International Civil Aviation Organization

Automatic Dependent Surveillance – Broadcast (ADS-B)
Study and Implementation Task Force

Brisbane, Australia, 24-26 March 2003

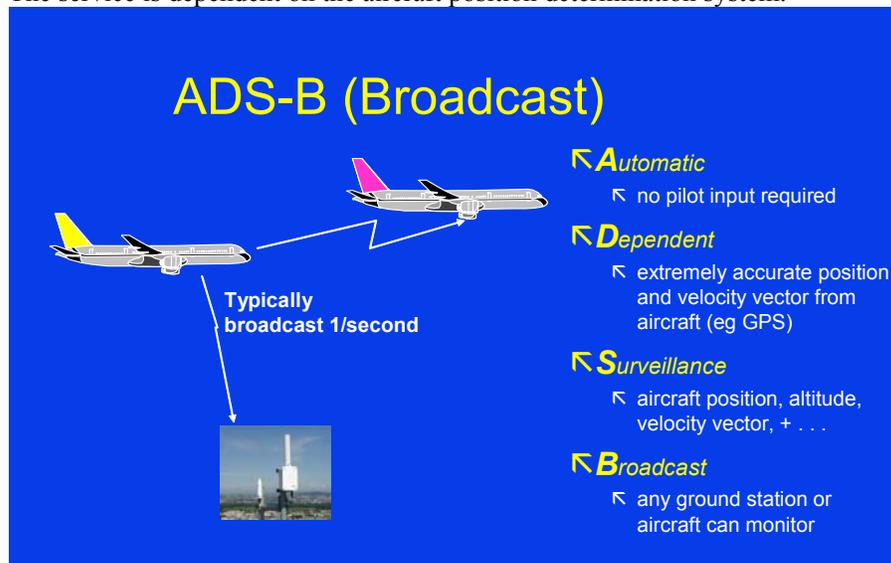**Agenda Item 2: Review of ADS-B Activity**

WHAT IS ADS-B?

SUMMARY

This paper briefly introduces ADS-B and introduces the term "ADS-B in" and "ADS-B out"

(Presented by Australia)

1.   ADS-B

Automatic Dependent Surveillance Broadcast (ADS-B) is a technology where aircraft avionics broadcasts the aircraft position, altitude, velocity and other parameters completely autonomously.

The system is automatic because the pilot is not involved in initiating broadcasts.
The service is dependent on the aircraft position determination system.

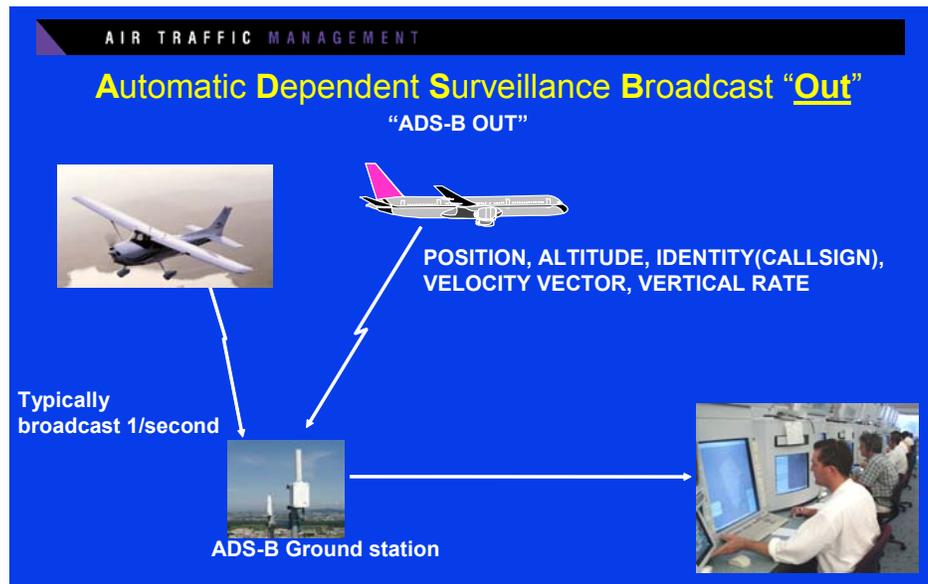The application is surveillance, both air-ground and air-air.

The data is broadcast to all listeners in contrast to ADS-C (contract), where a point to point circuit is established for data transfer.

Typically the ADS-B avionics broadcasts position information, derived from on-board systems every few seconds. Other aircraft and ADS-B ground stations can receive this data and use it for various purposes such as

- Cockpit Display of Traffic to pilots
- Air Traffic Control surveillance services

2.   ADS-B in and ADS-B out

The term "**ADS-B out**" refers to the broadcast of ADS-B transmissions from aircraft, without the installation of complementary receiving equipment to process and display ADS-B data on cockpit displays to pilots. This complementary processing is called "**ADS-B in**".

"ADS-B out" is required before cockpit displays will be able to directly observe traffic. "ADS-B out" can be deployed earlier than "ADS-B in" since ATC surveillance (air-ground) can operate without "ADS-B in".

"ADS-B in" requires certification of cockpit displays, consideration of pilot human factors and other activities which have a longer deployment schedule. However, "ADS-B in" and display of traffic on TCAS displays is available on some commercial aircraft today.

ADS-B does NOT include other associated technologies than may happen to use the same datalink. For example, TIS-B, FIS-B, Controller pilot datalink are not a necessary component of ADS-B.

TIS (Traffic Information Service) is a system whereby ATC radar data is uplinked to ADS-B in systems thus allowing air-air visibility of aircraft without ADS-B out. It is being considered by some agencies as a transition tool in cases where significant avionics fitment (typically the general aviation fleet) cannot be achieved within a reasonable time.

3.   Recommendation

The meeting is invited to note and use the terms "ADS-B in" and "ADS-B out"

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