

EMPIR

Instruments

EURAMET Information Day for INM Moldova,
INM, Chisinau, 7 - 8 November 2018

Slides by
EURAMET Secretariat

EMPIR indicative call plan

- Long-term orientation, yet with some room for flexibility at annual updates
- Three-year call intervals for some themes to enable follow-on projects
- Annual calls for “support for impact” actions and standardisation related research (except 2014)
- Calls for research potential focus on the first four years, with the aim that RPT participants then participate in the wider JRPs eg SIB, IND in the later part of EMPIR

Year	Call
2014	Industry JRPs
	Research Potential JRPs
	Support for Impact
2015	Health JRPs
	SI Broader Scope (SI) JRPs
	Pre-normative JRPs
	Research Potential JRPs
	SIPs
2016	Environment (ENV) JRPs
	Energy (ENG) JRPs
	Pre-normative JRPs
	Research potential JRPs
	SIPs
2017	Fundamental JRPs
	Industry JRPs
	Pre-normative JRPs
	Research Potential JRPs
	SIPs
2018	SI JRPs
	Health JRPs
	Pre-normative JRPs
	SIPs
2019	ENV JRPs
	ENG JRPs
	Pre-normative JRPs
	SIPs
2020	Industry JRPs
	Fundamental JRPs
	Pre-normative JRPs
	SIPs

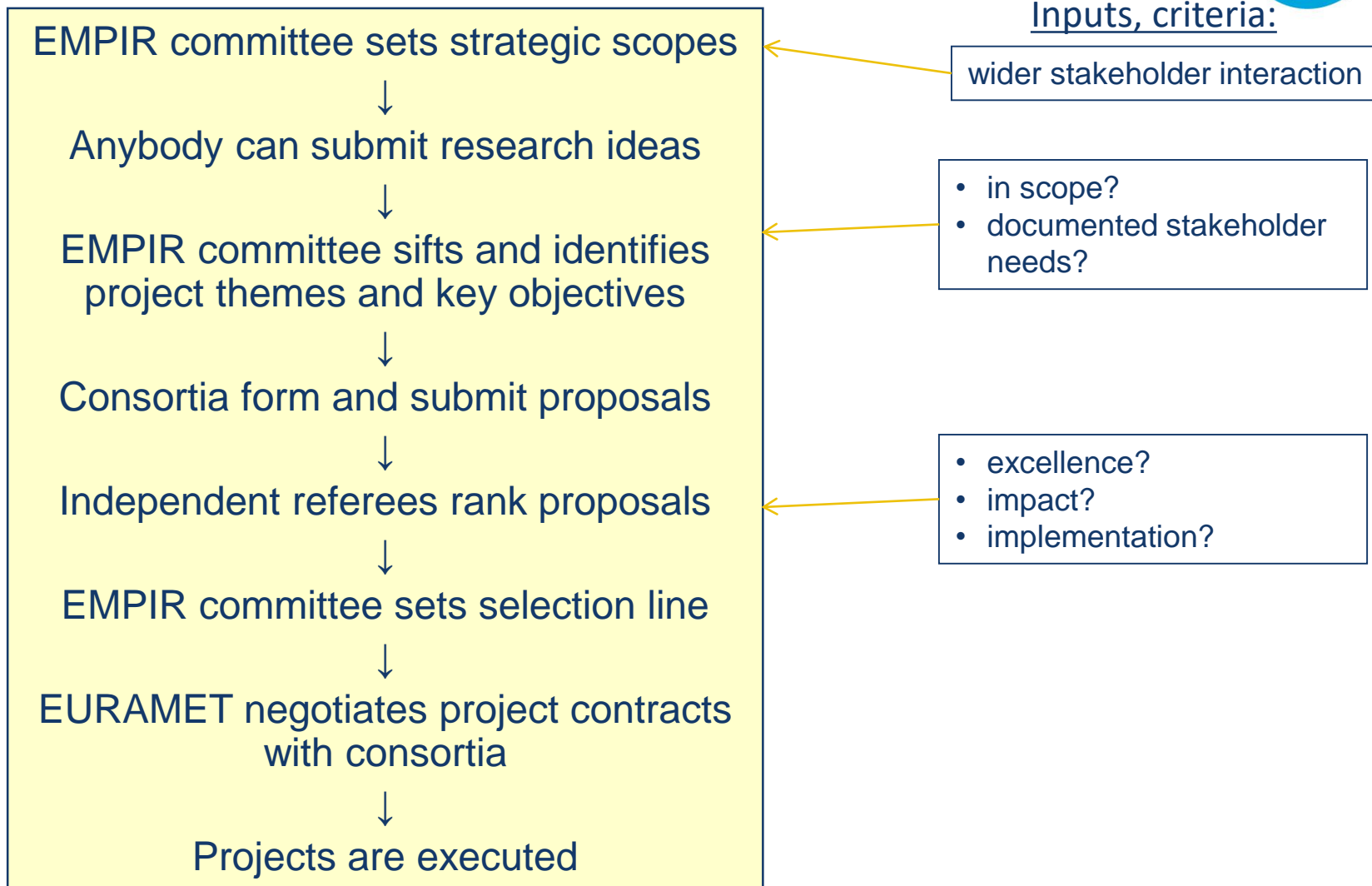
Calls	Timetable 2019 call durations (opening and deadline)^[1]	Indicative call budget in M€*	Indicative EU contribution in M€
TP Environment	13 June – 30 September	38	20
TP Energy		38	20
TP Normative		8.55	4.5
Support for Networks		2.85	1.5
Research Potential		1.9	1
Support for Impact	23 July – 23 September	0.95	0.50
Total		90.25	47.50

