance strategy and implementation Plan.

2.3.3 In this regard, the meeting was presented with a summary report elaborated by the mission. Likewise the Angola delegation also presented a WP to the meeting to report on the results of the mission. As a result, the ENANA operational and technical as well as high level executive personnel were sensitized on the importance of the implementation of ADS-C/CPDLC in the Luanda FIR as part of the SAT region. Moreover, in coordination with Angolan Officials, the mission establishes to actions plans respectively for the implementation of ADS-C/CPDLC and for the improvement of VHF coverage in the Luanda FIR. The implementation of these actions plans will allow ENANA to expedite the timely and effective execution of the projects

## History of the meeting

2.3.4 The meeting expressed its kind appreciations to the members of the mission, for the good work done. In particular, the meeting expressed its gratitude to Emirates Airlines who offered to take in charge the travel and accommodation expenses for all the members of the mission. The meeting was of the view that other Airlines/ANSPs may wish to follow the Emirates example and offer assistance in such cases.

2.3.5 The meeting noted with concern the absence of Argentina and Uruguay at the present sessions of SAT meetings and the lack of up to date information on the status of implementation of ADS-C/CPDLC in their respective FIRs. The meeting therefore formulated the following decision:

**Decision SAT/FIT8/01:            ADS/CPDLC implementation status in the SAT Area**

**That**

**The Rapporteur request Argentina and Uruguay to forward to the secretariat an update on the ADS-C/CPDLC implementation status in their States for insertion in the report of SATFIT8 meeting.**

2.3.6 The meeting acknowledged and welcome the participation of Mauritania and Morocco in this year's SAT meetings. In this context, the delegation of Mauritania made a proposal aiming at adding Nouakchott ACC in the **ADS-C/CPDLC implementation status table**. This was accepted by the meeting.

2.3.7 Finally, as of yet, the status of implementation of ADS-C/CPDLC in the SAT area as reported by States/ANSPs is shown in the following table:

<b>STATE/ACC</b>	<b>Implementation status/Target date</b>	<b>Remark</b>
Dakar/Senegal	Implemented/August 2009	Full operational
Canarias/Spain	Implemented/August 2009	Full operational
Recife/Brazil	Implemented July 2009	Full operational
Abidjan/ Cote d'Ivoire	Implemented/August 2010	Full operational
Johannesburg/South Africa	Implemented Feb 2005	Full operational
Ezeiza/ Argentina	First quarter 2012	pre-operational
<b>Luanda/Angola</b>	<b>May 2014</b>	<b>At the project level</b>
Accra/Ghana	December 2011	Full operational
Sal/Cape Verde	September 2011	Full operational
<b>Montevideo/Uruguay</b>	<b>Possible date end 2013</b>	<b>Facilities in place. Pending up/down link SITA contract</b>
Rochambeau/France	March 2011	Full operational
Piarco/Trinidad Tobaggo	Second half 2012	Preoperational
<b>Nouakchott/Mauritania</b>	<b>First half of 2014</b>	<b>At the project level</b>

2.3.8 All SAT members are kindly requested to continuously forward to the rapporteur and the secretariat any development on this status in a view to update information contained this table.



## 2.4 Agenda Item 4: System performance monitoring and maintenance

2.4.1 SATMA presented the report on the analysis of FANS services in the EUR/SAM Corridor during 2012. It was highlighted that due to lack relevant data provision by all parties concerned, the report was based only on records from the ADS/CPDLC System of the Canarias FIR (SACCAN). This report is available on the SATMA website. Likewise, it can be found on the ICAO WACAF web page under the SATFIT/8 meeting documents as appendix C to WP/4.

2.4.2 From the analysis of 2012 data, it can be concluded that:

- Nearly 60% of the EUR/SAM Corridor flights (Canarias area) connect to SACCAN
- 95% of flights notifying FANS equipage in its flight plan connect to SACCAN.
- Monthly between 91% to 96% of flights connected use CPDLC application
- Major users of FANS services: TAP Portugal, TAM Brazil, Air France and Iberia.
- Downlink messages delay: more than 95% of the times they are 60 second or below. 99% delays figures are well below 180s. In these two cases, both per media and globally
- Position accuracy notified in ADS-C reports is not worse than 0.25 NM, 99.96% of the times (i.e.99.96% of the times FOM 6 or 7 is notified, being FOM 6 the most common value).
- CPDLC message elements used: mostly NEXT DATA AUTHORITY and END SERVICE elements; “Fee text” use in decrease.
- Several issues (operative, technical or involving interaction between aircraft and ground systems), detected and listed in the report. Most of them were already identified during 2011 sis, but there are also some new ones. Coordination between stakeholders should be established in order to appropriately investigate them.

