XVII IMEKO World Congress
Metrology in the 3rd Millennium
June 22–27, 2003, Dubrovnik, Croatia

The OS&T of the OAS and Metrology in the Western Hemisphere

Oscar Harasic
Specialist, Office of Science and Technology

XVII IMEKO World Congress; June 22-27, 2003

Mission of the OS&T

- To develop, foster and support activities that contribute to the advancement of Science and Technology in the member states

- To promote their economic, social, cultural, scientific, and technological integral development

The OAS is the oldest American regional organization, founded in 1889, now with 34 American member countries.

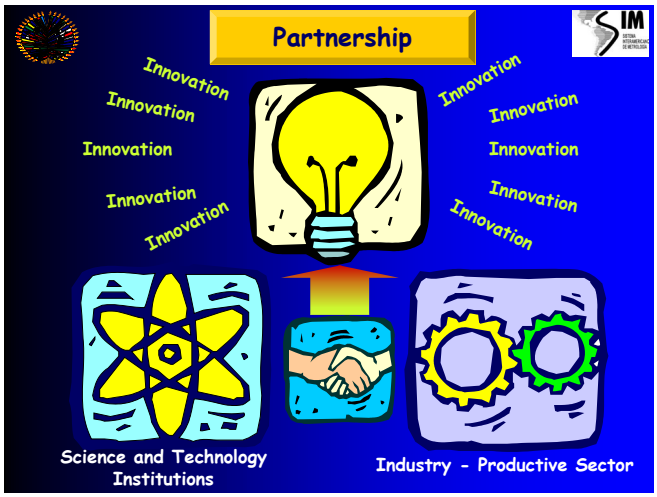
How does the Office of Science and Technology accomplish its Mission?

- Integration
- Partnership
- Horizontal Cooperation
- Specialized Networks
- Multinationality
- Collaboration with other Institutions

The OAS is the oldest American regional organization, founded in 1889, now with 34 American member countries.

Integration

- Integrate researchers throughout the region
- Coordinate meetings
- Sense of belonging to the scientific international community
- Set bases for cooperation among countries
- Extend concept to industry, business and economy


