



EURAMET Capacity Building

13th EURAMET General Assembly

**Borås, Sweden
21-24 May, 2019**

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Capacity Building Officer

Impact of CB & EMRP/EMPIR until now



- Countries joined at EMPIR stage: Ireland, Greece, Serbia, Bulgaria, Croatia – **new participants in JRP projects**,
- **New countries coordinating JRPs**: Slovenia, Bosnia & Herzegovina, Portugal, Croatia, Ireland
- **NMIs from non EMPIR countries** (never participating in a JRP before) **joining as external partners**: Lithuania, North Macedonia, Montenegro, Moldova
- **Emerging institutes** started **hosting training courses** (DMDM, MBM, IMBiH, DPM)
- **New institutes** started **piloting intercomparisons** within last 10 years: DMDM, BIM, EIM, HMI, HMI/FSB-LPM, HMI/FSB-LPMD, IMBiH, VINS.
- **New measurement services and facilities in NMI/DIs**
- **Many CMCs in preparation**, some claims already submitted, some already approved
- **Europe-wide participation (36 countries)**
- **EURAMET CB Strategy** prepared
- **Cooperation** with the **BIPM**

Capacity Building in EURAMET

Overview



- Capacity Building activities

- Training courses: annual programme
- Researcher Mobility Grants
- Research Potential Projects (EMPIR)

} 200–250 k€ (EMPIR members' funding)

} 1 - 2 M€ (EMPIR EU funding)

- BoD Working Group for Capacity Building (BOD-WGCB)

- giving strategic advice on CB activities
- next annual meeting in October 2019

- Capacity Building is supported by

- Capacity Building Officer
- EMPIR funds

- CB strategy approved recently

Vision: An efficient, balanced and integrated European metrology infrastructure which meets national and European needs.

- Close cooperation with BIPM CB&KT programme and with other RMOs to achieve synergy effects

- See EURAMET website for more information:

<https://www.euramet.org/knowledge-transfer/capacity-building/>

BoD Working Group for Capacity Building



Annual meeting 18/19 Oct 2018 (Sofia, Bulgaria)

- First meeting with separate SC and plenary session
- Effective SC meeting, comprehensive agenda of plenary meeting

Annual meeting 2019: Skopje, North Macedonia, 28/29 Oct 2019

21 Members (all EURAMET members welcome to join!)

DPM (AL), BEV (AT), IMBiH (BA), BIM (BG), FSB-LPM (HR), METROSERT (EE), BoM (FYRM), PTB (DE), MIKES-VTT (FI), NSAI/NML (IE), FMTC (LI), INM (MD), MBM (ME), GUM (PL), DMDM (RS), SMU (SK), MIRS (SI), CEM (ES), METAS (CH), TUBITAK UME (TR), NPL (UK)

Observers:

WELMEC

COOMET (anticipated from 2019)

BoD-WGCB Convenor

Ahmet Ömer Altan, UME (Turkey)

BOD-WGCB Guardian

Maria Luisa Rastello, EURAMET Vice-Chairperson (GA)

HI-CB trainings: Some examples



Technical training courses

- **Summer School of Thermal Metrology**
- **Calibration of Long Gauge Blocks, Measuring Tapes and Rulers**
- **Measurement uncertainty in volume measurement**

Metrology system trainings

- **Calibration**
- **Calibration**
- Calibration
-
- [EURAMET - BIPM Training on review of quality management systems](#)
- [BIPM – EURAMET TC Leadership Course](#)
- Training and workshop on NMI strategic management
- Comparison of measurement results (CCTM) (CCTM)
-

Legal metrology related trainings

- **Training and Workshop on Conformity Assessment of NAWI**

(Non-) EMPIR/EMRP trainings

- Verification
-
- Writing JRP proposals to achieve maximal impact
-

<https://www.euramet.org/knowledge-transfer/training-courses/>

HI-CB trainings and workshops: Some highlights of last period



Participants from **36 countries of EURAMET** (both NMIs and DIs).
11 events, 30 days, 204 participants; in the season Nov. 2017 to Nov. 2018

Many thanks to hosts and trainers !!!