2.4.3 In summary, it should be highlighted that FANS services in the EUR/SAM Corridor have been improved in 2012, from both a technical and an operational perspective:

- Technically, through the transition to SACCAN Phase 3 in late November. Phase 3 comprises an improvement to SACCAN HMI and a more up-to-date G/G data communication protocol (the connection to SITA migrated to IP).
- Operationally, through the entry into operation, by mid April, of FANS (ADS-C/CPDLC) transfer procedures between Canarias and SAL ACCs.

2.4.4 The meeting recalled that periodic data collection from the different ANSPs is needed for FANS services performance analysis of the EUR/SAM Corridor. In this regard, a list with the proposed data needed for this purpose has been established by SATMA; the meeting urged all EUR/SAM ACCs to make any effort to forward to SATMA the required data.

2.4.5 The meeting was also reminded that Conclusion **SAT FIT7/6 charged** SATMA to perform CFRA functions for the EUR/SAM Corridor. In this regard and in accordance with the SAT/7 conclusion, SATMA submitted to the consideration of the meeting two documents that will permit the CFRA to properly conduct its tasks: one with the proposed terms of reference, duties and responsibilities relating to the Central Fans Reporting Agency, and the second one to establish a FANS/CFRA Notification Form.

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 History of the meeting
 

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2.4.6 The meeting, after having analyzed the reports and working documents submitted by SATMA, formulated the following conclusion and decision:

**Conclusion SAT FIT 8/01: Data Collection for FANS services performance analysis and CFRA functions**

**That:**

- a) **In order to perform the Analysis of FANS services in the EUR/SAM Corridor and the South Atlantic, involved SAT States to provide SATMA the required data (listed in **Appendix C** to this report)**
- b) **Data related shall be forwarded to SATMA at the latest, on the last working day of each month.**
- c) **SAT States to notify to SATMA (as example in **Appendix D** to this report) any problem detected along the corridor/South Atlantic**

**Decision SAT FIT 8/02: Terms of Reference of the CFRA**

**That:**

**The SAT/FIT members adopt the Terms of Reference of the CFRA as at **Appendix E** to this report.**

2.4.7 In accordance with the above, the meeting, noting that the establishment of the CFRA has been completed, Task of the SATFIT work programme should change and be stated: “**Analyze and review reports from the Central Fans Report Agency**”. In the same vein, the meeting urged SAT members to timely take the important following follow-up actions:

- nominate a State CFRA FOCAL POINT
- submit to SATMA CFRA Data starting September/October 2013
- submit to SATMA FANS incidents/problems, monthly, starting September/October 2013

2.4.8 Based on the data provided by the SATMA analysis, the meeting noted that the incorrect use of “FREE TEXT” in the CPDLC message interchange remains a challenge. In this regard, the study to be conducted by SITA for the whole SAT area on this issue, as requested by the SATFIT/7 meeting, is still needed. In the meantime, the meeting was of the view that ANSPs also could contribute gather data on the issue and therefore adopted the following conclusion:

**Conclusion SATFIT/8/02: CPDLC Message Set**

**That**

**The Rapporteur to investigate ways in consultation with each SAT State in order to conduct an ad hoc survey on FREE TEXT operation and provide feedback to SATFIT/9.**

2.4.9 As a follow up on SATFIT conclusions related to airspace users ADS-C/CPDLC equipage, IATA presented to the meeting a Global avionics equipage survey for year 2012. This survey can be found on the ICAO WACAF website under SATFIT documents as Appendix A to WP/05.

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2.4.10 IATA concluded that Airlines have invested heavily in advanced avionic capability and is diligently seeking the associated enhanced safety and return on investment. In the same vein, the Airlines called upon States / ANSPs to implement matching harmonized and interoperable ground based platforms and capabilities. More precisely, they need a reliable detailed service development roadmap for the SAT area to be provided by States / ANSPs in consultation with airspace users. This roadmap should highlight technical requirements and be aligned with the ICAO Aviation Systems Block Upgrades (ASBU).

2.4.11 The meeting took note of the information given by the IATA survey. However, the meeting was of the view that there still is a need for data specifically applicable to the SAT region which, combined with the information provided by SATMA in its report on the EUR/SAM corridor, will give a more accurate picture of ADS-C/CPDLC capabilities in the SAT area.

2.4.12 Furthermore, the meeting noted, among others, that even at the global level, only 35.7% of aircraft are ADS-C equipped.

