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**REVIEW OF THE WORK PROGRAMME IMPLEMENTATION**

Report of the Expert Team on Information and Services for Aviation (ET-ISA)

*(Submitted by Stephanie Desbios and Jun Ryuzaki, Co-Chairs of ET-ISA)*

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| **Summary and Purpose of Document**  This document provides an overview of the activities of the ET-ISA since the last meeting of the CAeM Management Group held from 12 to 14 May 2015 together with detailed information on the working arrangements and work plan of the expert team. |

**ACTION PROPOSED**

The Management Group (MG) is invited to review the progress made by ET-ISA since May 2015, to review the working arrangements and work plan of the expert team, and, as necessary, to formulate actions accordingly.

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1. **EXECUTIVE SUMMARY**
   1. Since the last Management Group meeting in May 2015, the Expert Team for Information and Services for Aviation (ET-ISA) has mainly focussed on its contribution to the ICAO Met Panel working groups, especially those for the development of concept of operations, roadmaps and implementation guidance on the MET components of the ASBU and on the transition to SWIM and implementation of the IWXXM. Some ET-ISA experts as advisors in the METP WGs and work streams contributed to the improvement of the description of the B1-AMET module for terminal area aspects and will continue to provide input for the ICAO ASBU framework update in preparation of the next major GANP update.
   2. The ET-ISA tasks for gathering requirement information from large-scale programmes such as SESAR or NextGen, or from other projects for new services in support of ATM, especially in the terminal area, made little progress up to now. Nevertheless this activity would be reinforced especially on the performance requirement aspect, with the objective to contribute to the functional and performance requirements definition task for ASBU MET modules, task led by the ICAO METP WG-MRI.
   3. ISA team experts have also been involved in several WMO or ICAO groups on MET information exchange under SWIM (definition of the IWXXM, guidance for the implementation of exchange of OPMET data) and on SWIM (including standards and policies development). The ET-ISA wishes to inform the Management Group about the availability of first versions of guidance material for the implementation of IWXXM and exchange of OPMET data, and about the coordination with WMO CBS groups about possible connection between SWIM and the WIS.
2. **PROGRESS/ACTIVITY REPORT**

***Development of relevant background material, methodology and implementation guidance on the MET components of the ASBU (WPA)***

* 1. Since May 2015, several expert team members have been contributing to the development of background material (CONOPS, roadmaps) on the Met components of the ASBU, through their participation as advisors in the ICAO MET Panel’s WG, especially the WG for Met Requirements and Integration (MRI), the WG for Met Information Service Development (MISD) and the WG for Met Operations (MOG). After providing comments and additions to the TBO concept document and its appendices on Met capabilities, the team has not been requested for further additions by the WG-MRI Rapporteur. To avoid any confusion between the TBO notion and the scope of the so-called TBO document, its name was changed for the “Concept for the integration of meteorological information for ATM”. Moreover the WG-MRI at its second meeting in July 2016 concluded a recommendation that the METP requests the ANC to urge ICAO to publish this Concept as a matter of priority. In October 2016, at its 2nd meeting, the METP endorsed the recommendation. When it would be officially published, the updating and revision process might be different from what it has been up to now, with some consequences on the related ET-ISA activity to foresee.
  2. The appendices on Met capabilities of the “Concept for the integration of meteorological information for ATM” document were based on the demonstration documentation on current and foreseeable MET capabilities for Met services in support of ATM, with a focus on the terminal area, which was developed by the former CAeM ET-M&M. The ET-ISA work plan includes a task for updating this documentation with generic examples and with information on performance of those capabilities. This activity should be effectively started very soon as the WG-MRI at its second meeting agreed to coordinate with the ET-ISA members as advisors in the WG on functional and performance requirements of MET information & services to support selected ASBU  
     Block 1 Met modules. This WG-MRI activity is now planned in 2017.
  3. The ASBU methodology in the current version of the GANP does not include any Block 2 MET modules. The WG-MRI work programme includes an activity for the development of this module, which has not started yet. ET-ISA members as advisors in this group would assist in this development according to the timeline given by the WG-MRI. Nevertheless the ET-ISA members contributed to the description improvement on terminal area aspects of ASBU Block 1 Met module (B1-AMET) with a proposal of a new description text which was discussed in July, and then revised description was submitted to the second METP and endorsed. In the meantime the ICAO launched an ASBU framework update process with the objective of providing consolidated input for the next major GANP update. Three experts from the MET Panel have been nominated to contribute to this work including one of the ET-ISA co-chairs. As the ET-ISA members could assist in this activity which would be performed in a quite short time interval, a new activity has been added in the team work programme.
  4. Team members as advisors in the ICAO METP WG were also assisting in the development of other relevant roadmaps and CONOPS, especially those for the WAFS, for Space Weather, for Release of Radioactive Materials. The development of documentation (CONOPS, selection criteria, Annex 3 SARPs) for the Regional Hazardous Weather Advisory Centre (RHWAC) was efficiently performed by several team members as advisors in the WG-MISD RHWAC work stream, but this work was put on stand-by with the introduction by the WG-MISD Rapporteur and aviation users representatives, of a new concept “International Aviation Hazard Watch (IAHW)” that would define a new phenomenon-based globally-consistent warning system, based on draft proposals made by the Service Definition Team on Meteorological Information (SDT-MI) of WG-MISD as part of the METP Panel Requirement Development Process, e.g. user needs analysis, capability assessment and ConOPS. ET-ISA members as advisors in the WG-MISD would still assist in the development of the documentation related to this new concept in the next months.