Partnership
Innovation
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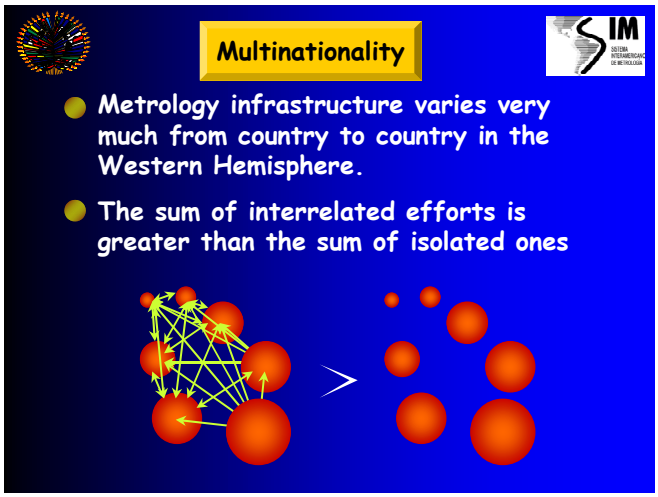
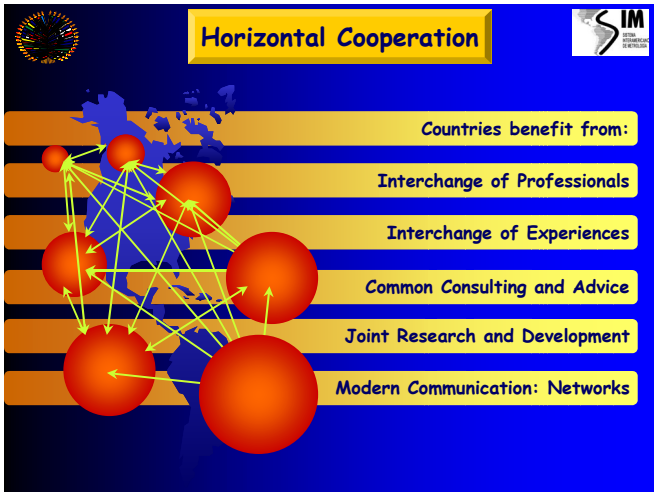
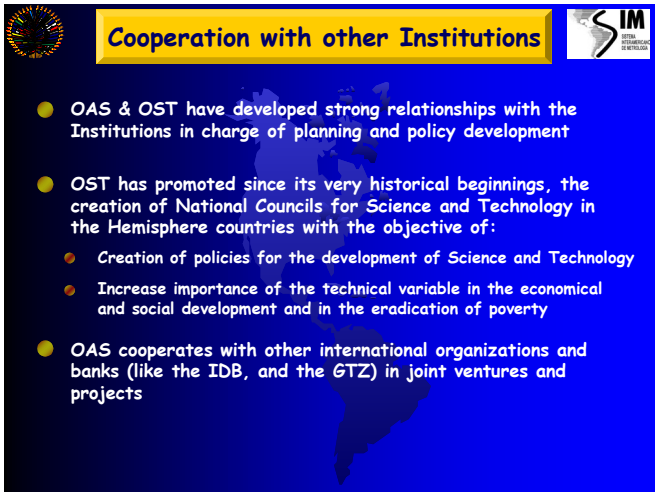
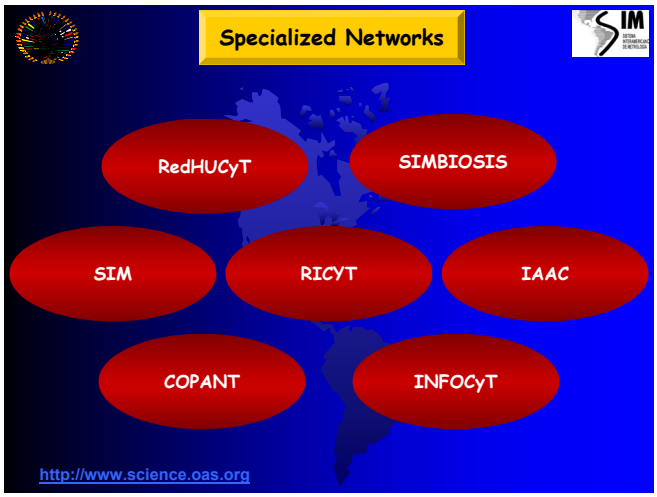
Science and Technology Institutions
Industry - Productive Sector


Multinationality
Metrology infrastructure varies very much from country to country in the Western Hemisphere.
The sum of interrelated efforts is greater than the sum of isolated ones


Horizontal Cooperation
Countries benefit from:
Interchange of Professionals
Interchange of Experiences
Common Consulting and Advice
Joint Research and Development
Modern Communication: Networks


Cooperation with other Institutions
OAS & OST have developed strong relationships with the Institutions in charge of planning and policy development
OST has promoted since its very historical beginnings, the creation of National Councils for Science and Technology in the Hemisphere countries with the objective of:
Creation of policies for the development of Science and Technology
Increase importance of the technical variable in the economical and social development and in the eradication of poverty
OAS cooperates with other international organizations and banks (like the IDB, and the GTZ) in joint ventures and projects


Specialized Networks
RedHUCyT
SIMBIOSIS
SIM
RICYT
IAAC
COPANT
INFOCyT
http://www.science.oas.org


Political Mandates
Presidents Meeting 1967: Punta del Este, Uruguay
Summit 1994: Miami, USA
Summit 1998: Santiago, Chile
Summit 2001: Quebec, Canada

Meeting of the Presidents of the Americas

Punta del Este, Uruguay 1967

Provides the bases of the Regional Scientific and Technological Development Program

Science and technology are decisive tools and determining factors in the development and well-being of nations.

This effort demands Inter-American cooperation, given the magnitude of investments required and level attained by that knowledge. Similarly, the coordination and implementation of this effort in each nation, cannot be formulated separated from a technological and scientific planned policy built up within a general frame of development.