2.4.13 The meeting reemphasized the important role that can play ADS-C/CPDLC operations as far as safety and efficiency are concerned in the day to day operations in the SAT area. Having in mind the efforts ANSPs are making for the implementation of ADS-C/CPDLC in their FIRs, the meeting reformulated the following conclusions:

**Conclusion SAT FIT 8/03: ADS-CPDLC operations by Airlines**

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**That:**

**IATA continues encouraging Airlines, to increase their level of participation in ADS-C/CPDLC operations in order to enhance safety and efficiency of operations within the SAT area.**

**Conclusion SATFIT/8/04: Data link Interoperability Environment in South Atlantic****That:**

**IATA encourages member airlines to take advantage of the Emirates Airline initiative to compile periodically a survey of ADS-C/CPDLC service in the South Atlantic**

2.4.14 The Abidjan and Dakar ACCs also presented to meeting executive reports on the challenges related to the implementation and operation of ADS-C/CPDLC in their respective airspaces, in consequence of which, the meeting highlighted the need for SAT members to:

- ensure interoperability of ATM systems and harmonize ADS-C/CPDLC operational procedures,
- keep on monitoring the issue of missing flight plans and find, where applicable, bilateral solutions.

2.4.15 The meeting elaborated on the issue of missing flight plans and confirmed that this is being monitored at the level of APIRG in the AFI region. However, for the SAT region, the meeting deemed more efficient if focal points were nominated in each ACC and regular exchanges on the issue are held among them on a day to day basis. The following conclusion was adopted by the meeting in this regard:

**Conclusion SAT FIT 8/05: Missing flight plans****That:**

**SAT States shall nominate focal points to the FIT Rapporteur ([johnmys@atns.co.za](mailto:johnmys@atns.co.za)) with copy to ICAO WACAF Office, in the aim of finding bilateral solutions to mitigate the problem regarding missing plans and provide a report to SATFIT members on a monthly basis.**

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**2.5 Agenda Item 5: Review of the terms of reference of the FANS 1/A Interoperability Team and Future work programme.**

2.5.1 Taking into account the outcome of the discussions conducted under the other Agenda items and the progress made so far in the implementation of the tasks devoted to the SATFIT, the meeting reviewed and updated the Terms of reference and future work programme of the FANS 1/A Interoperability Team (FIT). Hence the decision:

**Decision SATFIT 8/03: TOR and work programme of the SATFIT**

**That the TOR and work programme of the SATFIT team are amended as per **Appendix F** to this report**

**2.6 Agenda Item 6: Any other business****Strategic Partnership to Reduce Emissions in the South Atlantic (SPRESA)**

2.6.1 The meeting was presented with a reminder/update on the Strategic Partnership to Reduce Emissions in the South Atlantic, which was discussed by the SATFIT/7 meeting last year.

2.6.2 It was recalled that SPRESA is a regional initiative similar to the ASPIRE and INSPIRE initiatives, the implementation of which will permit to improve energy efficiency through the development and implementation of environmentally friendly procedures for all phases of flight. **Conclusion SATFIT7/07** called upon Brazil, South Africa and IATA to introduce SPRESA in the South Atlantic as a first step.

2.6.3 The issue was discussed by the meeting with a view to make the SPRESA applicable to the whole SAT region.

2.6.3 The meeting was of the view that the SPRESA initiative, dealing with a wider scope than FANS implementation/operation, goes beyond the mandate of the SATFIT team and that it should be considered by the plenary of the SAT group. The meeting therefore formulated the following decision:

**Decision SATFIT/8/04: The SPRESA programme**

**That:**

**The SPRESA programme, aimed at the reduction of emissions, as proposed by South Africa (WP 12) be adopted as a multi-lateral partnership for SAT members and referred to the SAT18 meeting for endorsement.**

***South Atlantic Capacity Enhancement Development Policy and Planning***

2.6.4 The meeting was seized with a proposal from South Africa, aiming at the introduction a South Atlantic Capacity Enhancement table that will ensure the tracking and harmonising of ATM technology and procedures across the South Atlantic. The new document would record all those works being undertaken by SATFIT members to improve Safety, Efficiency and Capacity across the region.

2.6.5. The achievements of the Work Program listed in the table would be in consistency with the ICAO Aviation System Block Upgrade (ASBUs) methodology and would be realized based on the following philosophy in four points:

- a) The Work Program always considers Safety as the first priority;

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- b) Efficiency and Capacity works are prioritised based on the greatest common benefit, and priorities are agreed by the group;
- c) The Safety and Efficiency balance is considered; and
- d) The work program is aligned with ICAO Policies and Plans

2.6.6 It is proposed that a process consisting of four stages be adopted for the development and management of the programme, as follows:

- a) Identify (Desired Operational Outcome)
- b) Analyse (Constraints or gaps that need to be overcome)
- c) Plan (Solution)
- d) Adapt (Monitor and review)

2.6.7 The meeting also noted that as commonly, the efficiency and capacity improvements implemented by the SAT\_SAT/FIT would have a direct and notable environmental benefit in reduced emissions as a consequence of reduced fuel consumption

