Ministério do Desenvolvimento, Indústria e Comércio Exterior

BRASIL UM PAÍS DE TODOS GOVERNO FEDERAL

SIM Senior Policy Makers Dialogue Forum- Comments from Inmetro

João Alziro Herz da Jornada
President of Inmetro- Brazil

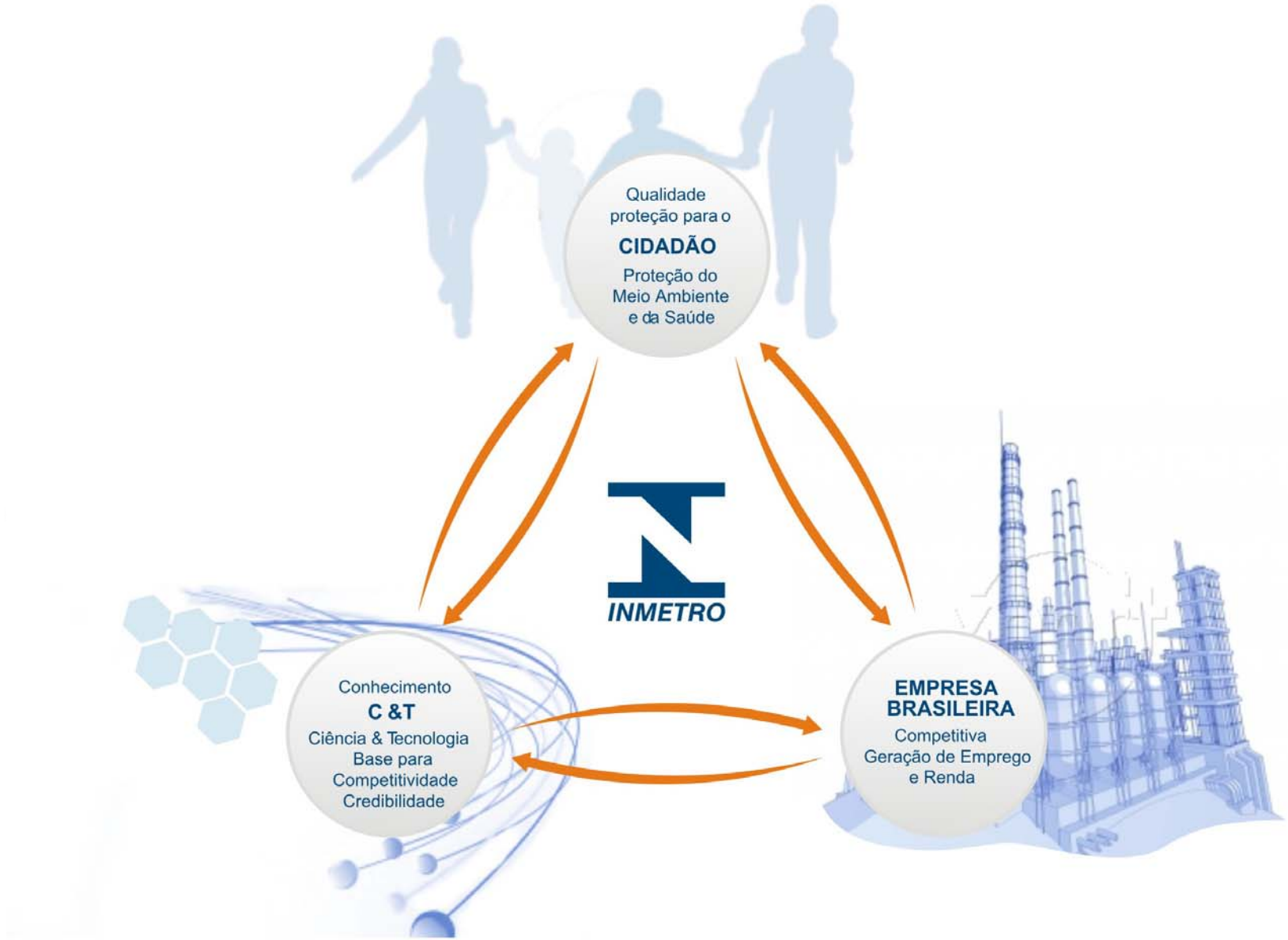
Overview about Inmetro

INMETRO

NATIONAL INSTITUTE OF METROLOGY, STANDARDIZATION AND INDUSTRIAL QUALITY- MDIC-BRAZIL

Activities:

- ***Scientific and Industrial Metrology- National Metrology Institute for Brazil***
- ***Legal Metrology***
- ***Regulatory Agency in Legal Metrology and some quality issues***
- ***Coordination of CA activities, mainly certification schemes***
- ***National Accreditation Body***
- ***International cooperation and TBT/WTO Inquiry Point***
- ***Technology transfer, education, and support to innovation***


Qualidade proteção para o
CIDADÃO
Proteção do Meio Ambiente e da Saúde
INMETRO
Conhecimento
C &T
Ciência & Tecnologia Base para Competitividade Credibilidade
EMPRESA BRASILEIRA
Competitiva Geração de Emprego e Renda