***Current and future MET capabilities to support requirements of GANP and ASBU (WPB)***

* 1. The large-scale projects such as SESAR, NextGen and CARATS have developed functional and performance requirements for new Met Information and Services. Some of these new services would be implemented in a near future, for instance through deployment projects. The gathering activity of functional and performance requirements of these new services has hardly started and should be reactivated in the very next couple of weeks so that the co-chairs in coordination with the AeM/D could organize the repository of this information into WMO web facilities. The ET-ISA members should pay attention on the IPR which may sit with this requirement information when communicating to the CAeM community; it is in particular the case for the information coming from the SESAR program.
  2. After the kick-off meeting in June 2015 in Shanghaï, China, of the joint CAeM & CAS Aviation Research & Demonstration Project (AvRDP), the summer and winter IOPs (2015, 2015-2016, 2016) were performed with participation of several airports from both northern and southern hemispheres. The ET-ISA contributes to this project with at least, a contribution for the CDG terminal area, for the JNB airport, for the Tokyo Metropolitan area and information from the NextGen program. A status report including some of the results from these IOPs on the use of nowcasting NWP systems would be prepared in coordination with the ET-ASC and provided to the ET-ISA members and to the CAeM Management Group after the WWRP Science Steering Committee meeting end October 2016.

***Performance metrics and validation methodologies for new or enhanced MET information and services (WPC)***

* 1. Due to the work load associated with ICAO MET Panel WGs, this work package C of the ET-ISA work plan about performance metrics and validation methodologies has made no progress up to now. The results of the AvRDP project and the gathering activity of performance information for the current and foreseen Met capabilities (see §2.2) should be the grounding of the tasks under this WPC, which are now due to 2017 and 2018.

