


EURAMET

EMPIR Instruments

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EMPIR  **EURAMET**

The EMPIR Initiative is co-funded by the European Union's Horizon 2020 research and innovation programme and the Horizon Europe pilot states.

EMPIR projects

EURAMET

- Two types of project under EMPIR that receive funding from the Commission pot
 - Joint Research Projects (JRPs)
 - *RPTs are not a different type of project, they are just one theme within JRPs, just like ENG, ENV, HLT, IND, SIB, FUN, NRM*
 - Support for Impact Projects (SIPs)
- Mobility Grants are funded from the member states cash and are just for employees of European NMIs and DIs.

EMPIR Instruments: Market Entry 2016

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

EMPIR Instruments, March February 2016

Call process



Inputs, criteria:

wider stakeholder interaction

- in scope?
- documented stakeholder needs?

- excellence?
- impact?
- implementation?



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Questions?



EMPIR Instrumental Metrology 2016

ENG Scope 2016



- This Call again focuses on **metrological research** which supports steps towards a safe, secure, sustainable and affordable energy system while increasing the competitiveness of Europe's industries. It is open to potential metrology research topics related to all sources of energy, traditional as well as novel types of sources and technologies with longer-term potential. The whole energy chain comprising generation, conversion, transport, storage, and consumption of energy is included.

EMPIR Instrumental Metrology 2016

ENV Scope 2016



- This Call again focuses on **metrological research** to improve the quality of data to stimulate technological innovation, and to **disseminate traceability** to, and make traceable measurements in, the field. It also aims to underpin other environmental research initiatives through collaborative metrological research and development. It addresses both local environmental challenges and global metrological challenges for climate monitoring.....

NRM Scope 2016



- The overall strategic aim of the Targeted Programme (TP) “Pre- and co-normative research” is to develop **metrological methods and techniques required for standardisation**.
- EURAMET encourages proposals that include representatives from industry, regulators and standardisation bodies for their active participation in the projects, specifically to ensure that the project outputs are **acknowledged by the SDO TC/WG**.

RPT Scope 2016



- EURAMET intends that EMPIR will develop a balanced and integrated metrology system in the participating states. 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.**

RPT Scope 2016



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

- 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,
- how the research capability will be sustained and further developed after the project ends.

RPT Scope 2016



- The development of the research potential should be to a level that would enable participation in other TPs.
- Proposers should note that the programme funds the activity of researchers to develop the capability, not the required infrastructure and capital equipment, which must be provided from other sources.

RPT Scope 2016



- While PRTs (submitted at Stage 1) can focus on national needs, the Joint Research Proposals (submitted at Stage 2) must combine the strategic priorities of several states and develop an integrated and coordinated response ("smart specialisation") at the European or regional level.

PRT Objectives - ENG



- The overall objective is to enable the traceable measurement and characterisation of power quality and stability in Smart Grids.

The specific objectives are:

1. To perform measurements of power quality (PQ) at geographically dispersed locations in a Smart Grid to analyse the propagation of power quality disturbances throughout the network to determine the most significant sources of disturbing influences on the network; and to develop and demonstrate on-site measurement system methods for the measurement of network impedance in HV/MV/LV networks and associated resonance points.

PRT Objectives - NRM



- The overall objective is to develop traceable measurement and characterisation methods for use in the Standards being developed by ISO TC 197 “Hydrogen Technologies” and related groups.

The specific objectives are:

1. To provide a substantial contribution to the revision of Standards in the ISO 14687 series (Hydrogen fuel – Product specification) in fuel cell applications for road vehicles. The contribution to be focused on measurement methods for the characteristics of hydrogen fuel in order to assure uniformity of the hydrogen product as produced and distributed.

PRT Objectives - RPT



- The overall objective is to develop regional metrological capacity in thermal metrology, including a review of existing capabilities and needs, validation of existing systems and, if required, development of new systems.

The specific objectives are:

1. To develop traceable measurement capabilities in contact high temperature measurements in the range between 960 °C and 1084 ° C for NMIs and DIs seeking to establish a research capability in this field.
2. To develop traceable measurement capabilities in non-contact thermometry in the range from 300 ° C to the 2000 ° C for NMIs and DIs seeking to establish a research capability in this field.

PRT Objectives



3. To develop traceable measurement capabilities in the field of thermophysical properties for NMIs and DIs seeking to establish a research capability in this field. Target parameters and an explanation of their selection should be included.

PRT Objectives



4. For each emerging NMI, to develop an **individual strategy** for the long-term development of their research capability in thermal measurements including priorities for collaborations with the research community in their country, the establishment of appropriate quality schemes and accreditation (e.g. participation in key comparisons, the entry of CMCs into the BIPM database, accreditation to ISO/IEC 17025). They should also develop a strategy for **offering calibration services from the established facilities to their own country and neighbouring countries**. Individual strategies should be discussed within the consortium and with other EURAMET NMIs/DIs, to ensure that a **coordinated and optimised approach to the development of traceability** in this field is developed for Europe as a whole.

