



International Civil Aviation Organization

SEVENTH MEETING OF THE ASIA/PACIFIC METEOROLOGICAL SERVICES WORKING GROUP (MET/S WG/7)

Bangkok, Thailand, 22 – 24 March 2017

Agenda Item 3: Planning and implementation of meteorological services

3.1 Warnings and alerts

**A WEB-BASED TOOL TO SUPPORT THE
WMO SIGMET COORDINATION PILOT PROJECT**
(Presented by Hong Kong/China)

SUMMARY

This paper presents a web platform developed by the Hong Kong Observatory in support of the WMO SIGMET coordination pilot project commenced in October 2016.

1. INTRODUCTION

- 1.1 A Regional Forum on Meteorological Services for Aviation Safety in Southeast Asia was organized by the World Meteorological Organization (WMO) in April 2015 to identify and build a collaborative mechanism for improving the aeronautical meteorological services as a contribution to aviation safety, regularity and efficiency in the region. The Forum adopted the “Jakarta Recommendations on Regional Cooperation for Enhancing Meteorological Services for International Air Navigation by the WMO Member States in Southeast Asia”. Among the recommendations was the establishment of a mechanism for improving the SIGMET service provision in a seamless manner across the borders of the flight information regions (FIR). This mechanism involves operational cross-border SIGMET coordination through establishing a system of SIGMET focal points and procedures for information exchange and sharing of national practices. It was agreed that the action would start on a sub-regional scale between several neighbouring countries covering large portion of airspace in SE Asia.
- 1.2 A Pilot SIGMET Coordination Project (SIG-Coord) was organized as a follow-up on the Jakarta Recommendations. Three States, Indonesia, Malaysia and Singapore, participate in the SIG-Coord pilot project to coordinate SIGMET. The objective of the Pilot Project on SIG-Coord is to establish and test operational procedures between the parties with a view to improving the quality of SIGMET information over a large portion of the SE Asia airspace through coordinated meteorological watch and harmonized issuance of SIGMET between the Meteorological Watch Offices (MWO) serving the Flight Information Regions (FIR) of Indonesia, Malaysia and Singapore (Figure 1). The SIG-Coord pilot project ran from 4 October 2016 to 3 March 2017.

- 1.3 Japan and Hong Kong, China were invited by WMO to provide the coordination platform. This paper presents the features available on the Hong Kong, China's web platform that helped to facilitate the operational coordination among participating MWO meteorologists.

2. DISCUSSION

The Web Tool

- 2.1 In support of the SIG-Coord, the Hong Kong Observatory (HKO) developed a web-based platform to promote common convection situation awareness, online communication and interactive collaboration.
- 2.2 Real time products based on Himawari-8 satellite are provided for monitoring and analysis of convective activities and their development. Towards the end of the pilot project, real time lightning activities are also displayed for assessing thunderstorm severity.
- 2.3 There is also a function for participants to locate inconsistencies between SIGMETs issued by neighboring FIRs. To achieve the purpose, all currently valid SIGMETs related to thunderstorms are displayed to help identify non-harmonized ones.
- 2.4 Apart from showing meteorological information, the platform provides convenient, interactive tools for all online participants to draw polygons as the SIGMET areas, input the type of convection, movement or forecast positions. The visual layer facilitates more effective and efficient coordination process. The tool will then generate the individual SIGMET message for the FIR concerned using polygons drawn by the visual tool. The SIGMET code thus produced would comply with latest ICAO Annex 3 coding standard.
- 2.5 To promote all-party communication, an online chat room is available on the platform to facilitate the exchange of messages to avoid mis-interpretation. An example of the collaboration in action is given in Figure 3.
- 2.6 *Another web platform with identical functionalities as the SIG-Coord platform has been set up. Interested countries/MWOs can approach Hong Kong, China for a trial account.*

User Feedback

- 2.7 To collect user feedback in a more systematic fashion, HKO conducted an online survey during February to March 2017. The survey was distributed to participating MWOs via email and also announced on the HKO web platform in the hope to reach more meteorologists in the front line. A total of 13 returns were received.
- 2.8 Over 80% of the returns were satisfied or very satisfied with the HKO web platform. All the returns considered the platform as good or excellent in facilitating SIGMET coordination.
- 2.9 The platform provides real-time weather products primarily derived from satellite. While over 90% of the survey returns consider these useful or very useful, the additional weather information users desired to have includes, in descending order:
- CB advisory (similar to TC or VA advisories) [77%]
 - Lightning information [69%] (such information was added to the platform in late February shortly after the survey has commenced.)