***SWIM MET data standards and policies; implementation of MET information exchange under SWIM by WMO Members (WPD)***

* 1. Since May 2015, the WMO CBS TT-AvXML developed and published several releases of the MET information exchange model, IWXXM, and associated XML/GML schemas for OPMET data. The latest one was the release IWXXM2.0, which availability was announced on 7 Sept 2016. This recent release includes several improvements for existing schemas (TAF, SIGMET) as well as the new schemas for TCA, VAA and AIRMET messages. One of the ET-ISA core experts is a member of this Task Team on AvXML; the team was informed by this expert about new IWXXM releases. As a logical consequence of this communication and coordination activity, the ET-ISA proposed that communication on new IWXXM releases was done towards the CAeM community through the ET-CCP; however it was eventually decided not to interfere with the CBS communication process.
  2. The coordination with the CBS groups was strengthened in 2016 by the set-up of a new Inter-Commission Task Team on the WMO Information System (ICTT-WIS), under IPAG-ISS, which membership was composed of representatives of the WMO Technical Commissions. Noting that the WIS is currently little known or underemployed, and that some WIS users request improvements to the system, the ICTT-WIS mandate consists in gathering technical commissions' expectations and requirements with regard to the WIS and in reporting to the ICT-ISS and to other CBS groups or teams. Further information on the ToR of this team can be found here: <http://wis.wmo.int/page=ICTT-WIS-1>. One of the ET-ISA co-chairs attended the first meeting of the ICTT-WIS on 12 and 13 Sep 2016 in Geneva, and presented what could be seen as the first expectations of the CAeM with regard to the WIS: the inter-connection between the WIS and the SWIM system should be considered especially in terms of meta-data ; the status of aviation MET data should be reconsidered as the current Status as « Other data » under WMO Res. 40 might not be satisfying. The ICTT-WIS also proposed to establish another Task Team, under ICT-ISS, to address information management and governance issues; the establishment of this new team called TT-IM still needs to be approved by the CBS at its upcoming 16th session (23-26 November 2016). The ICTT-WIS recommended participation in the TT-IM by experts from Technical Commissions. Consequently, if approved by the CBS-16, the ET-ISA or the CAeM Management Group would be asked to nominate a representative of the CAeM community for this team, and a new activity would be added to the ET-ISA work programme.
  3. On the ICAO side, apart from the METP WG-MIE activities and deliverables (see §2.11), the ET-ISA noted several events related to the SWIM and/or to the IWXXM: a SWIM workshop in the APAC region in May 2016, an IWXXM workshop in the EUR region in end May/early June 2016 where few experts from other regions were invited (SoD and workshop documentation available here: <http://www.icao.int/EURNAT/Pages/Other-Meetings.aspx> under folder ‘IWXXM Workshop’). There might be similar events in other regions that the ET-ISA is not aware of today. The CAeM Management Group is also invited to note the activity about SWIM standardization launched very recently by Eurocontrol and involving ATM SWIM experts from ANSPs, Eurocontrol, airports, ATM industry and some EUROCAE standardisation working groups. Today, one MET service provider in Europe is involved in this group. These events or activities aim at communicating and raising awareness of member ICAO contracting States and aviation industry about SWIM (including standards and policies development) and about implementation of MET information exchange under SWIM. In this regard, the ET-ISA still has to collect and gather information on the status of implementation of MET information exchange under SWIM, in States, and on trials and testing. In Europe, the Data Management Group, under the EANPG, would be the source for this information (refer to IP03 at the IWXXM workshop URL).
  4. At its second meeting in October 2016, the Met Panel was informed by the WG-MIE about several documentation which had been developed regarding SWIM and IWXXM: the Plan for Meteorology in System Wide Information Management (SWIM) to be considered as complementary to the introduction of the Manual on System Wide Information Management (Doc 10039), the Roadmap for Meteorology in System Wide Information Management (SWIM) (initial version 1.0 developed by the WG-MIE), and the Guidelines for the Implementation of OPMET Data Exchange using IWXXM (draft version 1.0) which intention is to describe the activities relating to the transition of intra- and interregional operational meteorological (OPMET) data exchange in the 2016 to 2020 timeframe. The ET-ISA plans to contribute to the development of guidance materials on the implementation of IWXXM, based on this WG-MIE documentation. This activity would be started according to the WG-MIE time line. In addition, at the meeting, the panel was informed by the secretariat of the CP (Communications Panel) about the status of the AMHS testing for IWXXM exchange. The CP had completed bilateral testing between a couple of States. However, it was suggested by the CP that it would be difficult for the CP to conduct further testing without input from METP about expected traffic volume for IWXXM-based OPMET data exchange. The WG-MIE will provide the expected traffic volume to the CP.

1. **WORKING ARRANGEMENTS AND WORK PLAN**
   1. The following provides detailed information on the working arrangements of the expert team – including composition, terms of reference and communication strategies – together with a work plan comprising activities and tasks.