2.6.8 The meeting agreed to the proposal and decided to add a new task in the TORs of the SATFIT related the maintenance and update of the SAT Capacity Enhancement Table. The following conclusion was adopted in that sense:

**Conclusion SATFIT/8/06: SAT Capacity enhancement Table**

**That:**

**SATFIT members shall update the SAT Capacity Enhancement Table (**Appendix G** to this report) and forward to the FIT Rapporteur ([johnnys@atns.co.za](mailto:johnnys@atns.co.za)) when requested.**

***Next SATFIT meeting***

2.6.9 The meeting recalled that, in accordance with the principle of rotation between AFI, EURNAT and SAM region for the hosting of the SAT meetings, the 2014 events should be convened in the SAM region. However any SAT member State may offer to host these meetings. In this regard, the secretariat will be coordinate with the ICAO Lima office and all SAT group members to determine the venue of the next year's meetings .The next SATFIT meeting will be held back to back with the next SAT19 meeting to be convened in the second quarter of 2014. FIT members will be timely informed of the final agreed date and venue for the next FIT meeting.

## Appendix A to the Report

## LIST OF PARTICIPANTS

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## Appendix A to the Report

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## Appendix B to the Report

Status of Conclusions related to SAT/FIT/7 Meeting

Number	Title	Implementation status	Remarks
<b>Decision SATFIT7/1</b>	<p><b>ADS/CPDLC implementation status in the SAT Area</b> That:</p> <p>a. SAT/FIT members continue to update the SAT ADS-C/CPDLC implementation and interoperability status table.</p> <p>b. South Africa and Ghana who have already successfully implemented ADS/CPDLC, endeavour to support Angola ADS/CPDLC project through a coordination mission and in conjunction with ICAO Regional Offices (WACAF/ESAF)</p>	<p><b>Continuous</b></p> <p><b>Implemented</b></p>	<p><b>An executive summary report of the mission will be presented to the meeting</b></p>
<b>Decision SATFIT7/2</b>	<p><b>ADS-CPDLC operations by Airlines</b> That:</p> <p>IATA continues encouraging Airlines to increase their level of participation in ADS-C/CPDLC operations in order to enhance safety and efficiency of operations within the SAT area.</p>	<p><b>Continuous</b></p>	<p><b>Superseded by conclusion SATFIT8/03</b></p> <p><b>IATA will report to the next meeting</b></p>
<b>Conclusion SATFIT7/1</b>	<p><b>CPDLC Transfer functionality</b> That:</p> <p>ATS Units and Aircraft operators draw the attention of air traffic controllers to the use of recommended procedures to transfer a CPDLC connection from one ATS Unit to another and ensure the correct CPDLC transfer process.</p>	<p><b>Ongoing</b></p>	<p><b>ANSPs and IATA to report to the next meeting</b></p>
<b>Decision SATFIT7/3</b>	<p><b>CPDLC Auto transfer along UA560 between ARLEM and IPEKA (Dakar and Abidjan)</b> That:</p> <p>ICAO WACAF regional Office assist Dakar, Abidjan and Monrovia (Roberts FIR) to convene a coordination meeting with the aim of addressing the current lack of CPDLC Auto transfer along UA560 between ARLEM and IPEKA (Dakar and Abidjan)</p>	<p><b>Completed</b></p>	<p><b>A side meeting successfully held on this issue in fringe of SATFIT/8 meeting.</b></p>
<b>Conclusion SATFIT7/2</b>	<p><b>CPDLC Message Set</b> That:</p> <p>a. ATS Units and Aircraft operators draw the attention of the controllers and flight crew members to the use of the preformatted message elements whenever applicable and strictly limit the use of free text messages to specific reports</p>	<p><b>Ongoing</b></p>	<p><b>Supplemented with Conclusion SATFIT8/02</b></p>

