



Forum: Metrology – Trade Facilitator

25 October 2004, Berlin, Germany

POSTERS

Requests for support



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ALBANIA

Core Problem:

- I Albanian metrology has inherited significant deficiencies from the past, mainly in having staff well qualified in metrology issues and activities. The main activity of Albanian metrology has been focused on legal metrology, concentrating on the field of mass, mostly in trade. Nowadays, economic development is expanding in the sectors of light industry, food industry, pharmaceuticals, construction, electricity (production, supply) etc. Various requirements coming from different sectors of industry; the elimination of technical barriers to trade have indicated the need for Albania's metrology service to be reviewed. The fulfilment of this task requires qualified people with relevant knowledge and skills in metrology. Here in Albania we do not have any expert who has studied or been trained in a metrology school. This lack of knowledge means that the development of metrology does not correspond to the needs. Thus, the education of at least two young people in a metrology school abroad is necessary.
- II The increase in the number of vehicles and the development of all economic sectors within the country have directly influenced the consumption of fuel. Thus, thousands of tanks of various capacities (100 m³; 5000 m³ and 10 000 m³) have been built during recent years. GDMC is not able to fulfil all requests coming from different companies providing the calibration of tanks, since there is a lack of appropriate equipment for this purpose.

Significance of the problem:

- I The absence of staff qualified in western schools of metrology means that Albanian metrology is not able to follow the country's economic development, nor to fulfil its requirements. New technologies in health care, environmental protection and the food industry require a high level of metrology training. There is a requirement for expertise in measurements methods, the realization and maintenance of measurement standards, uncertainty evaluation, traceability chains, making metrology sector business plans, etc. It is well known that industrial and scientific metrology require a high level of knowledge and skill. The education of two Albanian people will also serve as an incentive for recruiting young staff to metrology structures, and ensuring their continued involvement in such structures is indispensable in renovating and rebuilding the national metrology system.
- II All parties involved in this process (importers, producers, transporters, consumers) demand and require that accurate measurements be assured at all times.

What is needed:

- I Education of two young Albanian experts for a period of at least one year on metrology issues. Qualified people will influence and be involved in the appropriate development of metrology within the country.
- II The appropriate equipment for the calibration of vertical fixed storage tanks.

Contributions:

- I We will take care of selecting two specialists who have graduated from University in Engineering and/or Physics.
- II The General Directorate of Metrology and Calibration will cover the expenses for the transportation of equipment and for taxes.

Whom to address:

During the Forum:

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ARGENTINA

Core Problem:

There is no regulation in instruments related to public services, such as electric meters, gas meters and water meters.
The same situation applies to instruments related to medicine.

Significance of the problem:

INTI, the NMI of Argentina, is involved in technical responsibilities in Legal Metrology since September 2003. One of the goals for the next two years is to incorporate instruments of public services and medicine to the field of Argentina's Legal Metrology.

What is needed:

Assessment in the implementation of necessary tests related to the instrumentation to be incorporated to legal metrology.

Contributions:

INTI's knowledge, human resources and structure.

Whom to address:

During the Forum:

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BHUTAN

Core Problem:

Bhutan's accession to WTO Membership

The Royal Government of Bhutan has initiated its accession to WTO membership. The Standards & Quality Control Authority, under the Ministry of Works & Human Settlement, has been identified as the implementing agency for Metrology, Standards, Testing & Quality (MSTQ). Accordingly, the Standards & Quality Control Authority has, with other stakeholders, discussed and agreed that the proposed Standards and Metrology Centre should be established within the existing Material Testing & Research Division (Laboratory) under SQCA. UNIDO has also identified SQCA as the implementing agency for UNIDO assisted projects to SAARC LDCs. Hence, it has been felt necessary to establish a National level centre for Metrology, Standards, Testing & Quality (MSTQ) for certification purposes to meet international requirements. An MSTQ system does not exist in Bhutan and thus it is not possible to address the question of offenders in the fields of weights, measures, weighing or measuring instruments until such an institution has been established in the country. We are looking for some donors to support us in establishing a Centre for Metrology, Standards, Testing & Quality (MSTQ) in terms of finance, equipment, expertise and training of staff on the use of equipment to ensure that technical regulations and standards are complied with. This would include packing, marking and labelling requirements, as well as procedures for the assessment of conformity with technical regulations and standards so as not to create unnecessary obstacles to international trade. The SQCA is also in the process of obtaining ISO membership.

Significance of the problem:

At present Bhutan does not have a national standards institution or legal metrology system for modern commercial operations. Hence, the establishment of an institutional structure for standards and legal metrology, as well as internationally accredited test laboratories for the main exportable products are pre-requisite. The centre would enable the adoption of international standards for products and services to facilitate exports and domestic trade and to protect the interests of consumers in Bhutan. The main objective would be to promote national standards for products and services in harmony with international standards and the technical regulations adopted by major trading partners with a view to protecting the interest of consumers and facilitating international trade.

