



HELLENIC INSTITUTE OF METROLOGY

REVIEW OF ACTIVITIES

April 2013

1 – The Identity of EIM

The *Hellenic Metrology Institute (EIM)* was founded in 1994 by the Law 2231/94 and since January 2013 is an independent unit of the *National System of Quality Infrastructures (ESYP)* together with the *National Accreditation System (ESYD)* and the *Hellenic Standardization Organization (ELOT)*, according to the law 4109/2013. *ESYP* is supervised by the Ministry of Development and its headquarters are in Athens.

EIM is located in Thessaloniki and is responsible for the scientific/industrial metrology in Greece and operates the national metrology laboratories for maintaining the national standards in the fields of:

- Mechanical Measurements (*Mass-MAS, Force-FOR, Pressure-PRE, Volume-VOL, Density-DEN, Flow & Viscosity-FLO*)
- Physical Measurements (*Dimensional-DIM, Thermometry & Humidity-TEM, Acoustics & Vibrations-ACO*)
- Electrical Measurements (*Low Frequencies-ELF, High Frequencies-EHF, Time-Frequency-TFR*)

In addition to these laboratories, EIM has established national laboratories in the fields of chemistry and ionizing radiations, which operate within the *General Chemistry State Laboratories* and the *Hellenic Atomic Energy Commission of Greece*, respectively in Athens.

EIM has been an active member of EURAMET since 2000 and MRA since 2001.

2 – The activities and the services of EIM

The main activities of EIM in the framework of its role and mission within Greece, include:

- Calibration services within the country to support the national metrology system, providing measurement traceability to the national standards.
- Organizing inter-comparison schemes to support accreditation of calibration laboratories.
- Implementing training courses in metrology and related issues aiming at promoting metrology and supporting the metrology system.
- Consulting in metrology and related issues, aiming at the support of the metrology system.
- Expert studies, proposals and advices to the state on issues related to metrology and affecting quality, industry and economy.
- Conducting audits and peer reviews in laboratories.

In addition, the main activities of EIM in the framework of international cooperation on a bilateral and a multilateral basis include:

- Exchange of know-how and experience with National Metrology Institutes (NMI's) of other countries through study tours, visits and communications.
- Calibration services to NMI's and other laboratories for the establishment of measurement traceability to SI units.
- Organizing inter-comparison schemes to establish technical competence.
- Implementing training courses in metrology and related issues of technical and organizational nature and character.
- Consulting and expert advices in metrology and related issues.
- Conducting peer reviews and audits.

The services of EIM include:

- Calibration services.
- Testing in the framework of type approval of measuring devices.
- Organizing inter-comparison schemes for calibration laboratories.
- Training in several technical and organizational & horizontal metrology fields.
- Consulting in technical and organizational & horizontal fields.

3 – Quality Management System and Evaluation of Services

The implementation of a quality management system is a fundamental obligation imposed on one side by the legal framework of the operation of EIM and on the other side by the requirements of international agreements. In this respect, EIM implements a quality management system (QMS) that meets the requirements of:

- The ISO 17025 standard for calibration & measurement activities.
- The ISO 9001 standard for the rest of the activities.
- EURAMET and MRA regarding measurement & calibration capabilities.
- The national & EU legislation.

