10- Year Anniversary of the CIPM MRA
The CIPM MRA in Support of Global Trade, Science and Innovation

Challenges and Opportunities for the developing world provided by international accords in Metrology, Accreditation and Standardization

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Presentation Overview

- Global Development Challenges
- Industry & Trade - The Path to Development
- UNIDO Trade Capacity Building approach
- Metrology & Quality *(MAS)* Infrastructure
  - Linkage to Development Objectives
  - Quality Infrastructure for Development
- MAS Accords-Opportunities & Challenges
- UNIDO Contribution in MAS
KEY DEVELOPMENT CHALLENGES

Millennium Development Goals (MDGs)

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria, and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

Target 1A: Halve the proportion of people living on less than $1 a day
Industry & Trade Development = Income Generation and Poverty Reduction

China & Vietnam - Trade driven growth & poverty reduction

**Vietnam** reduced poverty rate from 51% to 8% in only 15 years

**CHINA:** 400 million emerged from poverty during 1981-2001 achieved poverty MDGs, 14 years before the target date 2015
Global Trade Growth & Marginalisation Concerns

Over 90% of total world merchandise exports is in **Industrial Goods** (2004)

Integrating into Global Trade

**Successful Trade Participation: UNIDO 3Cs**

- **COMPETITIVITY** of productive capacities
  - “Countries must have marketable products for exportation”

- **CONFORMITY** with standards
  - “Products must conform to requirements of clients and markets”

- **CONNECTIVITY** to markets
  - “Rules for trade must be equitable and customs procedures harmonized”

→ PRODUCTIVITY (enterprise)
→ COST OF EXPORTING (support services)

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Products to Market

- Develop Competitive Manufacturing Capability
- Prove Conformity with Market Requirements
- Connect to the Market

…by upgrading supply capacities and standards infrastructures
Global Value Chains: Defining Market Access

Auditing the Value Chain - Compliance to Standards

- Product/Process standards (ISO/IEC)
- Quality Standards (ISO 9001)
- Environment Standards (ISO 14001)
- Food Safety Standards (ISO 22000)
- Labour Social Standards (SA 8000)
- Safety Standards (OSHAS)
- Testing (ISO/IEC 17025)
- Calibration
- Traceability (Farm-to-Fork)
- Private Standards (GlobalGAP)
WTO TBT Agreement Article 6.
Recognition of Conformity Assessment by Central Government Bodies

- 6.1. “Members shall ensure...that results of conformity assessment procedures in other Members are accepted... provided they are satisfied that those procedures offer an assurance of conformity with applicable technical regulations or standards equivalent to their own procedures.
- “... prior consultations may be necessary in order to arrive at a mutually satisfactory understanding regarding, in particular:”
- 6.1.1 “...adequate and enduring technical competence...confidence in the continued reliability of their conformity assessment results...through accreditation... or recommendations issued by international standardizing bodies shall be taken into account as an indication of adequate technical competence...”

Compliance to TBT/SPS - Trade Requirement
“Fair Trade for All”:
Priority Areas to meet Product Standards Requirements

“...many developing countries do not have the ability to assist their producers to meet product standards” which often act as a barrier to developing country exports. Significant assistance from developed countries is required to build up their capabilities to conform to product standard requirements.

“UNIDO recommends a number of priority areas for International assistance to the institutional development of developing countries:

1. A national/regional standards/standardization body
2. A national/regional metrology system
3. A certification/conformity assessment system
4. An accreditation system”

NATIONAL QUALITY INFRASTRUCTURE & INTERNATIONAL LINKAGES
Increasing Need for Mutual Recognition of National Metrology, Accreditation and Standardisation (MAS) Systems

ISO/IEC/ITU .. Globally accepted standards Facilitate trade, technology diffusion, safety

IAF - Certified once, accepted everywhere
IAF Multilateral Recognition Arrangement (MLA)

