



**World Meteorological Organization**  
**Commission for Instruments and Methods of**  
**Observation**

**Joint Session of the Expert Team on**  
**Operational In Situ Technologies (ET-OIST)**  
**and the Expert Team on Developments in In**  
**Situ Technologies (ET-DIST)**

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**CIMO/ET-A1-A2/Doc. 2.1**

Submitted by:  
Yves-Alain Roulet  
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## **REPORT OF THE CHAIRPERSON OF ET-OIST**

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### **Summary and purpose of document**

This document provides information on the workplan of the Expert Team on Operational In-Situ Technologies, and related actions undertaken since its approval by the CIMO Management Group (December 2014).

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### **ACTION PROPOSED**

The Meeting is invited to take note and comment.

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## **Introduction**

The report on activities provided below reflects the work done by the ET-OIST since approval of the workplan by the CIMO MG (December 2014). Gratitude is expressed to all members of the ET for their contribution to the different tasks of the workplan. Resources available within the ET are very limited, and challenges are high. The objective of this first ET meeting is to define the way forward for the remaining intersessional period to maximize the use of available resources to deliver expected results according to the workplan.

## **Review and status of the workplan**

### **1. Task 1: Guidelines on combining information from composite observing systems**

The objectives of this task is to develop guidance material on following aspects:

1. QC procedures for precipitation amounts and intensity measured by precipitation gauges.
2. The use of precipitation gauge data in support of weather radar quality control.
3. The integration of surface-based in-situ, surface-based remote sensing, and space based technologies to provide composite information with added-value.

Mr. Toshihiro Hayashi (JMA) submitted a first draft of the document to the CIMO MG early 2016. Additional work and inputs has been integrated into the document, and a second version could be completed and sent to the ET members prior to this meeting. The Meeting is invited to review and provide comments, including recommendation for publication (IOM report, update of the CIMO Guide ?).

As additional information, a project was just started at MeteoSwiss in collaboration with the Swiss Polytechnical School in Lausanne (follow-up of WMO/CIMO SPICE and know-how transfer to radar community), which could be used as input for this task.

### **2. Task 2: Further develop and finalize guidelines on migration from manual to automated observations**

The scope of this task has been redefine along the way and the different interaction within the ET. The ET, under the input and proposition from Mr. Mike Molyneux (UK MetOffice) noted that this activity encompasses activities that go beyond the field of responsibilities of CIMO. The proposition is therefore to state that CIMO will actively promote the organization and support of a training course on migration from manual to automated observations. Mr. Molyneux has prepared a first draft of the training course outline, which has been submitted to the ET. The Meeting is invited to review the document and provide comments and feedback, including recommendation for the next steps.

### **3. Task 3: Siting classification**

The siting classification (aka Leroy classification) has been aproved during the CIMO-XV Session in Helsinki (2010), and incorporated into the CIMO Guide. Since then a lot of Members have used it to classify their operational ground-based meteorological automatic stations, with various success and difficulties encountered.

The need and the importance for such a standardized classification is not to be set in question. Identification of potential for improvement or indication and promotion of the quality of official meteorological stations are only two examples showing the importance of this tool for network operator.

The Meeting is invited to provide feedback on personal experience and give recommendation on future use of the classification, including possible adaptation or modification.

#### **4. Task 4: Sustained performance classification for observing stations on land**

The objectives of this task include:

1. Finalize the development of the classification
2. Develop guidance material on how to apply the classification

Mr. Olaf Schulze (DWD) has provided a draft for this classification, which has been reviewed by the ET in the frame of Webex meetings. A new version of the document has been submitted to the ET prior to the meeting. The Meeting is invited to provide comments on the document, including necessary steps to finalize this classification.

#### **5. Task 5: Metadata standards**

No activity to report on this task. Liaison with OSCAR has been done, and no additional request from OSCAR towards the ET has been issued so far.

#### **6. Task 6: Standard for the classification of instruments for rainfall intensity measurements**

No activity to report on this task. Clarification needed with CHy.

#### **7. Task 7: Collaborate with ISO TC 180 on review of radiation standards**

No activity to report on this task. No expectation from ISO expressed so far.

#### **8. Task 8: Update of CIMO Guide following publication of Ghardaia intercomparison report**

No activity to report on this task. Need for clarification to understand what is needed (contact M. Leroy). Seek some support from M. Leroy, first to find out whether the report could be used for CIMO Guide update, and how to move on.

Additional information: DWD is performing test on shelters, which could also be considered if an update of the CIMO Guide is needed.

#### **9. Task 9: Guidance on Wind Measurement and Reporting**

This task relates to an intervention from the Hong-Kong Observatory during the last CIMO session (CIMO-XVI, 2014). It is threefold:

1. Wind reporting and achievable accuracy: Even if the accuracy of 5 degree is achieved, it does not guarantee that the wind direction reported to 1 degree would be accurate. There is apparently a mismatch between the two.
2. Multiple anemometers for METAR input: Even if a 1:10 exposure requirement is met, there could still be effects of buildings because of the 1:30 rule of thumb of the effect of building on the wind measurement. As such, Hong Kong is considering to adopt the ICAO recommendation of using multiple anemometers for the reporting of wind in METAR. However, the airport is also the SYNOP station and there would be discrepancy for the reported wind between SYNOP and METAR. Would the multiple anemometer algorithm adopted by ICAO also be allowed in SYNOP as well, e.g. be described in WMO CIMO Guide No. 8?
3. Wind reporting from ships: The anemometer on the ship is not having a height of 10 m above mean sea level and as such correction formula would need to be established for the winds reported by ships. Could there be a globally agreeable algorithm for this?

The Meeting is invited to provide feedback and guidance on how to solve these issues. The Hong Kong Observatory will participate to the discussion via Webex.

#### **10.Task 10: Liaise with cost action on snow measurements**

The liaison is ensured by Y.-A. Roulet (MeteoSwiss), participant of the Swiss representation within HarmoSnow (COST ES1404), SPICE IOC member and ET member.

Update of the CIMO Guide precipitation and snow on the ground chapters are under discussion, and will be submitted to MG for the next CIMO meeting (CIMO-XVII, 2018). Draft document has been reviewed within a joint GCW/CIMO meeting (Geneva, 19-20 June 2017).

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