

A large, abstract blue graphic on the left side of the slide. It features several overlapping curved shapes, including a large semi-circle and a smaller circle, creating a dynamic, organic form.

2020 EMPIR Normative Call Opportunities for CB Community

**EURAMET Webinar for
Capacity Building community**

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Introduction

Importance of standardisation for research



For the European Commission :

Standardization is recognised by the EC as a great tool for research development and a key channel for dissemination of innovations.

Standardisation is included in many H2020 calls of the EU's Framework Programme for research and innovation (scope or expected impact).

The European Standardization Organisations shall encourage participation of researchers in standardisation activities (Regulation EU n°1025/2012).

Science has a crucial role to play in the field of standardisation. Scientists and researchers can help in writing standardisation documents and make profitable research results (JRC of the EC).

Strong request of the EC to reinforce the link between research/innovation and standardization and improve the collaboration between research and standardisation.

The overall strategic aim of the pre and co normative projects is to **develop metrological methods and techniques required for standardisation, regulation and conformity assessment.**

These projects are expected to :

- generate benefit for European and International Standards Organisations by exploiting the expertise and unique capabilities of the NMI and DI.
- enable collaborative research going beyond the state of art.

Proposed topics should address one of these 2 strands :

Specific documented demands of European and International Standards Organizations for metrological research in any area.

- For example : the development of traceable measurement methods or the provision of validated data sets, required for documentary standards.
- Demand demonstrated by clear reference to the measurement needs : strategic documents published by the standardization group or a letter signed by the chair/convenor of the standardisation group.

Specific documented demands of European Regulators and Conformity Assessment Bodies for metrological research in any area.

- For example : the development of traceable measurement methods or the provision of validated data sets, required for these purposes.

**Strand 1
Standardisation**

**Strand 2
Regulation**

For both strands, EURAMET encourages proposals that:

- include representatives from industry, regulators and standardisation bodies
- for their active participation in the projects
- in particular to ensure that the projects outputs are acknowledged by the standardisation group or the regulatory authority.

- **Today : 31 funded NRM JRPs**
 - EMPIR Calls 2014 to 2018 : 24 funded NRM JRPs
 - EMPIR Call 2019 : 7 funded NRM JRPs
- 5 to 8 NRM projects funded per year (except the first pilot call)
- Budget per projects : around 400 k€ to 1,2 M€ (EU contribution)
- **Only one funded NRM JRP from the Regulatory Strand :**
18NRM01 - *Metrology for standardized traceable measurements of endocrine disrupting compounds in support of Water Framework Directive. Coordinator : S.Lardy Fontan – LNE*
- **More PRT expected in the Regulatory strand in 2020 and the future calls.**

NRM EMPIR Calls : the competition



	2015	2016	2017	2018	2019
Budget	2.3 M€	5.7 M€	4.8 M€	5 M€	5 M€
Stage 1 – Potential Topics (NRM PRT)	31	30	16	22	24
Stage 2 – Proposals (NRM SRT)	12	15	11	14	13
Funded NRM JRPs	4	8	5	7	7

In 2018 and 2019 : **64% of the SRTs selected as JRPs**

(Some years, there are less JRPs proposals than SRTs selected)

The 24 NRM JRPs

EMPIR Calls 2015-2018



10 projects
driven by
needs from

	JRP	Title of the Joint Research Project	NMI/DI Coordinator	CEN need	SDO TC need	Duration
1	15NRM01	Metrology for sampling and conditioning SO ₂ emissions from stacks	NPL	05/2015	CEN/TC 264/WG16	2016-2019
2	15NRM02	Techniques for ultra-high voltage and very fast transients	SP			2016-2019
3	15NRM03	Metrology for sustainable hydrogen energy applications	LNE			2016-2019
4	15NRM04	Standard tests and requirements for rate-of-change of frequency (ROCOF) measurements in smart grids	NPL			2016-2019
5	16NRM01	Developing electrical characterisation methods for future graphene electronics	INRIM	14/2015	ISO/TC 229 IEC/TC 113	2017-2020
6	16NRM02	Pavement surface characterisation for smart and efficient road lighting	INRIM			2017-2020
7	16NRM03	kQ factors in modern external beam radiotherapy applications to update IAEA TRS-398	ENEA			2017-2020
8	16NRM04	Towards an ISO standard for magnetic nanoparticles	PTB			2017-2020
9	16NRM05	Towards a documentary standard for an ionisation vacuum gauge	PTB			2017-2020
10	16NRM06	Improvement of emissivity measurements on reflective insulation materials	LNE	12/2015	CEN/TC 89/WG12	2017-2020
11	16NRM07	SAR measurement using vector probes	LNE			2017-2020
12	16NRM08	Bidirectional reflectance definitions	LNE-CNAM			2017-2020
13	17NRM01	Loss Measurements on Power Transformers and Reactors	VSL	2017/02	CLC/TC 14	2018-2021
14	17NRM02	Electromagnetic Interference on Static Electricity Meters	NPL	2017/14	NEN/NEC13 - mirror of CLC/TC 13 and IEC/TC 13	2018-2021
15	17NRM03	Standards for the evaluation of the uncertainty of coordinate measurements in industry	INRIM	2017/07	CEN/TC 290	2018-2021
16	17NRM04	Improved traceability chain of nanoparticle size measurements	BAM	2016/15	CEN/TC 352/WG 1	2018-2021
17	17NRM05	Advancing measurement uncertainty - comprehensive examples for key international standards	NPL	2017/03	BIPM/JCGM-WG 1	2018-2021
18	18NRM01	Metrology for standardized traceable measurements of endocrine disrupting compounds in support of Water Framework Directive	LNE			2019-2022
19	18NRM02	Primary standards and traceable measurement methods for X-ray emitting electronic brachytherapy and IORT devices	PTB			2019-2022
20	18NRM03	Calibration and accuracy of non-catching instruments to measure liquid/solid atmospheric precipitation	INRIM		CEN/TC 318/WG 12	2019-2022
21	18NRM04	Determining New Uncertainty Requirements for Increasingly Stringent Legislative HCl Industrial Emission Limits	NPL			2019-2022
22	18NRM05	Grid measurements of 2-150 kHz harmonics to support normative emission limits for mass-market electrical goods	NPL			2019-2022
23	18NRM06	Flow metering of non-conventional gases (biogas, biomethane, hydrogen, syngas and mixtures with natural gas)	LNE			2019-2022
24	18NRM07	Measurement of the focal spot size on X-ray tubes with spot sizes down to 100 nm	BAM		CEN/TC 138/WG 1	2019-2022