ILAC- Tested Once Accepted everywhere
IAF Mutual Recognition Arrangement (MRA)

BIPM- Mutual recognition of measurement capabilities
CIPM- MRA
Strategic Partnerships

ISO
ilac
UNIDO
IAF
OIML
BIPM
GFSI
OIE
Directorate-General for Health & Consumers

Standards and Trade Development Facility

Poverty Reduction through Productive Activities • Trade Capacity Building • Energy and Environment
MoU Signed in Vienna, Austria on 03 December 2008

To enhance impact of industrial development on economic growth, minimize technical barriers to trade and assist in beneficial integration of developing countries.
TBT/SPS capacity-building demands linkages to International Standards & Conformity Organisations

MoU signed on 10 October 2004

MoU signed on 23 June 2009

to strengthening accreditation capabilities with due participation of developing countries.

to promote sustainable development and economic growth through standards development and implementation, capacity building and training, joint publications and related research.
UNIDO – WTO Cooperation further strengthened:

Framework Agreement on STDF

Siem Reap, 19 November 2008

“delivering as one against barriers to trade”

UNIDO and WTO are gearing up to provide LDCs with more technical assistance related to international Sanitary and Phytosanitary Standards (SPS)
UNIDO & EU -DG SANCO Cooperation

High-level dialogue since 2008

Main Areas of Cooperation Identified:

- Manual on “How to set up a Competent Authority for Horticulture Products”

- Design of Technical Cooperation Programs based on:
  - Food and Veterinary Office (FVO) Inspection Reports
  - RASFF data on rejections for design of TA programmes

- Rapid Food Inspection Response Facility (for short-term immediate TA after deficiencies are identified by Inspections - avoiding bans)

- Participation in the Better Training for Safer Food (BTSF) Initiative
METROLOGY – Vital for Industry & Trade

Research & Development
- Accurate calibration of scientific instruments

Industrialisation
- Technology Acquisition
- Quality & Precision Manufacture

Food safety:
- Calibrated thermometers, balances, etc.

Laboratory accreditation:
- Ensure Calibration status of test equipment -

ISO 9001, ISO 14001, 22000 Certification:
- Calibration status of equipment -
Opportunities & Challenges Arising from International Accords in Metrology, Accreditation and Standards (MAS)
Opportunities from MAS

- Facilitating Industrial Development & Growth
- Contributing to Technological Advancement
- Attracting Foreign Direct Investment
- Complying with WTO – TBT/SPS
- Enhanced Competitiveness
- Enhanced Exports and Trade gains
- Contributing to Consumer Protection
- Supporting Environmental Protection
Developing Country MAS Challenges

- Engage Effectively in International Standard Setting
  - Become Standard maker- NOT taker
- Provide Confidence in Conformity Assessment
  - Laboratories – Signatory of ILAC MRA
  - Certification - Signatory of IAF MLA
  - Metrology- Signatory of CIPM-MRA
- Building National MAS Infrastructure
- Significant MAS Capacity Gaps
  - e.g. SSA Africa – ONLY Kenya CIPM, NO one ILAC-MRA
Developing Country MAS Challenges-2

- Recognising the Benefits - Awareness Raising
- Political Commitment to Build Infrastructure
- Legal Frame Work to Conform to global MAS
- Funding Costly infrastructure – Labs, Metrology
- Skill Development & strategy for Skill retention
- Ensuring MAS Institution Sustainability
- Engaging Stakeholders- Private Sector
- Differentiating - Public Vs Private Goods
82 Signatories CIPM - MRA

- Developed Countries, 31
- Developing Countries, 51

NO LDCs

- Africa, 4: South Africa, Egypt, Tunisia, Kenya
- Eastern Europe + Eurasia, 17
- Americas + CARICOM, 22
- Asia + South East Asia, 8
UNIDO - AU TCB Expert Group Meeting, Tunis 2007