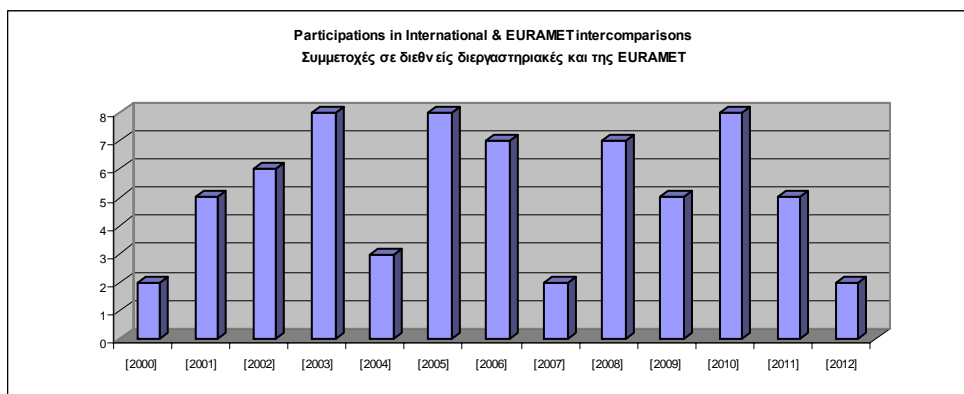
The Quality Management System covers the operation and the activities of all laboratories involved in calibration services, as well as all CMC's (Calibration Measurement Capabilities) submitted and published to EURAMET and BIPM.

All services and activities are evaluated according to specific and standard criteria set by the QMS. The results of this evaluation are processed and analyzed in a quantitative way to provide objective and reliable evidence of the performance of EIM.

4 – Performance of the activities

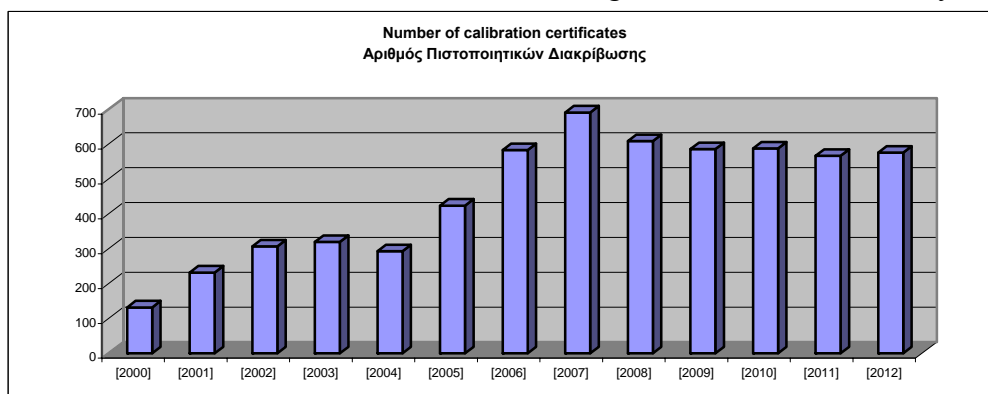
Technical competence & maintenance of measurement standards

The participation of calibration laboratories in international inter-comparison schemes is the most reliable way to monitor their technical competence. The laboratories of EIM since 2000 have participated in 61 international & EURAMET inter-comparison schemes in the framework of the international recognition of their technical capabilities (MRA).



Calibrations of measuring standards and equipment

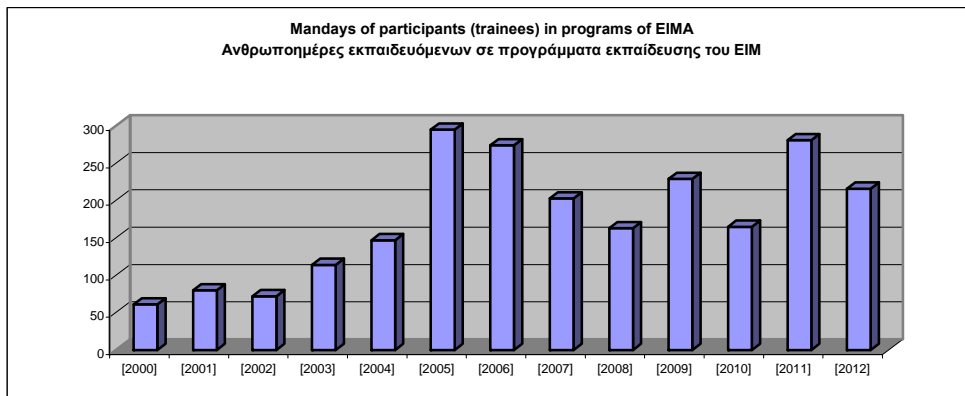
The laboratories of EIM issue, on the average, about 600 calibration certificates per year in the last 6 years. This number provides a measure of the support provided by EIM to laboratories in Greece and abroad in establishing measurement traceability.