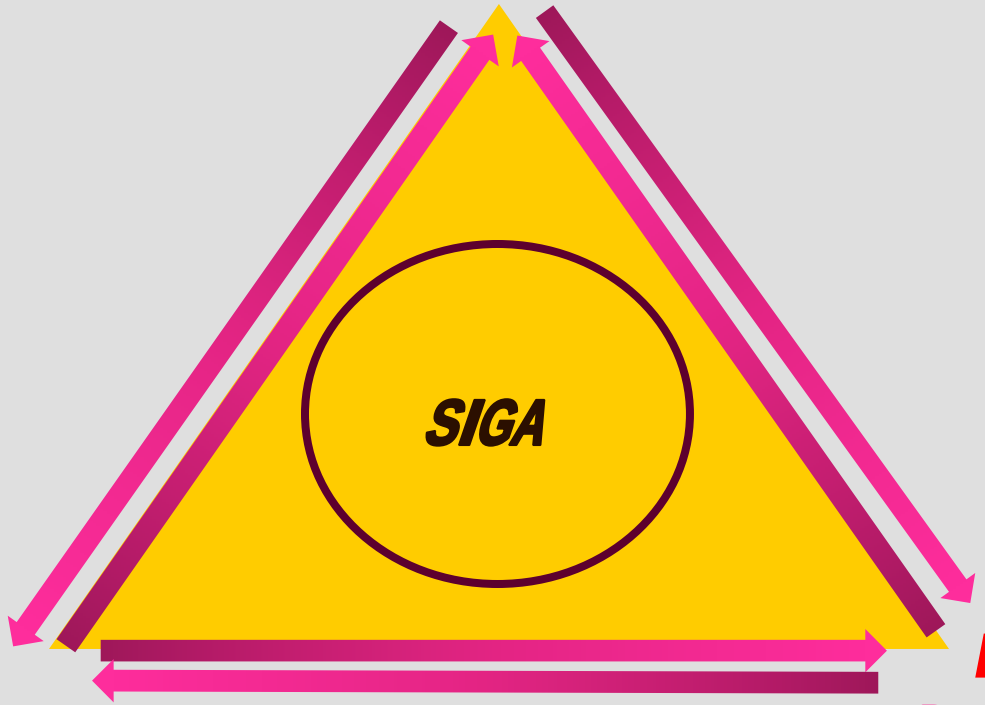
General comments about management at Inmetro

Visual Representation for the General Framework

Grandes Eixos Dinâmicos do Inmetro Altamente Interconectados

Strategy

Posicionamento, Visão, Missão...



Execution

Processos, Projetos, Infraestrutura, RH , Resultados...

Stakeholders/Governance

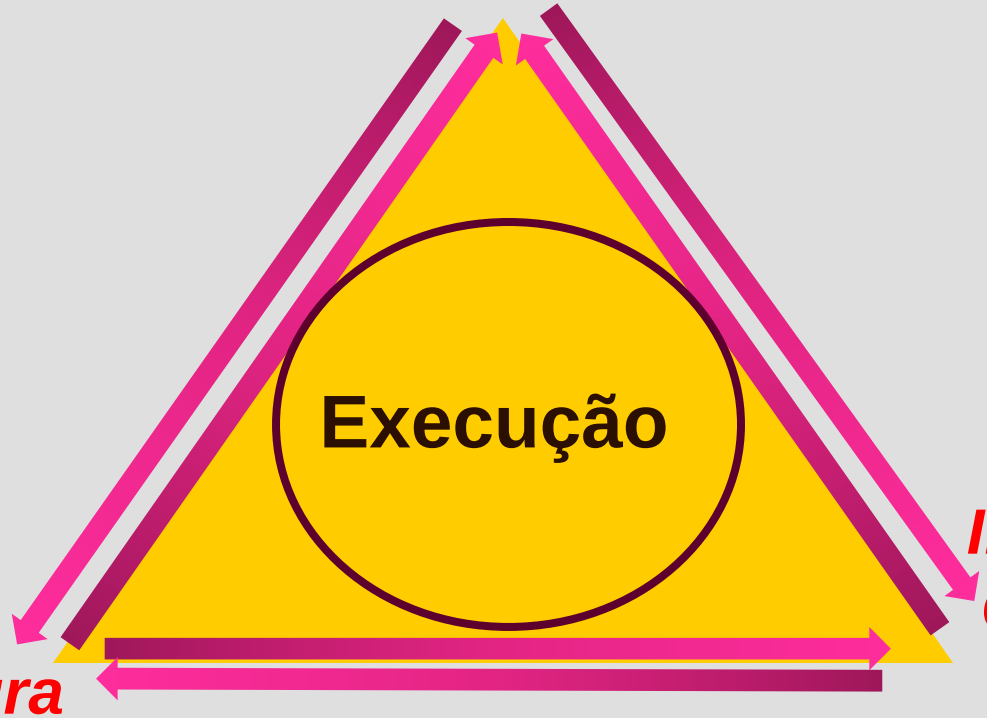
Governo, Sociedade, Partes Interessadas, Robustez...

