**Workplan of the Expert Team on Operational Metrology (2014-2018)**(Version: as approved by CIMO-MG-13 in Dec. 2014)

| **No.** | **Task description** | **Person responsible** and subteam | **Action** | **Deliverable** | **Deadline for deliv.** | **Priority** | **Status****[%]** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | **Estimation of calibration uncertainty – traceability to SI** | **D.Groselj,** K.Premec, A.Mounir, T.Holfelder, N.Mander | 1. Review document on computation of calibration uncertainties
2. Develop workshop on uncertainty calculations
3. Carry-out workshop
 | 1. IOM report on calibration uncertainties

2a. Concept for Workshop 2b. Training units and associated presentations prepared.3. Workshop carried out | 1. Approved for publication2a. July 20152b. Dec. 20151. TBD
 | M |  | CIMO-XV para 6.3CIMO-16, Doc. 6, para 6.9Workshop should also address how to establish calibration certificatesWorkshop could be done on-site, or possibly remotely (including RICs). |
| 2. | **RIC inter-laboratory intercomparisons (demonstrating capabilities in achieving declared RIC calibration and measurement capabilities (CMCs))** | **RA-VI:****D.Groselj,** F.Montariol, **RA-II & V:****K.Nakashima**, F.Barcenas, **RA-I:****A.Mounir**,**RA-IV & III:****D.Walker**, D.Prescod | 1. Set-up intercomparison kit for temperature, humidity and pressure (at least one, but preferably all 3 parameters)
2. Schedule intercomparisons with other RICs of Regions
3. Publish intercomparison report
4. Develop procedure for conducting and evaluating inter-laboratory comparison (based on general principles published in ISO standard for comparison between many laboratories)
 | 1-3. (IOM) Reports on intercomparisons & Presentations at CIMO-20164a.Document describing procedure4b. Update of CIMO Guide, incorporating procedure. | * + - 1. July 2017

4a. July 20174b. Dec. 2017 | M |  | CIMO-XV para 6.3CIMO-16, Doc. 6, para 6.9ET-RIC meeting report, § 3.5, 7.3 and 8.8 |
| 3.  | **Strengthening RICs and supporting their communication with Members and with respective RA** | **K.Nakashima,** D.Groselj, A.Mounir, T.Holfelder, D.Prescod | 1. Contact RICs without standard websites and support them in developing the information needed for their websites
2. Review outcomes of RIC evaluations and support those which have problems in performing such evaluations
3. On request, provide support for the evaluation of RICs
4. Prepare a template for report of RICs to the RA
 | 1. Standard websites for all RICs
2. Evaluation of all RICs
3. Report on RIC audits
4. Template for RIC reporting
 | 1. July 20161. Dec. 2016