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| **TEAM** | | | | |
| **Commission** | **WMO Commission for Aeronautical Meteorology (CAeM)** | | | |
| **Expert Team on** | **Information & Services for Aviation (ISA)** | | | |
| **Start Date / End Date** | August 2014 | | August 2018 | |
| **Stakeholders** | ATM community, NMHS Aviation Weather Services, VAACs, Space Weather community | | | |
| **Team** | **Name** | **Organization / Country** | | **E-mail** |
| **Chair / Co-chairs** | Stephanie Desbios  Jun Ryuzaki | Meteo-France, France  Japan Meteorological Agency, Japan | | [stephanie.desbios@meteo.fr](mailto:stephanie.desbios@meteo.fr)  [jryuzaki@met.kishou.go.jp](mailto:jryuzaki@met.kishou.go.jp) |
| **Core Members** | Cecilia Miner  Bart Nicolaï  P.W. Chan  Albert Moloto  Michael Berechree | NOAA/NWS, USA  Belgocontrol, Belgium  Hong Kong Observatory, Hong Kong,  China  South African Weather Service,  South Africa  Bureau of Meteorology, Australia | | [cecilia.miner@noaa.gov](mailto:cecilia.miner@noaa.gov)  [bart.nicolai@belgocontrol.be](mailto:bart.nicolai@belgocontrol.be)  [pwchan@hko.gov.hk](mailto:pwchan@hko.gov.hk)  [albert.moloto@weathersa.co.za](mailto:albert.moloto@weathersa.co.za)  [m.berechree@bom.gov.au](mailto:m.berechree@bom.gov.au) |

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| **DESCRIPTION** | |
| **Objective** | To develop proposals for enhanced Meteorological Information and Services for Aviation (ISA) which will meet future requirements from the ICAO’s GANP/ASBU framework, including digital exchange of meteorological information via SWIM environment. The proposals for ISA should be developed in response to user needs identified in coordination with the relevant ICAO expert group(s) and grounded on high-level scientific basis. The proposal(s) may be put forward to the relevant ICAO expert group(s), when necessary, during the inter-session period and finally shall be reported to the WMO CAeM 16th session in 2018. |
| **Background** | With increasing air traffic in several regions leading to severe issues of aerodrome and route capacity limits, different regions are developing different tailored meteorological products to support Air Traffic Management (ATM) to fill the perceived gap between the legacy products required by Annex 3 and ATM requirements on MET. To avoid further costly parallel development of similar products, with a high risk of confusion between similar products using different ways of presentation to users, the WMO Commission for Aeronautical Meteorology (CAeM) has undertaken an initiative to develop, harmonize, and promote new meteorological services for the wider terminal area[[1]](#footnote-1) intended mainly for ATM/ATC and operations staff. In the context of the two major regional programs SESAR and NextGen and the emerging project in other regions (e.g. CARATS in Japan) and taking into account that ICAO has recently embarked in the development of requirements for MET support to ATM and information exchange through its MARIE -PT, the scope of the CAeM initiative has been expanded to be performed to all MET Services to ATM and to also include MET Information Exchange related activities. In this way, the CAeM expert team for Met Services To ATM & Met Information Exchange (ET/M&M) has been supporting the work of the MARIE-PT in coordination with the ICAO ATMRPP for the development of the Meteorological Information Integration for Trajectory-Based Operations (TBO) Concept and Roadmap, by providing a detailed description of the current, emerging and foreseen MET capabilities in terms of services in support to ATM, with a focus on the terminal area.  In July 2014 in Montreal, the ICAO MET Divisional Meeting agreed on the development of the MET components of the Aviation System Block Upgrades (ASBU) methodology for the Global Air Navigation Plan (GANP). The Meeting also endorsed the recommendation for the inclusion of ATM-tailored meteorological services for the terminal area in Block 1 and subsequent blocks of the ASBU methodology, and their integration into the future system-wide information management (SWIM) environment. The future development of the MET Information Integration for TBO Concept & Roadmap, as well as of the other concept of operations and roadmaps for the future WAFS, for the International Airways Volcano Watch (IAVW) or space weather services has also been adopted by the Meeting. The service-related components of these roadmaps and concepts of operations need to be addressed by the ET-ISA, in collaboration with ICAO and in cooperation with relevant subsidiary bodies of WMO, such as the CBS and the CAS. |
| **Terms of Reference** | *Refer to the work programme below.* |

**CAeM ET-ISA**

**Work Programme***(updated 03 Nov 2016)*

1. **Terms of Reference** *(updated by CAeM-MG in May 2015)*
2. **To work closely with ICAO and other partners in developing relevant background material, methodology and implementation guidance on the MET components of the Aviation System Block Upgrades (ASBU) based on identified user requirements;**

***Translated into actions:***

* + *Support the development and finalization of CONOPS and roadmaps: TBO, RRM, SpWx, WAFS, RHWAC*
  + *Advise on current MET capabilities vis-à-vis requirements established by ICAO*