^[1] EURAMET may delay these dates by up to one month.

Call process



Inputs, criteria:



Questions?



Call Scope – Metrology for Environment (ENV) 2019



Metrology research develops the ability to **measure physical and chemical quantities and parameters in our environment**. It delivers methods, reference data, and technologies that allow for correct, reliable and precise measurements. These are needed to **monitor and quantify climate change, the status of the oceans, pollution of air, water and soil, and risks due to radioactivity** in the environment.

This Targeted Programme will enable collaborative research for **large and transnational monitoring systems**. EURAMET wishes to put a focus on **reliable climate data** and especially welcomes proposals enabling the establishment of a long-term European NMI/DI network coordinating the measurement infrastructure in this area and links to global networks in collaboration with user communities

Call Scope – Metrology for Environment (ENV) 2019



The TP “Metrology for the Environment” addresses both global metrological challenges for climate control such as those related to:

- the **essential climate variables** of the atmosphere, land and water, including their constituents, atmospheric contaminations, transport and other parameters, and their time evolution and comparability
- **remote sensing methods** for environmental and climate monitoring and local environmental challenges such as those related to:
 - Pollution of air, water and soil
 - measurement of emissions and immissions
 - radioactivity in the environment

Call Scope – Metrology for Environment (ENV) 2019



It is the overarching **strategy of EURAMET** to establish and **develop a joint, sustainable metrological infrastructure** in Europe. This requires both **distributed networks** to provide the coherent availability of metrological services across Europe, such as required by several related regulations, and the **establishment of pooled, combined competences** that bring European metrological research into an internationally **leading and recognised position**. **Climate-related research in particular, must have an international dimension in order to deliver impact.** Therefore, proposers shall describe, how the research will lead or contribute to a sustainable metrological infrastructure.

Call Scope – Metrology for Energy (ENG) 2019



The strategic aim of the TP is to support and **accelerate** – through metrological R&D – the ongoing **Energy Transition** in order to achieve a **low-carbon economy** based on **secure, clean** and **efficient energy**.

Four core priority areas

- renewable energy,
- smart energy systems
- energy efficiency
- storage and energy conversion

Call Scope – Metrology for Energy (ENG) 2019



It is envisaged that metrology R&D can contribute significantly to tackling several other challenges in the energy chain:

- Improving the **energy mix** via the uptake of renewable energy sources (RES) is the second core priority of this Call. Next to already existing metrology R&D on biofuels and photovoltaics (PV), this Call welcomes proposals on other renewable energy sources such as wind and thermal solar energy.
- **Storage and energy conversion** is an area where EMRP- and EMPIR-funded metrology research has been limited. However, the variable nature of RES makes energy storage and conversion crucial for achieving the EU energy aims. This Call therefore has storage and energy conversion as its third core priority and explicitly asks for proposals in these highly relevant areas, for example on batteries, fuel cells, conversion of power to gas or to other energy carriers.

