



ICAO

International Civil Aviation Organization

First Meeting of the Surveillance Study Group (SURSG/1)

(Video Teleconference, 20– 22 April 2021)

Agenda Item 2: Review SURSG ToR

REVIEW OF TERMS OF REFERENCE

(Presented by the Secretariat)

SUMMARY

This paper presents Terms of Reference of the Study Group under SURICG on Sharing of Surveillance Data in SWIM (“Study Group”, “SURSG” as acronym) for review and further actions.

1. INTRODUCTION

1.1 The Twenty Fourth Meeting of CNS Sub-Group (CNS SG/24) of APANPIRG/31 in November 2020 made a Decision CNS SG/24/16 (SURICG/5/1) - *Establishment of Study Group under SURICG on Sharing of Surveillance Data in SWIM*.

2. DISCUSSION

2.1 Surveillance data sharing issue has been discussed from time to time in various regional meetings for years, in particular in the SEA/BOB ADS-B WG meetings as well as in SURICG meetings.

2.2 The SEA/BOB ADS-B WG produced the draft data sharing agreement as template to promote and implement surveillance data sharing at sub-regional level to improve the efficiency and safety of air navigation service.

2.3 Considering the proposed application of new surveillance technologies could be used to enhance the accuracy of estimated boundary and runway arrival time, to improve predictability and certainty of Air Traffic Operations in a seamless way especially in South East Asia or Bay of Bengal sub-regions, the CNS SG/23 meeting adopted the following Conclusion:

Conclusion CNS SG/23/10 (SURICG/4/1) - ADS-B and Flow Management	
What: That, given the need to ensure greater awareness of aircraft progress before FIR and ATC sector boundaries to improve position estimates, States are encouraged to consider the application of new surveillance technologies and/or data sharing which can 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 assist states considering how to improve arrival estimates and to counter the lack of DEP messages received in APAC ATC systems	Follow-up: <input type="checkbox"/> Required from States
When: 6-Sep-19	Status: Adopted by Subgroup

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Who: Sub groups APAC States ICAO APAC RO ICAO HQ Other: XXXX

2.4 CNS SG/24 meeting noted Draft Decision SURICG/5/1 as well as the relevant outcome from SWIM TF/4, and an ad hoc group led by Hong Kong China had prepared a draft TOR for the proposed Study Group for further consideration by CNS Sub-group. The meeting discussed the draft TOR and agreed that SURICG would be held after SWIM TF, so that the progress made by the Study Group would be shared with SWIM TF before reporting to SURICG. The meeting adopted the following Decision:

Decision CNS SG/24/16 (SURICG/5/1) - Establishment of Study Group under SURICG on Sharing of Surveillance Data in SWIM	
<p>What: Noting the operational needs of this region to enhance surveillance data sharing and new technologies available,</p> <p>That, the Study Group under SURICG on Sharing of Surveillance Data in SWIM (SurSG) with TOR provided in Appendix P to the Report, comprising subject matter experts in relevant areas including surveillance and SWIM to be set up to study and recommend solutions on surveillance data sharing to provide surveillance from “departure to destination”, be established.</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: 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).</p>	<p>Follow-up: <input checked="" type="checkbox"/>Required from States</p>
<p>When: 4-Dec-20</p>	<p>Status: Adopted by Sub-group</p>
<p>Who: <input checked="" type="checkbox"/>Sub Groups <input checked="" type="checkbox"/>APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/>ICAO HQ</p> <p style="padding-left: 40px;"><input checked="" type="checkbox"/>Other: SURICG</p>	

2.5 The objectives of the study group are to study and provide expert views and recommendations to achieve harmonized sharing of surveillance data in SWIM in the Asia and Pacific (APAC) Regions along with the possible models of sharing of surveillance data in SWIM according to Surveillance Strategy adopted by APANPIRG and in support of ICAO’s GANP and ASBU initiatives.

