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| WEATHER CLIMATE WATER | **World Meteorological Organization**  **COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS**  **Third Session** 15 to 19 April 2024, Geneva | **INFCOM-3/Doc. 8.3(4)** |
| Submitted by: Chair of SC-IMT  26.II.2024  **DRAFT 1** |

**AGENDA ITEM 8: TECHNICAL DECISIONS**

**AGENDA ITEM 8.3: WMO Information System**

# Standardization of first-mile data collection

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| **Summary** |
| **Document presented by:** Chair of the Standing Committee on Information Management and Technology (SC-IMT),  **Strategic objective 2024–2027:** 2.2  **Financial and administrative implications:** within the parameters of the Strategic and Operating Plans 2024–2027  **Key implementers:** INFCOM  **Time frame:** 2024–2027  **Action expected:** Review the proposed draft decision |

# DRAFT DECISION

## Draft Decision 8.3(4)/1 (INFCOM-3)

### Draft Decision on Standardization of First-mile Data Collection

**The Commission for Observation, Infrastructure and Information Systems decides:**

(1) To underline the importance of addressing the issues associated to the lack of standardization of the first-mile of data collection from the observing platform as highlighted in the statement of the Workshop on Standardization of First-mile Data Collection from Automatic Observing Stations and Platforms in [INFCOM-3/INF. 8.3(4)](https://meetings.wmo.int/INFCOM-3/InformationDocuments/Forms/AllItems.aspx);

(2) To request the Standing Committee on Information Management and Technology (SC‑IMT) to lead an activity of standardization in this domain in collaboration with the Standing Committee on Observing Networks (SC-ON), the Standing Committee on Measurements Instrumentation and Traceability (SC-MINT) and the Association of Hydro-Meteorological Equipment Industry (HMEI);

(3) To request SC-IMT to report on the activity to INFCOM-4.

See [INFCOM-3/INF. 8.3(4)](https://meetings.wmo.int/INFCOM-3/InformationDocuments/Forms/AllItems.aspx) for more information.

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Decision justification: A workshop on *Standardization of First-mile Data Collection from Automatic Observing Stations and Platforms* was held in Geneva on 19 and 20 February 2024 to address the issues associated with the lack of standardization in the transmission of data from the observing platform to the collection point.

WMO regulates the real-time international exchange of observation data to ensure the availability of high-quality observational data for many applications for meteorological and hydrological forecasts and allowing Prediction Centres (for Numerical Weather Prediction (NWP) -as well as climate and hydrological prediction) to be able to produce reliable products. National Meteorological and Hydrological Services (NMHSs) use NWP products to monitor and predict the weather and hydrological conditions to issue forecasts and warnings for the protection of lives and property of citizens against natural hazards, notably in the framework of the Early Warnings for All initiative.

NMHSs operate networks comprising different observing systems to meet the observational data requirements for national, regional, and international needs, and to exchange data internationally, in accordance with the WMO technical regulations. Data are collected from the observing platforms, processed and quality controlled before being used nationally and exchanged internationally. WMO does not regulate this initial data collection segment of transmission of data from the observing station to the data collection and processing system (first-mile data collection).

A lack of standardization in the first-mile data collection undermines the interoperability among the observing systems and data collection systems procured and operated by NMHSs. A proliferation of centralized processing hardware seen in many NMHSs is mainly due to this first-mile standardization gap, and NMHSs are forced to introduce middleware to homogenize the data and resolve the lack of interoperability. The resulting diversity of the observing systems, and data collection and processing systems is on the path to being unmanageable as the growth of the observing networks in size and complexity is fuelled by the need to protect lives and property from the more frequent and severe natural hazards due to climate change.

WMO calls for the private sector to collaborate in standardizing the first-mile data transmission to support the NMHSs in a difficult time of growing commitments and decreasing budgets to simplify the data transmission between the observing systems and data collection and processing systems by standardizing telecommunication, transmission protocols and data formats.

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