



ICAO

*International Civil Aviation Organization***Sixth Meeting of the Surveillance Implementation
Coordination Group (SURICG/6)**

Video Teleconference, 24 – 27 August 2021

Agenda Item 3: Review Report of DAPs WG/4 Meeting**REPORT ON SURVEY ON CURRENT USE AND FUTURE PLANNING OF
MODE S ENHANCED SURVEILLANCE (EHS) IMPLEMENTATION**

(Presented by the Secretariat)

SUMMARY

This paper presents outcomes of the Survey on Current use and Future planning of Mode S Enhanced Surveillance (EHS) Implementation resulted from **ACTION ITEM 4-4** of Mode S DAPs WG/4.

1. INTRODUCTION

1.1. The Fourth Meeting of the Mode S Downlink Aircraft Parameters working group (Mode S DAPs WG/4) was held via video Tele-conference from 29 to 31 March 2021. The meeting resulted into an action item described below-

ACTION ITEM 4-4: Survey on Current use and Future planning of Mode S Enhanced Surveillance (EHS) Implementation

ICAO secretariat will conduct a survey with APAC states to request the information about the current use and future planning of EHS modes in respective states along with challenges and difficulties faced by states in implementing APANPIRG conclusion C 31/14. Close consultation with Airspace Users will assist all in investment planning and timing.

1.2. This paper summarized the outcomes of the survey based on the response received from APAC Member States.

2. DISCUSSION

2.1 The Fourth Meeting of the Mode S Downlink Aircraft Parameters working group (Mode S DAPs WG/4) was held via video Tele-conference from 29 to 31 March 2021. The meeting resulted into an action item 4-4 on *Survey on Current use and Future planning of Mode S Enhanced Surveillance (EHS) Implementation*.

2.2 Accordingly, the questionnaire was prepared for the survey with the support of Mode S DAPs Working Group. A State Letter **Ref.:** T 8/5.11:AP088/21 (CNS) dated 07 May 2021 on Subject:

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Survey on Asia/Pacific Current use and Future planning of Mode S Enhanced Surveillance (EHS) Implementation were issued to the Member States and it was requested to *Complete the survey by 15 June 2021*. The survey was available online using google forms at <https://forms.gle/P4gLzw5AEdQFHebN7>.

2.3 Member States were informed that the information and data received through the survey would be used for evaluation of APAC Mode S DAPs Implementation and future planning purpose only. The information submitted by individual Member States *will not be shared* outside ICAO. However, the *analyzed consolidated information and data* will be used for Future planning of Mode S Enhanced Surveillance (EHS) Implementation and will be shared with stakeholders.

2.4 Additionally, a separate questionnaire were sent to IATA to respond to the question related to ELS Mode S capability and EHS Mode S capability of commercial fleets in APAC region.

2.5 In response to the survey, ICAO APAC Office received response from **Twelve** (12) Member States namely Australia, China, Hong Kong, China, India, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, USA, and Vietnam. India did not respond to question number 10-13 related to APANPIRG/31/14 Conclusion implementation challenges, while for counting their response for question number 10-13 negative response of all four questions have been assumed. The graphical representation of response received is provided in **Appendix A**.

2.6 The response received from IATA for a separate questionnaire to respond to the question related to ELS Mode S capability and EHS Mode S capability of commercial fleets in APAC region is provided in **Appendix B** in graphical representation.

2.7 The outcomes of the survey concludes that most States are not facing any challenges in implementing APANPIRG/31/14 Conclusion. Additionally, the commercial fleet in APAC, North America, and MENA are already possess Mode S ELS and EHS Mode S capability. However, it should be noted that the outcomes are based on reply from 12 APAC Member States and 11 airlines from the world.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

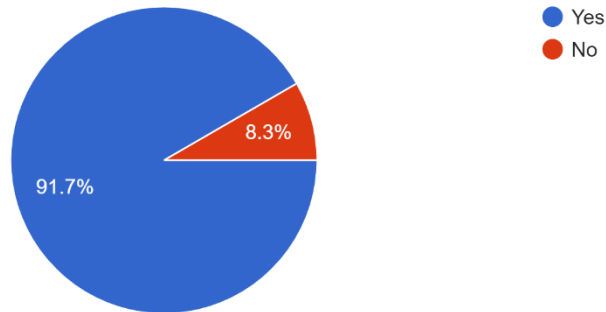
- a) note the information contained in this paper; and
- b) discuss any relevant matter as appropriate

Appendix- A

ANSPs Questionnaire and Response

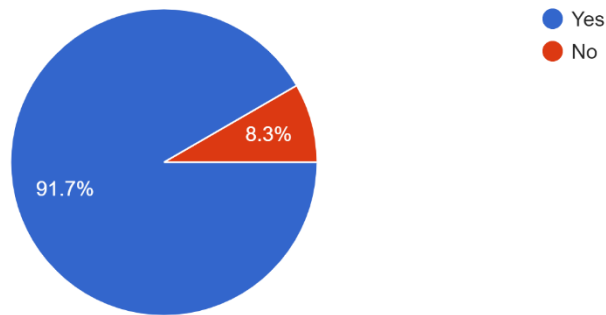
1. Do you currently have Mode S capable radar(s) system(s)?

