

## 1. General Aspects

The EURAMET TC-PR had the annual meeting at the Institutul Național de Metrologie (INM-MD) Chișinău, Moldova on January 29 to 30, 2020, with a Workshop prior to the meeting on January 28, 2020.

All activities on projects, comparisons and traceability are updated and can be found on the EURAMET project website <http://www.euramet.org/technical-committees/search-tc-projects/>.

## 2. Projects

Currently, there are 16 active projects within the TC-PR with the status “in progress” (7), “ongoing” (8) or “agreed” (1). 7 are comparisons, 7 are traceability projects, 1 is a consultation project and 1 is a research project.

- The consultancy project PR1101 “Strategic planning in Photometry and Radiometry” is led by the TC chair. The project seeks to explore, which avenues research and development within photometry and radiometry (PR) will take in the future. The outcomes of the project will be important for revision of existing roadmaps for PR as well as point toward future common research projects in PR. Part of this project is also the planning for the next workshop held in collocation with the annual meeting.
- The research project PR1048 *Cryogenic Solar Absolute Radiometer* (CSAR) aim to develop an instrument that will be able to serve as a future primary standard for the ground-based measurement of Solar Irradiance. The long-term objective is to replace the current artefact-based standard (World Standard Group, WSG) with an instrument that is exclusively based on fundamental physical principles, and that can therefore operate as a true SI standard.
- The traceability projects have the aim to maintain traceability between participating NMIs within the TC-PR. There are currently 8 ongoing projects.
- For the “Comparison” projects, see next section.

## 3. Comparisons

The following comparisons are currently in progress or agreed on. Details can be found on the EURAMET project website.

REG. NO.	TITLE	PILOT	STATUS	KCDB
443	<a href="#"><u>Comparison of Ultraviolet Power Meters</u></a>	LNE	in progress	<a href="#"><u>EURAMET.PR-S4</u></a>
1116	<a href="#"><u>Spectral responsivity in the range from 900 nm to 1600 nm</u></a>	VSL	in progress	<a href="#"><u>EURAMET.PR-K2.a</u></a>
1226	<a href="#"><u>Comparison of Reference Solar Cells</u></a>	PTB	in progress	<a href="#"><u>EURAMET.PR-S5</u></a>
1412	<a href="#"><u>Key Comparison on spectral regular transmittance</u></a>	LNE-LCM/CNAM	in progress	<a href="#"><u>EURAMET.PR-K6.2015</u></a>
1456	<a href="#"><u>Key comparison on spectral regular transmittance 2018</u></a>	LNE-LCM/CNAM	in progress	<a href="#"><u>EURAMET.PR-K6.2015.1</u></a>
1468	<a href="#"><u>Pilot study on the detection efficiency of single-photon detectors - SI-SPAD</u></a>	PTB	in progress	
1505	<a href="#"><u>Key comparison on luminous intensity 2020</u></a>	METAS	agreed	

Completed/concluded since the last GA were:

REG. NO.	TITLE	PILOT	STATUS	KCDB
1339	<u>Comparison on Total Solar Irradiance</u>	PMOD/WRC	completed	<u>EURAMET.PR-S6</u>

Proposed, but not yet registered are the following comparisons:

- Bilateral comparison between UME and SASO:
  - on diffuse reflectance: a link laboratory was found, preparations are ongoing.
  - on luminous flux: Technical Protocol was reviewed by TC-PR.
- Supplementary comparison on Wavelength suggested by IO-CSIC: call issued.
- DFM and RiSE plan to propose a bilateral comparison on spectral responsivity: call issued.

#### 4. CMCs

EURAMET.PR.17.2019 was approved, it contained 44 new or changed entries from 6 NMIs. EURAMET.PR.18.2019 was not approved. At the TC-PR meeting, the TC-chair held a workshop on KCDB 2.0. TC chair also participated, together with Joaquin Campos (IO-CSIC), in a BIPM-organized workshop on KCDB 2.0.

From TC-PR meeting 2020 on, all applications will be done via KCDB 2.0

#### 5. Activities of the Subcommittees

TC-PR has no Subcommittees.