Call Scope – Metrology for Energy (ENG) 2019



- **Energy grids** play an important role in the security of supply, the uptake of RES in the energy mix, and in making our energy system smart (the fourth core priority of this Call). This Call therefore invites proposals that further the development of smart electricity and gas grids, and encourages research that includes links between these grids, with heating/cooling grids, and with the area of storage and conversion.
- Attention to **energy use** has grown significantly in recent years, resulting in several projects related to the transport sector in the 2016 TP Energy Call. In recognition of this trend, this Call invites proposals on energy use such as transportation, buildings, heating/cooling, lighting, etc. It is expected that several of the metrology challenges in this area will relate to energy efficiency (the first core priority of this Call).
- **Energy recovery** helps to minimise the use of precious energy sources. Therefore, proposals on energy recycling (re-use of waste energy) and energy harvesting are within the scope of this call.

Call Scope – Metrology for Energy (ENG) 2019



Materials, modelling, and data science are three cross-cutting disciplines relevant for energy metrology R&D and therefore are expected to be parts of or even the main subject of proposals in this Call. In particular, metrology contributions to big data and data analytics are welcomed since this is key to make our energy system smart (the fourth core priority of this Call). This could include an integrated view of the energy system, with all production, generation, transmission and distribution paths optimised and flexible, serving the energy consumer and empowering them to style their own energy management as desired.

Call Scope – Metrology for Pre- and Co-normative Research (NRM) 2019



The overall strategic aim of the Targeted Programme (TP) “Pre- and co-normative research” is to develop metrological methods and techniques required for **standardisation, regulation and conformity assessment.**

Call Scope – Metrology for Pre- and Co-normative Research (NRM) 2019



Proposed topics should address one of the following strands:

1. **Specific documented demands** of European and international Standards Developing Organisations (**SDOs**) **for metrological research** in any area. Proposals may address the **development of traceable measurement methods** or the provision of **validated data sets**, which are required for documentary standards. The demand for the research shall be demonstrated by **clear reference** to the measurement needs **within strategic documents** published by the **SDO** (Technical Committee(s) (TCs) or Working Group(s), (WGs), (e.g. in the Business Plans or Work Programmes) or by a letter signed by the convenor of the respective TC/WG). Proposals in this strand are expected to be mostly "co-normative" in nature, i.e. addressing actual standardisation development work. It is expected that projects selected for funding will have fewer partners and lower eligible costs than Joint Research Projects selected under other TP calls (e.g. industry, health, energy or environment).

Call Scope – Metrology for Pre- and Co-normative Research (NRM) 2019



2. **Specific documented demands of European Regulators and Conformity Assessment bodies** for metrological research in any area. Proposals may address **the development of traceable measurement methods** or the provision of **validated data sets**, which are required for these purposes. It is expected that projects selected for funding will have fewer partners and lower eligible costs than Joint Research Projects selected under other TP calls (e.g. industry, health, energy or environment).

Call Scope - Research Potential (RPT) 2019



EURAMET intends that EMPIR will develop a balanced and integrated metrology system in the participating states. In addition to the known Targeted Programmes under EMPIR that are used to implement the strategic research agenda, EURAMET has initiated a process that shall lead to the establishment of joint sustainable structures in areas of strategic importance for the future of European metrology. These envisaged structures shall have scopes aligned with comprehensive challenges, such as defined by major European regulation, and may include research actions, coordinated metrological service provision and other types of measures. They are seen as the next step towards an integrated metrology system.

For those **states with limited metrology research capability**, “Research Potential” projects should enable them to **develop their scientific and technical research capabilities** in areas of **national and regional strategic priority**.

Call Scope - Research Potential (RPT) 2019



Project proposals may:

- **build on project outcomes** under the Targeted Programmes when more research is needed to tailor the solution for wider implementation in Europe
- OR/AND
- aim to **develop capabilities to enable participation in a joint European metrology structure in a specific strategic area.**

Potential Research Topics (PRTs) submitted for this TP should identify

- the JRP(s) or/and the joint European metrology structure initiative they refer to
 - the particular metrology needs of stakeholders in the region,
 - the research capabilities that should be developed (as clear technical objectives),
 - the impact this will have on the industrial competitiveness and societal needs of the region,
- and
- how the research capability will be sustained and further developed after the project ends.

