

Submission: 285

## General Aviation Manufacturers Association



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Department of Infrastructure, Transport,  
Regional Development, Communications, Sports and the Arts  
GPO Box 594  
CANBERRA ACT 2601

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Dear Sir or Madam,

The General Aviation Manufacturers Association (GAMA) is an international association representing manufacturers of airplanes, helicopters, engines, and avionics as well as new entrants in the vertical lift and powered lift industry. GAMA welcomes the opportunity to provide a response to the Consultation Paper, *Potential future expansion of Automatic Dependent Surveillance Broadcast (ADS-B) mandate in Australia*, issued in September 2025.

GAMA members manufacture the vast majority of aircraft, engines and avionics used within the business and general aviation industry. Our members have embraced ADS-B as the airborne surveillance technology for aviation. All aircraft manufactured by our members since approximately 2015 have been delivered with ADS-B systems as standard or optional equipment.

Our members also provide retrofit solutions for ADS-B to enable cost-effective solutions across the aircraft fleet. Today, ADS-B systems are available at price points that are on par with legacy transponders. Shifting to the use of ADS-B for surveillance in Australia would align with deployments of ADS-B worldwide as noted in the consultation paper.

GAMA offers the following technical input and considerations to inform the consultation:

### **ADS-B Standards**

The internationally recognized surveillance framework for ADS-B is primarily developed around the 1090MHz spectrum and the technical standards jointly managed by RTCA Special Committee (SC) 186 and EUROCAE Working Group (WG) 51). The deployment of ADS-B globally is structured specifically around RTCA DO-260B and EUROCAE ED-102A. These standards were released in late 2009. The DO-260B and ED-102A version of the joint RTCA/EUROCAE standards have guided the deployment of ADS-B over the past two decades and provide the basis for the avionics equipage currently available on new production and as well as existing retrofit solutions for the fleet.

### **Antenna Considerations**

The cost of equipping an aircraft with ADS-B is a combination of both the type of ADS-B equipage and the complexity of the installation, including—as an example—as driven by any changes in antenna requirements. GAMA has noted in other consultations about ADS-B that the vast majority of business and general aviation aircraft do not have a second, top-mounted

antenna (*i.e.*, “antenna diversity”) and are only equipped with bottom-mounted antennas. Aircraft equipped with TCAS II / ACAS will, however, have the top-mounted antenna functionality.

GAMA encourages the review of existing ADS-B deployments and how antenna requirements have been established. Upgrading an aircraft that does not have a top-mounted antenna to diversity equipment is a cost-driver including the second antenna, but also the increased complexity of making modifications to the aircraft such as penetrating the pressure vessel, removing and re-installing interior, and—for rotorcraft—addressing limited space on the aircraft to install the additional antenna.

### **Role of Electronic Conspicuity**

There are several electronic conspicuity (“EC”) concepts and deployments underway worldwide and GAMA notes the references within the Consultation Paper to the potential role of EC for Australian surveillance.

The term EC is in common use, but EC has become an umbrella term with different definitions based on the jurisdiction in which it is being discussed. Here are some examples:

- EUROCONTROL and the European Union Aviation Safety Agency (EASA) in 2024 launched an evaluation project to define electronic conspicuity and its potential use cases. The EC use cases envisioned by EUROCONTROL and EASA are air-to-air safety cases but are not expected to address air-to-ground surveillance. The European EC concept is on the 1090MHz link.<sup>1</sup> The work product from the joint evaluation is expected to be delivered in 2026.
- FAA included within its normalizing unmanned aircraft systems beyond visual line of sight operations notice of proposed rulemaking (NPRM) a concept for EC to complement the existing ADS-B mandate in U.S. airspace with an EC device on the 978MHz spectrum. The FAA has, however, not yet defined its EC concept, but instead stated that the agency will in the future either issue a new Technical Standards Order (TSO), or another form of approved specification<sup>2</sup> to define EC.
- The FAA is also working with stakeholders to define a low-cost ADS-B solution as directed in the FAA Reauthorization Act<sup>3</sup> of 2024, Section 810. This low-cost ADS-B project is expected to conclude with a report being released in May 2026.
- The UK Civil Aviation Administration (CAA) points to CAP 1391: *Electronic Conspicuity device standard* to enable “see-BE SEEN-and-avoid” as its approach to improving aviation safety through the use of EC. The EC standard, as noted by the UK CAA, is a device carried voluntarily as an aid to “see-and-avoid” which “transmitted data cannot be relied upon and, consequently, their design requires that any functional failures will result in a ‘No Safety Effect’.”<sup>4</sup>

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<sup>1</sup> Joint CNS Stakeholder Platform, Agenda Item 4.2: Electronic Conspicuity use cases, 06 October 2025

<sup>2</sup> 90 FR 38245 at <https://www.govinfo.gov/content/pkg/FR-2025-08-07/pdf/2025-14992.pdf>

<sup>3</sup> Public Law 118-63 at <https://www.faa.gov/about/reauthorization>

<sup>4</sup> UK Civil Aviation Authority at <https://www.caa.co.uk/our-work/publications/documents/content/cap1391/>

In short, the EC concept is a promising opportunity to improve safety, varies in its technical definition, and its role for air-to-air safety versus for air-to-ground surveillance varies based on the jurisdiction and specific technology.

GAMA encourages the full consideration of EC's potential role for planned Australian surveillance functions versus EC's role in improving aviation safety and which objective is sought.

### **Role of Space-Based Surveillance**

GAMA notes that the consultation paper states that "NAV CANADA has utilised space-based ADS-B since 2019." And further states that "This has expanded and improved ADS-B surveillance coverage in Canada's airspace. It is anticipated increased ADS-B coverage, and subsequent increased uptake, will support drone 'detect and avoid' capabilities installed by several leading drone manufacturers in Canada."<sup>5</sup>

GAMA is intimately familiar with the attempted deployment of space-based ADS-B signal receivers to support surveillance. While a promising concept, the receipt of ADS-B signals using the existing NAV CANADA-owned services is at best challenged and, through large parts of Canada, does not meet international surveillance standards according to data provided by NAV Canada. The space-based receivers are unable to consistently track aircraft equipped with ADS-B systems that meet international standards, including aircraft with diversity antenna installations.

GAMA has worked with NAV CANADA and Transport Canada over the past half-a-dozen years to try to make the space-based system work. But, more recently, steps are being taken to deploy a network of ground-based ADS-B receivers across Canada to ensure the required safety performance is met, especially in airspace where multiple aircraft are operating and link congestion impacts the satellite receiver's ability to consistently track aircraft. The space-based surveillance concept seems to provide potential solution for some low-traffic density airspace, but does not seem to be able to support common separation safety standards based on the data shared by NAV Canada and its contractor Aireon to date.

Please contact me via email with any follow-up questions.

Sincerely,



Jens C. Hennig  
VP, Operations, Safety & Security

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<sup>5</sup> Consultation Paper, Page 19, International introduction of ADS-B technology