

Background

The central nerve in the spine of our high-tech world is metrology, the science of measurement. Ever more precise and reliable measurements are essential in our daily lives, and to drive innovation within our knowledge based economy. What we cannot measure, we do not understand properly, and cannot control nor manufacture or process reliably. Thus, advances in metrology have a profound impact on our understanding of and ability to shape the world around us.

As the new millennium got under way, the metrology community across Europe was faced with the dilemma of demand outstripping national capability to deliver with the funds available. The need for wider scope and greater precision from industry, from emerging areas such as biotech and nanotechnology, and from non-traditional metrology areas such as food safety, clinical medicine, and environment, required a paradigm shift in the way we operated. Thus, the concept of pooling resources across Europe and developing a joint European Metrology Research Programme (EMRP) was born.

The EMRP is implemented by the organisation EURAMET e.V. (the European Association of National Metrology Institutes), which is a Regional Metrology Institute Organisation (RMO) of Europe. EURAMET coordinates the cooperation of National Metrology Institutes of Europe in areas such as research in metrology, traceability of measurements to the *SI* units, international recognition of national measurement standards and of the Calibration and Measurement Capabilities (CMC) of its members. EURAMET also supports knowledge transfer to new and developing National Metrology Institutes in Europe.

The EMRP is a long-term plan for high quality joint R&D amongst the metrology community in Europe. The EMRP will ensure collaboration between National Metrology Institutes (NMIs) and Designated Institutes (DIs), reducing duplication and increasing impact. The overall goal of the EMRP is to accelerate innovation and competitiveness in Europe whilst continuing to provide essential support to underpin the quality of our lives.

The first phase of the EMRP (iMERA-Plus) was successfully launched in 2007 and was the first of a new type of medium-sized action launched under FP7 (ERA-NET Plus), which aimed at aligning and enhancing national programmes. Resources from the publicly funded metrology laboratories from 19 European countries, plus the European Commission's measurement institute (IRMM) were committed within a single joint call for metrology research projects. In total, EUR 64.6 M of resources were brought together, with the European Union providing EUR 21 M of funding, the balance provided from national resources. The two-step call ran between May and December 2007, and pivoted on independent peer review and selection of the very best metrology research proposals. A total of 21 collaborative projects¹ were launched in four targeted programmes, each project chosen for the quality of science and potential to make a significant contribution in its field.

Built on the success of iMERA-Plus, EURAMET launched the second phase of the EMRP in 2009. This second phase of the EMRP is one of the new European supported so-called 'Article 169 initiatives'², jointly funded by the European Union and currently 22 participating countries (Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom, as well as Norway, Switzerland and Turkey). The second phase of the EMRP has a total value of EUR 400 M over an approximately seven-year period. It provides the opportunity for the user community and other stakeholders to directly suggest topics that the metrology community should address with its resources. Additionally, researcher grant schemes are available to bring wider European expertise into the research projects, and there is the opportunity for appropriate organisations to participate in the research projects with their own resources where it is mutually beneficial to do so.

¹ For brief details, see <http://www.euramet.org/index.php?id=jrps>

² As a result of the Lisbon Treaty has come into force on 1.12.2009, Article 169 has become Article 185, but is still generally referred to as 'Article 169 initiative'.

Call Overview

The core activity of the EMRP consists of funding multi-partner trans-national Joint Research Projects (JRPs) addressing research, technological development, training and dissemination activities. Additionally, the EMRP also funds several Researcher Grant schemes which complement the JRPs in order to increase and diversify capacities in metrology.

The JRPs and the EMRP Researcher Grants are independently evaluated and awarded following calls for proposals.

The EMRP consists of five (5) Call cycles (2009-2013) – one Call per year. Each Call encompasses a two-stage process and includes several Researcher Grant schemes:

A. The core activity is **multi-partner trans-national projects**.

- **Stage 1** – Call for potential metrology research topics (PRTs):
 - Identifying the challenge, problem or opportunity for potential research topics;
 - Offering the chance for all stakeholders from any country worldwide to influence the R&D undertaken by the European metrology community.
- **Stage 2** – Call for proposals for Joint Research Projects (JRPs):
 - The basis will be provided by the highest priority ideas for research from Stage 1, accompanied by a EURAMET owned supporting document;
 - A competitive European-wide independently refereed evaluation will result in a list of collaborative JRPs, executed primarily by the NMIs and DIs of the participating countries;
 - Possibility to include proposals for Researcher Excellence Grants within the JRP proposals (*see details below*);
 - Opportunity for organisations to participate with their own resources;
 - Opportunity for organisations with an interest in the research area to collaborate with their own resources.

B. The JRPs are accompanied by the following **EMRP Researcher Grant schemes**, which are available:

At **Stage 2**:

- **Researcher Excellence Grants (REG)** - provided to increase the number of organisations with capacities closely related to metrology. They will be made available to eligible organisations and/or individuals capable of making a substantial contribution to the research activities of the JRP, and must form an integral part of the JRP.

At **Stage 3**:

- **Researcher Excellence Grants (REG)** - provided to increase the number of organisations with capacities closely related to metrology. They allow individuals capable of scientific excellence to add additional value to the research objectives of the JRP.
- **Researcher Mobility Grants (RMG)** - provided to develop the capability of the European metrology researcher community through mobility. They will be made available to eligible Researchers.

C. In addition, an **Open Call for Early-Stage Researcher Mobility Grants (ESRMG)**:

- provided to ensure sustainability in the cooperation between NMIs and DIs of the participating States in the EMRP and to prepare the next generation of metrology researchers. They will be made available to eligible Researchers.

EMRP Call 2009

The EMRP Call 2009 – of which Stage 1 was open from 15 May 2009 to 28 June 2009 and Stage 2 from 2 September 2009 to 2 November 2009 – aimed at launching European Joint Research Projects (JRPs) addressing metrology research to advance measurement science and technology in the field of Energy. The Call supports the establishment of a sustainable European energy system through metrological research. The Targeted Programme “Energy” particularly focuses on metrological research, which supports steps towards such a sustainable and secured energy system while increasing the competitiveness of Europe's industries.

The Call is jointly funded by the European Union and the participating National Metrology Institutes (NMIs) and Designated Institutes (DIs) and has an indicative total budget for the JRPs of EUR 29.24 M plus a further EUR 3.4 M available for the associated EMRP Researcher Grant schemes.

The list of the selected JRPs can be found on <http://www.euramet.org/index.php?id=993>.

Additional information related to the JRPs and Researcher Grants are available on the dedicated website www.emrponline.eu.

EMRP Call 2010

The EMRP Call 2010 – of which Stage 1 for proposals for potential metrology research topics (PRTs) is open from 12 February 2010 to 28 March 2010 and Stage 2 from 21 June 2010 to 11 October 2010 for proposals for related Joint Research Projects (JRPs) and associated EMRP Researcher Grants – addresses the following research areas:

- Metrology for Environment
with the overall aim to improve the quality of data for policy making and regulation, underpin other environmental research initiatives through collaborative metrological research and development, and stimulate technological innovation.
- Metrology for Industry
with the overall aim to develop metrological methods and techniques to improve the metrological infrastructure for industry.

The Call is jointly funded by the European Union and the participating National Metrology Institutes (NMIs) and Designated Institutes (DIs) and has an indicative total budget for the JRPs of EUR 82.56 M plus a further EUR 9.6 M available for the associated EMRP Researcher Grant schemes.

Further details on the EMRP and Call details, in particular details and further information on deadlines, Call scope, eligibility, funding, application forms etc., can be found on the dedicated website www.emrponline.eu.

Further information on EURAMET activities is available on www.euramet.org.