



ICAO

International Civil Aviation Organization

The Fourth Meeting of the Surveillance Study Group (SURSG/4) and the Third Meeting of Surveillance Sharing in SWIM Trial Implementation Group (S3TIG/3)

(Hong Kong China, 30-31 May 2024)

Agenda Item 8: Review of SURSG/S3TIG ToR, work plan/programme and way forward for SURSG

REVIEW ToR AND ACTION ITEMS LIST

(Presented by the Secretariat)

SUMMARY

This paper presents current ToR and Action item list of Surveillance study Group for review and update by the meeting.

1. INTRODUCTION

1.1 The Twenty Fourth Meeting of the Communications, Navigation and Surveillance Sub-group (CNS SG/24) of APANPIRG held from *30 November to 4 December 2020* via video teleconference adopted the **Decision CNS SG/24/16 (SURICG/5/1) - Establishment of Study Group under SURICG on Sharing of Surveillance Data in SWIM** and reviewed the proposed ToR drafted by an ad-hoc group.

1.2 The CNS SG/24 meeting recognized the need to revise ToR by adding chair role and function, frequency of the meeting of SURSG, and the mode of the various task lead meetings for effective progress update, decision making, work assignments as they arise and the need to update the list of contributing States as necessary. The meeting also discussed and agreed that the States who will not use SWIM or CRV may be considered in the study.

1.3 This paper presents the ToR and action item list of SURSG for the meeting review and updates.

2. DISCUSSIONS

2.1 The SURSG/1 meeting reviewed the draft ToR, which was further adopted by CNS SG/25 by the **Decision CNS SG/25/12 (SURICG/6/6)- Revised ToR of Surveillance Study Group (SURSG)**. The SURSG/2 and SURSG/3 meetings sensed no need to revise the ToR. However, it was mentioned that ToR is a living document and it may be modified based on the need in future meetings. The current ToR of SURSG is provided in **Appendix A** to this paper.

2.2 The SURSG/3 Meeting updated the Action Items list for SURSG. The updated Action Items list for SURSG is provided in **Appendix B** to this paper.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the ToR of SURSG provided in **Appendix A** to this paper;
- b) review and update the Action Items list for SURSG provided in **Appendix B**; and
- c) discuss any relevant matter as 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.

Participants of SURSG/1 (*in alphabetical order*):

Australia, China, Hong Kong - China, India, Indonesia, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Singapore, Thailand, United States, Viet Nam, CANSO, IATA, ICCAIA.

The SURSG shall have one elected Chair.

The SURSG shall have Task Leads and Sub-Task Leads for tasks detailed in the “Deliverables to meet the Objectives”, which currently features 4 main Tasks together with their sub-tasks. Members may volunteer to subscribe to the tasks and sub-tasks. Task Leads and Sub-Task Leads are to be selected through coordination and agreement among the respective task or sub-task subscribers.

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.

Task Leads and Sub-Task Leads shall convene meetings as necessary and in formats as appropriate to discuss and work on their tasks to achieve the scheduled deliverables making reference to Deliverables Template, a template of which is provided on the last page of this ToR.

Task Leads and Sub-Task Leads shall attend the SURSG meetings and in between SURSG meetings, ad-hoc or regular meetings to harmonize their work or resolve issues.

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) 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.

Template of Deliverables

		Efforts thus far
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 environment, in consideration of the SWIM technical infrastructure, SWIM information service, CRV infrastructure, and any applicable governance, and technical requirement.	
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 Mode S DAPs implementation in APAC.	
Deliverables to meet the Objectives:		Efforts thus far
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 SURSG deliverables (listed in 2 to 4 below)	
2	To study, identify and make recommendations on the possible and practical models for surveillance data 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, 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, and CRV infrastructure;	

	g) Other currently available or emerging technologies; and h) ICAO Global Air Navigation Plan (GANP) and Aviation System Block Upgrades (ASBU).	
3	<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> <p>a) Recommendations for:</p> <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. <p>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;</p> <p>c) Concept(s) of Operations of the recommended approach(es);</p> <p>d) Required commitments of participating Member States who share their surveillance data;</p> <p>e) Required commitments of Member States who access the shared surveillance data; and</p> <p>f) Draft multi-lateral agreement on surveillance data sharing and data consumption.</p>	
4	To develop guidance materials to assist Members States participating in the sharing of surveillance data and Member States accessing the shared surveillance data.	