Visual Representation for the Execution Framework

Grandes Eixos da Execução, Interconectados

Processos/Projetos

Ações Transversais, Programas Articulados e Processos de Gestão Localizada



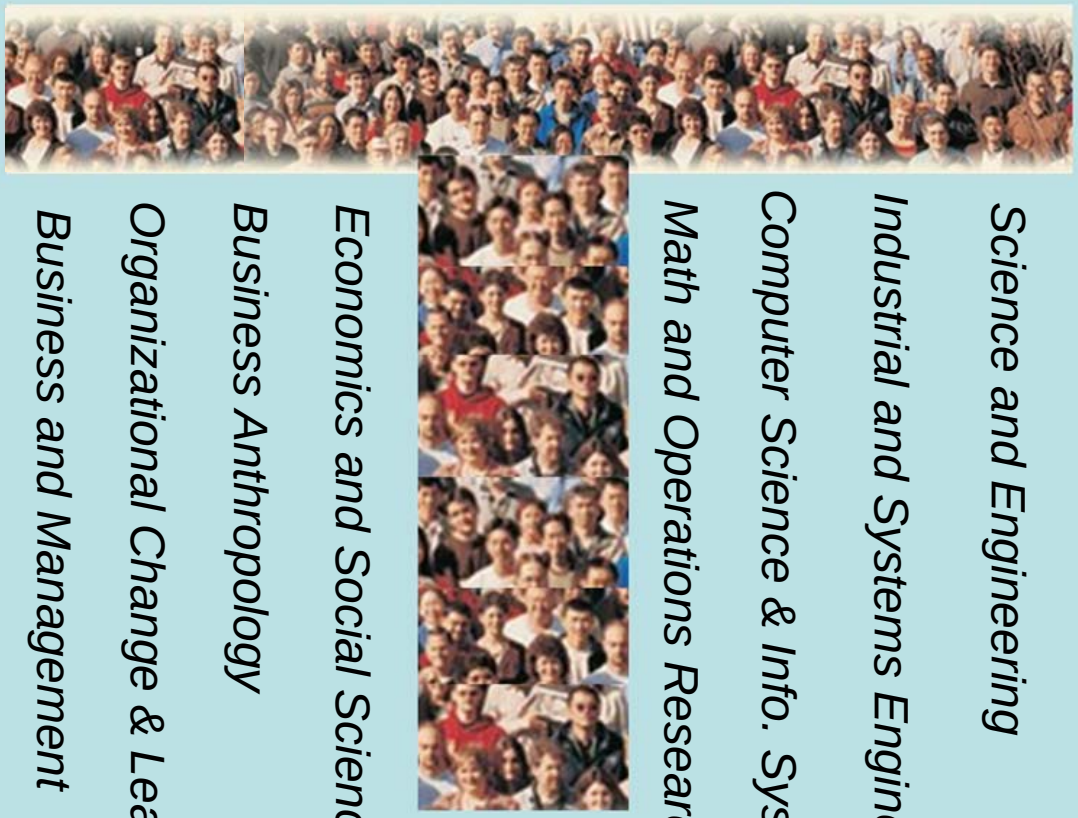
Infra. Intangível Conhecimento e Inovação

Recursos Humanos e Mecanismos Sociais Metodologias e Ferr.

Infraestrutura Tangível

Predial, TI, Cargos, Funções

T-Shaped professional



Science and Engineering
Industrial and Systems Engineering
Computer Science & Info. Systems
Math and Operations Research
Economics and Social Sciences
Business Anthropology
Organizational Change & Learning
Business and Management

The Strategy

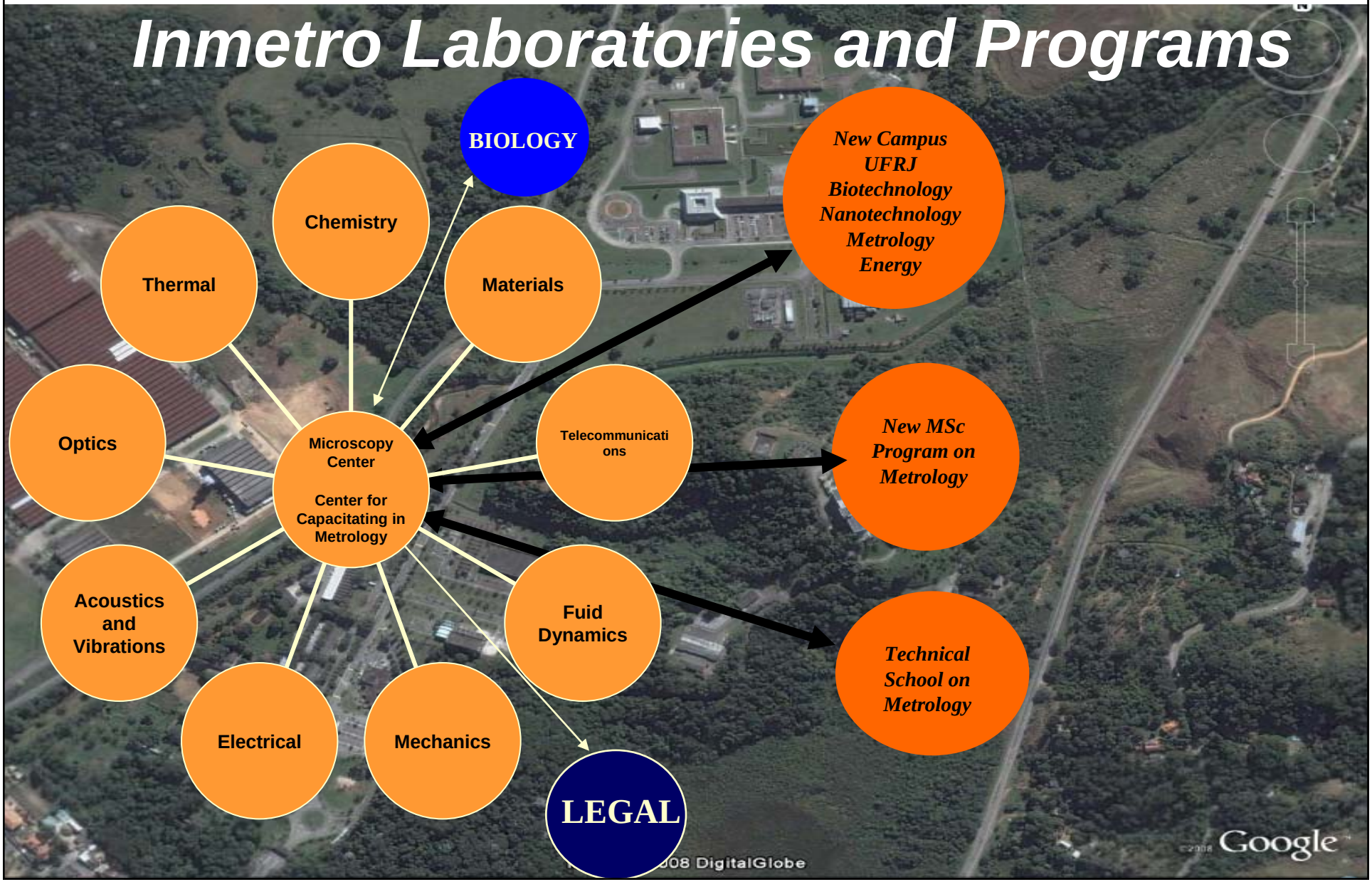
Inmetro strategy as a National Metrology Institute, since 2001