## Appendix B to the Report

**Status of Conclusions related to SAT/FIT/7 Meeting**

	<p>taking into consideration errors mitigation and economic impact when using FREE TEXT messages instead of preformatted messages.</p> <p>b. SITA to conduct a survey on FREE TEXT operation and report to FIT/8.</p>		<p><b>ANSPs and IATA to report to the next meeting</b></p> <p><b>SITA will report to the next meeting on this issue.</b></p>
<b>Conclusion SATFIT7/3</b>	<p><b>Data link Interoperability Environment in South Atlantic</b> That:</p> <p>IATA encourages member airlines to take advantage of the Emirates Airline initiative to compile periodically a survey of ADS/CPDLC service in the South Atlantic.</p>	<b>Ongoing</b>	<p><b>Supersede by conclusion SATFIT8/04</b></p> <p><b>IATA will report to the next meeting on this issue</b></p>
<b>Conclusion SATFIT7/4</b>	<p><b>Development of aData link interoperability survey questionnaire</b> That:</p> <p>A questionnaire to be developed and circulated by FIT Rapporteur for future surveys in the South Atlantic.</p>	<b>Ongoing</b>	<b>The Rapporteur will report to the next meeting on this issue.</b>
<b>Conclusion SATFIT7/5</b>	<p><b>Implementation of ADS-C/CPDLC in SAT FIRs</b> That:</p> <p>SAT States that have recently implemented ADS/CPDLC continue their efforts to mature the operation of the system taking into consideration the experience gained in the SAT region and assist where possible their neighbors that are planning the implementation of ADS/CPDLC.</p>	<b>Continuous</b>	
<b>Conclusion SATIT7/6</b>	<p><b>CFRA</b> That:</p> <p>a. CFRA function be included in the activity of SATMA with no additional funding and/or additional resources;</p> <p>b. SATMA to develop and forward information needed for CFRA function and a timescale for implementation;</p> <p>c. FIT States members to provide SATMA with support to perform CFRA functions;</p> <p>d. CFRA Terms of Reference to be reviewed</p>	<b>Implemented</b>	<p><b>Superseded by conclusion SATFIT8/01</b></p> <p><b>FIT States members to provide SATMA with data to perform CFRA functions</b></p> <p><b>SATMA to report</b></p>

## Appendix B to the Report

**Status of Conclusions related to SAT/FIT/7 Meeting**

	accordingly		<b>on this issue to the next meeting</b>
<b>Decision SATFIT7/4</b>	<p><b>GOLD Document</b> That:</p> <p>SAT States shall endeavor to nominate focal points to the FIT Rapporteur (<a href="mailto:johnnys@atns.co.za">johnnys@atns.co.za</a>) with copy to ICAO WACAF Office, in the aim of updating any changes to the GOLD Document by 31 May 2012.</p>	<b>Still valid</b>	<b>The FIT Rapporteur will report to the next meeting on this item.</b>
<b>Conclusion SATFIT7/7</b>	<p><b>Strategic Partnership to Reduce Emissions in the South Atlantic</b> That:</p> <p>South Africa, Brazil and IATA introduce a Strategic Partnership to Reduce Emissions in the South Atlantic to improve energy efficiency through the development and implementation of environmentally friendly procedures for all phases of flight.</p>	<b>Still valid</b>	<b>Superseded by decision SATFIT8/04</b>



## Appendix C to the Report

**DATA TO BE COLLECTED AND PROVIDED TO THE CFRA**  
(Monthly base)

**1. Traffic data**

- a) Number of connected flights
- b) Percentage referred to total number of flights in the EUR/SAM corridor
- c) Number of flights with CPDLC connection (Monthly average)
- d) Number of different aircraft (aircraft registration) connecting to ADS (Monthly average)

**2. Downlink (air to ground) messages delays****3. Percentage of connected flights for the most significant airlines****4. The percentage utilization value per data link media used for air-to-ground communications**

- a) Satellite Link
- b) VHF link

**5. The cumulative percentage values per FOM**

Report to CFRA/SATMA regarding ADS/CPDLC services in EUR/SAM Corridor

<b>1. Reporting Date:</b>	<b>2. Reporting Unit:</b>		
<b>3. Operator Name:</b>	<b>4. Call Sign:</b>	<b>5. Aircraft Type:</b>	<b>6. FANS EQUIPE</b>
<b>7. Date of Occurrence:</b>	<b>8. Time UTC:</b>	<b>9. Occurrence Position</b>	
<b>15. Description and Action Followed:</b>			

## Appendix D to the Report

**FANS/CFRA Notification FORM****CLASIFICATION**

1. Log-On received from aircraft not flying your airspace
2. A/C Log-On with incorrect flight identification
3. Log-On from Aircraft not declaring ADS capacity in FP
4. Unknown ADS messages are received.
5. A/Cs remain ADS connected after exiting airspace
6. A/Cs remain ADS connected after landing
7. Different reports in the same ADS message.
8. Identical reports of Waypoint Change received in an ADS message
9. CPDLC Message: "Not Current Data Authority"
10. Incorrect downlink CPDLC messages have been received:
11. Other (describe) : \_\_\_\_\_

**Crew/Controller comments (if any)**

When complete please forward the report(s) to: South Atlantic Monitoring Agency (SATMA-CFRA)  
E-Mail: [satma@aena.es](mailto:satma@aena.es)

## Appendix E to the Report

**TERMS OF REFERENCE, DUTIES AND RESPONSIBILITIES RELATING TO THE CENTRAL  
FANS REPORTING AGENCY****1. Terms of Reference;**

To collect and disseminate operational information supporting ADS/CPDLC applications within the ATM system, in order to promote interaction between ATSPs, Stake Holders including Airline operators and FITs in adjacent airspaces.