1. **To contribute to the development of new or enhanced MET information and services in close collaboration with ICAO;**

***Translated into actions:***

* + *Organize repository of development of new MET I&S under the large-scale projects (SESAR, NextGen, CARATS, etc.) and facilitate result sharing*
  + *Assist in WMO projects and dissemination of results (e.g., AvRDP)*

1. **To develop relevant performance metrics and validation methodologies for new or enhanced MET information and services;**

***Translated into actions:***

* + *Develop a “white paper” on performance metrics and validation to build common understanding*
  + *Collect examples of current performance metrics and verification/validation methods, containing evaluation of MET impact on ATM*
  + *Develop draft guidance on performance metrics and verification/validation including impact-oriented approach*

1. **To contribute to the development of SWIM MET data standards and policies, and to promote implementation of MET information exchange under SWIM by Members;**

***Translated into actions:***

* + *Contribute to the development of guidance and training materials on the implementation of IWXXM*
  + *Support trials and testing of MET information exchange under SWIM*

1. **To report regularly on progress to the president of CAeM**

**Translated into actions:**

* + *Submit regular reports on progress*
  + *Submit other relevant information to raise awareness of developments in the area of responsibility of the ET-ISA*

1. **Work Packages (WP), Tasks, Activities**

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| **WP A (TOR a)** | **Development of relevant background material, methodology and implementation guidance on the MET components of the Aviation System Block Upgrades (ASBU) based on identified user requirements** | | | **Responsibility** | **Deliverable** | **Target date** | **Status** |
|  | **Task A1** | ***Assist in finalizing the TBO roadmap by providing background material on the envisaged new or enhanced MET information and services*** | | | | | |
| Activity A1.1 | Provide comments and additions to the TBO roadmap as required by the ICAO METP WG-MRI Rapporteur | All, coord. by co-chairs | Comments on TBO doc provided to WG-MRI Rapporteur | As required by the WG-MRI Rapporteur | Comments provided on 25.09.2015  No other request since then. |
| Activity A1.2 | Complete/update the Appendices A & B to the TBO roadmap, with information on performance of the current and foreseen MET capabilities, when available, and with generic examples ( See also A4.1) | All, coord. by co-chairs | Updated Appendices A & B to the TBO roadmap  (To coordinate with WG-MRI Rapporteur) | To coordinate with WG-MRI Rapporteur. | No request from WG-MRI Rapporteur (see A4.1) |
| **Task A2** | ***Assist in development of other relevant roadmaps and CONOPS (WAFS, SpWx, RRM, RHWAC), as necessary*** *(Note: need to define to what extent ET-ISA will be into this task and who will be responsible)* | | | | | |
| Activity A2.1 | Contribute to the development of other relevant roadmaps and CONOPS | ET-ISA members as advisors in the ICAO METP WG | Inputs as necessary | According to WG-MISD work streams time lines. | WAFS, RRM, SpWx: inputs provided in July 2016  RHWAC : new concept for IAHW adopted by METP/2, new CONOPS and roadmap to be defined by WG-MISD |
| Activity A2.2 | Report to the ET-ISA on foreseeable consequences on existing or foreseen MET information & services; raise any issues related to this development | ET-ISA members as advisors in the ICAO METP WG | As necessary | METP WG meetings ; METP meeting | Summary of MISD/2 and MRI/2 and of METP/2 provided in Nov 2016 |
| **Task A3** | ***Support development of implementation guidance on new MET information and services*** *(Note: this is relevant for mature information and services that are in or close to implementation phase)* | | | | | |
| Activity A3.1 | Communicate to the ET-ISA on new services requirements, starting with Met Services for the terminal area ; seek and collate feedback | Bart & Stephanie (SESAR Projects);  Cecilia (NextGen and other US projects);  Jun & Michael (ASIAPAC) | Report, web pages about requirements for these new services. | End 2016 | On-going.  *Reminder to be sent to ET members* |
| Activity A3.2 | Review, comment and report (one page) on implementation guidance on new MET information and services, starting with Met Services for the terminal area | All.  Through ICAO METP WG-MRI or WG-MISD or regional groups | Y | When guidance is available. | 1st draft of APAC’s implementation guidance for an ad-hoc group of ICAO APAC MET/R WG, shared within APAC region by Jun. To be shared within ET-ISA.  Guidance on new service for SpWx? |