3. May. 20164. Q2 2015 | H |  | CIMO-XV para 6.3 |
| 4. | **Towards calibration of ceilometer, visibilimeter and present weather sensor** | **N.Mander,** F.Montariol, D.Groselj, J.Lin | 1. Identify and review existing guidance material on calibration procedure for ceilometer, visibilimeter and present weather sensor2. Synthesize information obtained into general guidance material3. Establish first draft of technical procedures  | 1. Guidance material identified2. General guidance established on the achievement of the traceability of these instruments3. Technical procedures drafted based on the identified materials,  | 1. June 20162. Dec. 20163. July 2017 | M |  | Outcome from A.1 and A.2and CIMO TB and TL centersAction 2 will require guidance on their traceability provided by the dedicated expert bodiesNote: Outcomes of volcanic ash/aerosol intercomparison may help in progressing this task.  |
| 5. | **Implementation of the strategy for improving traceability of basic measurements (such as p, T, h) to SI** | **K.Premec,** N.Mander, D.Groselj, A.Mounir, K.Nakashima, F.Barcenas, J.Lin, D.Prescod | 1. Develop outreach flyer (for decision makers) on importance of measurement traceability and how to achieve it.
2. Finalize calibration/traceability strategy
3. Ensure inclusion of the strategy in the CIMO Guide
4. Develop guidance material on how to implement traceability (for ex. use of field inspection kit)
 | 1. Outreach flyer
2. Document with calibration strategy
3. Relevant CIMO Guide chapters updated
4. Document with guidance material published as IOM report or Annex to CIMO Guide
 | 1. March 20152. Dec. 20163. July 20174. July 2017 | H |  | CIMO-16, Doc. 6, §6.8Perspective is for a strategy for ensuring world-wide traceability of measurements to SI. |
| 6. | **Impact of Minamata convention and guidance for transition from mercury-based instruments to alternative technologies** | **A.Mounir,** N.Mander, D.Groselj, T.Holfelder, K.Premec, D.Prescod,P. Copping | 1. Develop outreach flyer (for decision makers) on impact of Minamata convention
2. Collect expertise from Members having successfully transitioned away from Mercury
3. Develop road-map/guidance for transition of instruments containing mercury to alternative devices
4. Develop guidance on how to choose modern cost-effective alternative instruments (incl. list of minimum metrological characteristics of these alternatives)
 | * 1. Outreach flyer
	2. Links to relevant publications provided on IMOP website
	3. Document with roadmap/guidance for Members wanting/having to transition away from Mercury
	4. Documents with guidance on instrument selection (possibly to be included as annex to a CIMO Guide chapter)
 | 1. March 20152. Dec. 20153. July 20164. July 2017 | H |  | CIMO-16, Doc. 6, §6.10CIMO-16, Doc. 6, §6.12CIMO-16, Doc. 6, §6.13CIMO-16, Doc. 6, §6.14ET-RIC meeting report, § 8.8Note: road-map is meant in a general manner. It is clear that Members may have different ways & timelines to implement it. |
| 7 | Assess status and need for regional standard barometer and update CIMO Guide and relevant WMO resolutions accordingly | **A.Mounir,** K.Nakashima, F.Montariol, D.Prescod, F.Barcenas | 1. Collect the needs for regional standards barometers in RAs
 | 1. Report to CIMO on the status and need for regional standard barometers | 1. Dec. 2015 | M |  |  |
| 8 | **Use of modern alternatives to obsolete instruments** | **F.Barcenas,**  T.Holfelder, N.Mander, A.Mounir, K.Nakashima, D.GroseljP.Copping | 1. Collect information on successful experiences
2. Collaborate with HMEI in identifying alternative instruments
3. Develop guidance on how to select modern instruments replacing outdated instruments
4. Develop guidance on how to maintain and calibrate modern instruments replacing outdated instruments
 | 1. Lists of relevant publications, and links provided on IMOP website
2. Document (possibly IOM Report) proposing alternatives
3. Guidance document and/or updates of relevant CIMO Guide chapters
4. Guidance document and/or updates of relevant CIMO Guide chapters
 | 1. July 20162. Dec 20163. July 20174. July 2017 | H |  | CIMO-16, Doc. 6, §6.15ET-RIC meeting report, § 8.10Note: Task includes giving guidance on cost-effective AWS and liaise with ET A2. |
| 9 | **CIMO Guide update** | **Temperature: K.Premec,** D.Groselj, F.Montariol, T.Holfelder, K.Nakashima  **Pressure:** **T.Holfelder,** K.Premec, F.Montariol, N.Mandel, D.Groselj | 1. Fully revise and update CIMO Guide chapter on temperature and pressure
 | * 1. Updated CIMO Guide chapter
 | 1. July 2015 | H |  |  |
| 10 | **Precipitation** | **N. Mander, A.**Mounir, D.Groselj, D.Walker | 1. Review the CIMO Guide chapter on precipitation
2. Review documentation on practices on laboratory precipitation calibration
 | * 1. Propose updates of the CIMO guide
 | 1. Dec 2017 | L |  | Liaise with A.1 and A.2 |

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