- ***Locus of knowledge and credibility, based on excellence in S&T- fundamental for coordination;***
- ***Commitment to strategic issues of the country; anticipation of needs;***
- ***Commitment to support innovation and national competitiveness- instrument for the national industrial policy;***
- ***Generation and diffusion of knowledge;***
- ***Bridging the gap between Science, Enterprises and Society. Supporting innovation.***

Approach to implement the strategy:

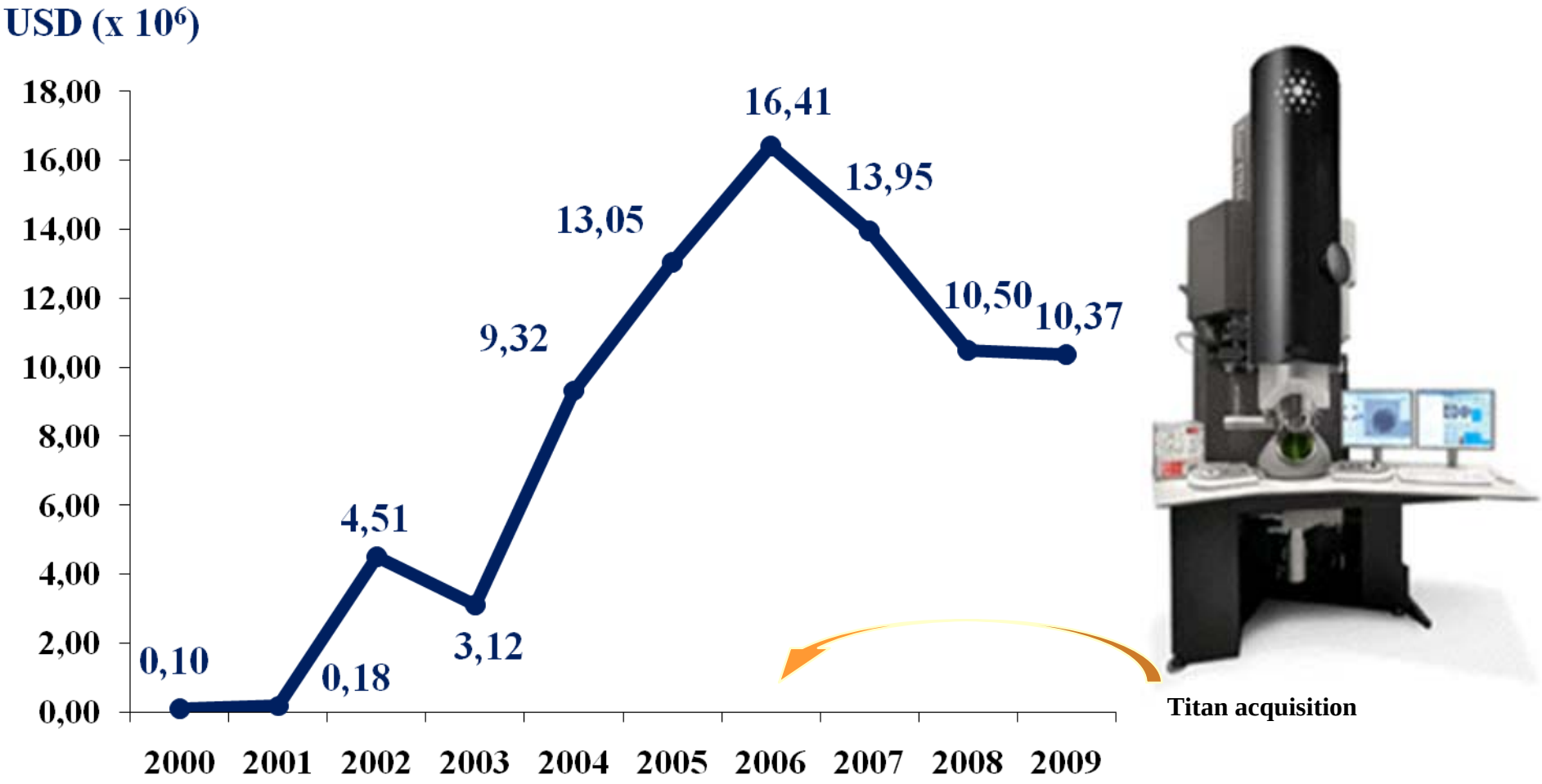
- ***Partnership with Academia;***
- ***Rapid absorption and training of qualified people;***
- ***Effort in research and development;***
- ***Modern equipments and infrastructure***
- ***Partnership with enterprises***
- ***Excellence in management***
- ***International partnership***
- ***Strong support from the Government and from other key stakeholders- great support required***

Inmetro Laboratories and Programs



Staff Qualification

Anual spending on equipments



Publications

SIM Senior Policy Makers Dialogue Forum
Rio de Janeiro, November 6th, 2009.

