



**24th MEETING OF COMMUNICATIONS /
NAVIGATION AND SURVEILLANCE SUB-GROUP OF APANPIRG
WEB-CONFERENCE 30 NOV – 4 DEC 2020**

**Review Report of the Fifth Meeting of the
Surveillance Implementation Coordination Group
(SURICG/5)**

Presented by SURICG Co-Chair



High-level Overview on SURICG/5

- a) 22 - 24 September 2020 via video teleconference (1 morning and 2 afternoon sessions)
- b) 120 participants from 20 States/Administrations
- c) 5 International Organizations (IATA, CANSO, ICCAIA, IFATCA Eurocae) and PCCW Global – CRV Service Provider
- d) 8 working papers, 21 information papers, 6 presentations/flimsies
- e) Major outcomes :
 - i. 1 Decision for SURICG was formulated
 - ii. 2 Draft Conclusions and 2 Draft Decisions – for endorsement by CNS Sub-Group/24
 - iii. 1 Draft Conclusion, for consideration by CNS Sub-Group/24 and endorsement by APANPIRG/31



Proposed Regional Surveillance Data Sharing

- a) One WP from Singapore proposed several approaches for sharing of surveillance data using SWIM/CRV for the region, viz. Distributed, Single Platform or a Hybrid solution
- b) Advantages and drawbacks of each approach was briefly deliberated
- c) SURICG considered it beneficial to take forward the matter and form a volunteered study group to look into it
- d) A study group, to be led by SURICG, including experts from surveillance, SWIM and ATFM, etc. in the region was proposed to further explore the approaches
- e) A jointed paper by Hong Kong China and Singapore to outline the proposal was presented to SWIM TF/4 in November 2020. The same paper will be presented in this meeting
- f) Interested member States / organizations are encouraged to join this study group
- g) As such, the following Draft Decision was formulated:



Establishment of a Study Group to Explore Solutions on Regional Surveillance Data Sharing

Draft Decision SURICG/5/1 - Establishment of a Study Group to Explore Solutions on Regional Surveillance Data Sharing	
What: Noting the operational needs of this region to enhance surveillance data sharing and with new technologies available, That, a study group comprising surveillance experts and experts in relevant areas such as SWIM and ATFM to be set up to study and recommend solutions on regional surveillance data sharing to provide surveillance from “departure to destination”.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To enhance surveillance coverage, enhance surveillance data availability by providing additional layers of surveillance services, and support implementation of advanced Air Traffic Management (ATM) tools such as Air Traffic Flow Management (ATFM).	Follow-up: <input type="checkbox"/> Required from States
When: 4-Dec-20	Status: To be adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub Groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	



Review the Future of SEA/BOB ADS-B WG

- a) Noting the SEA/BOB ADS-B WG has served the region for 13 years since 2007 and has completed most of its objectives
- b) SURICG/5 discussed two options with the future of the WG:-
 - Option 1: To be integrated with SURICG and expand scope of SURICG to cover residual tasks of SEA/BOB ADS-B WG
 - Option 2: To be continued with revised TOR
- c) A consensus could not be reached by members of SEA/BOB ADS-B WG. A vote was proposed to be a fair and transparent means to determine the future of SEA/BOB ADS-B WG. After the vote, Option 1 earned 9 votes and Option 2 earned 4 votes
- d) Based on the outcome of the vote, the majority has chosen Option 1 and a Draft Decision was formulated as follows:



Dissolution of SEA/BOB ADS-B WG

Draft Decision SURICG/5/2 - Dissolution of SEA/BOB ADS-B WG	
<p>What: Noting that most of the tasks outlined in the TOR have been achieved and the completion of residual part of action items will be performed by SURICG,</p> <p>That, the SEA/BOB ADS-B WG be dissolved.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: The SEA/BOB ADS-B WG terms of reference have been completed and pending action items will be performed by SURICG.</p>	<p>Follow-up: <input type="checkbox"/> Required from States</p>
<p>When: 4-Dec-20</p>	<p>Status: To be adopted by Sub Group</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG</p>	





Mode S Forward Fit Equipage in APAC Region

- a) A number of Mode S DAPs applications require support from aircraft transponders meeting Mode S Enhanced Surveillance (EHS) and that it should not pose issue for newly delivered aircraft to be equipped with EHS transponders
- b) After deliberation on roadmap for Mode S in the region and seeking views from IATA, SURICG agreed that States are strongly encouraged to mandate forward fit of EHS by 1 January 2022
- c) As for retrofitting existing airframes fitted with Mode A/C or Mode S Elementary Surveillance (ELS) transponders, the proposed timeframe needs further deliberation in conjunction with industry due to challenging pandemic situation
- d) A Draft Conclusion was formulated as follows :



Mode S Forward Fit Equipage in APAC Region

Draft Conclusion SURICG/5/3(DAPS WG3/1) - Mode S Forward Fit Equipage in APAC Region