Justification of need for the proposed objectives



- Briefly describe the need for the proposed research, explaining the problem rather than the solution, and the reasons for this need.
- Consider the needs of end-users, stakeholders including policy makers, existing markets, and potential markets.
- Proposers should support the need with quoted and referenced authoritative external sources; e.g. European Directives, documentary standards bodies, published European or government policy, industrial bodies, key international organisations, market analysis or relevant documents or studies.

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.

EMPIR Instrument Market Selection 2016

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

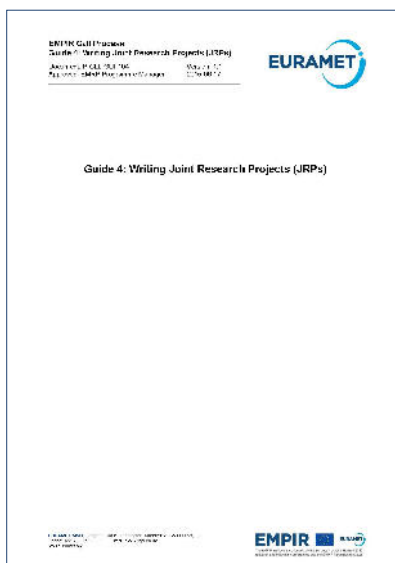
EMPIR Instrument Market Selection 2016

Questions?



EMPIR Instrumental Market Survey 2016

Guide 4



Who are you writing the proposal for?



- The summary should be aimed at a general reader – It is published on the web and forms the basis of promotional material.
- Section B should be aimed at the referees – each subsection is designed to match an evaluation criteria that they score against.
- Section C should be aimed at the 1 or 2 referees that are specialist in your area, EURAMET and your consortium. It is the detailed workplan that describes how you will deliver what you promise.

A change of focus



Purely scientific focus:

- Thought leadership with an emphasis on being
- Says: “We are leading experts in our field”
- Benefits are mostly internal

Application focus:

- Focus on the external impact, an emphasis on doing
- Says: “Our expertise enables you to be good at what you do”
- Benefits realised are both internal and external

When the best is not enough



You can develop the best standard in the world...

...but if it just sits in the lab...

...gathering dust...

...then you may as well not bother.

Projects are about change...



The first question is what needs to change...

For our customers (the users of metrology):

- Where are **they** now?
- Where do **they** need to be? Where do **we** want **them** be?
- How are **we** going to get **them** there?

For us:

- Where are **we** now?
- Where do **we** want to be?
- How are **we** going to get there?

Example referee comments (NRM)



At stage 2-

- some deliverables are not quantitative, and the target uncertainty is missing for.....
- There is no CEN commitment to specific TCs yet
- Not enough coherence, Lack of focus – addressing too many applications. The proposal should have identified a very clear area within.....
- Have not fully engaged with instrument manufacturers....
- The proposal does not address the needs of end users adequately
- Risk assessment was very generic. There was no backup plan if CEN was not interested.

EMPIR Instrument Market Scheme 2016

Example referee comments (NRM)



- the specific parameters the proposers will concentrate on are not specifically described in the proposal
- Not convinced that the project outputs are in a suitable format for uptake by the standardisation community, nor is there a clear route to ensure uptake.
- Consortium will send results and Good Practice Guides to the convenor but the uptake of the outputs eg whether a NWIP would be submitted is not clear. Some standardisation impact and activities are not sufficiently well described. The project outputs may therefore not be successfully transferred to standardisation.

EMPIR Instrument Market Scheme 2016

How to do better?



- Use the facilitators!
- <http://msu.euramet.org/calls.html> -
- For potential proposers of JRPs or SIPs focused on documentary standards, EURAMET is offering support. This will enable you to find contacts in relevant organisations and understand the process of developing standards. For Standardisation support mail msu@npl.co.uk with a Subject of Call-2016: support for standardisation

EMPIR Instrument - Market Scheme 2016

SIP Scope 2016



...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.

EMPIR Instrument - Market Scheme 2016

SIP Scope 2016



- 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.

RMG



- A Researcher Mobility Grant provides financial support for a researcher to undertake research activities relevant to a JRP.
- The research must be undertaken at a Guestworking Organisation (a funded JRP-Partner, or REG Home Organisation) located in a different country to the researcher's employer.
- The Researcher must be employed by a EURAMET NMI or DI.
- RMG allowances include research & development allowance, living allowance, travel allowance and family allowance.

Call 2016 Budget and Timetable



- http://msu.euramet.org/current_calls/documents/Call2016_Budget&features.pdf

Questions?

