

# MEASUREMENTS AND TESTING

## A European research area orientated activity

*"There is no science without measurements, no quality  
without testing and no global market without standards"*

**High Level Expert Group**

*Brussels, October 27, 2000*

## **Vision**

The Measurements and Testing activity (M&T) contributes to the vision of a united, competitive, sustainable and safer Europe by supporting research activities that expand the ability to measure and make the mutual acceptance of measurement and testing results possible. The M&T activity underpins the very development of society: scientific progress, industrial development, globalisation of trade and policy making.

## **A unique activity**

The main strands are directed towards harmonisation in Europe and providing important input to the scientific base for policy creation and implementation. The aims of the activity are inherently European. In this respect, it has a uniquely high European added value.

The activity is:

- **horizontal**, in the sense that M&T expertise is needed in many sectors of society;
- **generic**, since the methods developed can be used in many areas of technology.

Often, measurements are taken for granted since they are such an integral part of daily life. Their importance becomes apparent when a trade dispute arises, a product or system fails, a health or environmental scare emerges.

## **Orientations for the future**

To become even more effective, future efforts within the activity should concentrate on the support to the following three priority areas:

**Trade** A common structure for measurements and testing is a prerequisite for the functioning of the single market and world trade. The M&T activity supports, among other things, the development of mutual recognition agreements in order to lift trade barriers and resolve trade disputes.

**Competitiveness** Measurements and tests are needed for industrial product and process development, control of production processes and quality assurance including conformity assessments. Additional important areas for industry are monitoring compliance with legislation, e.g. environmental, and fight against product counterfeiting and illegal imports (the latter is also of great interest to customs laboratories). Progress in measurement sciences, development of validated procedures and measurements standards are crucial for the industrial development of emerging technologies, such as nanotechnologies.

*Safety (Protection of the citizen)* Measurements and harmonisation play an important role in health care, food safety, consumer protection, improving safety at work, monitoring environmental hazards, improving product safety, etc. They are also important for legal safety by contributing to detection and prevention of a range of criminal and other illegal activities such as doping in sport, food adulterations, sale of fake and inferior products, etc. As for customs laboratories mentioned above, support is needed both in terms of research and infrastructure improvements for forensic investigations.

### **Experience to build upon**

The Measurements and Testing activity has considerable experience in funding research in support of policies. This type of research needs to have a strong top-down element: targeted or dedicated calls have to be used to ensure that the most important research needs in pursuit of the Community objectives are addressed<sup>1</sup>.

The activity has developed a modality suitable for identifying research needs and optimising the matching between these needs and the available resources: "Expressions of interest/dedicated call". It has created links with other DGs<sup>2</sup> in charge of Community policies, as well as with many relevant national (e.g. US NIST), European and international organisations.

The scientific officers of M&T are able to initiate and to participate in the dialogue between standardisers, regulators, etc., and the research community. Such a dialogue is crucial for the social and economic potential of research activities to be fully explored and exploited.

### **External assessments: "an inherent European added value"**

Previous monitoring and assessment panels have commented upon the high European added value of the programme. For example, the DAVIGNON report stresses the importance of metrology underlining at the same time the added value of research in support of European standards.

Various assessment panels have recommended to the Commission to raise the budget of this activity due to the increasing demand for standards and harmonised measurements in

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<sup>1</sup> An additional benefit is the increased success rate for proposers and thus an overall reduction in the initial costs for participating in the programme.

<sup>2</sup> Enterprise, Information Society, Trade, Health and Consumer Protection, Environment, Taxation and Customs Union, Education and Culture, and the European Anti-fraud Office - OLAF.

Europe. *“..It is of utmost importance that sufficient resources are allocated to develop a strategy for a unified structure for European Metrology and to ensure consequent globalisation..”*

#### **A "European research area" orientated activity**

The activity is "European research area" orientated in essence.

It has for example introduced a new concept in Community research: the "virtual institutes". In many cases, it has contributed to European consensus building and harmonisation while ensuring the impact of obtained results on the development and correct implementation of Community policies and regulations. An effort is being made to prepare the laboratories in the candidate member states for their tasks in adopting and implementing European directives. Also, innovative new developments are underway to contribute to a unified chemical metrology infrastructure in Europe covering e.g. industrial, environmental, food and health sectors.

The definition of research tasks to be undertaken in the area of measurements and testing requires a pro-active way of working. It has to include consultations with a wide range of stakeholders: other DGs, standardisation bodies, in particular CEN, regulatory authorities, industrial and trade organisations, other international bodies such as EUROPOL, the International Olympic Committee, etc.

The research networks created by the activity will be capable of giving scientific advice, whenever asked. A strong European M&T infrastructure will be a basis for early warning systems. Finally, feedback of results is crucial in policy related work. The results of funded research have to be fed back to the relevant DGs, standardisation and regulatory bodies and all the other stakeholders.

In the future, implementing the tasks described above should be as an integral part of the services responsible for initiating and funding research in support of European policymaking. In this context, *it is advisable to reinstate within the next framework programme (Standards,) Measurements and Testing activity as a horizontal and co-ordinating action with a larger budget*, a conclusion common to the recent five-year assessment of the Growth programme.