

EMRP Call 2011 Call Scope – TP New Technologies

V1.0

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The overall strategic aim of the **Targeted Programme (TP) “Metrology for New Technologies”** is to underpin scientific-technical developments in the related subfields through collaborative metrological research and development, stimulate technological innovation and improve the quality of data for policy making and regulation.

The TP New Technologies addresses a range of cross-disciplinary technological fields in which fast recent developments require extra efforts to develop underpinning metrological tools and methods. In particular, TP New Technologies addresses metrological needs in:

- **nanotechnology**
- **new materials**
- **security**
- **biotechnology**
- **mathematics and ICT for metrology**

EURAMET wishes to give metrology in the field of nanotechnology a special weight within this TP and proposals in this field are especially invited.

Nanotechnology is driven by the demand for ever-increasing integration (e.g. in electronics) as well as the possibility of achieving new functionalities such as through nano-structured surfaces and materials, nano-electro-mechanical systems and nano-particles. Metrological challenges to be addressed include the geometrical, mechanical, electrical, magnetic, chemical, biological, optical or thermal characterisation using technologies that go beyond the classical limits e.g. scanning probe microscopy and optical techniques.

Proposals related to **new materials** should concern materials with novel functionalities. Metrology for characterisation and property measurements to support the development and application of these materials will be the focus.

The key issues in metrology for **security** as stated in the EMRP Outline 2008 are biometrics, detection of hazardous materials and Terahertz radiation. EURAMET expects most proposals to be related to the detection of hazardous materials using neutrons, spectroscopy and by chemical methods.

Proposals related to metrology for **biotechnology** should be relevant for bio-production and security while proposals addressing metrology for healthcare should not be submitted to this TP but to TP Health 2011.

EURAMET wishes to give room for projects addressing generic **mathematical and ICT** tools for metrological applications.

This call especially addresses large-scale approaches that are beyond the capabilities of single National Metrology Institutes (NMIs) and Designated Institutes (DIs). To enhance the impact of the R&D work, the involvement of the user community such as industry, and standardisation and regulatory bodies, as appropriate, is strongly recommended.

This Call for Potential Research Topics refers to the 2008 edition of the European Metrology Research Programme – the “EMRP Outline 2008” (cp. section I.1.1 and II.5 Grand Challenges – New Technologies, in addition section I.1.2 and II.6.2 R&D for emerging metrology areas).