ACTION ITEMS LIST FOR SURSG

Action ID	Task	Responsible Person	Due Date	Deliverables	Status	Remarks
1-1	To provide the mapping for each task with terms of reference of SURSG for detailed technical description of each task	Hong Kong China	SURSG/2	WP	Close	
2-1	To prepare a draft ToR of S3TIG by mid-April 2022 and send to all registered delegates of SURSG/2 for their feedback by an email	Hong Kong China, ICAO Secretariat	15-Apr-22	Draft ToR for SURICG/7 adoption	Close	
3-1	Description of Task 4 (on Guidance Material) would be elaborated to include the incorporation of a section of technical and operational considerations as reference for the preparation of multilateral agreement for states/parties intending to share surveillance data and the elaborated text is to be discussed at the next SURSG meeting	SURSG	SURSG/4	WP in SURSG/4	Open	
3-2	The Meeting shared the need to explore other options to join the Trial/demo by States/Administrations having no CRV connectivity. Further deliberations are required about the cost implication for States having CRV connectivity but no spare bandwidth to share for the Trial/demo. S3TIG will incorporate this discussion into the agenda item while preparing the Survey questionnaire	S3TIG, ICAO Secretariat	28 April 2023	Survey questionnaire with supporting documents Propose to close	Open	

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Action ID	Task	Responsible Person	Due Date	Deliverables	Status	Remarks
3-3	The S3TIG will amend the questionnaire and prepare supporting documents containing useful information such as definitions of various terms used in the questionnaire to clear potential doubts of Member States/Administrations responding to the survey and any other necessary modifications. The questionnaire will be a composite survey with ideally 2 separate sets of questions respective for the Trial and SWIM over CRV Demonstration (Demo).	S3TIG, ICAO Secretariat	28 April 2023	Survey questionnaire with supporting documents Propose to close	Open	
3-4	The S3TIG will share the part of the questionnaire mainly related to the Demo and the endorsement of the proposal for the Joint Event by SURSG/3 in a joint working paper to SWIM TF/7 to be held from 9-12 May 2023 in Bangkok, Thailand for SWIM TF/7's agreement	S3TIG, ICAO Secretariat	SWIM TF/7 (12 May 2023)	Working Paper Propose to close		Presented by WP/13 in SWIM TF/7
3-5	The Survey will be shared, after SWIM TF/7 endorsement, with Member States/Administrations by ICAO Secretariat	ICAO Secretariat	19 May 2023	State Letter for responding to the Survey questionnaire Propose to close	Open	The survey questionnaire was circulated through ICAO APAC State Letter Ref.: T 8/13.1: AP071/23 (CNS) with Subject – Survey on a Joint Event of SWIM over CRV Demonstration ("the Demo") and Surveillance Data Sharing in SWIM Trial ("the Trial") on 16 May 2023, which expected Member States/Administrations to submit the completed survey preferably not later than 12 June 2023

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Action ID	Task	Responsible Person	Due Date	Deliverables	Status	Remarks
3-6	The S3TIG will draft a formal package/agreement to participate in the Joint Event by Member States/Administrations to be shared with interested States/Administrations after the outcomes of the Survey are processed, analyzed, and interested Members to participate in the Demo/Trial are identified	S3TIG, ICAO Secretariat	July 2023	Formal package/agreement Propose to close	Open	SGP: Suggested to initiate this task in parallel ASAP Take into consideration of formal agreement from 2019 demo. Not needed?
3-7	The requirements to add a question related to the preferred data format, with ASTERIX and JSON data format as potential answers, in the Survey questionnaire will be evaluated.	S3TIG	28 April 2023	Survey questionnaire with supporting documents Propose to close	Open	
3-8	S3TIG will further deliberate on potential data formats for conducting the trial and SWIM over CRV demonstration. S3TIG will propose data format(s) for the Trial and Demo	S3TIG	July 2023	Finalized data format(s) Propose to close	Open	
3-9	The S3TIG will consider the feasibility to incorporate the demonstrations proposed in the IP/02 in the upcoming Joint Event.	S3TIG	Q3 2023	Final Scenarios for Demo/Trial Propose to close	Open	