



International Civil Aviation Organization

**SIXTH MEETING OF THE SOUTHEAST ASIA
SUB-REGIONAL ADS-B IMPLEMENTATION
WORKING GROUP (SEA ADS-B WG/6)**



Singapore, 24 - 25 February 2011

Agenda Item 5: Review of sub-regional implementation plan

- **Near-term implementation plan, including operational plan**

ADS-B DATA SHARING: INDONESIA-AUSTRALIA

(Presented by Australia and Indonesia)

SUMMARY

Australia and Indonesia have developed and commissioned Automatic Dependent Surveillance Broadcast (ADS-B) data sharing. This is improving safety and efficiency at the Flight Information Region boundaries between the two States. Transition to full operation was achieved on 1 February 2011. ADS-B data from foreign FIRs is now on-screen in both Brisbane and Makassar ATC centres.

1. INTRODUCTION

1.1 At **SEA ADS-B WG/4 (WP6)** Australia and Indonesia presented a proposal for an Automatic Dependent Surveillance Broadcast (ADS-B) data sharing project to improve safety and efficiency at the Flight Information Region (FIR) boundary between the two countries (specifically, between the Brisbane and Ujung Pandang FIRs).

1.2 Both Indonesia and Australia have extensive ADS-B coverage and display ADS-B data at operational positions. Australian ATC is authorised to use ADS-B for delivery of 5 nautical mile separation services to approved aircraft.

1.3 The initial plan for Phase 1A involved Australia providing data from Gove and Thursday Island Ground stations and Indonesia providing data from Merauke and Saumlaki. The plan was later revised to include sharing additional sites from each state at Broome, Doongan, Kintamani and Kupang.

2. PROJECT ACHIEVEMENTS

2.1 Transition to full operation was achieved on 1 February 2011. ADS-B data from foreign FIRs is now on-screen in both Brisbane and Makassar ATC centres.

2.2 The system increases situational awareness and supports safety nets. It is used to support procedural separation standards. It is expected to provide :

- reduced numbers of coordination incidents at the FIR boundary;
- earlier detection of ATC and pilot errors (coordination errors, incorrect flight level etc.);
- technical and operational analysis of data in preparation for future application of radar like separation services; and
- increased support and confidence in data sharing to allow introduction of radar-like separation at the FIR boundary in a future phase.

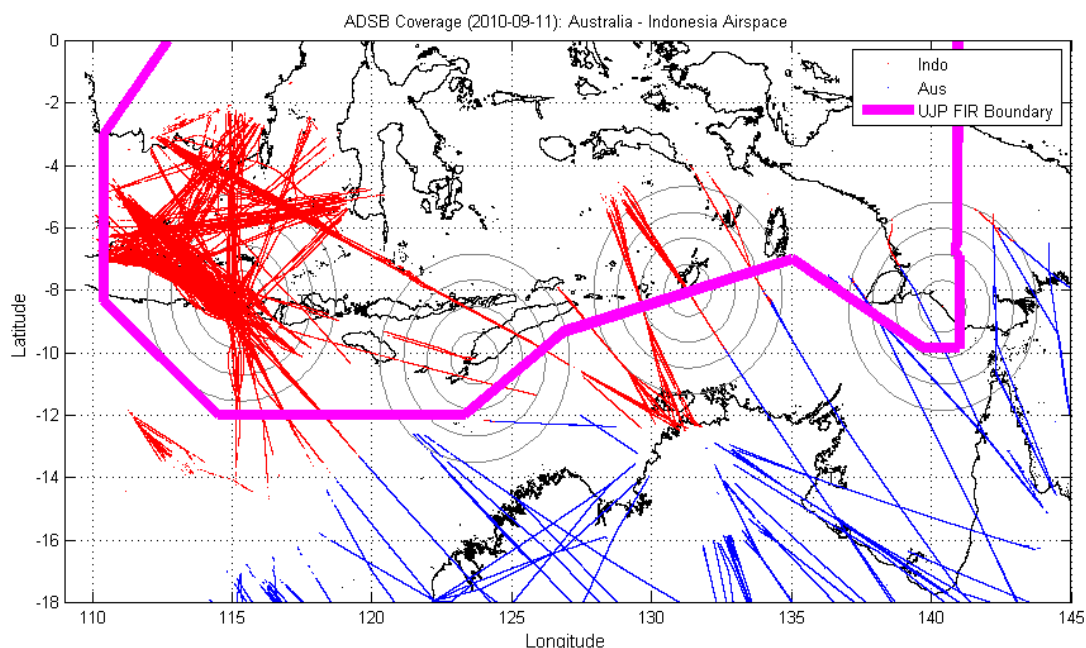
3. ACTIVITIES

3.1 A Deed of Agreement to support ADS-B data sharing was developed and was signed on 20 September 2010. The agreement is based in large part on the sample agreement developed by **SEA ADS-B WG**.

3.2 Both Indonesia and Australia developed and tested ADS-B filters to control and manage data flow under the data sharing agreement. These filters are installed in the respective ATC centres.

3.3 A satellite datalink was established to exchange the ADS-B data using multicast and using Asterix Category 21 Version 0.23.

3.4 International flights entering the Ujung Pandang FIR are monitored by Air Traffic Controllers at MATSC. International flights entering the Brisbane FIR are monitored by Air Traffic Controllers in the Brisbane centre.



3.5 Over seventy percent (70%) of international flights crossing the FIR boundary between Australia and Indonesia are approved to receive ADS-B separation services in Australia.

3.6 In December 2013 ADS-B equipage is mandatory for domestic and foreign aircraft operating in Australia at and above FL290.

3.7 Operational feedback in Australia has been very positive.

4. NEXT PHASES

4.1 It is hoped that the project will extend to Phase 1B and possibly Phase 2. These future phases will add more sites and extend the operational use of ADS-B at the FIR boundary.

4.1.1 Phase 1B - This phase, if approved, would comprise the sharing of three sites from Indonesia and three sites from Australia as follows:

Australia:	TBD **
Indonesia:	Waingapu

(** Airservices Australia has decided to not install an ADS-B ground station at Darwin because a new SSR only radar is being installed at this location. An alternate site is being considered.)

4.1.2 Phase 2 - This phase, if approved, could transition to full radar-like separation when both parties have in place suitable ATC infrastructure such as:

- duplicated data communication capability;
- Direct Controller Pilot Communication (DCPC) for both parties at the boundary;
- revised boundary separation standards and Memorandums of Cooperation; and
- Policies, regulations and extensive training

5. RECOMMENDATION

It is recommended that

5.1 The meeting note that the plan for ADS-B data sharing first proposed at SEA WG/4 has been commissioned.

5.2 The meeting note that the benefits of data sharing will only be provided for ADS-B equipped aircraft.

5.3 The meeting note the benefits of ADS-B data sharing, and recommend that other states consider deployment of ADS-B data sharing to achieve similar results.
