



Airspace4All GA Airfield ATS ADS-B Traffic Display Trial

Trial Report Executive Summary

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The full Report is available on the Airspace4All website:

<https://airspace4all.org/reports/report-on-airspace4all-ga-airfield-ats-ads-b-traffic-display-trial/>

1 Executive Summary

This document reports the findings of the Airspace4All GA airfield ATS ADS-B Traffic Display Trial which sought to test mitigations to the increased risk of mid-air collision that had been identified¹ to occur in airfield traffic circuits and adjacent airspace.

For the 6 month duration of the trial AFIS and AGCS units at three UK GA airfields were equipped with real-time flight tracking equipment that provided a situational awareness tool with the potential to enhance the level of service and thus the safety of aircraft flying in the vicinity of the airfields. The Traffic Display was not used to provide any form of Air Traffic Control service.

The aim of the trial was:

To gather information to assess the use of ADS-B Traffic Displays at GA airfields with a view to future authorisation and to assess the potential to:

- Reduce the probability of mid-air collisions.
- Provide increased situational awareness resulting in a reduction in airspace infringements
- Monitor compliance with local traffic regulations

Additionally, it was expected that this trial would encourage further development and carriage of conspicuity technology to support ATS and AGCS provision at UK GA airfields and to provide aircraft-to-aircraft situational awareness

¹ *Mid-Air Collisions: An Evidence-Based Analysis of Risk – 1975 to 2018; Airspace4All, 24th April 2019*
<https://airspace4all.org/mac-risk-analysis-1975-2018/>



The trial safety plan and safety case were reviewed and approved by the UK CAA prior to commencement.

ATS and AGCS units provided daily and monthly feedback via online forms. The trial results are based on analysis of this feedback plus direct engagement with the technology and the units concerned.

The ADS-B Traffic Display system is relatively low-cost – some 3% of the implementation cost of a multilateration surveillance system formally trialled elsewhere – making it within the means of virtually all UK GA airfields. Setup is reasonably straightforward, only requiring a modicum of IT expertise.

The ADS-B Traffic Display was reported to be reliable, very accurate and did not constitute a distraction hazard; it was safe to use. It was perceived by a large majority of operators to be a valuable enhancement to their existing tools and procedures, improving situational awareness and service and providing a positive safety benefit to aircraft. It also had a positive effect on ATS and AGCS staff’s well-being and confidence. However, achieving the benefits required commitment from airfield management and staff to provide the installation, training and supervision, and an openness to change. Its use raised awareness of the benefits of ADS-B carriage which is already leading to increased aircraft fitment and deployment.

The trial concluded that GA safety would be improved by authorising GA airfield ATS and AGCS units to use ADS-B Traffic Displays. That would require amendment to regulations relating to staff licensing, ATS and RTF procedures and surveillance systems. Bringing ADS-B Traffic Display installation and operation within the means of UK GA airfields would require light and proportionate regulation together with simple and inexpensive start-up procedures.

Limitations caused by range and obscuration of portable ADS-B device transmissions were identified but investigating these was outside the scope of the trial. These need to be understood; this could be done by further work using the existing Airspace4All trial equipment and locations.

Clutter caused by ADS-B devices left on in parked aircraft needs to be resolved by procedures and that and other configuration control measures need to be developed to provide a robust system for further deployment.

Overall, the ADS-B Traffic Display was found to be an effective and economic means of providing accurate and timely traffic information to aircraft at and around a GA airfield. Its installation was welcomed by ATS and AGCS operators.

***“Having been a FISO for some 20 years it has been nothing but a positive. It enables me to provide a much better service as a FISO giving me a tool to enhance my own situational awareness.
I can now confidently know where aircraft are and identify relevant traffic information and assist pilots in avoiding conflict”***