

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 (RMO) of Europe. EURAMET coordinates the cooperation of National Metrology Institutes of Europe in the fields like 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.

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 around 19 European countries, plus the European Commission's measurement institute (IRMM) have been committed within a single joint call for metrology research projects. In total, 64.6 M € of resources have been brought together, with the European Commission providing 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 projects have been launched in four targeted programmes, each project chosen for the quality of science and potential to make a significant contribution in its field.

The success of the early part of iMERA-Plus has enabled the significant progress towards the second phase of the EMRP. This second phase of the EMRP, which is still in its final stages of approval, is one of the new European supported **Article 169 initiatives**, jointly funded by the European Commission and the 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 will have a total value of 400 M € over an approximately seven year period. It will provide 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 will be available to bring external expertise into

the research projects, and there will be the opportunities for organisations to participate in the research projects with their own resources where it is mutually beneficial to do so.

Call Overview

The Call encompasses a two-stage process and includes three grant schemes:

- A. The core activity is **multi-partner trans-national projects**.
- **Stage 1** – Call for potential metrology research topics
 - Identifying the challenge, problem or opportunity for potential research topics;
 - Offering the chance for all stakeholders from any country 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 research topics from Stage 1;
 - Will have as result collaborative R&D projects (Joint Research Projects – JRPs) executed primarily by the NMI and DIs of the participating countries;
 - Conducted via a competitive European-wide independently refereed evaluation and post processing resulting in a final list of collaborative JRPs;
 - Possibility to include proposals for Researcher Excellence Grants already at this stage;
 - Opportunity for organisations to participate with their own resources.
- B. The JRPs will be accompanied by the following **researcher grant schemes**, which will be available:

At **Stage 2 & Stage 3**:

- Researcher Excellence Grants - *provided to increase participation in metrological research from the wider European researcher community* and to open metrology research to the best science. They will be made available to eligible organisations and/or individuals which are capable of making a substantial contribution to the research activities of the JRP.

At **Stage 3**:

- Researcher Mobility Grants - *provided to develop the capability of the European metrology researcher community* through mobility and to open metrology research to the best science.

As an **open call**:

- Early-Stage Researcher Mobility Grants - *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 experienced metrology researchers.

EMRP Call 2009

Our EMRP Call 2009, the first stage, eliciting requests for “Potential Research Topics” (PRTs), ran from 15 May 2009 to 28 June 2009, addressing metrology research to advance measurement science and technology in the field of Energy. The second stage is open from 2 September 2009 to 2 November 2009 and is a dedicated call for Joint Research Projects (JRPs) addressing 16 specific research topics (identified in Stage 1). Each so-called “Selected Research Topic” (SRT) is accompanied by a brief supporting document which describes the challenges and objectives for

the research topic. Proposals for a JRP are subject to independent evaluation by referees. The expectation is that between 9 and 11 JRPs will be supported.

Budget: EMRP Call 2009

The EMRP Call 2009 will support Joint Research Projects and Researcher Grants.

Joint Research Projects (JRPs)

JRPs selected at Stage 2 shall not exceed total eligible costs of approximately 29.24 M € comprising approximately 13.94 M € European Commission funding available via EURAMET, with the remaining funding provided by the participating National Metrology Institutes (NMIs) and Designated Institutes (DIs).

Researcher Grants

Additionally a further 3.4 M € will be available (jointly funded by the European Commission and the participating NMIs) for the researcher grant schemes, with the following indicate breakdown:

Researcher Excellence Grants:	2.55 M€
Researcher Mobility Grants:	0.51 M€
Early-Stage Researcher Mobility Grants:	0.34 M€

Further information on EURAMET activities is available on www.euramet.org. Further details on the EMRP Call 2009 can be found on the dedicated website www.emrponline.eu.