12 responses



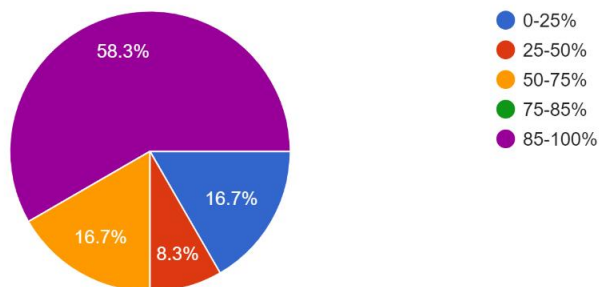
2. Do you currently have Mode S capable ATM automation system(s)?

12 responses



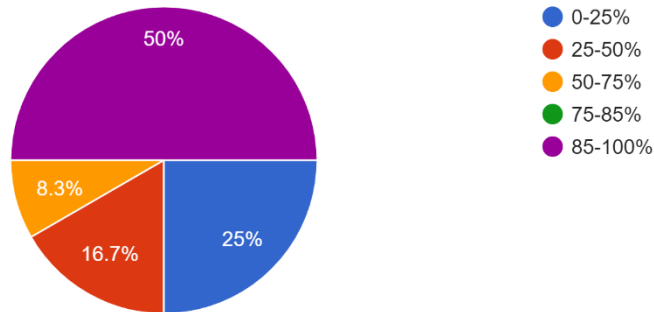
3. How many percentage of SSR are Mode S capable in your state?

12 responses



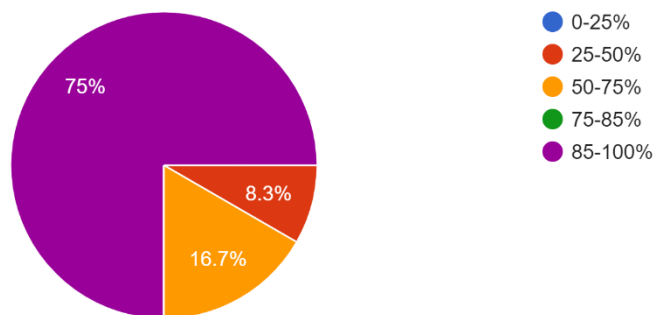
4. How many percentage of SSR are Mode S EHS capable in your state?

12 responses



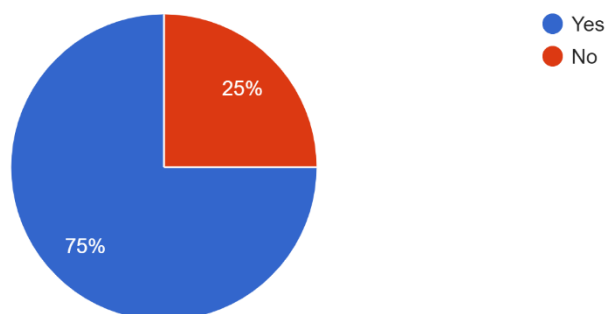
5. How many percentage of ATM automation system are Mode S capable in your state?

12 responses



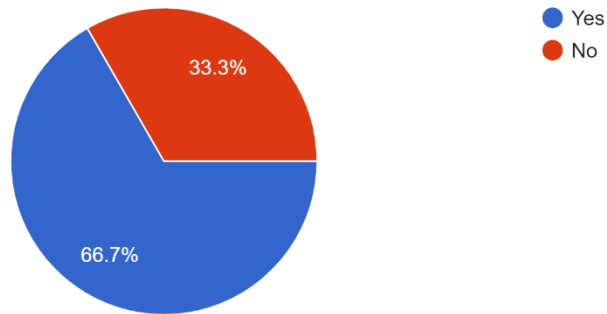
6. If your ANSP is utilizing Elementary surveillance (ELS)?

12 responses



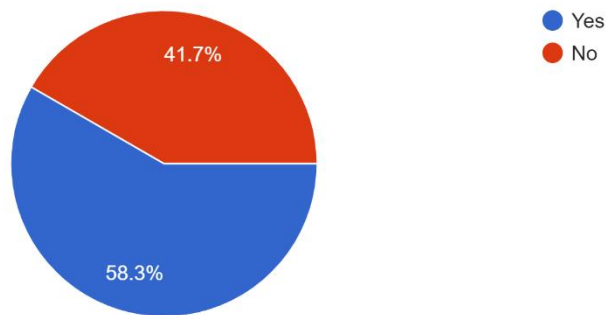
7. If your ANSPs possess the capability to utilise the DAPs from EHS Mode S today