<p>What: Regarding fitment of Mode S equipage, That, States/Administrations in APAC Region be strongly encouraged to mandate that registered aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots, with a date of manufacture on or after 1 January 2022 be equipped with Mode S avionics compliant with Enhanced Surveillance (EHS).</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input checked="" type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: Considering that a number of DAPs applications will require Mode S EHS, while most aircraft already have Elementary Mode S and that it's easy for new aircraft to be equipped with Enhanced Mode S-EHS. Retrofitting existing airframes with EHS will need further deliberation under challenging pandemic situation.</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>
<p>When: 16-Dec-20</p>	<p>Status: To be adopted by PIRG</p>
<p>Who: <input checked="" type="checkbox"/>Sub groups <input checked="" type="checkbox"/>APAC States <input checked="" type="checkbox"/>ICAO APAC RO <input checked="" type="checkbox"/>APANPIRG <input type="checkbox"/>ICAO HQ <input checked="" type="checkbox"/>Other: SURICG</p>	



Revised TOR of Mode S DAPs WG

- Editorial changes were proposed to the TOR, and included Australia, Indonesia, Nepal and Sri Lanka as new members. USA will continue to join the DAPs WG activities as observer. As such, SURICG/5 formulated a Decision as follows :-

Decision SURICG/5/5 - Revised TOR of Mode S DAPs WG	
What: That, the revised Terms of Reference of Mode S DAPs Working Group provided in Appendix H to the Report be adopted.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Editorial correction and revision to reflect regional updates	Follow-up: <input type="checkbox"/> Required from States
When: 24 September 2020	Status: Referred back to WG/TF
Who: <input type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input checked="" type="checkbox"/> Other: SURICG	



Amendments to Mode S DAPs IGD

- a) Mode S DAPs WG made further improvements to the Mode S DAPs Implementation and Guidance (IGD). The main changes include:-
- Added introduction of Mode S DAPs data source;
 - Enriched guidance for introducing Mode S mandates
 - Supplemented benefits to ATC operation brought by Mode S DAPs
 - Revised procedure of DAPs extraction
 - Refined procedures related to the use of ICAO 24-bit Aircraft Address/Aircraft Identification and
 - Added more specific example of Mode S DAPs application
- b) SURICG/5 formulated a Draft Conclusion as follows:



Mode S DAPs IGD 2.0

Draft Conclusion SURICG/5/4(DAPS WG3/2) - Mode S DAPs IGD 2.0	
<p>What: That, the <i>Mode S DAPs Implementation and Operation Guidance Document</i> Edition 2.0 provided in Appendix G to this Report be adopted.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: Editorial correction and revision to reflect regional updates in implementation</p>	<p>Follow-up:</p> <p><input type="checkbox"/> Required from States</p>
<p>When: 4-Dec-20</p>	<p>Status: To be adopted by Sub Group</p>
<p>Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> APANPIRG <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:</p>	





Review ADS-B Implementation and Operations Guidance Document (AIGD)

- As meeting progressed, the following materials were discussed and agreed to be incorporated as part of the Guidance Document:-
 - Updated the status of known ADS-B avionics problems
 - Updated the Section on ICAO Aircraft Address Monitoring
 - Added the following new sections:
 - Use of ADS-B for Airport Surface Movement
 - 1090 MHz Spectrum and 24-bit Aircraft Address Issue with Unmanned Aircraft Systems (UAS)
 - Measures for Enhancing the Security of ADS-B
 - Time Difference of Arrival (TDOA) Based Position Verification Method
- As such, SURICG/5 formulated a Draft Conclusion as follows :



Revised ADS-B Implementation and Operations Guidance Document (AIGD)

Draft Conclusion SURICG/5/6 - Revised ADS-B Implementation and Operations Guidance Document (AIGD)	
What: That, the revised ADS-B Implementation and Operations Guidance Document (AIGD) provided in Appendix I to the Report, which consolidated all change proposals during SURICG/5, be adopted as Version 13	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: Updates and editorial correction	Follow-up: <input type="checkbox"/> Required from States
When: 4-Dec-20	Status: To be adopted by Sub Group
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> APANPIRG <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	





Other Reviews and Discussions

- The SURICG/5 reviewed and discussed other topics as summarized below:-
 - a) Review of Outcomes of Relevant and Previous Meetings on Surveillance, and SURICG Action Items
 - b) 1090MHz Spectrum and 24-Bit Address Issues with UAS
 - c) Additional System Area Codes (SAC) for Surveillance Systems in APAC and Update on Regional Supplement to ASTERIX ICD, with a need for the region to propose planning criteria to support ICAO APAC Office in coordinating additional SAC assignment to a State/Administration who raised such request
 - d) ICAO Aircraft Address Monitoring from States
 - e) ADS-B Position Verification Performance by Time Difference of Arrival (TDOA)
 - f) Updates from EUROCAE on relevant standards to support surveillance
 - g) Update on ICAO Surveillance Panel's Aeronautical Surveillance Working Group
 - h) Update on Surveillance Implementation Activities from States



Thank You