100 lecturers' person-days:
large effort as in-kind contribution of members to EURAMET community:

In addition: BIPM trainers and EURAMET staff

Valuable participants' and lecturers' feedback!

Summer school on thermal metrology

Summer school of thermal metrology

EIM, Thessaloniki, 17-21 Sep 2018



Structured 5-day programme – concentrated covering of all important sub-areas!

- General metrology, CIPM, CCs, CCT
- EURAMET, RMOs, NMIs, DIs,
- EURAMET TC for Thermometry
- Units, uncertainties
- Contact and non-contact thermometry
- Humidity
- Thermophysical quantities
- Lab sessions (7 in parallel)
- Summary & a view in future



High engagement in the preparation from TC-T community and host EIM



28 lecturers

- 22 from EURAMET
- 1 from COOMET / 1 from BIPM
- 4 from other institutions.

44 students from 32 countries

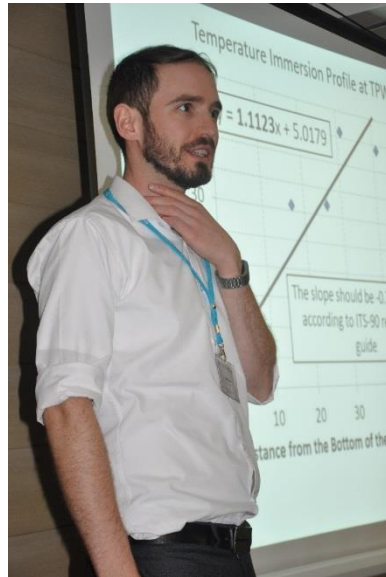
- 36 from EURAMET NMIs and DIs
- 8 guests from other RMOs:
 - 2 AFRIMETS
 - 2 APMP
 - 3 COOMET
 - 1 GULFMET
 - 1 SIM

Positive side effects:

Good relationship developed between students and lecturers
Inter-RMO collaboration in practice



Students' presentations: homework, presenting, questions



Training courses / workshops 2019

some highlights



Conformity Assessment of NAWI (Feb 2019, IMBiH)

- Covering NAWI CA during whole lifecycle
- WELMEC helped finding the trainer

EURAMET Training Course on Vibration measurements, GUM, 3-7 Jun 2019

EURAMET Training Course on Acoustics measurements (Sound in Air), GUM, 10-14 Jun 2019

EURAMET Webinar on changes in ISO/IEC 17025, 19 Jun 2019

EURAMET Workshop for Incoming TC-Chairs; PTB Braunschweig, 28/29 Aug 2019

Provide comprehensive information for incoming EURAMET TC-Chairs

EURAMET Insights in Calibration Automation and Digitalisation, PTB BS 17/18 Sep 2019

- Primarily for colleagues from NMIs/DIs that have not yet applied automation and/or digitalisation
- Insight in possibilities

EURAMET-BIPM Training Course on Organisation and Piloting of Intercomparisons in Ionising Radiation, NPL, 9-11 Oct 2019

- prepare metrologists from IR field to organise and pilot intercomparisons in all 3 sub-fields support sharing the load between NMI/Dis
- Lectures + beginner experiences


Researcher Mobility Grants (RMGs) Call 2019



- Researchers from EURAMET NMI/DI joins internal EMPIR JRP partners for **1-18 months**, for research closely related to the JRP (additional to project objectives).
- Opportunity to **build links between NIM/DIS, work with world leading scientists, produce joint papers and develop their own research skills.**
- Up to **100 person-months (e.g. 20 x 5 months)** within a call.
- **Many good experiences until now**

Timeline – preparation of 2019 call

- January- April (sooner is better): interested researchers and hosts contact EURAMET CBO
- End of May: research topics and timelines known (for the adverts);
- 1 Jul to 2 Sep 2019 the call is open;
- Oct to Dec 2019: administrative activities;
- Late Dec 2019 or beginning of 2020: earliest start of the RMGs.

