

Report of the Surveillance Panel Representative

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SUMMARY

The Surveillance Panel deals with highly technical subjects that usually don't have a direct link with operations. Nonetheless some applications, like Interval Management using ADS-B IN, are of interest for IFATCA and are a reason to maintain the Federation presence in the Panel. This report summarizes the main subjects treated in it since the previous Conference.

1. INTRODUCTION

- 1.1. Among the ICAO panels where IFATCA has a presence, there is a Surveillance Panel which deals with everything related to surveillance systems: radar, ADS-B, multilateration, etc.
- 1.2. The Surveillance Panel has several working groups with different levels of interest for IFATCA. The two main groups are the Aeronautical Surveillance Working Group (ASWG) and the Airborne Surveillance Working Group (AIRB WG). Other subgroups are the Technical Sub-Group (TSG) or the Performance-Based Surveillance Sub-Group (PBSSG).
- 1.3. Much of the scope of these groups is of a highly technical nature being the AIRB the group with an activity closest to the operations. Traditionally, IFATCA has kept an eye in both ASWG and AIRB WG.

2. DISCUSSION

- 2.1. This panel deals with technical issues related to surveillance with only a few subjects related to operations. In addition, such subjects are usually treated too in other panels like SASP or ATMOPS. For this reason, jointly with the scarce resources that IFATCA can use, it was decided some years ago that the attendance to the panel would be limited, always keeping an eye in the subjects discussed. As a consequence, the last meeting I attended was in March 2025 with no meetings attended since the last Conference.
- 2.2. Nonetheless, it is always possible to monitor the working and information papers for every meeting. At the time of writing this report, only a meeting of

each of the working groups monitored has taken place (November 2025) with a second meeting about to start (March 2026). The following paragraphs will provide a summary of the most interesting items from the ATC point of view.

- 2.3. Congestion of the frequencies used in surveillance systems has always been a matter of concern for this panel. Several papers have been dedicated to this subject with studies being performed in Canada, Europe and the USA. On this matter, the TSG is working on interrogation rate limits as a mitigation. Another paper related to this issue mentions a study to compare ADS-B ADD (Aircraft Derived Data) and Mode S DAP (Downlinked Aircraft Parameters) with a very high level of consistency, a result that supports the conclusion that ADS-B ADDs can reliably substitute Mode S DAP extraction offering a practical means to reduce RF congestion. Finally, another paper describes a Mode S radar with hybrid surveillance capability able to combine active radar interrogations with passive use of ADS-B extended squitter data, again as a means to reduce 1030/1090 MHz RF congestion.
- 2.4. The protection of the 1030/1090 MHz frequencies is also behind the information on studies about the compatibility of LDACS (L-Band Aeronautical Communication System). This can become an important standard for communications, but it has a potential issue: it operates in L-Band (1 to 2 GHz) close to 1,000 MHz. The studies show that modern transponders and TCAS designs are robust enough provided reasonable antenna isolation is achieved while some legacy designs show some sensitivity.
- 2.5. Frequency protection is increasingly being considered under the scope of security. The panel received information on spurious TCAS alerts linked to radio-frequency interference activities including counter-UAS measures (the latest being linked to incidents in KDCA airport reported 1st March 2025).
- 2.6. Spoofing is, of course, an issue not only for GNSS navigation but also for ADS-B surveillance with no current ICAO guidance on the subject. The panel got information about a mechanism to detect spoofed ADS-B position reports and alert controllers in real time.
- 2.7. A subgroup of this panel is the Performance-Based Surveillance Subgroup (PBSSG) which is currently preparing a Required Surveillance Performance (RSUR) Manual. Some applications could be a 3NM en-route separation or a new 2.5 NM separation on final approach. An important issue is that the current version of the draft is bigger than 200 pages well above the 150 pages that are the usual limit for this kind of documents.
- 2.8. Interval Management (IM) has been a fundamental topic in the past years for the AIRB WG. The concept has been described in reports of past Conferences. During the 2025 Conference in Abu Dhabi, it was mentioned that work in IM was being stopped and the concept could be considered at a dead end. Nonetheless, the Panel is producing procedures and phraseology that could be included in PANS ATM and PANS OPS after coordination with the respective panels.

- 2.9. An important part of the panel work leads to proposals for amendment to ICAO's docs but a detailed list of the proposals is out of the scope of this report due to the technical nature of the subjects (example: better description on the Reply Information field use in air-air Mode S replies; clarification of the use of the Reply Length bit in ACAS broadcast messages).
- 2.10. Due to the impact in ICAO's documentation, I consider that the proposal for deletion of a whole chapter of Annex 10 should be mentioned. It is Annex 10, Volume III, Chapter 5, related to Mode S specific services, which is an intended communication system using the capability of mode S for datalink. The communications Panel has agreed to this deletion but of course this affects several documents and the panel is working to maintain consistency. Again, the matter is out of scope for ATC.

3. CONCLUSIONS

- 3.1. Surveillance Panel deals with very technical matters that are usually out of the scope of IFATCA interest with some subjects that deserve attention even if also treated in other panels.
- 3.2. Among the most relevant subjects treated in the Panel in the last year have relation to reduction of congestion in frequencies used in surveillance (1030/1090 MHz) and the protection of signals from a security point of view.
- 3.3. A manual on required surveillance performance (RSUR) is being prepared by a subgroup of the panel and is reaching its final form.
- 3.4. Interval Management, which is a matter of interest for IFATCA, seems to have been abandoned. Nonetheless procedures and phraseology are being produced to be included in ICAO documents.

4. RECOMMENDATIONS

- 4.1. This report to be accepted.

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