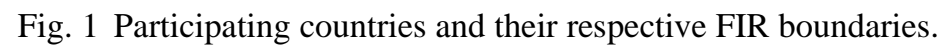
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- Automatic nowcast guidance [69%]
- WAFS guidance (CB top, for example) [54%]
- NWP guidance [31%]

2.10 About 85% of the returns considered the web platform to be useful even as a stand-alone service and would like to continue using it. More than half of the returns support the extension of geographic coverage of the pilot project and intended to join.

3. ACTION REQUIRED BY THE MEETING

2.1 The meeting is invited to:

- a) note the information contained in this papers; and
- b) discuss any relevant matters as appropriate.



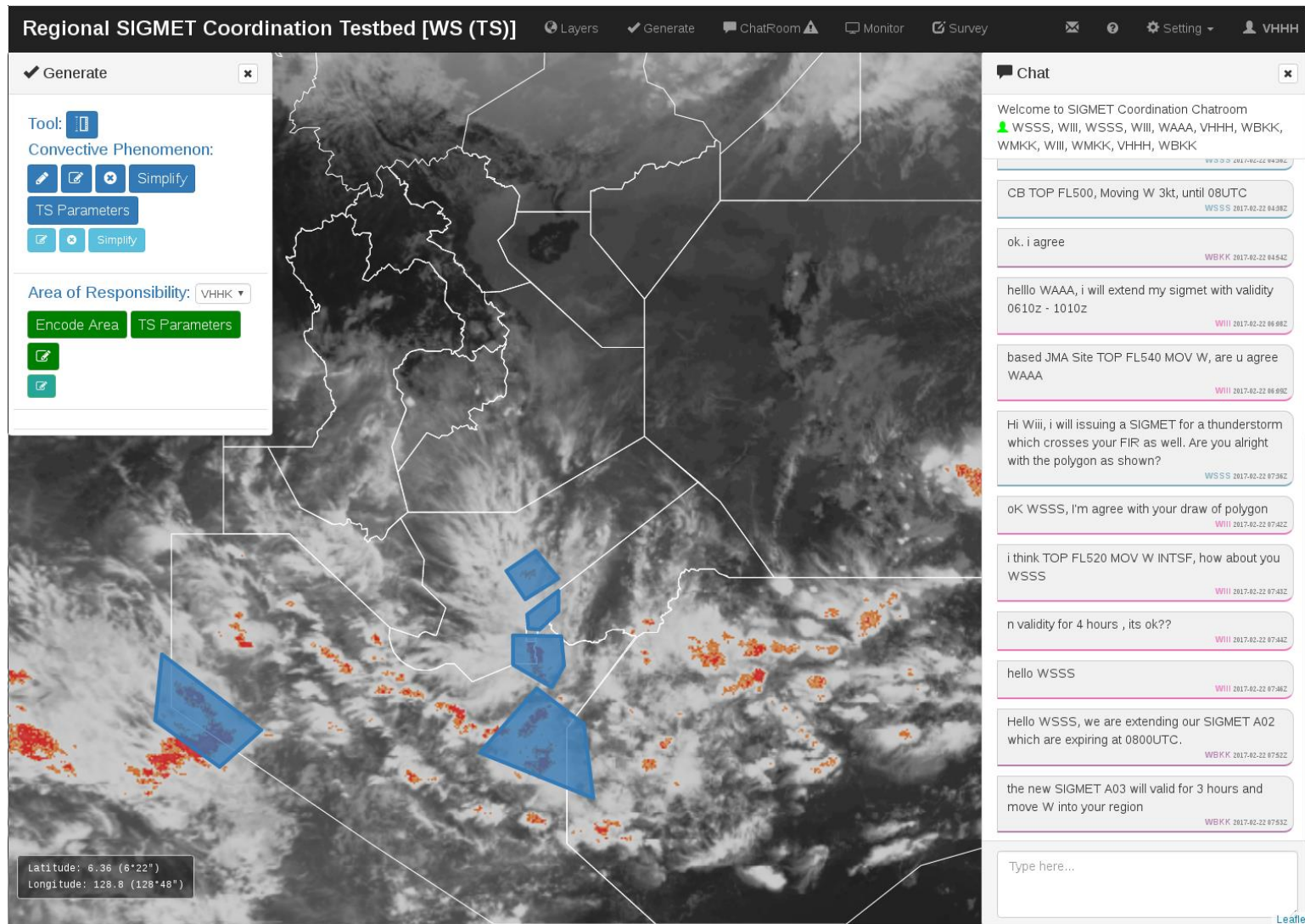
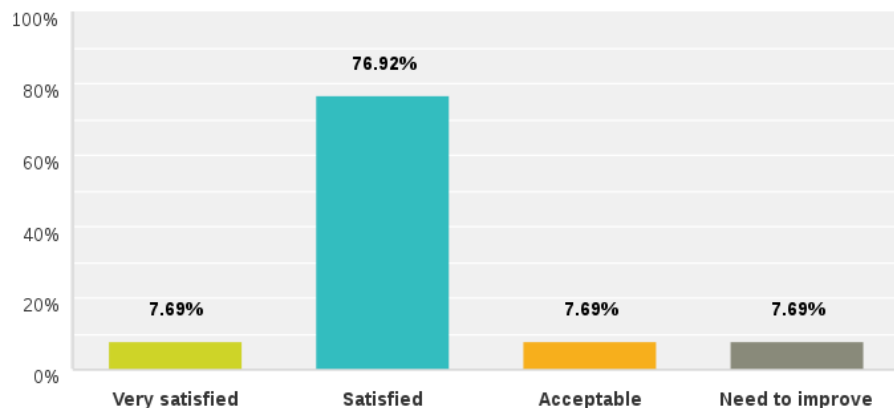