#### 6. Participation in EMRP / EMPIR

In 2019, the projects 19ENG01 Metro-PV (Metrology for emerging PV applications), 19ENV04 MAPP (Metrology for aerosol optical properties), 19ENV07 MET4ClimOS (Metrology to establish an SI traceable climate observing system), 19NRM02 RevStdLED (Revision and extension of standards for test methods for LED lamps, luminaires and modules), 19NRM06 MeTISQ (Metrology for testing the implementation security of quantum key distribution hardware) and 19NET02 EMN-Quantum (Support for the European Metrology Network on Quantum Technologies) succeeded to be funded within the EMPIR 2019 Calls. In summary, from the 9 PRTs submitted (ENG: 1 / ENV: 3 / NRM: 4 / NET: 1), all advanced to SRTs, 8 were submitted (ENG: 1 / ENV: 3 / NRM: 3 / NET: 1), from which 6 were granted (ENG: 1 / ENV: 2 / NRM: 2 / NET: 1).

The TC is currently involved in the following projects:

EMPIR call 2016 Energy	16ENG02, PV-Enerate
EMPIR call 2016 Environment	16ENV03, MetEOC-3
EMPIR call 2016 Normative	16NRM02, SURFACE
EMPIR call 2016 Normative	16NRM08, BIRD
EMPIR call 2017 Fundamental	17FUN06, SIQUST
EMPIR call 2018 SI Broader Scope	18SIB03, BxDiff
EMPIR call 2018 SI Broader Scope	18SIB10, chipS-CALe
EMPIR call 2018 Network	18NET04, ForClimateOcean
EMPIR call 2019 Energy	19ENG01, Metro-PV
EMPIR call 2019 Environment	19ENV04, MAPP
EMPIR call 2019 Environment	19ENV07, MET4ClimOS
EMPIR call 2019 Normative	19NRM02, RevStdLED
EMPIR call 2019 Normative	19NRM06, MeTISQ
EMPIR call 2019 Network	19NET02, ENM-Quantum

A list with links to the EURAMET webpages for the TC-PR EMRP and EMPIR projects can be found here: <https://www.euramet.org/technical-committees/tc-pr/emrp-empir/>

## **7. Capacity Building: Activities of the last year and future needs**

A workshop on Support, Collaboration and Coordination actions within TC-PR was held with focus on possible Small Collaborative Projects.

## **8. Meetings**

The annual EURAMET TC-PR was held at the Institutul Național de Metrologie (INM-MD) Chișinău, Moldova on January 29 to 30, 2020, with a Workshop prior to the meeting on January 28, 2020. The topics of the workshops were:

- Preparation and discussion on the EMPIR Call 2020
- Workshop on KCDB 2.0 and CMCs
- Workshop on Support, Collaboration and Coordination with focus on Small Collaborative Projects

Next meeting will be at METAS, Switzerland, January 28<sup>th</sup> to 29<sup>th</sup>, 2021, with a workshop prior to the meeting on January 27<sup>th</sup>, 2021.

## **9. Issues**

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## **10. Strategic Planning**

In the TC-PR meeting 2020, held in Chisinau, Moldova, on January 28<sup>th</sup> – 30<sup>th</sup>, a workshop on the upcoming EMPIR Call were held, where the proposed PRTs were discussed in detail, whether they should be supported by the TC. Furthermore, a workshop dealt with the new KCDB 2.0, a third one with the coordination, collaboration and support activity within the TC. The new instrument of EURAMET, i.e. the Small Collaborative projects, appeared interesting to address the issues within the TC. At the TC-meeting, the EMNs connected to the TC were presented by the EMN chairs (or substitutes). Information on the upcoming EPM programme was given. At the meeting, it was decided to update the currently existing roadmaps and convenors for specific fields were established. As far as upcoming comparisons are concerned, the next KCs were discussed, pilot labs established and new SC relevant for the TC discussed and decided on.

The presentations are available as documents for the annual meeting in Bratislava on the TC-PR website.

## **11. Outlook for 2020/2021**

In the next period, the focus will be mainly on the following topics:

- The collaboration shall be more strengthened between the members of the TC-PR. This activity will be supported by the already mentioned workshop on collaboration, coordination and support and its evaluation. The progress in the coordination and collaboration will be constantly monitored at least once a year during the annual meeting or the workshop. Furthermore, it is planned to submit a proposal for a Small Collaborative Project (SCP)
- The TC-PR has to deal with the new established European Metrology Networks. The activities of the TC have to be aligned with the EMN activities. Furthermore, it has to be assured, that also the other TC-PR-relevant topics will find their place in the new EURAMET structure with respect to progress in research and development.
- The second round of EURAMET Key Comparisons will have to be planned in order to follow-up quickly the currently running CCPR Key Comparisons. The process of identifying

pilots and participants of these KCs has already started and is an ongoing process. As first comparison, the EURAMET.PR-K3 will start already in 2020.