Third Summit of the Americas (Quebec, Canada 2001)

"stimulate the development of science and technology for regional connectivity" ..."

"Support the development of high-level human capital for the development of science and technology research and innovation that would encourage the strengthening of the agricultural, industrial, commercial and business sectors as well as the sustainability of the environment"."

"promote"...the development of the regional program of science and technology indicators."

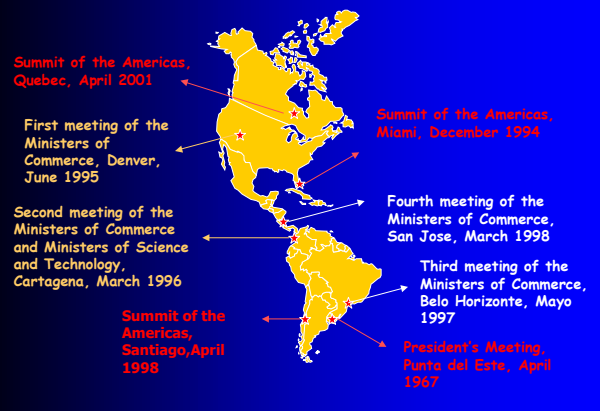
"Support national efforts to strengthen rural enterprises, in particular small- and medium-sized enterprises"

First Summit of the Americas (Miami, Florida 1994)

In the Summit of the Americas, the Heads of State and Government of the Hemisphere recognized the important role of the sub regional trade agreements for the construction of the "Free Trade Area of the Americas (FTAA)", resulting in the reinforcement of the efforts for an increased hemispheric economic integration.

Summit of the Americas, Declaration of Principles, Miami, USA, December 1994

Preparation of the FTAA



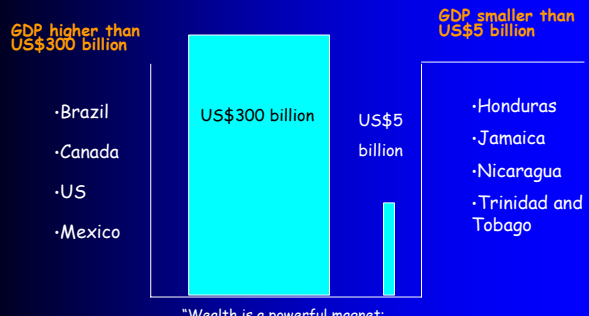
Second Summit of the Americas (Santiago de Chile, Chile 1998)

"... Support the development and use of science, technology and innovation indicators..."

"...advance cooperation and innovation in science and technology..."

Recognize "...that university-industry relations, training in technology management, ... as well as participation of small and medium-sized companies, are important elements for utilizing science and technology to achieve hemispheric objectives..."

Size of Economies



"Wealth is a powerful magnet; poverty, a great contaminant."

NATURE OF EXPORTS

Classification of economies by major export category, 1996

The majority of the countries are raw materials exporters (50% of export is raw material)

Industries increased up to 25% of GDP

- Exporters of manufactures
- Exporters of non-fuel primary products
- Exporters of fuels (mainly oil)
- Exporters of services
- Diversified exporters

Source: World Bank Classifications

Three main areas of activity can help countries in Hemisphere to improve SMEs and to support the FTAA: elimination of Technical Barriers to Trade (T.B.T.); conformity assessment through Multilateral recognition agreements (M.R.A.); Accreditation. The Office of Science and Technology is actively involved in these areas:

COPANT: Pan American Standards Commission

SIM: Inter-American Metrology System

IAAC: Inter-American Accreditation Cooperation

Nature of Imports

Contrariwise imports are mainly manufactured goods with added value except for obviously the largest economies.

The Inter-American Metrology System

SIM is the Inter-American Metrology System, initiated in 1972, created as such in 1978 and reactivated in 1992.

SIM is essential for making the development of a free trade area in the Americas (FTAA) possible and to promote the use of the International System of Units (SI), always foreseeing new needs.