2.6 The study group will also review, identify and provide expert views and recommendations to address major issues raised to the SURSG by ICAO APAC, in the technical, operational or regulatory aspects of surveillance data sharing to facilitate the implementation of surveillance from “departure to destination” in APAC.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the TOR provided in **Attachment** to this paper;
- b) propose action list for this expert group; and
- c) discuss any matters appropriate.

TERMS OF REFERENCE

STUDY GROUP UNDER SURICG ON SHARING OF SURVEILLANCE DATA IN SWIM

Working Arrangement of the Study Group

Membership: The Study Group under SURICG on Sharing of Surveillance Data in SWIM (“Study Group”, “SURSG” as acronym) shall be composed of subject matter experts from Member States involved in the provision of surveillance services and SWIM development as well representatives from Member States with an interest to contribute to the works of the SURSG. The SURSG may invite representatives of International Organizations recognized by the ICAO Council, Industry Partners or interested parties representing important civil aviation interests to participate in its work in consultative capacity.

The SURSG shall have Group Leads to be nominated and elected by its Members at its first meeting.

Meetings: While the SURSG is established in ad hoc nature, it shall convene face-to-face/web meeting to achieve its TOR. Outcome of its meetings shall be reported to and sought endorsement from the SURICG. Progress of the SURSG shall also be shared with SWIM TF and CRV OG via their nominated representatives joining the SURSG.

Schedule and delivery: Subject to the extent of prioritized applications considered by the SURSG, the schedule for delivery of the SURSG shall be decided by the SURSG, which shall update the SURICG accordingly.

The Objectives of Study Group are to:

- 1) Study, provide expert views and recommendations:
 - a) to achieve harmonized sharing of surveillance data in SWIM in the Asia and Pacific Regions (APAC) according to Surveillance Strategy adopted by APANPIRG and in support of ICAO’s GANP and ASBU initiatives; and
 - b) on the possible models of sharing surveillance data in SWIM in the SWIM environment, in consideration of the SWIM technical infrastructure, SWIM information service, CRV infrastructure and any applicable governance, and technical requirements.
- 2) Review, identify and provide expert views and recommendations to address major issues, raised to the SURSG by ICAO APAC, in the technical, operational or regulatory aspects of surveillance data sharing to facilitate the implementation of surveillance from “departure to destination” in APAC.

Deliverables to meet the Objectives:

- 1) To submit not fewer than 1 Progress Report per year to SURICG and SWIM TF, with the latest report submitted at least 2 months prior to convening of the SURICG meeting on the Study Group deliverables (listed in 2 to 4 below);
- 2) To study, identify and make recommendations on the **possible and practical** models for surveillance data sharing in SWIM in APAC with considerations of:
 - a) Concept of use/operation;
 - b) System design considerations of individual participant that shares surveillance data such as system robustness, data security and integrity, data latency, fallback arrangements and system recovery;
 - c) General requirements from perspective of collaborative sharing of surveillance data such as centralized/decentralized surveillance data processing, data repository, service registry, service resilience and service recovery;
 - d) Required commitments of data sharing participants such as commitment of resources and costs;
 - e) Implementation roadmap and time frames with consideration of
 - (i) An incremental approach/a comprehensive approach at the outset;
 - (ii) Type(s) of surveillance data to be shared; and
 - (iii) Information exchange model for surveillance data in SWIM;
 - f) SWIM technical infrastructure, SWIM information service, CRV infrastructure;
 - g) Other currently available or emerging technologies; and
 - h) ICAO Global Air Navigation Plan (GANP) and Aviation System Block Upgrades (ASBU) as well as APAC Seamless ANS Plan.
- 3) To prepare, based on its works in 2) above, a report on the possible implementation of surveillance data sharing in SWIM in APAC inclusive of the following:
 - a) Recommendations for:
 - (i) An incremental approach/a comprehensive approach at the outset in surveillance data sharing;
 - (ii) Type(s) of surveillance data to be shared; and
 - (iii) Information Exchange model of surveillance data in SWIM.
 - b) Pros and cons and cost effectiveness for the possible models that have been considered and a recommendation on the best approach or parallel approaches;
 - c) Concept(s) of Operations of the recommended approach(es);
 - d) Required commitments of participating Member States who share their surveillance data;
 - e) Required commitments of Member States who access the shared surveillance data; and
 - f) Draft multi-lateral agreement on surveillance data sharing and data consumption.
- 4) To develop guidance materials to assist Members States participating in the sharing of surveillance data and Member States accessing the shared surveillance data.