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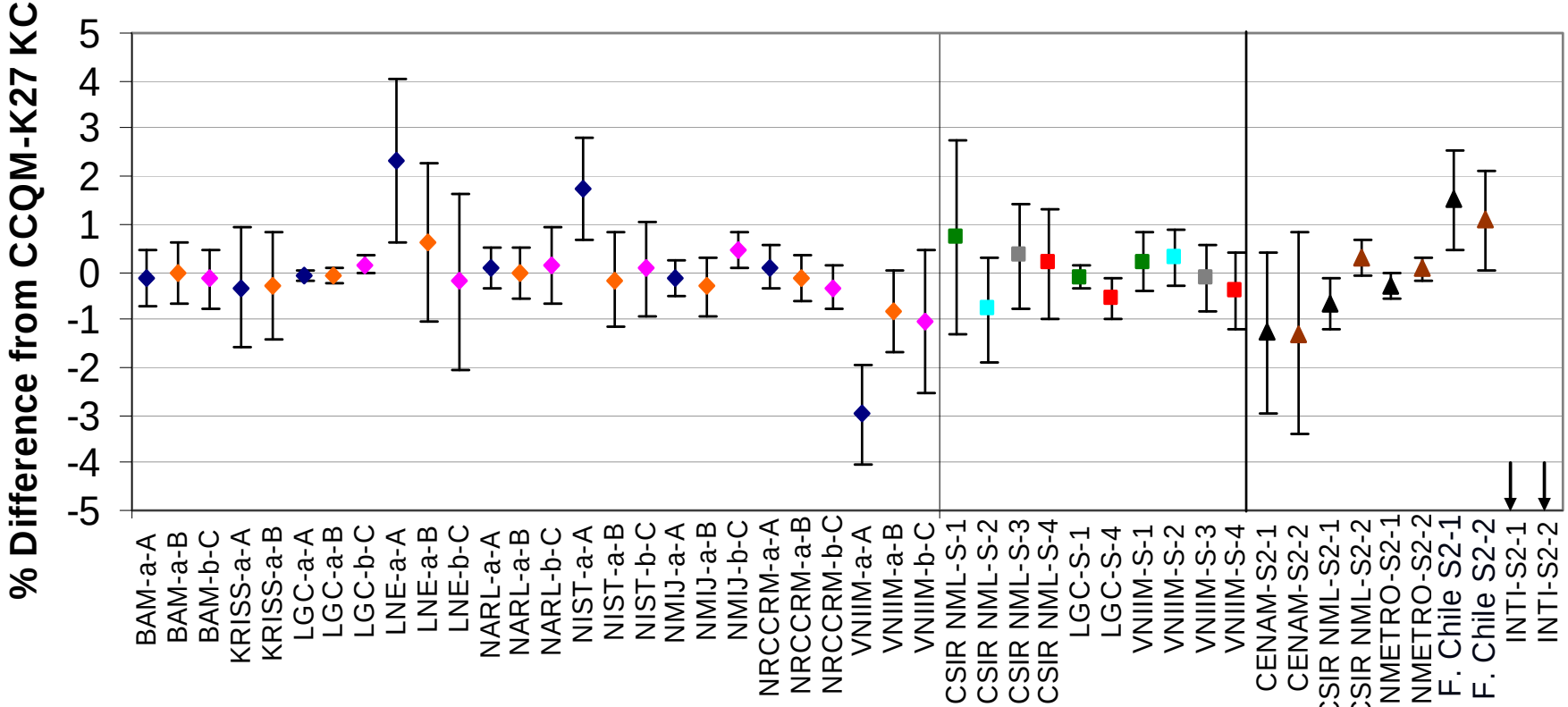
CCQM-K27, Ethanol in Aqueous Matrix, Original and Both Subsequent Studies - Relative Results



Reference Materials for Biofuel Specifications

BIOREMA

Within the framework of an EC funded project with the acronym BIOREMA, REference MAterials for BIOfuel specifications, possible reference materials for Bioethanol and Biodiesel are being investigated. The aim of this project is to demonstrate the feasibility of preparing and characterizing reference materials for biofuels. Thereby, the focus is on providing SI-traceable reference values. Further, the project will establish the current state of measurement quality by means of interlaboratory comparisons using these test materials.

Introduction

With the introduction of the European Directives on renewable energies (RED 2009/28/EC) and on fuel quality (FQD 2009/30/EC), and with the increased addition of biological products to gasoline and diesel, e.g. bio-ethanol and FAME, the quality of these products is becoming more important. There is however up to now no international consensus on the technical specifications of biofuel. Neither is it clear what measurement standards, reference materials and measurement techniques are needed.

Needs

Reference materials for biofuels with well-characterized reference values are essential for the development and validation of measurement methods. Also, these materials are an important tool in quality assurance of the day-to-day measurements, i.e., in obtaining reliable, traceable, measurement results.

Objectives

The main objective of the project is to establish the feasibility of the preparation of biodiesel and bio-ethanol reference materials with traceable reference values. To that end, test materials will be prepared and characterized with high-level measurement methods. Additionally, the short-term as well as the long-term stability of the reference values will be assessed.

Another important objective is to establish the current quality of the measurement practice of field laboratories. Information on the quality (repeatability, reproducibility, bias of measurement) will be obtained from interlaboratory comparisons that are organized using the characterized test materials.

Partners Involved

- VSL (the Netherlands), project coordinator
- IRMM (European Commission)
- NPL (United Kingdom)
- INMETRO (Brazil)
- NIST (USA)
- LGC (United Kingdom)

Project BIOREMA- CRMs with UE

Involving:

-Feasibility of the preparation of biodiesel and bioethanol reference materials.

-To establish the current quality of the measurement practice in laboratories (about 35 laboratories around the world will participate).