SIM resulted from a broad agreement among national metrology institutes from all 34 Member States of the OAS.

Created to promote international, particularly Inter-American, and regional cooperation in metrology, SIM, is committed to the implementation of a Global Measurement System within the Americas, in which all users can have confidence, ensuring uniformity of measurement.

Classification of Countries According to their Metrology Structure

1	2	3	4	5
Fully developed national metrology facilities	Well developed national metrology facilities	Reasonably developed national metrology facilities	Minimal National metrology facilities	No national metrology facilities
Canada	Argentina	Chile	Bahamas	Antigua & Barbuda
USA	Brazil	Colombia	Barbados	Belize
	Mexico	Costa Rica	Bolivia	Dominica
		Ecuador	Grenada	Dominican Republic
		El Salvador	Guatemala	Haiti
		Jamaica	Guyana	Honduras
		Panama	Paraguay	Nicaragua
		Peru	St. Lucia	Suriname
		Trinidad & Tobago	Venezuela	St. Kitts & Nevis
		Uruguay		St. Vincent & Grenadines

Source: SIM – INMETRO Project

Vision of SIM

A representative, transparent and integrated regional metrology organization committed to ensure uniformity of measurements in the Americas.

Mission of SIM

To promote and support an integrated measurement infrastructure in the Americas that ensures equity in the market place, improves the quality of life and facilitates international trade.

Executive Council

- President — Felipe Urresta, INEN - Ecuador
- Former President — Armando Mariante, INMETRO - Brasil
- Technical Committee — Ismael Castelazo, CENAM - Mexico
- Professional Development Committee — Yoshito Mitani, CENAM - Mexico
- Technical Assistant NIST — B. Stephen Carpenter, NIST -USA
- Executive Secretariat OAS — Oscar Harasic, OAS
- Representative to the JCRB — Hratch Semerjian, NIST -USA

ANDIMET	CAMET	CARIMET	NORAMET	SURAMET
José Dajes, INDECOPI - Perú	Carlos Ochoa, CONACYT - El Salvador	Hermon Edmondson, JBS -Jamaica	Janusz Lusztyk, NRC -Canada	Luis Mussio, LATU - Uruguay

Objectives of SIM

- Raise standards of basic metrology in each country in the hemisphere.
- Contribute to the measurement infrastructure required to promote equity in commercial transactions.
- Foster competitiveness and quality in the manufacturing sector in order to promote commercial transactions.
- Identify sectors and institutions that can conduct specific multinational activities in metrology support.
- Contribute to the metrological infrastructure required to protect the environment, to control the accelerated use of resources and to promote the general well-being of the population, including its health and safety.

Technical Committee

- President of the Technical Committee
- Representative of SIM in the CIPM/BIPM-JCRB
- Sub-Regional Representatives

Working Groups of Metrology

- Electricity and Magnetism - USA
- Photometry and Radiometry - Mexico
- Thermometry - USA
- Longitude - Mexico
- Time and Frequency - USA
- Ionizing Radiations - Canada
- Mass - USA
- Quantity of Matter (Chemistry) - USA
- Acoustics and Vibrations - Mexico
- Flow - USA

Working Groups of Legal Metrology

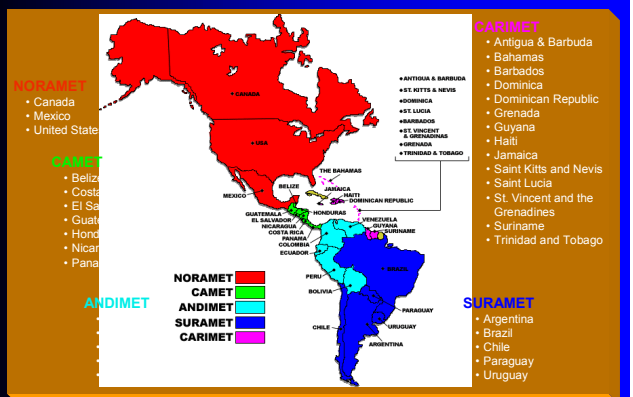
Chair - Brazil

- Laws and Regulations- Uruguay & Argentina
- Metrologic Control of Instruments of measurement- USA & Costa Rica

