



Industry Consultation Body

POSITION PAPER

EASA RMT on revision of the SPI IR

The European Commission is following a two-step approach for the revision of the SPI IR and has signalled that it is most likely to ask EASA to launch a rulemaking activity to work on the revision of the mandate. The ICB supports this approach and urges the Commission and EASA to ensure the activity considers a range of regulatory tools to achieve a number of well-defined policy objectives.

The rulemaking activity must include a full Regulatory Impact Assessment and Cost-Benefit Analysis to consider the inclusion of GA and re-validate the target surveillance technologies. Crucially the activity must act quickly to minimise further delay in moving towards ADS-B whilst ensuring that sufficient consultation occurs throughout to maintain consensus.

This paper was adopted at ICB/57 on 10th September 2015.

1 CONTEXT

As part of their on-going review of SES interoperability implementing rules, the European Commission organised a workshop on the implementation of the Surveillance Performance and Interoperability (SPI) Implementing Rule on the 7th March 2014¹. The workshop concluded that significant revision of the SPI IR was required to address implementation issues.

The European Commission is following a two-step process for the revision of the SPI IR. An initial ICB Position issued on 24th June 2014 supported the Commission's approach and set out a number of issues to be considered.

Step 1

Step 1 comprises minimal changes to the IR, principally delaying effective dates for airborne equipment to provide sufficient time for a detailed review. This was achieved on 26th September 2014, with publication of CIR (EU) 1028/2014 amending CIR (EU) 1207/2011, with deadlines for forward fit and retro fit pushed back (to 8th June 2016 and 7th June 2020 respectively).

Step 2

Step 2 will comprise more significant changes to the IR following a detailed review of the scope and impact. For Step 2, the SJU were tasked to perform an initial study to provide early material for the detailed review. The SJU preliminary paper was discussed at SSC/56 on 18th/19th March 2015.

A further stakeholder workshop was held on 21st April 2015 to discuss the SJU paper and the evolution of the SPI Regulation. An ICB Discussion Note issued on 15th April 2015 supported the ICB Chairman's participation in the workshop. The workshop concluded that any option for evolution of the regulation need careful impact assessment. The Commission also concluded that it will most likely ask EASA to launch a rulemaking activity to revise the mandate, including considering an extension beyond aircraft covered under the current mandate. Finally, regarding spectrum congestion, it recognises the potential for the SJU to undertake research tasks. It also acknowledges the possibility for the NM to undertake additional spectrum monitoring tasks to assure that equipment of SPI to currently mandated levels and any additional equipment can be accommodated on the allotted frequency.

This paper sets out a number of recommendations on an EASA RMT to ensure the future surveillance infrastructure is fit for purpose.

¹ <http://www.eurocontrol.int/events/european-commission-workshop-implementation-regulation-eu-no-12072011-surveillance>

2 KEY NEEDS

There are several interdependent needs to fulfil:

- a) **Ensuring an affordable implementation for light aircraft that maintains (or improves) current safety standards:** Mandating surveillance equipment for lighter aircraft will bring benefits since the lack of a current transponder requirement results in a serious safety issue in controlled airspace where ATC is not able to locate unequipped aircraft. This problem will grow with increased use of RPAS. An airspace based model, rather than a model based on aircraft size, may address this issue.

Implementation must be affordable in addition to maintaining (or improving) current safety standards, particularly since certification costs represent a significant barrier. Financial incentives should be widely available to address any negative business cases for affected stakeholders.

- b) **Alleviating pressure on the 1030/1090 MHz RF band:** The 1030/1090 MHz RF band is already becoming congested in dense traffic areas due to the large number of SSR Mode A/C radars configured with high interrogation rates and power. This frequency band also supports airborne safety nets (ACAS). Imposing ADS-B equipment on additional users further increases the need for careful management of the band.

- c) **Establishing a cost-effective, optimised and performance based surveillance infrastructure at network level:** To-date each provider has designed for complete redundancy. A pan-European approach to meeting redundancy (for example, through data exchange and civil-military cooperation) needs would support both infrastructure optimisation and spectrum protection, and is in line with the Network Strategy Plan's Strategic Objective 8 to "optimise CNS resource allocation and cost".

Developing a surveillance roadmap at network level containing information on the status of current infrastructure, its age and replacement plans, and a transition plan towards the target surveillance environment would support an optimised surveillance infrastructure.

- d) **Harmonising regulatory requirements at a global level:** It is inefficient and costly for airspace users flying in European and other airspace to satisfy differing requirements; for example US and European airspace with two mandates with differing technical specifications.

- e) **Allowing for future SESAR operational concepts that may establish new surveillance requirements.** The proposed Edition 3 of the European ATM Master Plan identifies ADS-B as a technical enabler for SESAR Essential Operational Changes. The requirements on ADS-B will become clearer in time, so a flexible approach is needed. In addition, technological solutions (eg ADS-B In) will mature providing new options to meet surveillance requirements.

- f) **Avoiding investment which does not deliver a benefit by ensuring the implementation of "best practice" by all stakeholders:** Establishing responsibilities to develop guidance material as soon as possible is required to encourage the harmonised implementation and operation of the European surveillance system. Common tools should be developed to provide the necessary transparency in support of a commonly implemented and accepted performance scheme.