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|  | **Task A4** | ***Study and inform on current and future MET capabilities to support requirements of GANP and ASBU*** | | | | | |
| Activity A4.1 | Update the existing demonstration documentation, with information on performance of the current and foreseen MET capabilities, when available, and with generic examples (See also A1.2) | Bart & Stephanie (Europe);  Cecilia (N&S America);  Jun & PW (Asia);  Michael (S Pacific, Australia, NZ);  Albert (Africa) | Y | End June 2017 | *Not started. Reminder to be sent to ET members* |
| Activity A4.2 | Gather information on science supporting foreseen and future MET capabilities, in coordination with ET-ASC | All | Inputs to Scientific Conference | Sept-Oct 2017 |  |
| **Task A5** | ***Contribute to further development of MET ASBU modules*** | | | | | |
| Activity A5.1 | Contribute to the development of ASBU-2 Met module (description to be included in update of GANP) | ET-ISA members as advisors in the ICAO METP WG-MRI | Y | According to WG-MRI time line. Act. 3.2 of WG-MRI starting May 2016, ending May 2017 | Waiting for WG-MRI to start the activity. |
| Activity A5.2 | Contribute to the description improvement on terminal area aspects of ASBU-1 Met module (A-MET) | ET-ISA members as advisors in the ICAO METP WG-MRI | Y | First draft by Stephanie in May 2016 | Done. First draft discussed at MRI/2 in July 2016, revised version endorsed at METP/2. Approval from ANC expected in Jan 2017 |
| Activity A5.3 | Assist WG-MRI in the development of functional requirements of MET information & services to support selected ASBU-1 Met modules (A-MET) | ET-ISA members as advisors in the ICAO METP WG-MRI | N | According to WG-MRI time line. Activity 2.1 of WG-MRI started in Jul 2016 | On-going.  Assistance from ET-ISA members as advisors in the ICAO METP WG-MRI agreed at MRI/2 |
| Activity A5.4 | Contribute to the ICAO Review of ASBU framework (GANP update in 2019 ; inputs to be ready mid-2017)  **NEW ACTIVITY** | Stephanie (in coordination with Dennis Hart and Sue O’Rourke) | N | According to ASBU framework time line. | On-going.  First teleconference on 20 Oct 2016. |

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| **WP B (TOR b)** | **Current and future MET capabilities to support requirements of GANP and ASBU** | | | **Responsibility** | **Deliverable** | **Target date** | **Status** |
|  | **Task B1** | ***Organize repository of development of new MET I&S under the large-scale projects (SESAR, NextGen, CARATS, etc.) and facilitate result sharing*** | | | | | |
| Activity B1.1 | Organize the repository into WMO web facilities ; provide URLs and communicate to the CAeM community through the ET-CCP | Dimitar & ET-ISA Co-chairs | Y | End June 2017 | On-going |
| **Task B2** | ***Assist in WMO projects and dissemination of results (e.g., AvRDP)*** | | | | | |
| Activity B2.1 | Contribute to WMO CAeM-CAS Av-RDP project as appropriate; report to the ET and the CAeM-MG | Jun, Cecilia, Stéphanie, Albert (for JNB airport) | Y | According to the AvRDP time line. | On-going.  Stephanie: report for CDG IOP1 (winter 2015-2016) finalized, information provided at SSC meeting in July 2016  Jun: provide information on current services for Tokyo, incl. RJTT & RJAA  Cecilia: present information on the NextGen’s update  *To seek update from Albert* |
| Activity B2.2 | Contribute to other WMO projects as appropriate; report to the ET and the CAeM-MG | All | Y | According to those projects time line. | No other project up to now. |
| **WP C (TOR c)** | **Develop relevant performance metrics and validation methodologies for new or enhanced MET information and services** | | | **Responsibility** | **Deliverable** | **Target date** | **Status** |
|  | **Task C1** | ***Develop a “white paper” on performance metrics and validation to build common understanding*** | | | | | |
| Activity C1.1 | Develop a “white paper” on performance metrics and verification | All | Y | First draft end June 2017 | *Not started* |
| Activity C1.2 | Develop a “white paper” on evaluation of MET impact on ATM | All | Y | First draft end Sep 2017 | *Not started* |
| **Task C2** | ***Collect examples of current performance metrics and verification/validation methods, containing evaluation of MET impact on ATM*** | | | | | |
| Activity C2.1 | Establish a catalog of current performance metrics and verification/validation methods [refer to existing ET-M&M documentation] (See also A4.1) | All | Y | End Nov 2017 | *Not started* |
| Activity C2.2 | Identify generic performance metrics and verification/validation methods | All | Y | Q1 2018 | *Not started* |
| **Task C3** | ***Develop draft guidance on performance metrics and verification/validation including impact-oriented approach*** | | | | | |
| Activity C3.1 | Develop draft guidance on performance metrics and verification/validation including impact-oriented approach [Predecessors C2.1 and C2.2] |  | Y | Q1 2018 | *Not started* |
| Activity C3.2 | Communicate to the CAeM community through the ET-CCP |  | N | As available |  |