A yellow starburst graphic with multiple points, containing the text "Last minute ideas still welcome".

Last minute
ideas still
welcome

Research Potential Projects (RPT)



should enable emerging NMIs to develop their scientific and technical research capabilities in areas of national and regional strategic priority.

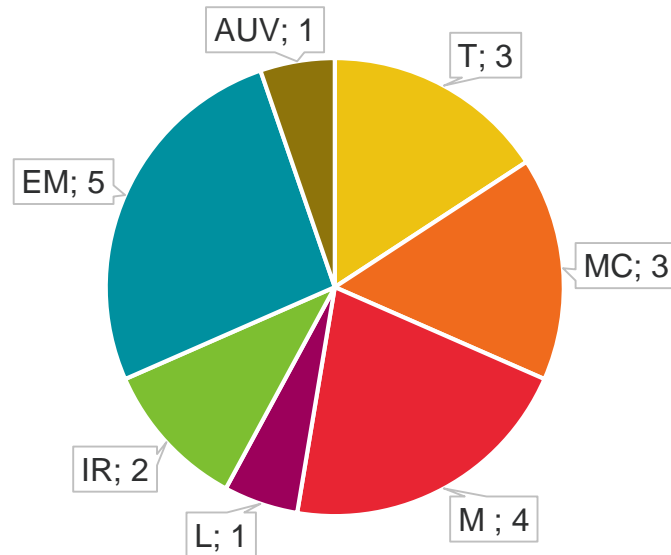
- Stakeholders needs
- Impact
- Coordination, sustainability
- Enabling later participation in other TPs

No funds for required infrastructure and capital equipment

PRT can focus on national needs,
JRP must combine the strategic priorities of several states, coordinated response (“smart specialisation”) at the European or regional level.

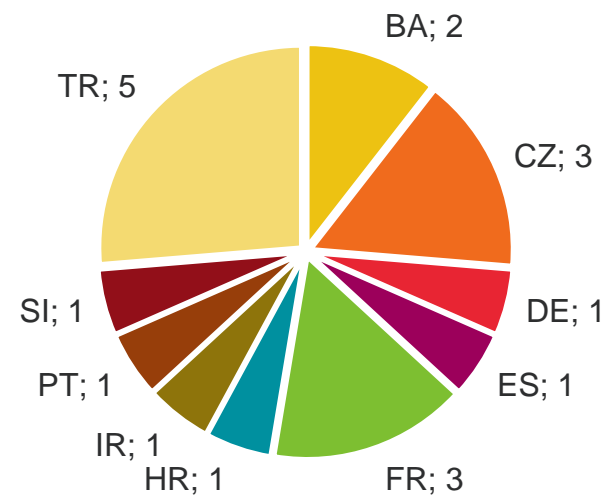
Research potential projects

RPT 2014-2018 by technical field



Year	Nr. of projects
2014	5
2015	4
2016	3
2017	4
2018	3
Total	19

RPT 2014-2018 by coordinating country



Information on CB, KT and impact



Publications and media centre (Calibration Guidelines, Technical Guides, EURAMET Guides, EURAMET's fundamental documents and publications, Newsletter, Videos & Podcasts)

<https://www.euramet.org/knowledge-transfer/guides/>

Knowledge transfer

<https://www.euramet.org/knowledge-transfer/>

Capacity building

<https://www.euramet.org/knowledge-transfer/capacity-building/>

Training courses (actual) – announced and in preparation

<https://www.euramet.org/knowledge-transfer/training-courses/>

Training material from previous trainings

<https://www.euramet.org/knowledge-transfer/training-material/>

Information on performed trainings after 2015

<https://www.euramet.org/knowledge-transfer/past-training-courses/>

Information about training offer of EURAMET NMI/Dis

<https://www.euramet.org/knowledge-transfer/externaltrainingresources/>

Impact of the European Metrology Research Programmes

<https://www.euramet.org/metrology-for-societys-challenges/>

EMPIR Participant Portal

<https://msu.euramet.org/>

Thank you for your attention !