

**European Partnership on Metrology
Work Programme – Call Scope
Coordination of Impact and Communication
supporting metrology (2024)**



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2023-11-22

The European Partnership on Metrology aims at a self-sustaining and effective system for metrology at a European level, that ensures Europe has a world-class metrology system that:

- Provides metrology solutions and fundamental metrological reference data and methods.
- Offers fit-for-purpose measurement solutions, supporting and stimulating European innovation.
- Responds to industrial and societal challenges.
- Supports and enables effective design and implementation of regulations and standards, that underpin public policies addressing these challenges.

The European Partnership on Metrology foresees a sequence of calls over seven years to deliver these aims.

EURAMET intends that the European Partnership on Metrology will develop a balanced and integrated metrology system in the participating countries. In addition to the main calls in 2024 EURAMET intends to strongly support its members and associates with this coordination project that will coordinate the impact and communication activities to increase the visibility of metrology and strengthen engagement with EU Partnerships, EU initiatives and other stakeholders. Coordination proposals submitted in response to this call should be designed to deliver relevant activities for the metrology community, such as:

- To convert results of the completed and running projects into material to be used for potential wider communication by various bodies within EURAMET and the projects beneficiaries and their stakeholders.
- Strengthen the communication of European Metrology Networks (EMNs) to liaise with other (EU) Partnerships and initiatives.
- To support the increased uptake and impact of metrology research results by creating suitable communication products (e.g. news stories, newsletter content, case studies etc.) based on JRP and EMN input for publication on EURAMET's website and the EMN websites.
- To support the organisation of EURAMET events to position the metrology community in the frame of wider Horizon Europe research activity.
- To increase awareness raising to other target groups to foster innovation potential and to help developing synergies with other projects of the Partnership.

This Call is seeking proposals to support EURAMET in coordination and management of the impact and communication activities.

Coordination proposals submitted for this call should identify:

- Potential topics for the above-mentioned activities and how to implement them in an efficient and effective manner in line with the EURAMET Communication & impact strategy.
- The importance of the communication and impact needs for the metrology community and usage of EURAMETs communication channels.
- The impact this coordination activities will have on the participating countries within the Partnership and beyond.

The successful project coordinator will support EURAMET's Bodies and utilise existing mechanisms for identification and planning of actions.

CICs are coordination and support actions. Research and development activities are not eligible to be funded in CICs, instead CICs have a clear focus on communication activities through impact supporting tasks.



For the practical implementation of the project's deliverables, work packages etc. personnel experienced in science or corporate communication is required.

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Aligned with the priorities of Horizon Europe, EURAMET has identified the digital transformation as one of the highest-priority technological challenges. In fact, it affects almost all technological areas with manifold implications for metrology. Measurement standards and metrological services must be kept updated and new metrological solutions must be developed for complex, digital measurement scenarios. Data generation, processing, transmission and storage becomes more and more digital, complex sensor networks require systemic approaches, and algorithms based on methods of artificial intelligence and machine learning require completely new methods for quality assurance of measurement results.

The Targeted Programme on **Metrology for Digital Transformation** complements other planned calls targeting metrology challenges in the areas of Green Deal, Health, Industrial Innovation, Fundamental Metrology, Integrated European Metrology, and Standardisation/Regulation. It addresses specific digital topics that have a generic or cross-disciplinary character.

Proposed topics may address metrological methods and solutions both for digitised measurement scenarios and for data as such, including:

- Generic approaches to metrology-based quality-secured data generation, processing and storage that underpin different measurement applications, and for which common, harmonised methods are needed. Data clouds and smart metering in regulated areas are examples.
- Metrology for large sensor networks and “big-data”, including modelling of systems.
- Generic in-situ methods for the Internet of Things (IoT) use cases, including in-situ traceability in fully-digital sensor scenarios.
- Assessing and understanding robustness, functionality, reliability and quality of measurement scenarios that include artificial intelligence, machine learning or deep learning.
- Development of fundamental requirements for reference data for the validation of digital measurement scenarios and algorithms, which may include artificial intelligence. Expected outputs include guidelines and standards for metadata and protocols supporting the reliable, trusted and unambiguous communication of data in digital infrastructures.
- Methods for the (automated) assessment of data quality and data quality assessment tools, which is key for their interpretability and usability.

The proposed generic methods and solutions shall be developed starting from concrete applications with documented stakeholder interest, and if possible, from different areas of application. Simultaneously, proposals shall describe the generalisability of the approaches.

The international harmonisation of standards is a key priority of metrology. Proposals shall describe links and relations to key organisations on European and international level that develop digital standards or have introduced de-facto standards. Other European Partnerships, e. g. EOSC, are

among those key stakeholders. Industrial stakeholders, which have an interest to use digital data from testing and calibration in their processes, are another group of key stakeholders.

**European Partnership on Metrology
Work Programme – Call Scope
Metrology support for Regulation and Standards
(2024)**



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The European Partnership on Metrology aims at a self-sustaining and effective system for metrology at a European level, that ensures Europe has a world-class metrology system that:

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EURAMET intends that the European Partnership on Metrology will support and enable effective design and implementation of regulation and standards that underpin public policies to address societal challenges and to foster the integration of innovative products and technologies in the market.

This sets the context for the call “Metrology support for Regulation and Standards” in 2024. The European Partnership on Metrology aims at comprehensive, sustainable contributions in this area by mobilising, pooling and developing the European metrology capabilities.

Potential Research Topics (PRTs) submitted in response to this call should describe research and development needs for metrology solutions required for standardisation, regulation and conformity assessment. 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 measurement methods to ensure traceability, 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, by a letter signed by the convenor of the respective SDO Technical Committee / Working Group or by their co-authorship.
2. The metrological background of EU regulation, by either responding to documented requirements or by exploring the background and feasibility of expected possible future regulation. Proposals may address the development of traceable measurement methods or the provision of validated data sets, which are required for these purposes.