EGM on Standards Compliance and Conformity Assessment for Sustainable Trade in Africa

UNIDO – AU EXPERT GROUP MEETING
“Standards Compliance and Conformity Assessment for the Development of Sustainable Trade in Africa”

22-24 February 2007, Tunis

Réunion d’Experts
22-24 Février 2007,
Tunis (Tunisie)

“Développement du Commerce en Afrique à travers le Respect des Normes et l’Évaluation de la Conformité”
FUNDING FOR BUILDING MAS
Aid for Trade

Launched in Hong Kong 2005 is targeting Supply-Side, Quality and Trade Facilitation areas

RESOURCES (promised)*:

European Commission

- €2 billion a year (matched by EU member states) by 2010

Japan

- US$10 billion on aid for trade over three years

United States

- US$2.7 billion by 2010
“DELIVERING INDUSTRIAL DEVELOPMENT THROUGH THE DOHA DEVELOPMENT AGENDA”

- **12th UNIDO General Conference**
  - 3-7 December 2007, Vienna - Austria

- **Extracts from Pascal Lamy’s Statement,**
  - Director General of the World Trade Organization

- **WTO and UNIDO are two sides of the same coin:**

  “Aid for Trade — calls for the development of developing countries productive capacities and compliance with product standard requirements in export markets among others”

  “UNIDO is well placed to take lead in formulating and implementing national and regional aid for trade strategies in cooperation with regional institutions.”
Aid for Trade: Norway’s Action Plan 2007

Priority to multilateral channels:

• The Enhanced Integrated Framework intended to be used actively in the provision of Norwegian AfT financing - WTO CTD, 26 February 2008

• Additional resources in particular through UNIDO, the ITC and the World Bank

Priority Areas – Standards and Trade: Increased support for UNIDO programmes relating to standardisation and product control, especially in Africa

Enhanced Integrated Framework:

Switzerland’s Contribution

US$ 16 million for bilateral projects, out of US$ 110 Mn pledged at the Stockholm Pledging Conference on Enhanced Integrated Framework, 2007, for the replenishment of the EIF Trust Fund for the first 2 years of operation (US$ 400 Mn needed for the first 5 years to reach EIF objectives)

UN Inter-Agency Cluster on Trade & Productive Sectors:

“From SECO perspective, the main focus of TRTA has now to be placed in concrete implementation measures based on DTIS…trade-related multilateral agencies such as ITC, UNIDO, UNCTAD and ILO are nowadays capable to provide all the specialized services it takes to rise to the challenge of DTIS implementation.

With regard to SECO-WEHU core competences, the envisaged cluster approach shall be based on comparative advantage of each agency and particularly consider the areas of Standardization, Metrology, Testing and Quality (SMTQ) within UNIDO’s core mandate…”
UNIDO
Recent and On-going Projects Covering:
National Quality Infrastructure
UNIDO TCB Programmes – 2007/2011
(TA combining Supply & Conformity - on-going & planned programmes)

Country Programmes
Latin America: Argentina, Colombia, Ecuador, Guatemala, Haiti, Jamaica, Paraguay, Uruguay
Africa: Algeria, Cameroon, Côte d’Ivoire, Egypt, Ethiopia, Ghana, Liberia, Libya, Rep. Arab Jamahiriya, Madagascar, Mauritania, Mozambique, Nigeria, Senegal, United Republic of Tanzania, Tunisia
Arab: Iran (Islamic Republic of), Lebanon, Palestine, Syrian Arab Republic
Asia: Afghanistan, Bangladesh, Cambodia, India, Mongolia, Pakistan, Sri Lanka, Thailand, Viet Nam
Europe: Russian Federation