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| **WP D (TOR d)** | **SWIM MET data standards and policies; Implementation of MET information exchange under SWIM by WMO Members** | | | **Responsibility** | **Deliverable** | **Target date** | **Status** |
|  | **Task D1** | ***Contribute to the development of SWIM MET data standards and policies*** | | | | | |
| Activity D1.1 | Contribute to this development in coordination with WMO CBS TT-AvXML and other relevant WMO teams | Bart, Stephanie | N | According to WMO CBS time line. | On-going.  Bart : communication on IWXXM releases  Stephanie & Greg : contribution to the new ICTT on WIS, for CAeM requirements on WIS (12-13 Sep) |
| Activity D1.2 | Contribute to this development in coordination with the ICAO METP WG-MIE and other relevant ICAO groups | Albert, PW, Stephanie | N | According to WG-MIE time line. | On-going. |
| Activity D1.3 | Contribute to the new CBS Task Team on Information Management (under ICT-ISS) as necessary  **NEW ACTIVITY** | TBD | N | According the TT-IM time line | Set up of new TT to be endorsed by the CBS in Nov 2016 |
| **Task D2** | ***Development of guidance and training materials on the implementation of IWXXM*** | | | | | |
| Activity D2.1 | Contribute to the development of guidance and training materials based on the CONOPS on IWXXM ; in coordination with the ICAO METP WG-MIE | All | Y | According to WG-MIE time line. | On-going. |
| **Task D3** | ***Support trials and testing of MET information exchange under SWIM*** | | | | | |
| Activity D3.1 | Inform the CAeM-MG on trials and testing of MET information exchange under SWIM | All | N | As available |  |
| Activity D3.2 | Inform the CAeM-MG on the status of implementation of MET information exchange under SWIM, in States | All | N | As available |  |
| **WP E (TOR e)** | **Reporting and outreach** | | | **Responsibility** | **Deliverable** | **Target date** | **Status** |
|  | **Task E1** | ***Submit regular reports on progress*** | | | | | |
| Activity E1.1 | Yearly reporting | Co-chairs | Y | May each year | Report for MG Nov 2016 |
| **Task E2** | ***Prepare and disseminate other relevant information to raise awareness of CAeM community on developments in the area of responsibility of the ET-ISA*** | | | | | |
| Activity E2.1 | Prepare relevant information to raise awareness of the CAeM Community on developments under the ET-ISA scope (reports, web pages, etc) | All | Y ? | As available |  |
| Activity E2.2 | Communicate through the ET-CCP articles for the Newsletter | Co-chairs | Y | On a quarterly basis | Article on ET-ISA in First CAeM Newsletter. |

List of meetings:

Teleconference, 23 Jan 2015; Joint ET-ISA / ET-ASC face-to-face meeting, 30 March – 1 April 2015, Toulouse, France; Teleconference, 4 May 2015; Informal co-chairs meeting, 18 Nov 2015, Washington, DC, USA; Teleconference, 1 March 2016; Teleconference, 7 April 2016; Informal co-chairs meetings, Jul and 20 Oct 2016, Montreal, Canada; CAeM Management Group meeting (co-chairs), 8-10 Nov 2016, Innsbruck, Austria; *Teleconference to be planned early Dec 2016*

1. The terminal area is defined as that portion of the airspace within the proximity of a controlled aerodrome within which arriving and departing aircraft are managed to provide separation, assurance, appropriate arrival spacing, appropriate departure spacing and final approach sequencing. [↑](#footnote-ref-1)