International Civil Aviation Organization

Third Meeting of the Surveillance Study Group (SURSG/3)

(Hong Kong China, 22– 24 March 2023)

Agenda Item 5: Technical coordination on surveillance data sharing and demostration

TRIAL OF SURVEILLANCE DATA SHARING USING SWIM

(Presented by Hong Kong, China)

SUMMARY

This paper presents the proposal on the items to be demonstrated in the trial of the surveillance data sharing using SWIM under S3TIG for States' consideration.

1. INTRODUCTION

1.1 Establishment of Surveillance Sharing in SWIM Trial Implementation Group (S3TIG) was proposed at SURSG/2 in March 2022 with the objective to support and promote the trial implementation of surveillance data sharing based on SWIM ("the Trial") under the SURSG.

1.2 The Trial was tentatively planned for Q4 2023 as initially discussed at S3TIG's kick-off meeting, S3TIG/1 in December 2022.

1.3 The Trial was proposed to be conducted as a demonstration event ("the Event"), followed by an evaluation period ("the Evaluation"), last for about 3 months subject to further elaborate in S3TIG. Items proposed to be demonstrated in the Event are described in the below sections. This is subject to further works of S3TIG, deliberation and considerations of stakeholders.

2. DISCUSSION

Live surveillance data sharing among participating States

2.1 As a recommendation from the Study Report delivered under SURSG, the Trial would involve surveillance data sharing using ADS-B CAT 21 Version 2.1 to support ATFM operation. With live surveillance data sharing being realized among participating States in the Trial, we can concretely show the practicality and technology in surveillance data sharing using SWIM to the audience.

2.2 Moreover, the technical infrastructure built on live surveillance data in the Trial can be served for continuous evaluation by the participating States and/or other members that are interested in joining the Trial later, to help refine the SWIM services, data contents, etc. after the Event, to make it mature and to move forward the development of surveillance data sharing in the region.

2.3 A live surveillance data sharing demonstration will be conducted during the Event.

Scenario based demonstration

2.4 In addition to the live surveillance data sharing, a scenario based demonstration is proposed to visualize the benefits brought to ATFM operation during the Event. Prepared scripts and data, including surveillance data, flight information, MET information and flow management information, will be exchanged in real time to simulate the data flow of a complete life cycle of an ATFM operation, which cannot be easily captured in live situation.

2.5 Based on the successful experiences gained in ASEAN Demonstration, participating States can easily publish and subscribe the prepared SWIM services and data in real time to simulate the mentioned data exchange. Audience can instantly observe the real time situation in each participating State, along with a presentation of the work flow about the scenario, for better understanding of the ATFM over SWIM operation.

Other SWIM capabilities

2.6 SWIM includes various components or capabilities that are also considered essential to support the SWIM operation. The following items are proposed to be demonstrated in the Event also:-

a) Web HMI to be provided by SWIM service provider, which can consume the SWIM services prepared under the Trial and display the real time data exchanged to the audience. This could be of interest to users that have not implemented their own SWIM infrastructure;

b) Prototype of SWIM registry for showing the concept of centralized service management;

c) Some value-added SWIM services, such as centralized surveillance data filtering service, legacy AFTN data to FIXM data conversion service, legacy MET data to IWXXM data conversion service, etc. to enhance user experience.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) provide support to the proposal; and

c) discuss any relevant matter as appropriate

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