Regional Programmes
UEMOA: Benin, Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo
ECOWAS: Benin, Burkina Faso, Cape Verde, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo
MEKONG: Cambodia, Lao People’s Democratic Republic, Viet Nam
SAARC: India, Pakistan, Bangladesh, Sri Lanka, Nepal, Maldives and Bhutan
EAC: Kenya, Uganda, Burundi, Rwanda, United Republic of Tanzania
Andean Community: Bolivia, Colombia, Ecuador, Peru and Venezuela
Central America: Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama
<table>
<thead>
<tr>
<th>Project (Region/Country)</th>
<th>Accreditation</th>
<th>Metrology</th>
<th>Testing</th>
<th>Certification</th>
<th>US$/€</th>
<th>Donor</th>
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<tr>
<td>UEMOA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Phase 1: € 14.0 mn; Phase 2: € 6.0 mn</td>
<td>EU</td>
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<td>X</td>
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<td>EU</td>
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<tr>
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<td>Norway (Norad)</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
<td>US$ 2.5 mn.</td>
<td>Norway (Norad)</td>
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<tr>
<td>Sri Lanka</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>US$ 3.0 mn</td>
<td>Norway (Norad) / UNIDO</td>
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<tr>
<td>Afghanistan</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>US$ 1.2 mn.</td>
<td>World Bank</td>
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<tr>
<td>Bangladesh</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>EU</td>
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<td>US$ 2.5 mn.(Regional) + US$ 0.6 mn.</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>US$ 2.5 mn.</td>
<td>Swiss (SECO)</td>
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<tr>
<td>Lao PDR</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>US$ 2.5 mn. (Regional)</td>
<td>Norway (Norad)</td>
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<tr>
<td>Lebanon</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>US$\12.0 mn.</td>
<td>Swiss (SECO)</td>
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<td>X</td>
<td>X</td>
<td>US$ 0.9 mn.</td>
<td>UNDP</td>
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<td>X</td>
<td>€ 3.0 mn.</td>
<td>EU</td>
</tr>
<tr>
<td>Mozambique</td>
<td>X</td>
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<td>X</td>
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<td>US$ 2.2 mn.</td>
<td>Swiss (SECO)</td>
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<td>Pakistan</td>
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<td>EU</td>
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<tr>
<td>Vietnam</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>US$2.5 mn.(Regional) + US$ 1.0 mn.</td>
<td>Norway (Norad) &amp; Swiss (SECO)</td>
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<tr>
<td>Tanzania</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>US$ 3.0 mn.</td>
<td>Swiss (SECO)</td>
</tr>
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</table>
UNIDO’s Assistance to Metrology
Building National Measurement Capabilities

**ASIA**
- Sri Lanka
- Viet Nam
- Lao PDR
- Cambodia
- Nepal
- Pakistan
- Afghanistan
- Bangladesh
- Maldives
- Bhutan

**AFRICA**

<table>
<thead>
<tr>
<th>ECOWAS (West Africa)</th>
<th>Non-UEMOA</th>
<th>UEMOA</th>
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<tr>
<td>Mozambique</td>
<td>Cape Verde</td>
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<td>Zambia</td>
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<td>Burkina Faso</td>
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<td>Ghana</td>
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<tr>
<td>Ghana</td>
<td>Guinea</td>
<td>Guinea-Bissau</td>
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<tr>
<td>Ivory Coast</td>
<td>Liberia</td>
<td>Mali</td>
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<tr>
<td>EAC</td>
<td>Mauritania</td>
<td>Senegal</td>
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<td>Kenya</td>
<td>Nigeria</td>
<td>Togo</td>
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<td>Uganda</td>
<td>Sierra Leone</td>
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<td>Burundi</td>
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<td>Nepal</td>
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<td>Pakistan</td>
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<td>EAC</td>
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<td>Burundi</td>
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<td>Non-UEMOA</td>
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<tr>
<td>UEMOA</td>
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### Cross Frontier Accreditations Completed via UNIDO Projects