**2. Duties and Responsibilities;**

- a) Establish and maintain a systems incident database. Track resolutions, review and analyze data obtained.
- b) Monitor and report on system incidents and resolutions of incidents and system problems.
- c) Institute procedures to obtain monthly status reports from FIT members.
- d) Compile de-identified review reports from monthly FIT status reports for circulation to FIT members and other stakeholders on a regular basis.
- e) Identify and report on chronic system errors and trends, utilizing monthly FIT status reports.
- f) Produce annual reports on FANS1/A activity within the area of interest to the CFRA for review by the FIT and appropriate PIRGS, relating to trends and problems identified, together with progress on problem resolutions and trend mitigation.
- g) Monitor and report on ADS/CPDLC compliance with common procedures agreed to.
- h) Promote interaction between Service Providers and other Stake Holders, including FIT interoperability Teams in adjacent airspaces and Airline Operators.
- i) Propose the harmonization of ADS/CPDLC procedures within the CFRA area of interest and also with adjacent airspaces.
- j) CFRA functions will be conditioned to no additional funding and no additional SATMA resources.
- k) FIT States members to provide SATMA with support to perform CFRA functions; In that sense, periodic delivery of required information regarding ADS/CPDL incidents should be a formal compromise for CFRA Monitored States.

## Appendix F to the Report

**TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION OF THE SAT FANS 1/A INTEROPERABILITY TEAM (SAT/FIT)**

1. The SAT FANS 1/A Interoperability Team (SAT/FIT) has been established to oversee FANS 1/A system performance monitoring to ensure that the system continues to meet safety and interoperability requirements and that operations and procedures are working as specified.
2. The FIT main objectives are to:
  - a) Monitor and harmonize ADS-C/CPDLC operations and trials being carried out by SAT States and adjacent States;
  - b) Review identified problem reports and determines appropriate resolution;
  - c) Develop interim operational procedures to mitigate the effects of problems until such time as they are resolved;
  - d) Monitor the progress of problem resolution;
  - e) Prepare summaries of problems encountered and their operational implications;
  - f) Assess system performance based on information in Central FANS Reporting Agency (CFRA) periodic reports;
  - g) Co-ordinate system testing; and
  - h) Promote and ensure technical interoperability of ADS-C/CPDLC functions of ATM systems in SAT member States and the harmonization of procedures

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## Appendix F to the Report

**TERMS OF REFERENCE, WORK PROGRAMME AND COMPOSITION OF THE SAT FANS 1/A  
INTEROPERABILITY TEAM (SAT/FIT)**

<b>WORK PROGRAMME</b>		
<b>TASK No.</b>	<b>SUBJECT</b>	<b>TARGET DATE</b>
1.	Oversee FANS 1/A system performance monitoring to ensure that the system continues to meet safety and interoperability requirements and that operations and procedures are working as specified.	Continuous
<b>2.</b>	<b>Analyze and review reports from the Central Fans Report Agency</b>	<b>Continuous</b>
3.	Harmonize ADS-C/CPDLC programmes developed by SAT States/FIRs.	Continuous
<b>4.</b>	<b>Assist member States with cost-benefit aspects related to their implementation of ADS-C/CPDLC programmes.</b>	<b>Continuous</b>
5.	Maintain <b>and update</b> ADS-C/CPDLC operational guidance material.	Continuous
6.	Conduct studies related to the implementation of the Global ATM Operational Concept and other enabling concepts within the SAT area in the fields of Communication and Surveillance.	Continuous
<b>7.</b>	<b>Maintain and update the SAT Capacity Enhancement Table</b>	<b>Continuous</b>
<i>Note: The SAT FIT should submit its meeting reports and proposals to the SAT Working Group.</i>		
<b>COMPOSITION</b>		
<ul style="list-style-type: none"> <li>• <i>The SAT FANS-1/A Interoperability Team (FIT) of multi-disciplinary nature shall comprise of experts from States responsible of FIRs in AFI and SAM routing areas AR1/AH2 and AR2/AH8 as defined in the Global Air Navigation Plan (ICAO Doc 9750), and experts from adjacent FIRs and international organizations.</i></li> <li>• <b>Team Leader:</b> South Africa</li> <li>• <b>Working arrangements:</b> <i>The SAT FIT should complete its work and submit its proposals to the SAT ATM Working Group. The SAT FIT should work through electronic correspondence prior to meetings.</i></li> </ul>		

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Appendix G to the Report

**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT		ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>RNP10</b> <u>GPI</u> <i>GPI-5 RNAV and RNP</i> <i>GPI-7 Dynamic and Flexible ATS route management</i> <i>GPI-8 Collaborative Airspace Design and Management</i> <u>Aviation System Block Updates</u> <i>B0-10 Improved operations through Enhanced En-route Trajectories</i> <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>				

Appendix G to the Report

**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement RNP4</b> <u>GPI</u> GPI-5 RNAV and RNP GPI-7 Dynamic and Flexible ATS route management GPI-8 Collaborative Airspace Design and Management <u>Aviation System Block Updates</u> B0-10 Improved operations through Enhanced En-route Trajectories B1-85 Increased Capacity and Flexibility thorough Interval Management.				