Negative Impacts:

- 1 Interests of consumers and domestic trade are not protected.
- 2 Difficulty in interacting with international standards organizations and standard bodies of trading partner countries.
- 3 Difficulty in maintaining close liaison with standard bodies of neighbouring countries.
- 4 Difficulty in maintaining a database on standards and technical regulation in Bhutan and trading partner countries and operating national enquiry points as required under the WTO TBT Agreement.
- 5 Difficulty in maintaining reference standards for weights and measures and in arranging their periodic calibration.
- 6 Not easy to enforce weights and measures laws of Bhutan.
- 7 Difficulty in promoting quality improvement in Bhutan to make its products and services globally competitive.
- 8 Difficulty in coordinating activities in the areas of conformity assessment to facilitate international trade.
- 9 Difficulty in serving as the secretariat for the National Standards Council (NSC) to be established by the Bhutan Government.

What is needed:

There is a need to establish a Standards Metrology Centre for Bhutan within the Material Testing Laboratory of SQCA and so support is required from donor agencies for both financial and technical expertise to establish a small, compact and efficient Standardization and Legal Metrology Centre. The building for Material Testing Laboratory is near completion. The existing equipment, which is primarily for road and building works, will be moved to the new building. In keeping with the expanded mandate of SQCA, the laboratory services will also need to be expanded significantly. Therefore, the following support from the donors have become crucial:

- 1 Short Term TA (about 3 months) of a Material Testing Laboratory Specialist to support SQCA in streamlining the Laboratory set up. The TA could also identify requirements for technical expertise.
- 2 Laboratory equipment & training facilities for the establishment of the Standards & Metrology Centre.

Contributions:

The Royal Government of Bhutan will provide office space, building, manpower and general office facilities, etc. According to Article 10 of the WTO Agreement on Technical Barriers to Trade, each member shall ensure that an enquiry point exists which is able to answer all reasonable enquiries from other members and interested parties in other member states as well as to provide the relevant documents relating to standards, technical regulation and conformity assessment system. SQCA is the focal agency for WTO enquiry point.

Whom to address:

During the Forum:

Saha Bir Gurung,
Material Testing & Research Division,
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Ministry of Works & Human Settlement,
Royal Government of Bhutan.



After the Forum:

Mr. S. B Gurung,
Head, Material Testing & Research Division, Standards & Quality Control
Authority,
Ministry of Works & Human Settlement
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BOLIVIA

Core Problem:

Weak conformity assessment structure in the custody transfer chain for natural gas

In our sub region, technical norms harmonized for meters of natural gas don't exist, for example, for their model approval and operation tolerances of the dispensers.

The work pressure of the dispensers of natural gas is not common among all the countries of the sub region.

Weak infrastructure in the sub region, for the traceability of standards of measurement used in the verification of the dispensers of natural gas.

Testing laboratories having technical accreditation for the characterization of natural gas don't exist In Bolivia.

Customs don't facilitate the circulation of samples of gas to be employed in intercomparisons.

Significance of the problem:

The absence of conformity assessment in the natural gas field causes for example:

- The final consumer doesn't have complete confidence in the volumes acquired;
- Weak metrology in this field doesn't offer for example, trust and transparency in the measurement, which causes problems with transaction costs and unfair competition in commercialization;
- The absence of harmonized standards for all elements concerned in natural gas transactions could cause an involuntary increase in technical obstacles, since technical regulations are based on incompatible technical standards;
- Safety problems can also emerge. For example, for vehicles converted to natural gas on the basis of local criteria that don't correspond to international criteria;
- Bolivia has large certified reservations of natural gas and therefore a constant increase in motors fuelled by natural gas is foreseen. This is not a local problem; neighbouring countries such as Argentina, Brazil and Peru have more vehicles converted to natural gas every year.

What is needed:

In Bolivia we require technical assessment to design and execute a program to establish conformity assessment in the field of natural gas, including among the priorities the following fields:

- Technical requirements for the conversion of the natural gas vehicles;
- Technical requirements for type approval of natural gas dispensers;
- Metrological requirements for the initial, periodic and exceptional verification of dispensers;
- Donation of reference materials to be used in the characterization of natural gas;
- Temporary loan of measurement standards for the verification of dispensers;
- Training of technicians in the verification of natural gas dispensers.

Contributions:

Bolivia has a technical quality infrastructure, consisting of the Bolivian System of Normalization, Metrology, Accreditation and Certification (SNMAC) which comprises essentially the Bolivian Organisation of Accreditation (OBA), the Bolivian Institute of Standardization and Quality (IBNORCA) and the Bolivian Institute of Metrology (IBMETRO). Since 1998, the SNMAC has received technical cooperation from the PTB, which set up the basic Bolivian metrological infrastructure.