Current Members (*in alphabetical order*):

Australia, China, Hong Kong China, India, Singapore, Thailand, Nominated Representatives from SWIM TF and CRV OG.

TERM OF REFERENCE

The Objectives of Study Group (SURSG) are to:		Efforts thus far
1	<p>Study, provide expert views and recommendations:</p> <ul style="list-style-type: none"> a) to achieve harmonized sharing of surveillance data in SWIM in the Asia and Pacific Regions (APAC) according to Surveillance Strategy adopted by APANPIRG and in support of ICAO’s GANP and ASBU initiatives; and b) on the possible models of sharing surveillance data in SWIM environment, in consideration of the SWIM technical infrastructure, SWIM information service, CRV infrastructure, and any applicable governance, and technical requirement. 	
2	<p>Review, identify and provide expert views and recommendations to address major issues, raised to the SURSG by ICAO APAC, in the technical, operational or regulatory aspects of surveillance data sharing to facilitate the Mode S DAPs implementation in APAC.</p>	
Deliverables to meet the Objectives:		Efforts thus far
1	<p>To submit not fewer than 1 Progress Report per year to SURICG and SWIM TF, with the latest report submitted at least 2 months prior to convening of the SURICG meeting on the SURSG deliverables (listed in 2 to 4 below)</p>	
2	<p>To study, identify and make recommendations on the possible and practical models for surveillance data in SWIM in APAC with considerations of:</p> <ul style="list-style-type: none"> a) Concept of use/operation; b) System design considerations of individual participant that shares surveillance data such as system robustness, data security and integrity, fallback arrangements and system recovery; c) General requirements from perspective of collaborative sharing of surveillance data such as centralized/decentralized surveillance data processing, data repository, service registry, service resilience and service recovery; d) Required commitments of data sharing participants such as commitment of resources and costs; e) Implementation roadmap and time frames with consideration of: <ul style="list-style-type: none"> (i) An incremental approach/a comprehensive approach at the outset; (ii) Type(s) of surveillance data to be shared; and (iii) Information exchange model for surveillance data in SWIM. f) SWIM technical infrastructure, SWIM information service, and CRV infrastructure; 	

	<p>g) Other currently available or emerging technologies; and h) ICAO Global Air Navigation Plan (GANP) and Aviation System Block Upgrades (ASBU).</p>	
<p>3</p>	<p>To prepare, based on its works in 2) above, a report on the possible implementation of surveillance data sharing in SWIM in APAC inclusive of the following:</p> <ul style="list-style-type: none"> a) Recommendations for: <ul style="list-style-type: none"> (i) An incremental approach/a comprehensive approach at the outset in surveillance data sharing; (ii) Type(s) of surveillance data to be shared; and (iii) Information Exchange model for surveillance data in SWIM. b) Pros and cons and cost effectiveness for the possible models that have been considered and a recommendation on the best approach or parallel approaches; c) Concept(s) of Operations of the recommended approach(es); d) Required commitments of participating Member States who share their surveillance data; e) Required commitments of Member States who access the shared surveillance data; and f) Draft multi-lateral agreement on surveillance data sharing and data consumption. 	
<p>4</p>	<p>To develop guidance materials to assist Members States participating in the sharing of surveillance data and Member States accessing the shared surveillance data.</p>	