Appendix G to the Report

**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<p><b><u>Implement ADS-C/CPDLC Datalink Communications</u></b>  <u>GPI</u>  <i>GPI-8 Collaborative Airspace Design and Management</i>  <i>GPI-9 Situational Awareness</i>  <i>GPI-17 Data Link Application</i>  <i>GPI-22 communication Infrastructure</i>  <u>Aviation System Block Updates</u>  <i>B0-40 Improved safety and Efficiency through the initial application of Data Link En-Route</i>  <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>  <i>B1-40 Improved Traffic Synchronization and Initial Trajectory Based Operation.</i></p>				



Appendix G to the Report

Capacity Enhancement Table Airline

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<p><b>Implement SATVOICE</b>  <i>GPI</i>  <i>GPI-9 Situational Awareness</i>  <i>GPI-22 communication Infrastructure</i>  <i>Aviation System Block Updates</i>  <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>  <i>B1-40 Improved Traffic Synchronization and Initial Trajectory Based Operation.</i></p>				

Appendix G to the Report

**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement UPRs and DARPS capability on FPL SYSTEM</b> <u>GPI</u> <ul style="list-style-type: none"> <li>• <i>GPI-7 Dynamic and Flexible ATS route management</i></li> <li>• <i>GPI-8 Collaborative Airspace Design and Management</i></li> </ul> <u>Aviation System Block Updates</u> <ul style="list-style-type: none"> <li>• <i>B1-10 Improved operations through Free Routing</i></li> <li>• <i>B0-10 Improved operations through Enhanced En-route Trajectories</i></li> </ul> <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>				

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**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement ADS-B Surveillance system</b> <i>GPI</i> <ul style="list-style-type: none"> <li>• <i>GPI-9 Situational Awareness</i></li> <li>• <i>GPI-17 Data Link application</i></li> </ul> <i>Aviation System Block Updates</i> <ul style="list-style-type: none"> <li>• <i>B0-86 Improved access to Optimum Flight levels through Climb/Descent procedures using ADS-B.</i></li> <li>• <i>B1-85 Increased Capacity and Flexibility thorough Interval Management</i></li> </ul>				

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**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>TMA Procedures PBN Based (RNP/RNAV Approaches, SIDS &amp; STARS)</b>				
<u>GPI</u>				
<ul style="list-style-type: none"> <li>• GPI-5 RNAV and RNP</li> <li>• GPI-10 Terminal Area Design and Management</li> <li>• GPI-11 RNP and RNAV SIDS and STARS</li> </ul>				
<u>Aviation System Block Updates</u>				
<ul style="list-style-type: none"> <li>• B0-05 Improved Flexibility and Efficiency in Descent Profiles</li> <li>• B0-20 Improved Flexibility and Efficiency in Departure Profiles</li> </ul>				

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**Capacity Enhancement Table Airline**

**Capacity Enhancement Table ANSP**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Removal of Flight Level Allocation Scheme (FLAS)</b>				

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Capacity Enhancement Table Airline

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement 50NM Longitudinal Separation (RNP10 in Oceanic Airspace)</b> <i>GPI</i> <i>GPI-5 RNAV and RNP</i> <i>GPI-7 Dynamic and Flexible ATS route management</i> <i>GPI-8 Collaborative Airspace Design and Management</i> <u>Aviation System Block Updates</u> <i>BO-10 Improved operations through Enhanced En-route Trajectories</i> <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>				

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CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement RNP4 - 30/30 Separation</b> <i>GPI</i> <i>GPI-5 RNAV and RNP</i> <i>GPI-7 Dynamic and Flexible ATS route management</i> <i>GPI-8 Collaborative Airspace Design and Management</i> <i>Aviation System Block Updates</i> <i>B0-10 Improved operations through Enhanced En-route Trajectories</i> <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>				

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Capacity Enhancement Table Airline

