Activities in TC-M EURAMET

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TC-M Chair

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Mass and Related Quantities

PROJECTS

	Comparison	Research	Traceability	Consultation	Total
Proposed	1	0	0	0	1
Agreed	0	0	0	0	0
In progress	23	2	2	0	27
Completed	78	43	8	16	145
Concluded/Cancelled	5	3	0	0	8
Total	**107**	**48**	**10**	**16**	**181**

Mass and Related Quantities

CCM Task Group on the Phases for the Dissemination of the Kilogram Following Redefinition

EURAMET TC-M members are making major contributions to this CCM Task Group (CCM-TGPfD-kg):

- Stuart Davidson (chair) (NPL),
- Nieves Medina (CEM),
- Lars Nielsen (DFM),
- Horst Bettin (PTB)
- Philippe Richard (METAS – CCM President)

with Alan Steele and BIPM staff.

This will steer the way the new kilogram is implemented.

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Following Redefinition

- A number of EURAMET NMIs will need to review (increase) their mass CMCs uncertainties following the redefinition.

- **What is the deadline to do it?**

Mass and Related Quantities

EURAMET Capacity Building

EURAMET training course on mass calibration at OIML E1 uncertainty was delivered to delegates from 10 EURAMET NMIs, in November 2018 (NPL).

EURAMET Training and Workshop on Conformity Assessment of Non-Automatic Weighing Instruments (NAWI), in February 2019 (IMBiH; Sarajevo).

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Expertise from EURAMET members

Stuart Davidson has delivered a two-day training course based on EURAMET cg-18 at NIMT (Thailand) in December 2018.

This EURAMET Calibration Guide is becoming the reference for balance calibrations worldwide.

Horst Bettin was invited to a Peer Review at NIMT (Thailand) last November on the field of density.

Wladimir Sabuga carried out Peer Reviews at NIM (China) in September 2018 and at NMISA (South Africa) in March 2019 in the field of pressure.

Mass and Related Quantities

EURAMET Guidelines to be published in 2019

Guidelines on the Calibration of Automatic Gravimetric Filling Instruments
AWICal AGFI Guide

Guidelines on the Calibration of Automatic Catchweighing Instruments
AWICal ACI Guide

Mass and Related Quantities

EUROPEAN METROLOGY PROGRAMME FOR INNOVATION AND RESEARCH (EMPIR)

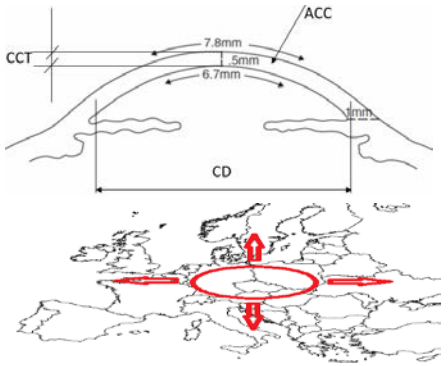
The EMPIR initiative is co-funded by the European Union's Horizon 2020 research and innovation programme and the EMPIR Participating States

Mass and Related Quantities

EMPIR Project - 16RPT03 inTENSE

Developing Research Capabilities for Traceable Intraocular Pressure (IOP) Measurements

- Development of the IOP measurement and research capabilities at CMI for existing IOP measurement principles and devices
- Development of research capabilities enabling to cope with new developments and new measurand in ophthalmology
- Creating a Smart Specialization Concept (SSC) in the field of the IOP metrology
- Extending the SSC to other medical measurement devices and beyond Central Europe.



- Cooperation with OIML TC18 "Medical measuring instruments". A new OIML recommendation on non-contact tonometry is being written.
- Preparation studies for Medical Device Regulation.
- Strategic plan towards European Centre on Medical Metrology.