Programs on training and know how transfer

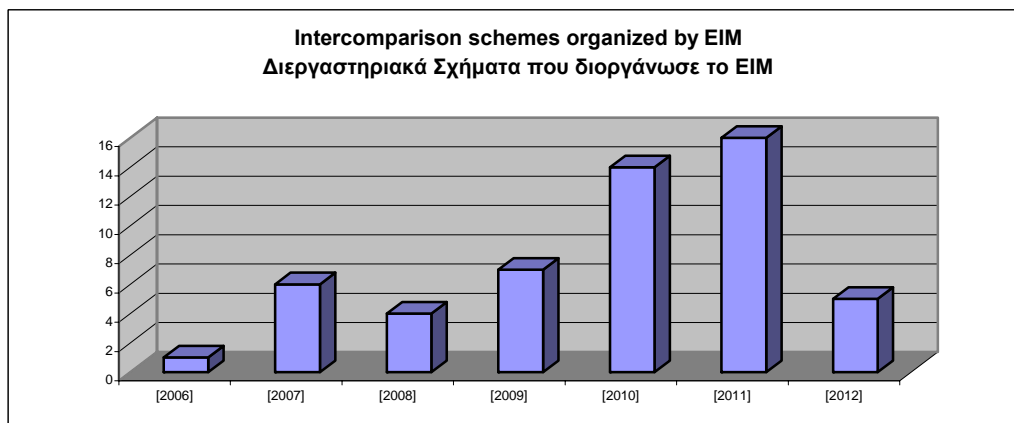
Since 2000, EIM has implemented more than 150 distinct programs in Greece and abroad with:

- More than 400 participants (1346 man-days) from Greece
- More than 200 participants (914 man-days) from other countries.



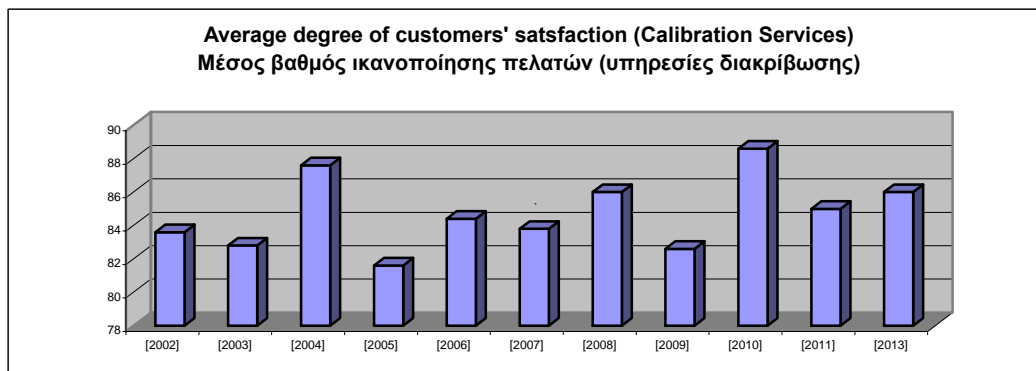
Organizing inter-comparison schemes

Since 2000, EIM has organized 54 bilateral and multilateral inter-comparison schemes with the participation of calibration laboratories from Greece and abroad in the areas of mass, volume, flow, pressure, temperature-humidity, electrical and time-frequency measurements.



Satisfaction of beneficiaries/customers

Evaluation of feedback from customers to measure satisfaction and improve the operation and the performance is conducted for calibration services, consulting services and training.