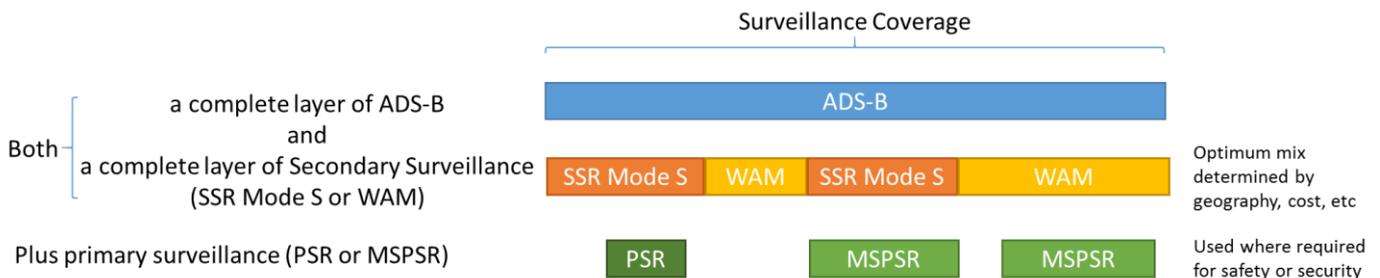
3 ICB POSITION

The ICB continues to support the two step approach for the revision of the SPI IR, and would support an EASA RMT if the objectives, scope and approach are appropriately set and followed. The Commission should take an active approach to ensuring both the objectives, scope and approach of Step 2 are fulfilled in the course of the EASA RMT, and that the process builds genuine consensus at the decision making level.

3.1 Policy Objectives

The ICB considers that a well-defined set of policy objectives is needed to underpin an EASA RMT. Policy objectives should drive selection of technologies and regulatory tools.

The ICB agrees that the target surveillance end-state is best described by the 'Evolution of the Surveillance Infrastructure²', a SESAR document that details a technology roadmap leading up to 2030. The target is met by "combining a layer of ADS-B with a layer of secondary surveillance (provided either by SSR Mode S or WAM). Primary radar coverage will also be available, where required (e.g. for safety or security reasons), either by classic (mono-static) PSR or possibly in the form of multi-static PSR (MSPSR)." The ICB supports this target, whilst acknowledging that re-validation is needed through a detailed cost-benefit analysis and recognising the need to develop a transition plan towards the target. The target does not extend to surface operations.



However, the underlying policy objectives must be made explicit. The fundamental goal is to encourage a performance based approach to optimise cost and spectrum utilisation whilst maintaining surveillance coverage. Suitable policy objectives are:

- optimum surveillance coverage, including adequate redundancy;
- infrastructure optimisation, in line with the multi sensor approach established in the SESAR's Evolution of the Surveillance Infrastructure;
- incorporation of GA, including cost effective implementation and incentivising retrofitting aircraft;
- a spectrum efficient approach to both the use of existing infrastructure and the deployment of future infrastructure;
- standardisation and harmonisation of internationally accepted regulatory requirements;
- the delivery of near-term benefits whilst retaining longer-term flexibility.

² <https://www.eurocontrol.int/sites/default/files/publication/files/p15-04-01-d10-final-report-part-2v1.1.pdf>

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The ICB also considers it may be possible to place less stringent requirements on some stakeholders (eg GA) to support a cost effective implementation across all airspace users.

3.2 Scope

The ICB believes that the EASA RMT must consider the full range of regulatory tools for achieving the policy objectives. Up to four regulatory tools could be used:

- a) **EASA Technical Rule:** most likely to be used to mandate equipage rates and equivalent ground elements to fulfil the performance requirements on the infrastructure.
- b) **Network Function:** considering Regulation (EU) 677/2011, on the coordination of European-wide resources, to ensure optimum use of the spectrum through a central frequency monitoring and management function.
- c) **Common Project:** proper project coordination across the EU, to be considered as a means to actively manage the implementation of the target surveillance infrastructure and to use public (CEF) funding to overcome any negative business cases (thereby enabling a common benefit).
- d) **Performance Scheme:** using incentives/penalties to accelerate optimisation of surveillance infrastructure.

Different tools are appropriate for different purposes and combinations of two or more tools can work in concert to meet the full range of policy objectives. Options in the EASA RMT should be defined around such combinations and then assessed as to how they meet the policy objectives. In particular, consideration should be given to the potential regulatory requirements (eg the required performance and equipage rates, and establishing implementation deadlines) and complementary tools (eg a Common Project), which support achievement of the requirements, and may accelerate the delivery of benefits.

In addition, since the SPI IR and the ACID IR (CIR (EU) 1206/2011) are inter-linked, the scope of an EASA RMT on SPI should be broad enough such that it could propose that the ACID IR is amended.

3.3 Approach

The ICB considers that a substantial review of the SPI IR in the form of a full Regulatory Impact Assessment and Cost-Benefit Analysis is required. Regulatory options should be assessed against policy objectives. The CBA should, inter alia, consider the inclusion of GA and re-validate the SESAR target. Conditions to handle exclusions must also be defined.

The EASA RMT should balance the need to move quickly (to avoid further delay) with the need to build and maintain consensus on how to address the key issues. Consultation mechanisms (NPA's) should be used throughout the RMT as means to ensure stakeholder acceptability.