Production of high-quality measurement standards

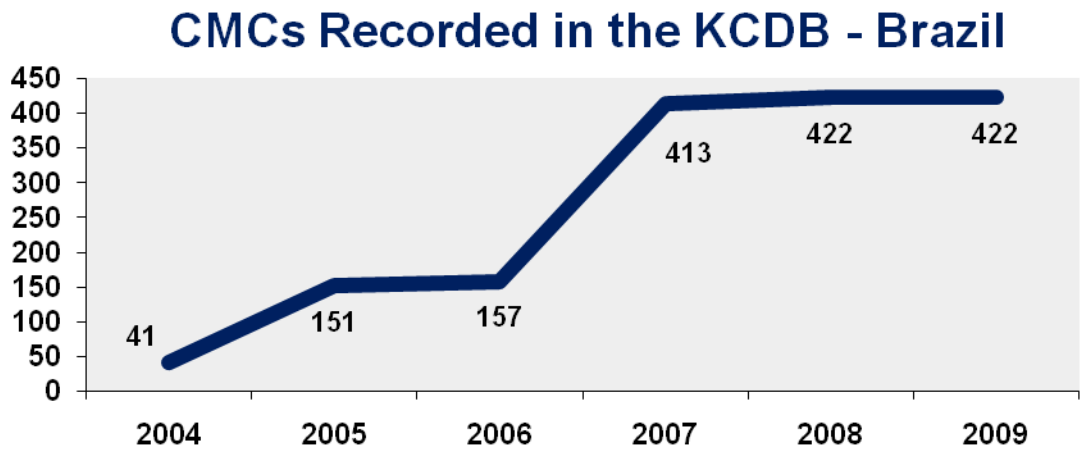
Inmetro and NIST joint program for biofuels CRMs- ethanol and soy and animal fat biodiesel

CMCs and Participation in Comparisons

KCDB	CMCs Recorded in the Appendix C/KCDB	Participation in Comparisons (Key and Supplementary)	Participation in Comparisons / CMCs Recorded in Appendix C *
European Union	9,474	3,248	0.34
Brazil	**422**	**123**	**0.29**
BRICs	2,692	751	0.28
Americas	4,467	938	0.21
Total	16,633	4,937	0.30

Status: 20 September 2009

* This relation may be understood as the degree in which a country is able to use the results of comparisons to introduce CMCs in the CIPM MRA Appendix C. In this table European Union have the best relation.



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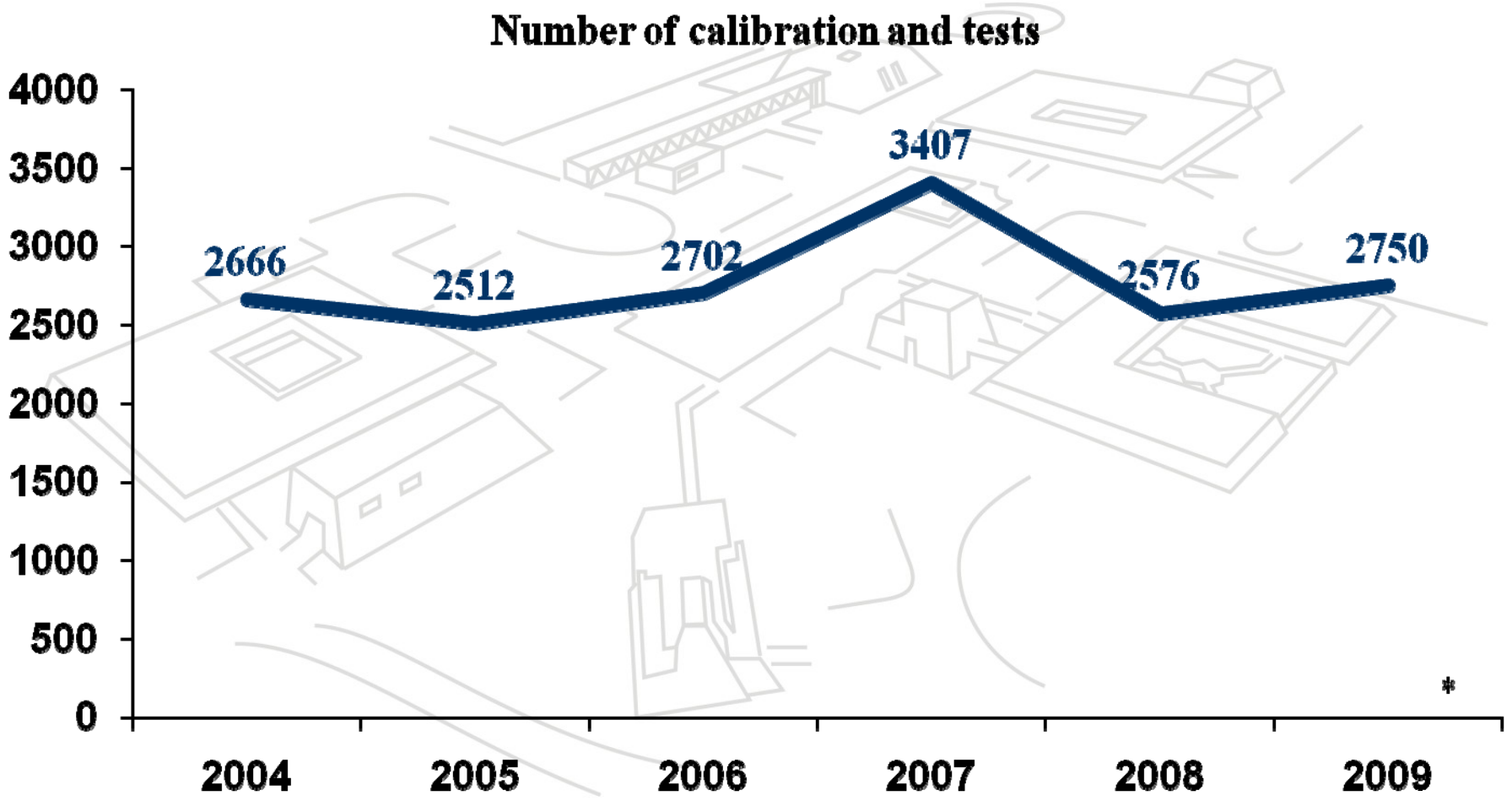
Number of Calibrations and Tests