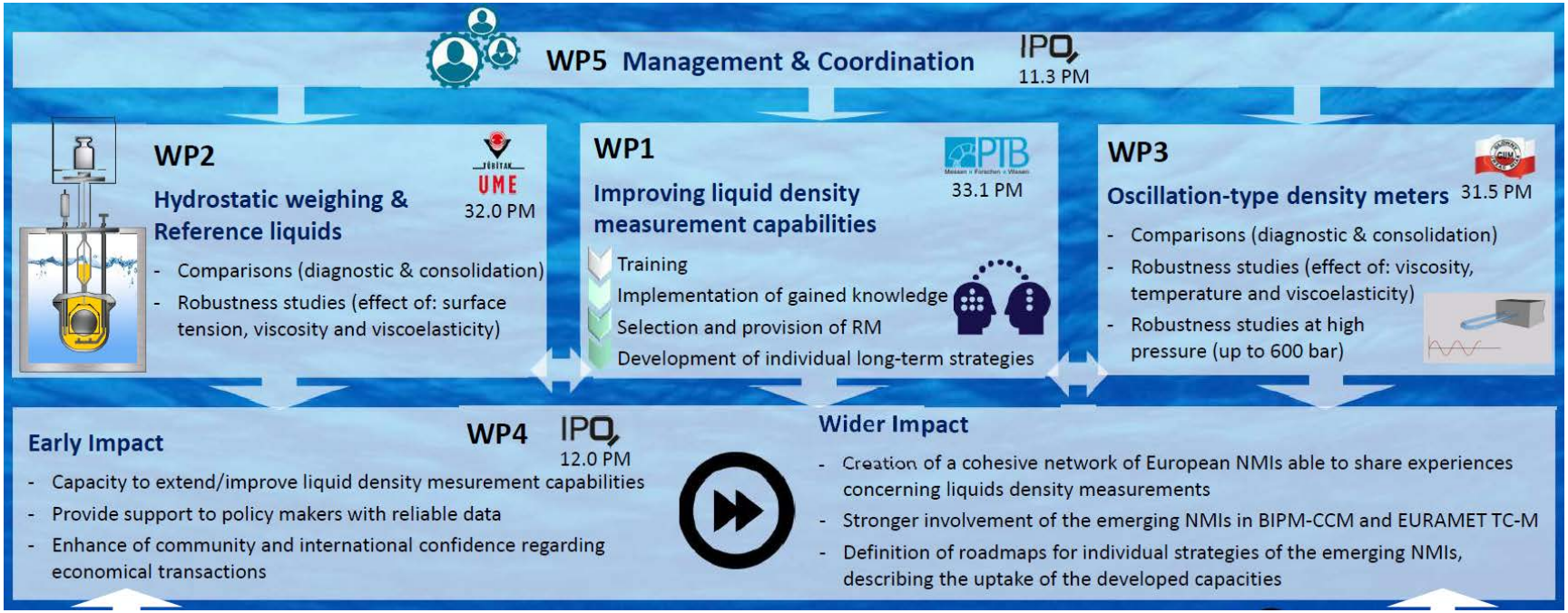
Coordinator
Dominik Prazak, CMI, Czech Republic

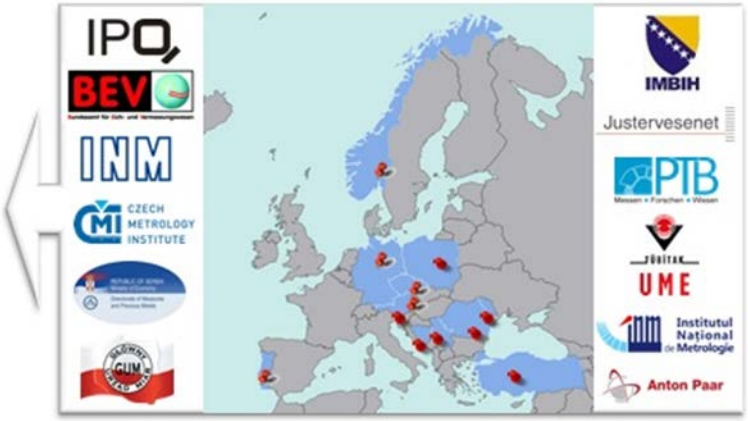
Partners: BEV, CMI, GUM, PTB, SMU, UME-TÜBITAK plus Technical University in Bratislava and Palacky University in Olomouc.