In line with the European Standardisation strategy, proposals are encouraged to respond to challenges related to setting global standards in support of a resilient, green and digital EU single market.

This is relevant for both strands, and therefore proposals are encouraged that respond to challenges associated with the digital transformation.

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 taken up by the SDO or regulatory authority. EURAMET would welcome



proposals reflecting standardisation needs related to pan European research initiatives (such as Flagships) or to support other Partnerships under Horizon Europe.

EURAMET wishes to generate benefit for European and international stakeholders whilst exploiting the unique capabilities of its member National Metrology Institutes (NMI) and Designated Institutes (DI). This call is intended to enable and promote collaborative research going beyond the state of the art and strengthen the mutual co-operation of European NMIs and DIs, leading to coordinated European metrology infrastructures where appropriate.

**European Partnership on Metrology
Work Programme – Call Scope
Metrology support for Research Potential (2024)**



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EURAMET intends that the European Partnership on Metrology will develop a balanced and integrated metrology system in the participating countries. In addition to the main calls in 2024 related to Green Deal (GRD), Digital Transformation (DIT), and Normative (NRM), EURAMET intends to support those countries that have emerging metrology research needs with “Research Potential” projects that will enable their development of scientific and technical research capabilities across all areas covered by the main Partnership calls. Potential Research Topics (PRTs) submitted in response to this call should be designed to:

- Tackle relevant research and development in metrology, such as: develop new techniques and measurement capabilities, not just from the side of methodology and equipment but also from the side of knowledge transfer and training.
- Develop measurement or digital transformation solutions that are too limited or specialised for a main call.
- Develop specific research capabilities and/or undertake pre-research or technical viability projects that would be necessary to underpin research on a potential future main call topic. Technical viability projects must include research.
- Build on project outcomes under the Targeted Programmes when more research is needed to tailor the solution for wider implementation in Europe.

Potential Research Topics (PRTs) submitted for this call should identify:

- the research capabilities that should be developed (as clear technical objectives),
- the area for which the capabilities are built (Green Deal, Digital Transformation, Health, Integrated European Metrology, Industry, Normative, or Fundamental Metrology),
- the particular metrology needs of stakeholders and the difference that the metrology research will make,
- national needs and any strategic priorities of a region with respect to the specified area proposed,
- the impact this research will have on those countries’ NMI/DI that have emerging metrology research needs,
- how the developed research capability of the participating NMIs/DIs will be sustained and further developed after the project ends.

The development of the Research Potential should be to a level that would enable participation in the main calls during the timeframe of the Partnership. 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. While PRTs can focus on national needs, the Joint Research Proposals must combine the strategic priorities of several countries and develop an integrated and coordinated response (“smart specialisation”) at a regional or European level.

**European Partnership on Metrology
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Metrology support for the Green Deal (2024)**



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The “European Green Deal”, launched in December 2019, sets out the comprehensive, highest-priority objectives of the European Union to tackle climate and environment-related challenges.

The Green Deal and recent policy priorities of the EU and its member states require urgent progress towards a higher level of energy independency in Europe through the development of renewable, affordable, clean, safe and secure energy supplies and infrastructure, together with effective energy management and energy efficiency improvements. Likewise, increasing the EU’s Climate ambition for 2030 and 2050 is a key priority, which should be supported by reliable climate observations. Other priority areas include mobilising industry for a clean and circular economy, a zero-pollution ambition for a toxic-free environment, accelerating a shift to sustainable and smart mobility, ensuring a fair, healthy and environmentally friendly food system, and preserving and restoring ecosystems and biodiversity.

This policy framework sets the context for the call “Metrology support for the Green Deal” in 2024. Potential Research Topics (PRTs) submitted in response to these ambitions shall describe the research and development needs for metrology solutions. They should include metrological approaches responding to stakeholder needs from academia and industry, and metrological approaches to underpin regulation and standardisation.

Stakeholders increasingly ask for efficiencies and environmental impacts of whole cycles and systems. PRTs should respond to this with research needs to support the challenges addressed in the Green Deal, and how the stakeholders would benefit if those needs were met. Research to address these needs will require systemic, cross-disciplinary approaches such as combining metrological support for the development of clean energy technologies including generation, conversion, transport, storage and use in combination with metrology for their environmental impact assessment. With respect to environmental monitoring and climate/ocean challenges, cycles of matter, cross-compartment interactions and holistic methods for the assessment of impacts on the environment must be considered.

EURAMET is developing a sustainable integrated and coordinated metrological infrastructure through the European Metrology Networks, EMNs, some of which are playing a key role in the global approach to Green Deal related metrological issues. If appropriate, PRTs should include a description how their objectives fit under the scope of one or more EMNs.

The Green Deal requires regulation. If appropriate, PRTs should describe how they support the development and/or the implementation of regulation.

The Green Deal requires cooperation not only in Europe, but worldwide. EURAMET wishes to strengthen liaisons with partners such as other Partnerships and other key European stakeholders. The NMIs and DIs in Europe are very active under the Metre Convention, which provides a

framework for metrology institutes of more than 100 countries representing 98 % of the world's GDP. Metrology is an interdisciplinary methodology and has a fundamental role in the European quality infrastructure. Traditionally and very successfully, it brings together various stakeholders and know-how providers such as research institutes, instrument manufacturers, metrology service providers, standardisation organisations, monitoring networks, regulators and policy makers. PRTs should describe how European and international partners could be involved in meeting the needs described.