In addition, evaluation of feedback from participants in training courses of EIM in Greece and abroad resulted in 88% average degree of satisfaction.

5 – Reference of International Projects

Beneficiary/Customer	Subject of project	Implemented in:
Electricity Authority of Cyprus, EAC Funded by EAC	-Technical support to establish and implement ISO 17025 in chemical testing -Training on ISO 17025	EAC (started 2013)
Refik Saydam National Public Health Agency (RSNPHA) EuropeAid+Turkey funding	- Training on temperature calibrations - Training on volume calibrations	Ankara (2012)
Nortest Cyprus Ltd	- Training on mass and pressure calibration - Support on ISO 17025 and testing in chemistry	Cyprus, EIM (2012)
Refik Saydam National Public Health Agency (RSNPHA) EuropeAid+Turkey funding	- Training on temperature calibrations - Training on volume calibrations	Ankara (2011)
DPM (NMI of Albania PTB (Germany) funding)	Calibration of national standards (mass, pressure, volume, force, temperature, length, electrical)	EIM (2011)
BoM (NMI of FYROM) EuropeAid and GIZ	-Calibration of national standards (mass, pressure, volume, flow, temperature, length, electrical) -Training on pressure calibrations -Auditing Mass Laboratory	EIM, BoM (2011)
GEOSTM (NMI, Georgia) EU funding (GEOPLAN)	-Training on ISO 17025 -Consulting on QMS ISO 17025 implementation	Georgia, Tbilisi (2011)
General State Chemistry Laboratories (Cyprus) Funded by Gov.of Cyprus	-Study visit to present the new guideline for weight balances EURAMET/cg-18/v.02 (2009)	Cyprus (2011)
DMDM (NMI of Serbia) EuropeAid	-Training on ISO 17025, pressure, electrical, temperature, dimensional calibrations -Consulting on mass and length calibration -Organizing 4 intercomparison schemes in Serbia	EIM (2010)
BNMI (NMI, Bangladesh) UNIDO funding	-Study tour of 2 experts for one week in EIM	EIM (2010)
NMI of Montenegro EuropeAid	-Consulting for supporting set-up of pressure DWT calibration	Montenegro (2010)
DMDM (NMI of Serbia) EuropeAid	-Training on time-frequency, electrical, temperature, volume calibrations -Training on verification of weight balances	EIM, DMDM (2009)
NMI's of Albania, FYROM, Bosnia, Bulgaria (PTB funding)	-Training course on electrical measurements in the framework of SE Europe Cooperation in Metrology	EIM (2009)
Electricity Authority of Cyprus, EAC Funded by EAC	-Consulting to establish and implement ISO 17025 in calibration of power meters -Training on ISO 17025	EAC (2008-2011)
NMI's of Albania, FYROM, Bosnia, Bulgaria (PTB funding)	-Training course on mass in the framework of SE Europe Cooperation in Metrology	EIM (2007)
DPM (NMI of Albania) EuropeAid	-Training of one expert on pressure DWT calibration for one week	EIM (2007)
Gen. State Chemistry Labs (Cyprus) self-funded	-Study visit presenting quantitative approach in laboratory management by use of indicators of QMS ISO 17025	Cyprus (2007)
BoM (NMI of FYROM) EuropeAid	-Consulting to establish a template of QMS ISO 17025	EIM, BoM (2006)
BoM (NMI of FYROM) EuropeAid	-Training on volume, electrical, temperature calibrations, laboratory management & ISO 17025	BoM (2005)
BoM (NMI of FYROM) EuropeAid	-Study tour of 3 experts of BoM in EIM for 2 weeks	EIM (2004)
NMS/MSA (NMI, Malta) EU funding	-Consulting to establish a management system for services and costing calibration	EIM (2003)
State Chemistry Laboratories (Cyprus) Self-funded	-Training on temperature, dimensional and vibration measurements for one week	EIM (2003)