*** Status: September 2009**

SOME INDIRECT BENEFITS OF THE CIPM-MRA PERCEIVED AT INMETRO:

- ***Logical framework, making it easy to explain to the relevand stakeholders the need for metrology and how it operates;***
- ***Logical framework supporting the new moldel for Inmetro: strong S&T basis, encompassing and centralized role,...;***
- ***Fostering interaction and cooperation among NMIs;***
- ***Analytical methods and Procedures***
- ***Support to Industry and Government***
- ***Support to regulation***
- ***S&T knowledge; R&D***
- ***International cooperation***
- ***Measurements Standards- CRM***

Some specific needs:

1- Information about the origin, both geographical and related to raw materials; fundamental do comply with certain regulations.

2- CRM development and validation. Stability is a big issue, especially for biodiesel.

3- P.T. and training.

4- New instrumentation development aiming at reliability, simplicity, portability,

5- Deeper scientific and technological understanding to support: R&D, new instruments, standards, regulations and CA.

6- Measurements related to side effect of biofuels use: corrosion of engine parts, environmental and health effects.

Conclusions

1- Biofuels are really important, at least in the short term

2- Metrology is a key enabling technology for the worldwide use of biofuels.

3- Excellent opportunity for metrology and metrogists

4- Wide range of demands- from very technical details to cutting edge scientific problems.

5- Some relevant short term needs: CRM, PT, awareness, work with regulators and SDOs, biology metrology, origin determination, new methods (esp. in field),…

6- Exciting time!

INMETRO BIOFUELS PROGRAM- AIMING AT PRODUCTS, PRODUCTION, USES AND IMPACTS:

- ***Conformity Assessment activities, including Certification schemes and Accreditation of labs and certification bodies***
- ***LCA for GHG savings and related issues***
- ***Proficiency Testings and Training***
- ***Analytical methods and Procedures***
- ***Support to Industry and Government***
- ***Support to regulation***
- ***S&T knowledge; R&D***
- ***International cooperation***
- ***Measurements Standards- CRM***

Stakeholders structureStrategic Guidelines forBrazilian Metrology 2003-2007";

Some highlights

Recognition of Metrology's importance in Brazil;

Metrology: physical basis of quality, of fundamental importance for competitiveness and innovation;

The econonomical importance of metrology

The growth of Brazilian industry requires greater volume and quality of metrological services;