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<p><b>Implement ADS-C/CPDLC Datalink Communications</b>  <u>GPI</u>                      GPI-8 Collaborative Airspace Design and Management                      GPI-9 Situational Awareness                      GPI-17 Data Link Application                      GPI-22 communication Infrastructure  <u>Aviation System Block Updates</u>                      B0-40 Improved safety and Efficiency through the initial application of Data Link En-Route                      B1-85 Increased Capacity and Flexibility thorough Interval Management.                      B1-40 Improved Traffic Synchronization and Initial Trajectory Based Operation.</p>				



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Capacity Enhancement Table Airline

Capacity Enhancement	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement SATVOICE</b> <i>GPI</i> <i>GPI-9 Situational Awareness</i> <i>GPI-22 communication Infrastructure</i> <i>Aviation System Block Updates</i> <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i> <i>B1-40 Improved Traffic Synchronization and Initial Trajectory Based Operation.</i>				

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CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<p><b>Conflict Analysis on ATM system</b>  <i>GPI</i>  <i>GPI-7 Dynamic and Flexible ATS route management</i>  <i>GPI-8 Collaborative Airspace Design and Management</i>  <i>Aviation System Block Updates</i>  <i>B0-10 Improved operations through Enhanced Enroute Trajectories</i>  <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i></p>				

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CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<p><b>Implementation of Flex Tracks &amp; Connector Routes</b></p> <p><u>GPI</u></p> <ul style="list-style-type: none"> <li>• <i>GPI-7 Dynamic and Flexible ATS route management</i></li> <li>• <i>GPI-8 Collaborative Airspace Design and Management</i></li> </ul> <p><u>Aviation System Block Updates</u></p> <ul style="list-style-type: none"> <li>• <i>B1-10 Improved operations through Free Routing</i></li> <li>• <i>B0-10 Improved operations through Enhanced En-route Trajectories</i></li> <li>• <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i></li> </ul>				

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Capacity Enhancement Table Airline

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement UPRs and DARPS</b>				
<u>GPI</u> <ul style="list-style-type: none"> <li>• <i>GPI-7 Dynamic and Flexible ATS route management</i></li> <li>• <i>GPI-8 Collaborative Airspace Design and Management</i></li> </ul> <u>Aviation System Block Updates</u> <ul style="list-style-type: none"> <li>• <i>B1-10 Improved operations through Free Routing</i></li> <li>• <i>B0-10 Improved operations through Enhanced Enroute Trajectories</i></li> </ul> <i>B1-85 Increased Capacity and Flexibility thorough Interval Management.</i>				

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**Capacity Enhancement Table Airline**

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement ADS-B Surveillance system</b> <u>GPI</u> <ul style="list-style-type: none"> <li>• GPI-9 Situational Awareness</li> <li>• GPI-17 Data Link application</li> </ul> <u>Aviation System Block Updates</u> <ul style="list-style-type: none"> <li>• B0-86 Improved access to Optimum Flight levels through Climb/Descnet procedures using ADS-B.</li> <li>• B1-85 Increased Capacity and Flexibility thorough Interval Management</li> </ul>				

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CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>Implement AIDC Messaging</b> <u>GPI</u> <ul style="list-style-type: none"> <li>• <i>GPI-17 Data Link application</i></li> <li>• <i>GPI-22 Communication infrastructure</i></li> </ul> <u>Aviation System Block Updates</u> <ul style="list-style-type: none"> <li>• <i>B0-25 Increased Interoperability, Efficiency and Capacity through Ground based Integration (AIDC)</i></li> </ul>				

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CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<b>TMA Procedures PBN Based (RNP/RNAV Approaches, SIDS &amp; STARS)</b>				
<u>GPI</u>				
<ul style="list-style-type: none"><li>GPI-5 RNAV and RNP</li><li>GPI-10 Terminal Area Design and Management</li><li>GPI-11 RNP and RNAV SIDS and STARS</li></ul>				
<u>Aviation System Block Updates</u>				
<ul style="list-style-type: none"><li>BO-05 Improved Flexibility and Efficiency in Descent Profiles</li><li>BO-20 Improved Flexibility and Efficiency in Departure Profiles</li></ul>				

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Capacity Enhancement Table Airline

CAPACITY ENHANCEMENT	ACTION WITH	ESTIMATED COMPLETION DATE	DATE COMPLETED	CURRENT STATUS
<p><b>CDO</b></p> <p><u>GPI</u></p> <ul style="list-style-type: none"> <li>• <i>GPI-5 RNAV and RNP</i></li> <li>• <i>GPI-10 Terminal Area Design and Management</i></li> <li>• <i>GPI-11 RNP and RNAV SIDS and STARS</i></li> </ul> <p><u>Aviation System Block Updates</u></p> <ul style="list-style-type: none"> <li>• <i>B0-05 Improved Flexibility and Efficiency in Descent Profiles</i></li> <li>• <i>B0-20 Improved Flexibility and Efficiency in Departure Profiles</i></li> </ul>				