Mass and Related Quantities

EMPIR Project - 17RPT02 rhoLiq

Establishing traceability for liquid density measurements





Coordinator
Andreia Furtado, IPQ, Portugal

Mass and Related Quantities

EMPIR Project – 17IND07 DynPT

Development of measurement and calibration techniques for dynamic pressures and temperatures

- Improving the reliability of measurements in rapidly changing conditions
- Pressure and temperature measurements in dynamically changing conditions are inaccurate, as sensors calibrated under static conditions do not behave similarly in rapidly changing environments.
- Project will develop traceable calibration methods for dynamic pressure and temperature sensors for use within industrial settings.

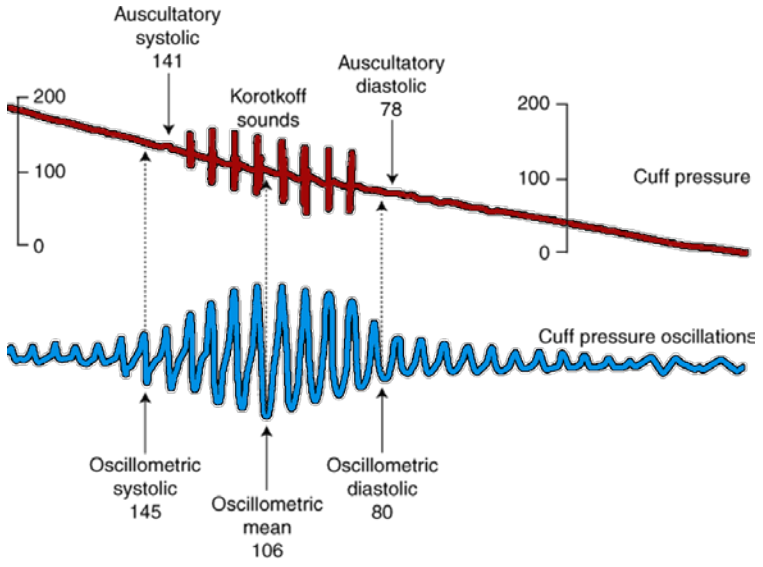
Coordinator
Sari Saxholm, VTT, Finland

Mass and Related Quantities

EMPIR Project - 18RPT02 adOSSIG

Developing an infrastructure for improved and harmonized metrological checks of blood-pressure measurements in Europe

- Creating a Smart Specialization Concept (SSC) in the field of the blood pressure (BP) metrology,
- Development of advanced oscillometric signal generator (BP simulator).
- Starting in June 2019
- Development of new BP simulator
- Methods & guides for (dynamic) sphygmo-manometer testing



Coordinator
Václav Sedlák, CMI, Czech Republic

Partners: BEV, CMI, GUM, IMBiH, IPQ, NSAI, PTB, SMU, University of Ljubljana

Mass and Related Quantities

EMPIR Project – 18SIB04 QuantumPascal

Towards quantum-based realisations of the pascal

- The objective of this project is to develop a number of primary pressure standards based on optical, microwave, dielectric and spectroscopic methods. These methods have the potential to become new primary standards for the SI unit of pressure, the pascal.
- These novel realisations of the pascal, covering the wide pressure range between 1 Pa and 3 MPa will be quantum-based and directly traceable to the SI.

Coordinator
Tom Rubin, PTB, Germany

Partners:
NMIs, Research Institutes: PTB, LNE, CNAM, INRiM, RISE, NIM, NIST, FBK
Industry: WIKA, INFICON AG
Universities: Warsaw, Western Australia, Umea, Auburn, Xi'an Jiaotong, UCL-UK

Mass and Related Quantities

EMPIR Project - 19RPT RPO 005

Improvement of the realisation of the mass scale for enhanced CMCs

- Currently there are two challenges: the realisation of the kilogram and the realisation of the mass scale. The first is the task of the leading institutes, the second remains a responsibility and prerogative of all NMIs, which are in charge to maintain the national mass scale.
- The main focus of this project is on the development of a new EURAMET guide, methods and software tools to improve the realisation of the mass scale, enabling laboratories, in particular emerging NMIs, to establish new services and claim new or better CMCs.

Coordinator
Sejla Alisic, IMBiH, Bosnia and Herzegovina

Partners: CMI, IMBiH, BEV, INRIM, Justervesenet, DMDM, BoM

Mass and Related Quantities

EURAMET TC-M 2019 meeting, Budapest - Hungary

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