



ICAO

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North American, Central American and Caribbean Office

WORKING PAPER

E/CAR/NTG/5 & E/CAR/RD/3

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Fifth Eastern Caribbean Network Technical Group (E/CAR/NTG/5) and Third Eastern Caribbean Radar Data Sharing Ad-hoc Group (E/CAR/RD/3) Meetings
Guadeloupe, France, 22 to 24 October 2014

Agenda Item 5: Other Business

ADS-B IMPLEMENTATION AS NEW TASK: RADAR DATA SHARING ACTIVITIES

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
This working paper presents an overview of the ADS-B implementation and the considerations for the support of the Radar Data Sharing Ad-hoc Group in the achievement of the regional ADS-B implementation target.	
Action:	The suggested actions are detailed in section 3
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Environmental Protection
<i>References:</i>	<ul style="list-style-type: none">• ICAO NACC Website- edocuments section• ADS-B workshops - ICAO/FAA Workshop on ADS-B and Multilateral Implementation, ICAO NACC Regional Office, Mexico City, Mexico, 19 to 22 May 2014

1. Introduction

1.1 An essential component of the ICAO Aviation System Block Upgrades (ASBU) is a surveillance system that can increase safety, capacity, and efficiency of air travel. ADS-B technology has been identified as the surveillance solution that can meet these needs by providing critical flight information simultaneously to pilots and air traffic controllers. ADS-B transmits air traffic and flight information to aircraft, vehicles, and ground stations to improve situational awareness and provide unprecedented levels of service inside the cockpit and to air traffic control facilities.

1.2 ADS-B is a low-cost surveillance system with increased accuracy and faster update rate. ADS-B can provide the air navigation service providers with tools to increase capacity, specifically where legacy enroute separation is used today. Also there are air-to-air applications that can provide increased surface situational awareness and safety benefits.

1.3 ADS-B plays an important role in the ASBU deployment:

- Ground Surveillance" recommends that States implement ADS-B as it offers an economical alternative to acquire the capacity for surveillance;
- the ADS-B technology is considered as part of the enablers of other modules such as B0-75 ASURF, B0-85 ASEP and B0-86 OPFL and other future modules such as B2-ACAS;

1.4 IATA expressed its full support to ADS-B implementation and requested that ANSP inform in a timely manner of this implementation as well as on the benefits that the users will have with ADS-B.

1.5 In this regard, the ANI/WG and the NACC/WG agreed on formulating Conclusion NACC/WG/4/10 for the establishment of a regional target date for ADS-B implementation. This conclusion was approved by the NACC/DCA/5 Meeting in April 2014.

CONCLUSION
NACC/WG/4/10

ADS-B OUT IMPLEMENTATION IN THE NAM/CAR REGIONS

*That all States/Territories in the NAM/CAR Region adopt/include in their implementation plans the ADS-B implementation date by **31 December 2018**, to finalize the operational implementation of ADS-B out.*

2. Discussion

2.1 In order to achieve a successful implementation of ADS-B in the NAM/CAR regions, a collective effort by users (IATA, general aviation, etc.), Aviation Authorities and ANSPs is required together with a gradual coordinated implementation. Several States are conducting trials and evaluating ADS-B data in their airspace and in some cases ADS-B is operational for specific airspaces.

2.2 ICAO has in place several activities and mechanisms for the streamlining of ADS-B implementation:

- ANI/WG was a dedicated task Force on ADS-B implementation: which is preparing a guide to support the implementation of ADS-B in the CAR Region
- ICAO-FAA has conducted two ADS-B workshops on ADS-B implementation in 2011 and 2014:
 - ADS-B workshop 2011: <http://www.icao.int/NACC/Pages/meetings-2011-ADSBMT.aspx>
 - ADS-B Workshop 2014: <http://www.icao.int/NACC/Pages/meetings-2014-adsbimp.aspx>
- ICAO has implemented an ADS-B activities webpage for State's common reference for this implementation: <http://www.icao.int/NACC/Pages/edocs-cns.aspx>

ADS- Activities

Subject	Language	
CARSAM Regional Strategy for the ADS-B Systems Implementation	en	
Potential Air Space to implement ADS-C and ADS-B	en	es
Activities to be considered for ADS-B Trial	en	
PoCs List / Lista de Puntos de Contacto	en	
Action Plan / Plan de Acción (Actualizado / Update)	en	
CAO/FAA Workshop on ADS-B and Multilateral Implementation – Summary of Discussion	en	
ASTERIX Category 21: ADS-B Messages	en	
FAA ADS-B benefits	en	◆◆◆
USA Final Rule for ADS-B	en	
ADS-B summary of activities in the USA	en	
ADS-B implementation in Asia Pacific	en	
Cost benefit Information	en	es

- Through Project CAR RLA/09/801, it is planned to acquire ADS-B receivers for lending between Project members and in order to promote the use and the understanding of this service.

2.3 In the E/CAR Radar Data Display Request for Information (RFI) Process, the display has been required to include the capability of processing ADS-B data (ASTERIX CAT 21)

2.4 Even though the ADS-B tasks for the E/CAR Region are being carried by the CNS Committee as shown below, the implementation of the ADS-B activities may be well supported by an Ad-hoc Group like the Radar Data Sharing group:

CNS Com Tasks	Activities	Responsible	Last status reported
ADS-B, ADS-C and MLAT trials	Trials on ADS-B, MLAT and ADS-C	States/ Territories coordinated by WG	<p>Barbados advised that they have completed a survey and feasibility studies to implement MLAT/ADS-B in Barbados. To be implemented by Q1 2014.</p> <p>ECCAA advised that they are conducting feasibility studies in the OECS States toward the implementation of ADS-B</p> <p>France – Simulations carried out in Martinique and French Guyana with 8 stations- results were not sufficient to cover all the airspace for Approach.</p> <p>ADS-B – one receiver in French Guyana. To be implemented in 2014.</p> <p>ADS-B trials on-going with one receiver in Martinique but will not implement</p> <p>Trinidad and Tobago ADS-B and C trials on-going in the Piarco terminal and oceanic airspace respectively.</p>
ADS-B cost – benefit analysis		States/ Territories coordinated by WG	Cost-benefit analysis to be carried out

3. Suggested Action

3.1 The Meeting is invited to:

- a) take note of Regional target for ADS-B implementation and the existing activities in support of this implementation;
- b) analyse streamlining the ADS-B implementation with the assignment of tasks to the Radar Data Group under the E/CAR CNS Committee, updating terms of reference and implementation plan as needed;
- c) conduct trials on ADS-B in coordination with the users;
- d) support ICAO's regional activities and ADS-B task group activities; and
- e) take any other action as deemed necessary.

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