<table>
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<tr>
<th>Country</th>
<th>Labs</th>
<th>Scope</th>
<th>AB</th>
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<tr>
<td>Sri Lanka</td>
<td>8</td>
<td>Microbiology (2); Chemical Testing (2); Garment Textile (1); Metrology (1); Rubber testing (1); Food Testing (1)</td>
<td>SWEDAC</td>
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<tr>
<td>Tanzania</td>
<td>1</td>
<td>Metrology</td>
<td>sanas</td>
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<td>Pakistan</td>
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<td>Microbiology (6); Chemical Testing (6); Leather/Textile (5); Metrology (1); Electrical (1)</td>
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<tr>
<td>Viet Nam</td>
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<td>Microbiology (2); Chemical Testing (1); Metrology (2);</td>
<td>BOA Viet Nam</td>
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<tr>
<td>Bangladesh</td>
<td>1 CAB</td>
<td>Quality Management System Certification Body (ISO/IEC 17021 and ISO/IEC 22003)</td>
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<tr>
<td>Cambodia</td>
<td>1</td>
<td>Rubber testing Laboratory (1)</td>
<td>BOA</td>
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<td></td>
<td>1 CAB</td>
<td>Product Certification Scheme</td>
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<tr>
<td>Libya</td>
<td>5</td>
<td>Industrial Research Center (IRC): Building Materials, Metallurgy, Food Testing, Chemical and Textile.</td>
<td>DAP</td>
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</table>
UNIDO On-going Support to Emerging Accreditation Bodies

- Bangladesh - BAB Under EU Project
- Pakistan - PNAC Under EU Project
- Vietnam - BOA Under Swiss Project
- Nepal - NBA Under EU Project
- Mongolia
- Regional
  - East Africa - Regional Mechanism - Norway
  - West Africa - UEMOA - EU funding
  - Linking UEMOA & ECOWAS - EU funding
  - SAARC Asia - EU funding
The site benefits:

- Laboratories (environmental, metrology, testing, chemical, microbiology, textile, etc.)
- Professional laboratory staff in developing countries
- Exporters from developing countries
- Industry, in particular small and medium-sized enterprises, seeking metrology and calibration laboratories in developing countries
- Emerging accreditation/certification bodies
- Laboratories with the potential to obtain accreditation
- Academia and researchers
A UNIDO & WAITRO Initiative
Concept to Realization

Mass Metrology
Volume Metrology
Length & Dimensional Thermometry
Electrical Accommodation and environmental conditions
Etc.

In Partnership With:

[Images of logos for EPTIS, COMAR, BIPM, etc.]

Poverty Reduction through Productive Activities • Trade Capacity Building • Energy and Environment
Development of Industrial Metrology Laboratories

Contents:

- Fundamental Concepts of measurement
- Dimensional Measurements
- Mass
- Pressure
- Force
- Temperature
- Electrical
- Uncertainty of Measurements
- Calibration

Publication 1st Quarter 2010
Contents:

• Basic concepts of conformity assessment
• Conformity assessment techniques
• Conformity assessment schemes and systems
• Conformity assessment bodies
• How UNIDO can help with setting up a quality infrastructure
• Case studies
Regional Metrology Organisations

Fundamental in CIPM MRA process

UNIDO Support

UNIDO Support

UNIDO Support

UNIDO Support
Objective: to provide African testing laboratories and exporting business units increased access to domestic and affordable calibration services from local NMIs that are reliable and internationally traceable.

Starting date: 4th Quarter 2009

Duration: 24 Months

Estimated Budget:

- UNIDO contribution* U$ 190,000
- NORAD contribution U$ 725,000

Estimated budget: U$ 915,000
CONCLUSIONS

- Developing Country Challenges – MDGs & growth
- Industry & Trade Development- An opportunity
- TBT/SPS COMPLIANCE- A Challenge
- MAS International Accords- Opportunity & Challenge
- CIPM –MRA a Key Conformity Building Block
- UNIDO Partnering in Capacity Building
Thank You for your attention!