Call Scope - Support for Impact (SIP) 2019



...sometimes an opportunity for further significant exploitation and stakeholder uptake occurs after the research is complete... Such further exploitation may include:

- An identifiable contribution to a **documentary standard** in response to a request from a Technical Committee or Working Group of a European or International standards developing organisation.
- An identifiable contribution to a **regulatory process** in response to a request from a European or International regulatory body.

- **Transfer of specific technology or knowledge to a commercial business** in response to a request to progress their innovation activities (e.g. product or process development).

A key requirement is an external request for the work from an organisation ready to take up the outputs of the project and move them on to impact outside the metrology community. The organisation making this request is called the “**Primary Supporter**”. Without such a willing recipient expressing support for the proposal and identifying the actions they will take with the outputs of the project, the proposal would have no evidence of the route to impact and should not be funded.

First European Metrology Networks starting

- At the EURAMET GA in 2018 the first 6 “European Metrology Networks” (EMN) were approved.
- They are now in process of establishment

No	Title	Chair
1	Mathmet	Markus Bär (PTB)
2	Quantum Technologies	Ivo Degiovanni (INRIM)
3	Laboratory Medicine	Rainer Stosch (PTB)
4	Smart Electricity Grids	Gert Rietveld (VSL)
5	Energy Gases	Annarita Baldan (VSL)
6	Climate and Ocean Observation	Nigel Fox (NPL)

EMN may be funded as JNP

The decision on financing of JNPs of 2018 EMPIR Support for networks Call has not yet been taken

Call Scope - Support for Networks (NET) 2019



need for a **long term ongoing dialogue between the metrology community and relevant stakeholders:**

This dialogue should support the **takeup** of research outputs from the metrology community and the collection of needs from industry to inform future research.

Joint Network Projects (JNPs) will fund **activities enabling the development of organisations** that support this dialogue.

Call Scope - Support for Networks (NET) 2019



Such activities may include:

- Foresight and common vision
- Developing a Strategic Research Agenda
- Knowledge sharing amongst researchers
- Mobility and training of researchers
- Planning the development of shared Research Infrastructures
- Stakeholder involvement
- Dissemination of research results
- Widening Participation (activities related to extending cooperation with low performing RDI Member States and regions)
- Internationalisation (activities related to extending cooperation to third countries)

Call Scope - Support for Networks (NET) 2019



Proposed topics should address one of the following two strands:

1. Building and supporting **networks in areas** identified by EURAMET as an area **of major strategic importance**, with **European dimension** – the “European Metrology Networks (EMNs)”. Here Joint Network Projects should fund activities enabling the development of organisations that support the dialogue with stakeholders. They should be based on an existing organisation with the long-term aim of promoting the dialogue or plan to establish such an organisation. Measures in the proposal to support the long-term sustainability of this organisation will be a key aspect of the evaluation.
2. Building and supporting increased **collaboration** in the field of **Legal Metrology**, particularly the priorities identified by WELMEC for widening participation, sharing information for market surveillance and administrative cooperation, and training.

Questions?



Current state-of-the-art



- Describe the current state-of-the-art relating to the need, ensuring you address the stakeholders and potential beneficiaries identified in section C1. Clearly explain why the current state-of-the-art is incapable of addressing the need(s) identified.

Impact of the proposed research



- State the potential impact and benefits of successfully addressing the proposed topic.
- Describe the impact scientifically, metrologically and in socio-economic terms (appropriate for the Call). The magnitude of the potential impact should also be properly estimated.
- In responding to a Research Potential Call, the existing capacity of potential beneficiaries (both staff and equipment – either already available or in the process of being acquired), and plans for the sustainability of the research capacity to be developed, should be included in this section.

Impact at the European level



- Explain why the proposed research will benefit from being carried out at the European level. The European added value of the proposed research should be identified, including;
 - European contribution to global challenges,
 - Protection of the European citizen or market,
 - An improved system of metrology and improved underpinning infrastructure,
 - Support for European standardisation, Protection of products and enterprises against defrauders,
 - Security or improvement of essential European infrastructure,
 - Secondary effects such as economic or structural benefits, innovation or competitiveness.

PRT standard reasons for non-selection



- Poor fit with scope
- Lack of critical mass
- Limited metrology
- Limited research
- Lack of European dimension
- Limited progress beyond the state of the art
- Limited rationale
- Limited or unclear objectives
- Limited stakeholder support
- Limited Standards Developing Organisation support
- Poor standardisation links

Questions?



Questions?