Working Groups of Documentation

- Documents - Uruguay, USA & Mexico
- Data Base - USA
- Systems of Quality - Antigua & Barbuda

INTER-AMERICAN METROLOGY SYSTEM (SIM) (SISTEMA INTERAMERICANO DE METROLOGÍA)



NORAMET
- Canada
- Mexico
- United State

CAMET
- Beliz
- Costa
- El Sa
- Guat
- Hond
- Nicar
- Pana

CARIMET
- Antigua & Barbuda
- Bahamas
- Barbados
- Dominica
- Dominican Republic
- Grenada
- Guyana
- Haiti
- Jamaica
- Saint Kitts and Nevis
- Saint Lucia
- St. Vincent and the Grenadines
- Suriname
- Trinidad and Tobago

ANDIMET

SURAMET
- Argentina
- Brazil
- Chile
- Paraguay
- Uruguay

Activities of SIM

- Implementation of interlaboratory comparisons of measurement standards.
- Presentation of workshops - courses about metrology.
- Development of short courses for training metrologists.
- Development of SIMNET - Program for calibrations and training based on the internet
- Program of SIM fellowships (in development)

Agreement of Mutual Recognition CIPM-BIPM

Objectives

- The National Institutes of Metrology (NMIs) agree to recognize validation of calibration and measurement certificates.
  - The Capacity of measurement and calibration (CMCs) is presented through the regional organizations of metrology. (RMOs)
- The Recognition is sustained in the results of the inter-laboratorial comparisons.
  - Key comparisons and supplementary
  - Official Data published by the BIPM
  - Regional Data Base of SIM

Elimination of Metrologic Barriers to Commerce

Harmonization	Mutual Recognition
• Legislation	• Accreditation
• Physical Units	• Laboratory Comparisons
• Product Standards	• Peer Evaluations
• Calibration Procedures	• Agreements of Mutual Recognition
• Test Procedures	• Technical Capability
• Conformity Evaluation	

One Single Test
World-Wide Acceptance of Certificate

Source: NIST, Technology Administration, U.S. Department of Commerce

Agreement of Mutual Recognition CIPM-BIPM

ANDIMET
Bolivia
Colombia
Ecuador
Peru
Venezuela

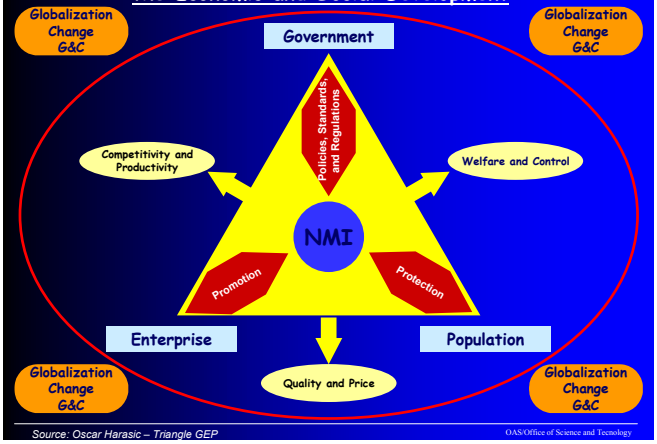
SURAMET
Argentina
Brazil
Chile
Paraguay
Uruguay

NORAMET
Canada
Mexico
U.S.A.

