

APMP TCM Report



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APMP TCM

- **Technical Committee for Mass & Related Quantities**
 - Mass, Force, Torque, Pressure, Vacuum, Density, Hardness, Gravity
- **Role of TCM**
 - Cooperation of APMP technical activities in the field of mass and related quantities through periodic **meetings & workshops**
 - Linkage of APMP activities to **CCM** of the CIPM and to TCM in other Regional Metrology Organisations (**RMOs**)
 - Management and cooperation of APMP key, supplementary, and pilot **comparisons**
 - Cooperation in building and claiming Calibration and Measurement Capabilities (**CMC**) of member economies in APMP



APMP TCM Strategic Document

- **Issues faced by the region where TCM needs to respond**
 - Activities related to redefinition & continuation of traditional activities
 - Establishments of new standards & dynamic measurement traceability
 - Planning & implementation of APMP key comparisons

- **Discussion on how TCM might respond to these issues**
 - Coordinate closely with the CCM and the related WGs
 - Enhance information sharing among members in APMP TCM
 - Convene TCM associated workshop and related conference regularly
 - Encourage mutually beneficial collaborations on developments of common interest
 - Reduce effort on measurement comparisons



APMP TCM Strategic Document

- **Activities in TCM that are related to APMP Focus Groups**
(Energy Efficiency, Medical Metrology, Climate Change & Food Safety)
 - Energy : Dynamic measurement of mechanical quantities
 - Climate : Technologies for steady and effective improvement
 - Medical : Small-capacity measurement of mechanical quantities

- **Resources Required & Benefit**
 - Resource : Finance & human support (research, comparison, workshop)
 - Benefit : Enhance cooperative relations with other RMOs on an equal footing



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TCM Related Workshops & Conferences (Completed)

- 8th APMP Pressure & Vacuum Workshop, VMI, Vietnam, (11-12 Nov 2016)
 - Started in Japan 2001, held every 2 years, incorporated with TCM Meetings
 - 33 participants from NMIs & equipment suppliers
 - 13 presentations & 3 posters
 - Plans to combine with the APMF Symposium in 2019
- 17th APMP TCM Meeting & Workshop, VMI, Vietnam, (14-15 Nov 2016)
 - Yearly meeting
 - 29 participants from 15 NMIs
 - Workshop – 16 presentations
 - Next APMP TCM meeting in New Delhi, India, 2017



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TCM Related Workshops & Conferences (Up-coming)

- 13th Asia-Pacific Symposium on Measurement of Mass, Force & Torque (APMF), NIMT, Thailand (19-23 Nov 2017)
- CCM Meeting, BIPM, Paris, France (15-19 May 2017)
- CCM International Conference on Pressure & Vacuum metrology, Pereira, Colombia (8-10 May 2017)
- CCM WG Force, PTB, Germany (6-8 Jun 2017)
- MEKO TC3, TC5 and TC22 International Conference 2017, Helsinki, FINLAND (30 May – 1 Jun 2017)
- IMEKO XXII World Congress, Belfast, Northern Ireland (2018)



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Issues Raised at the 2016 APMP TCM Meeting

- CMC Review
 - Lengthy process
 - Documentations completeness for submission emphasised
 - Members briefed on the process of CMC submission etc.

- Comparison
 - Long overdue comparisons to be cleaned up
 - Delayed comparisons – set deadlines for draft A/B, final
 - De-registration of obsolete comparisons

- Focus Group – Medical Metrology
 - Blood pressure monitoring instruments
 - Case study on calibration techniques & organize comparisons in APMP



APMP TCM Comparisons Update

S/n	Area	Total	Completed	In-Progress	Planned
1.	Mass	13	7	4	2
2.	Force	7	3	3	1
3.	Pressure	27	17	5	5
4.	Hardness	8	3	5	-
5.	Density	1	-	1	-
6.	Torque	2	1	-	1
7.	Gravity	1	-	1	-
Total		59	31	19	9



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CMC Review

S/n	APMP Submission	2015	2016	2017
1	Intra-RMO (APMP)	1	4	-
2	Inter-RMO (Other RMOs)	2	5	6
		EURAMET.M.45.2015 COOMET.M.26.2015	EURAMET.M.46.2016 SIM.M.31.2016 SIM.M.32.2016 EURAMET.M.47.2016 SIM.M.34.2016	SIM.M.35.2017 EURAMET.M.48.2017 SIM.M.36.2017 SIM.M.37.2017 EURAMET.M.49.2017 COOMET.M.28.2017



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APMP TCM – MEDEA Projects (Planned)

- Objective
 - Metrology-Enabling Developing Economies in Asia (MEDEA)
 - Support APMP-DEC economies with appropriate pressure measurement capabilities & uncertainties
- Kickoff Workshop (25-29 Jan 2016, NIMT, Thailand)
 - CMCs registration & key/supplementary comparisons
 - Pressure balance, theory & use, comparison protocol
- Hydraulic Pressure Comparison (APMP.M.P-K7.3)
 - Range : 10 MPa to 100 MPa, (Pilot : NIMT, Thailand)
 - Measurement in-progress, scheduled to complete in 2017
- Technical Visit & On-Site Training Exercise
 - NBSM, Nepal, BSTI, Bangladesh, MASM, Mongolia
- Concluding Workshop (planned for Dec 2017, NIMT)



APMP TCM – MEDEA Projects (Proposed)

■ Proposals

- Next project (if available) should focus on helping those NMIs without CMCs
- Encourage those who have never participated in any comparisons e.g. key/regional/bilateral etc.
- Training on more advance measurement techniques e.g. pressure balance calibration by cross-floating method etc.



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APMP TCM Focus Group (FG)

- Dr Sheng-Jui Chen (CMS, Chinese Taipei) from TCM is the Chair of the FG Medical Metrology
- Proposed action plan :
 - Non invasive blood pressure monitor
 - Engage stakeholders e.g. manufacturers & users etc.
 - Organise joint workshop
 - Involve in international medical conference
 - Pilot study on harmonising calibration techniques
 - Plan & conduct comparisons
 - Funding required



End of Report

Thank You



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