Inmetro's Technical Cooperation Arrangements

USA: NIST / ANAB / CPSC

Germany: PTB / BAM / Fritz Harber

Russia: Gosstandard

Bolivia: Ibmetro

Uruguay: LATU

Paraguay: INTN

Strategic Alliance

Japan: JICA

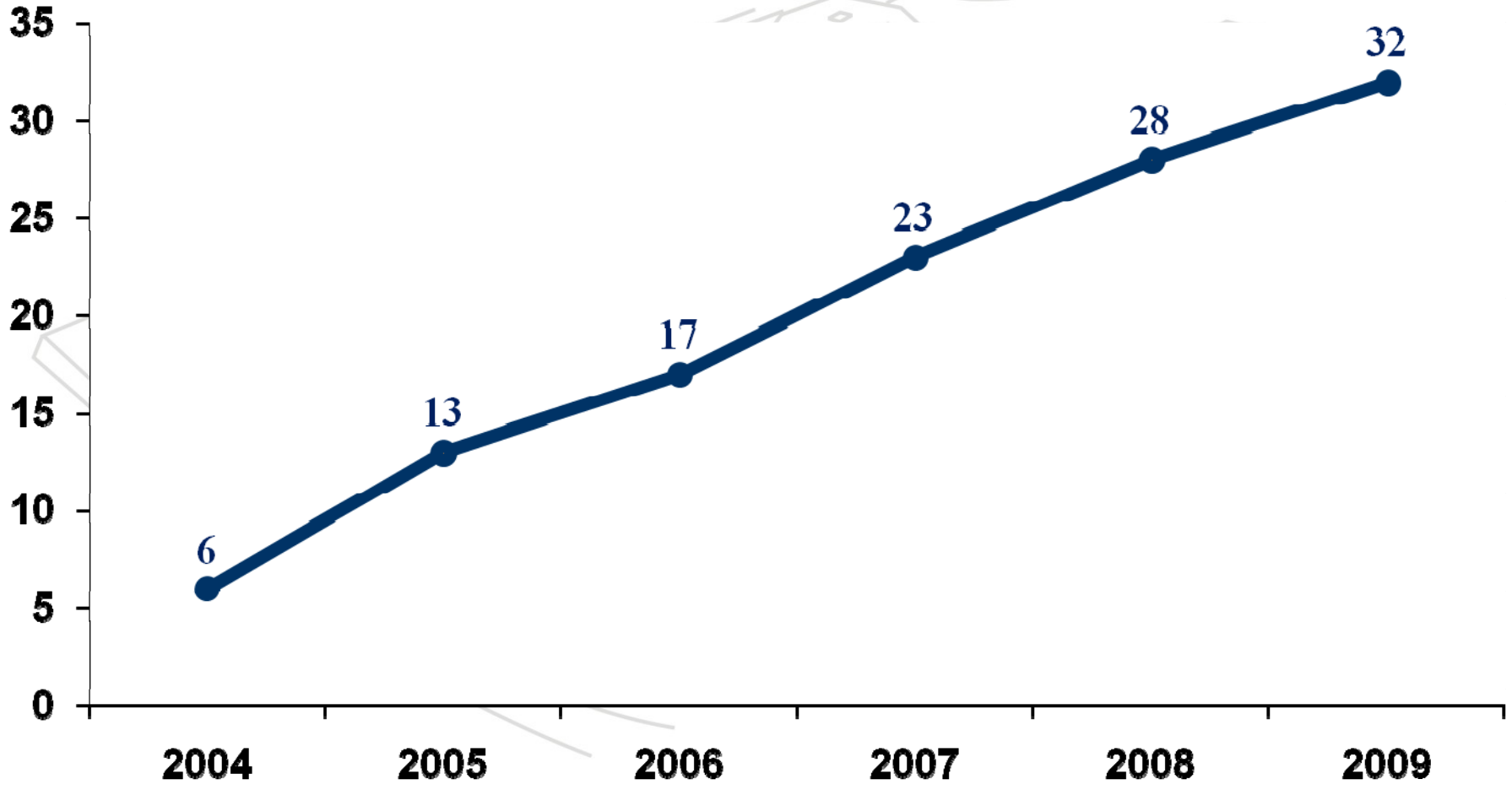
EU: ALA 2004/005-916

Cuba: ONN / IMRE / CETEC

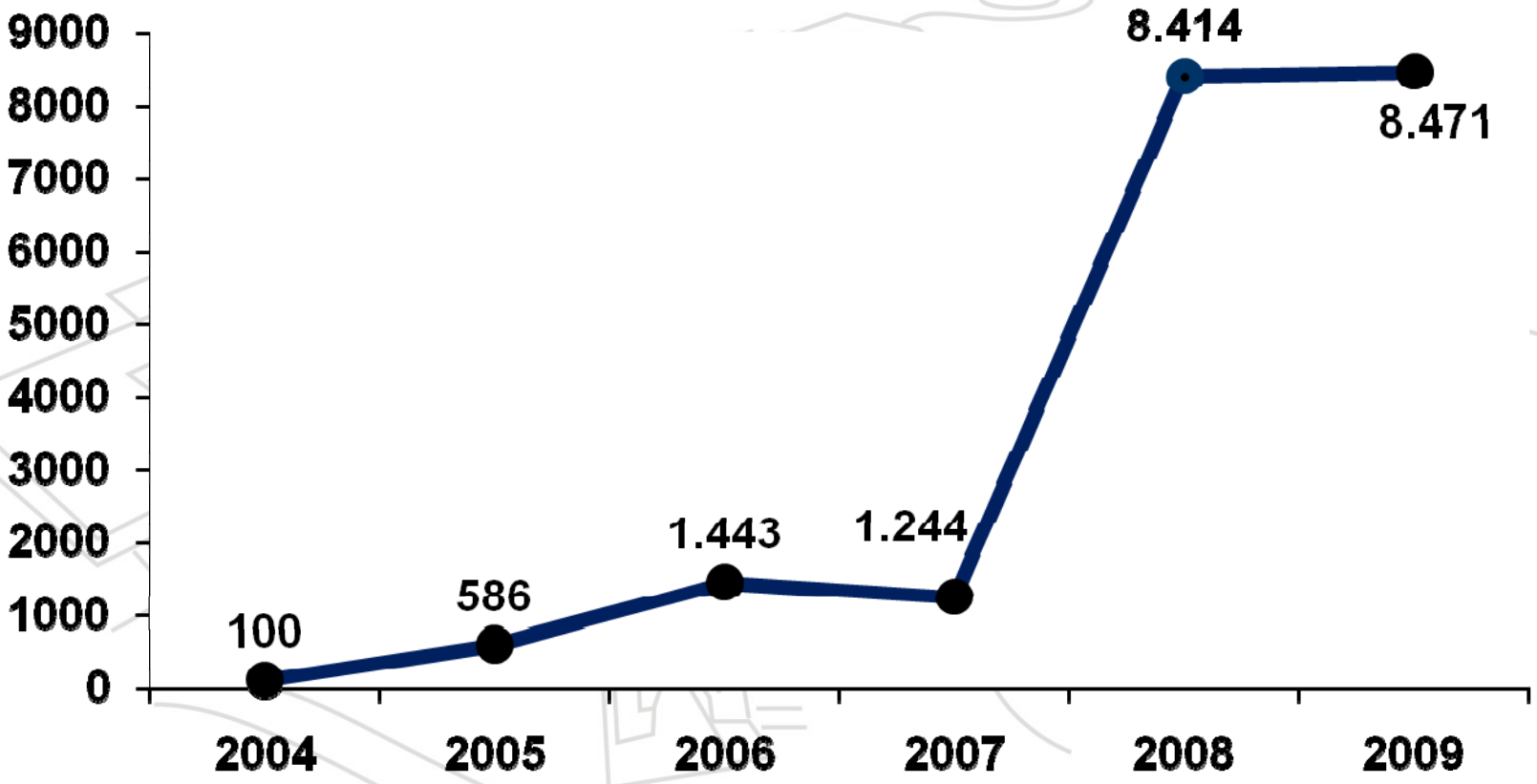
Costa Rica: Lacomet

Moçambique: INNOQ

Number of Type of CRM Available



Evolution of CRM Production (%)



Note: 2004 was taken as reference