12 responses



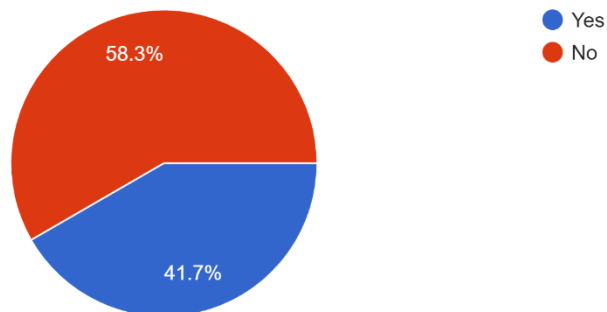
8. If your ANSPs will tentatively utilise the DAPs from EHS Modes S from 1 Jan 2022

12 responses



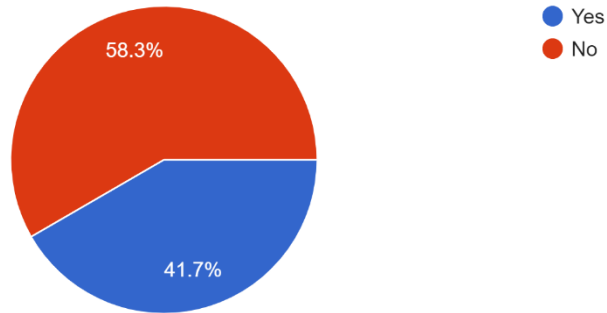
9. If your state has implemented Mode A code 1000 as the conspicuity code for Mode S

12 responses



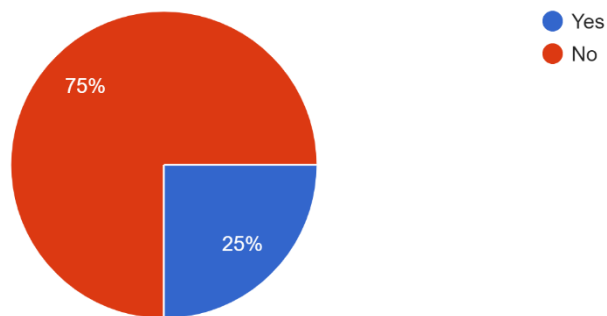
10. If your state has implemented APANPIRG Conclusion APANPIRG/31/14: Mode S Forward Fit Equipage in APAC Region

12 responses



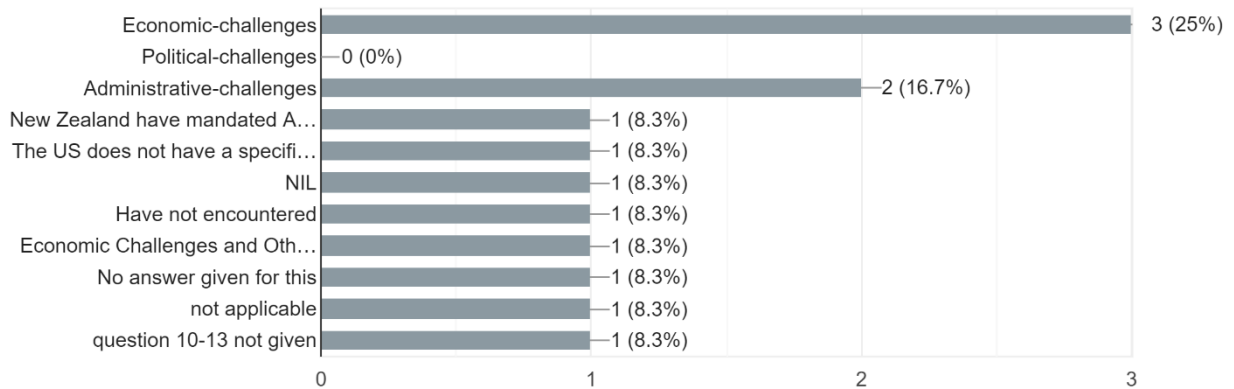
11. If your state face challenges in implementing APANPIRG Conclusion APANPIRG/31/14: Mode S Forward Fit Equipage in APAC Region

12 responses



12. What are major challenges in implementation of APANPIRG conclusion APANPIRG /31/14: Mode S Forward Fit Equipage in APAC Region

12 responses



13. Please provide brief description for challenges 12 responses

1. Thank yours for your survey
2. Currently not clear that the benefits justify a mandate within Australia.
3. New Zealand have mandated ADS-B in all controlled airspace within the NZCC FIR from Dec 31 2022, therefore Mode S becomes implemented by default.
4. Acceptance of ADS-B equipage by general aviation operators.
5. Due to challenging pandemic situation
6. Just a matter of the time it takes to application management process
7. N/A
8. NIL
9. Have not encountered
10. Economic Challenges and aircraft fleet age

Appendix B

IATA Questionnaire and Response

IATA				
How many percentage of commercial fleets in APAC already possess ELS Mode S capability	0-25%	25-50%		
	50-75%	75-85%	85-100%	
How many percentage of commercial fleets in APAC already possess EHS Mode S capability	0-25%	25-50%		
	50-75%	75-85%	85-100%	

11
Airline Responded

Airline Breakdown by region	
Asia Pacific	6
North America	2
MENA	3