CAMET
Belize
Costa Rica
El Salvador
Guatemala
Honduras
Nicaragua
Panama
Suriname
Trinidad & Tobago

CARIMET
Antigua & Barbuda
Bahamas
Barbados
Dominica
Dominican Republic
Grenada
Guyana
Haiti
Jamaica
St. Lucia
St. Kitts & Nevis
St. Vincent & Grenadines

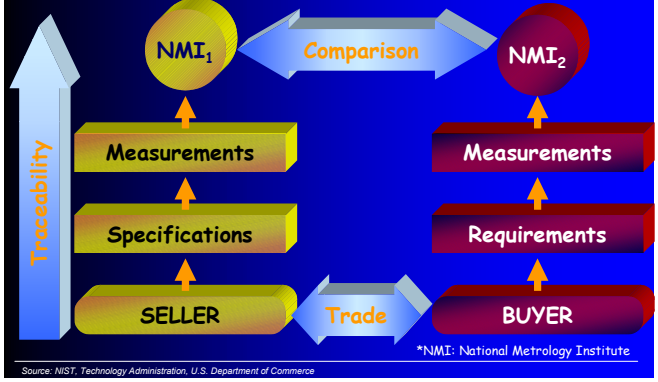
The Role of the National Metrology Institute (NMI) in the Economic and Social Development



Source: Oscar Harasic – Triangle GEP

OAS/Office of Science and Tecnology

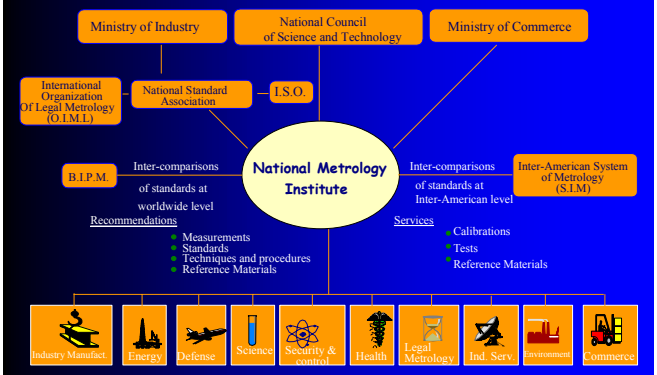
Necessity of Traceability and Comparisons in International Trade Development



*NMI: National Metrology Institute

Source: NIST, Technology Administration, U.S. Department of Commerce

National Metrology Institute

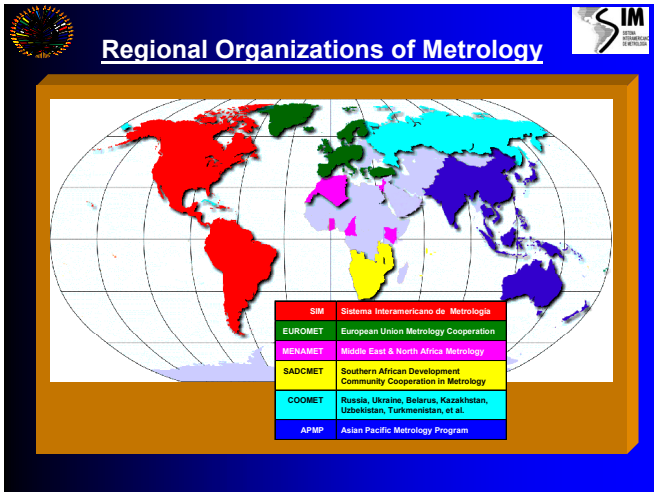


Inter-relation between the National Laboratory of Metrology and other organizations

OAS/Office of Science and Technology


The Inter-American System of Metrology, Standardization, Accreditation, and Quality
No Quality without Quality Control
No Control without Measurement
No Measurement without Calibration
No Calibration without Accredited Laboratory
No Accredited Laboratory without Traceability
No Traceability without Measuring standards
No Measuring Standards without Metrology


HVALA VAM!!!
GRACIAS!!!
MERCI!!!
OBRIGADO!!!
VIELEN DANKEN!!!
THANK YOU!!!


Regional Organizations of Metrology
SIM Sistema Interamericano de Metrologia
EUROMET European Union Metrology Cooperation
MENAMET Middle East & North Africa Metrology
SADCMET Southern African Development Community Cooperation in Metrology
COOMET Russia, Ukraine, Belarus, Kazakhstan, Uzbekistan, Turkmenistan, et al.
APMP Asian Pacific Metrology Program