Figure. 3 Web platform provided by HKO.

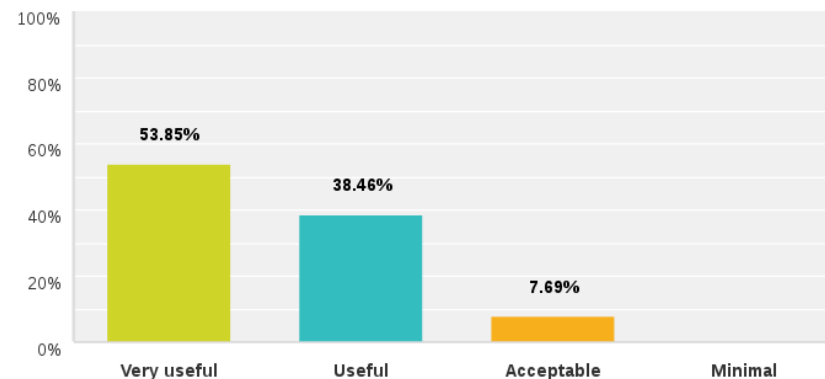
Overall performance of the web platform?

Answered: 13 Skipped: 0



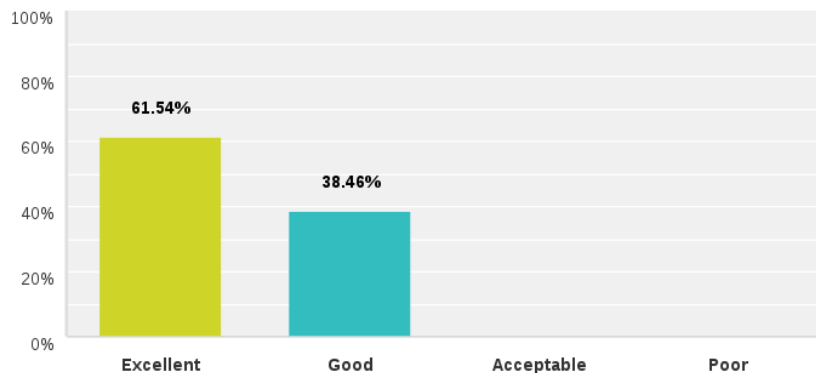
Usefulness of meteorological information available on the coordination platform:

Answered: 13 Skipped: 0



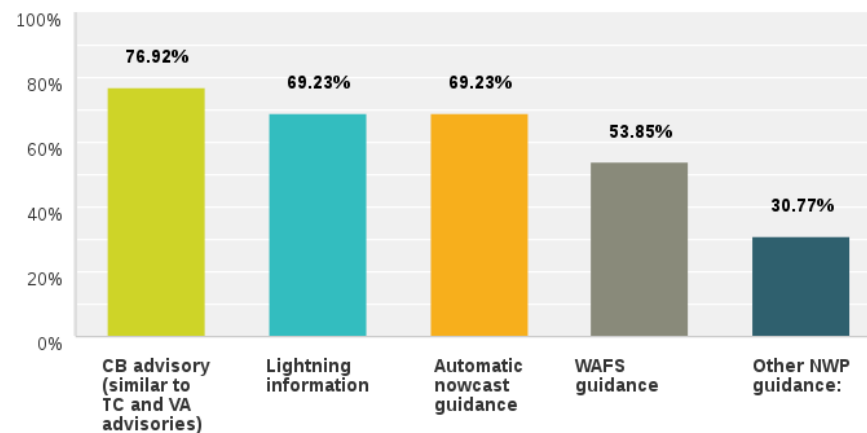
Effectiveness of the web platform in facilitating SIGMET coordination:

Answered: 13 Skipped: 0



What additional weather information do you need?

Answered: 13 Skipped: 0



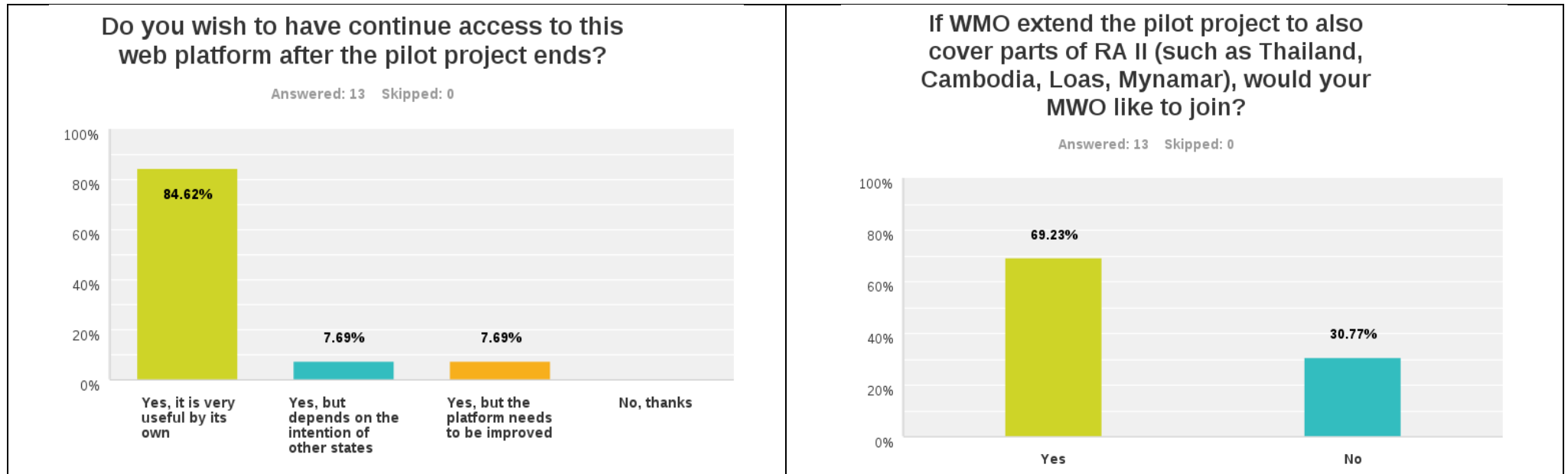


Figure 4 Summary of HKO web platform online survey result.