



*International Civil Aviation Organization*

**THE TENTH MEETING OF THE SOUTH EAST  
ASIA AND BAY OF BENGAL SUB-REGIONAL  
ADS-B IMPLEMENTATION WORKING GROUP  
(SEA/BOB ADS-B WG/10)**



Singapore, 11 - 13 November 2014

---

**Agenda Item 4: Report on ground system and avionics performance monitoring and improvement in compliance**

**ADS-B IMPLEMENTATION RELATED ISSUES**

(Presented by Airports Authority of India)

**SUMMARY**

This paper presents a brief on the implementation issues related to certification of ADS-B. Speculative interpretation of potential vulnerabilities namely confidentiality, integrity and availability has prompted apprehensions with regulators and is causing difficulties in according approval for operational use of ADS-B. Need has been felt to take up the matter for deliberations and for consideration to issue guidance material to support regulatory framework so that certification issues including approval for operational use of ADS-B may be resolved for smooth implementation of ADS-B across the region.

**1. Introduction**

1.1 ADS-B Implementation and Operations Guidance Document (ADS-B AIGD V7.0) under section 5.2.5, provides guidance for Implementation phase wherein system certification and regulatory approvals for air traffic certification of use have been identified as essential milestones during implementation phase.

1.2 ICAO Guidance Material on ADS-B Implementation has brought out potential vulnerabilities of the ADS-B technologies and suggested that each State has to consider the potential impact and appropriate measures in order to mitigate the identified vulnerabilities.

**2. Discussion**

2.1 Confidentiality, Integrity and Availability have been identified as potential vulnerabilities of ADS-B technologies. Appropriate considerations to counter these vulnerabilities have also been listed in the guidance material on ADS-B security issues.

Agenda Item 4

10/11/14

2.2 Analytical study on the ADS-B data block could lead to inference that the latest state of the art ATM Automation Systems are equipped with robust checking and alerting functions against spurious signals transmitted from un-authentic sources.

2.3 However, speculative reasoning and selective interpretation by the regulatory authorities of the potential vulnerabilities and their considerations have led to rising apprehensions about security aspects of ADS-B operational use for air traffic services - even for situational awareness. This has impeded the implementation of ADS-B in the State.

2.4 Therefore, need has been felt to deliberate over the issue of regulatory approval for operational use of ADS-B.

2.5 It is also opined that those states which have undertaken certification of ADS-B for operational use may share their experience in context with the potential vulnerabilities, so that the best practices adopted could benefit other states in seeking certification from their regulatory authorities.

2.6 Keeping the above in view, it is suggested that appropriate guidance material may be considered to be issued by the ADS-B SITF to support the regulatory framework in context with the potential vulnerabilities so that smooth and harmonized implementation of ADS-B in the region could be ensured.

**3. Action by the Meeting**

3.1 The meeting is invited to:

- a) discuss the matter of regulatory approval as appropriate; and
- b) consider issue of appropriate guidance material including the best practices of certification processes to support regulatory framework for operational use of ADS-B in context with the potential vulnerabilities.

-----