CEN/TC 89

CEN/TC 138

CEN/TC 264

CEN/TC 290

CEN/TC 318

CEN/TC 352

CLC/TC 14

NEN/NEC 13

ISO/TC 229

BIPM/JCGM

What topics in a NRM JRP?



JRPs are metrology research projects .

- Must address **metrology issue** (traceable measurements)
- They have **to do research** – but research aimed at standardisation or regulation (these are JRPs, not SIPs).

For example :

- The development of :
 - traceable measurement methods for measuring parameters
 - a new reference materials in close collaboration with instruments manufacturers
 - a new calibration method
 - metrological improvements of standardized test methods
 - calculation uncertainties
- The determination of all relevant parameters to design an accurate, robust and stable measuring instrument to elaborate a standardization document.

What topics are not relevant in a NRM JRP?



Topics that

- do not deal with traceable measurements (not be selected at the first stage)
- do not need research (for example restricted to a simple interlaboratory survey)
- address specific needs of a single industrial (JRPs are collaborative research project)
- are limited to a national concern (JRPs are expected to have an European dimension)
- are urgent and need to be finalized within 3 years : EMPIR process required 18 months between the knowledge of the initial problem (PRT) and the start of JRP work (not suitable for some industrial users).

- must include at least 3 National Metrology Institutes or Designated Institutes from 3 different countries
- must be led by a metrologist coordinator
- has a maximum duration of 3 years, can be 2 years
- includes external partners (funded or unfunded): universities, industry, standardization, regulators and collaborators
- budget per project : max 1 M€ - 2020 NRM EMPIR call
- around 30% dedicated to the external partners.

Submission of PRT



Read :

- **Guide 2:** [Submitting PRTS and PNTs](#)
- **Guide 3:** [Prioritising PRTs and PNTs](#)

PRT Template : 4 pages max section B to D

- The submitter and co-authors
- B.4 Scientific&technological objectives
- C.1 Justification of the needs
(of end-users, stakeholders, policy makers, stand.group...)
- C2 Current state of art
- D. The potential impact/benefit of the proposed topic

What helps the selection of the PRT :

- Early discussion between NMI/DI and stakeholders
- Stakeholders co-authoring the PRT (standardisation group, regulators, Conf. Ass. Body, industry)
- Indicating the co-authors who are members of the stand. Group
- Clear evidence of the stakeholder needs, indicate any existing letter of support of stakeholder
- Clear route for the transfer of results (SDO, regulatory)
- 3 metrology institutes with a potential budget.

A small screenshot of the EURAMET PRT template form. It shows a header section with the EURAMET logo and title, followed by a table with columns for 'Co-author', 'Role', and 'Signature'. Below the table is a section for 'Justification of the needs' with a text area and a 'Submit' button.

- **Guide 3:** [Prioritising PRTs and PNTs](#)
- EURAMET will evaluate each PRT against 3 criteria :
- Has a **clearly specified and justified scientific, metrological or technological challenge** /problem / opportunity been identified and of what scale, and does it need to be addressed by a **collaborative European approach** rather than a national one?
- What is the likelihood of the European metrology research community effectively addressing the challenge / problem / opportunity, taking due account of the progress required **beyond the current state of the art**?
- How significant would **the impact be for stakeholders** if the proposed topic were successfully addressed?

PRT – reasons for non-selection

Guide 3: Prioritising PRTs and PNTs



- poor fit with scope;
- lack of critical mass in the proposal or required to undertake the research;
- **limited metrology** in the proposal;
- unclear, unspecified or limited need or demand;
- **limited or no research** / development and primarily focusses on training, knowledge transfer, consultancy, surveys or reviews;
- lack of European dimension or too nationally focussed;
- **unclear or limited impact** or the impact not focussed on the outside world;
- limited progress beyond the state of the art, limited rationale, limited, unclear or unquantified objectives;
- **limited stakeholder support demonstrated** in the proposal;
- **limited support from standards developing organisations (SDO);**
- **poor standardisation links;**
- limited or no capacity building;
- unnecessary duplication of existing capabilities / facilities, with no clear rationale, or a lack of smart specialisation approach;
- insufficient budget available within the call to incorporate this topic.

For support



Use the facilitators of the NRM Call :

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They can help/advise NMI/DI in the preparation of PRT.

NRM JRPs of the Regulatory strand



So far, there is only one funded NRM JRP in the Regulatory Strand.

This project aims to develop research for standardization in support to an European Regulation. The research outputs will be disseminated to an European standardization group to improve European standardisation documents that support an EC Directive.

But, proposals with other objectives/content to address the need of legislative act /regulation or enable conformity assessment are highly welcome.

Questions?