To implement natural gas verifications, IBMETRO can provide traceability for instruments and measuring systems used in the fields of temperature, length, pressure, volume and mass. In few months, liquid flow will also be possible.

The IBMETRO can offer logistical support in the form of transport inside the country for verifications in-situ, as well as all necessary infrastructure to be able to receive technical support.

Whom to address:

During the Forum:

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BOLIVIA



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CAMBODIA

Core Problem:

- 1 The National Metrology Laboratory (NML) is combined with Department of Metrology (DoM) of the Ministry of Industry, Mines and Energy (MIME). With the help of UNIDO, under the NML; we set up five Regional Verification Centers:
 - Phnom Penh, No. 1
 - Sihanouk Ville, No. 2
 - Battambang, No. 3
 - Kampong Cham, No. 4
 - Ratanakiri, No. 5
- 2 Each Regional Verification Center is responsible for activities such as calibration, verification, etc. and is able to identify or certify the measuring equipment and goods for import and export.
- 3 Under a previous assistance program, Regional Verification Center No. 2 was supported by New Zealand, and it is planned to put Regional Verification Center Number 03 into the CLMT's Bagan Plan. For the rest, we are seeking international assistant agencies to support the establishment of Regional Verification Centers No. 1, No. 4 and No. 5.

Significance of the problem:

Without these Regional Verification Centers, we cannot implement an operational legal metrology service so as to certify weighing and measuring instruments used in trade, nor a measurement inspection regime for prepackaged goods.

We want to set up these Regional Verification Centers as a legal metrology infrastructure, so as to be able to inspect and certify measuring instruments in domestic trade and for the export market, and to provide a service to the industrial sector, wholesale and import-export market. For this reason, this Regional Verification Center is bordered by Thailand, and Laos and Viet Nam in particular, in ASEAN communication.

What is needed:

- 1 Support equipment for each Regional Verification Centers,
 - 2 Study and establishment 03 Regional Verification Centers (Survey, visit, report ...),
 - 3 Training staff and
 - 4 Means of transportation
- Estimated expenditure for one Regional Verification Center: 357 000.00 US\$
 - Therefore, 3 Centers will cost: 1071 000.00 US\$
 - Land and building cost (for 3 centers): 300 000.00 US\$
 - Duration: from 2004-2008

Contributions:

- The Royal Government of Cambodia (RGC) will provide the counterpart fund for land and buildings.
- Step by step RGC provided 100 000.00 US\$ for one Regional Verification Center. From 2005 to 2008 will provide 100 000.00 US\$ × 3 Centers = 300 000.00 US\$.

Whom to address:

During the Forum:

After the Forum:

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CAMEROON

Core Problem:

Lack of metrology laboratories and standards with the required traceability.

Significance of the problem:

- 1 Inaccurate evaluation of the uncertainty of most measurement results.
- 2 Lack of traceability. Comparability of measurement results is impossible and confidence is absent.
- 3 Impossibility of controlling measuring instruments in the following areas:
 - Services and utility metering such as water, electricity, telecommunications and taximeters;
 - Environmental and pollution control such as vehicle exhaust gases, petroleum pollution, etc.;
 - Health care such as temperature and blood pressure measurements;
 - Human safety matters such as radar speed control and alcohol in the blood.
- 4 Consequences:
 - Problems of access to global markets and of protecting consumers locally;
 - Difficulties in adopting innovative technologies;
 - Reduced government revenues;
 - Unsustainable development;
 - Unemployment;
 - Unreliable measurement in human health and safety, resource and environmental control.

What is needed:

- 1 Construction of metrology laboratories equipped in the following areas:
 - Gravimetric measurements;
 - Volumetric measurements;
 - Electricity, electronics, telecommunication measurements;
 - Temperature, length, speed measurements.
- 2 Training of personnel to run these laboratories.

Contributions:

- The Government of the Republic of Cameroon can finance about 30 % of investment.
- Loans and donations to finance the rest are welcome by the Government.

Whom to address:

During the Forum:

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CONGO

Core Problem:

Some areas of measurement are not exploited because of:

- lack of equipment;
- few evaluation and lack of continuous training within MSTQ;
- low participation of industries in MSTQ;

national regulations obsolete and non-adapted.

Significance of the problem:

The non-exploitation of those areas have a negative impact on:

- a) Economy: non-competitiveness of local products;
low volume of exportation of manufactured products;
measurement instruments in industries are not calibrated.
- b) Society: low used of measurement instruments in the public trade;
dubious quality of some products;
non-protection of consumers.
- c) International Trade: non-competitiveness of local products;
some imported products have dubious quality.
- d) Safety and environment: non-respect of the environment.

What is needed:

- Expert assistance in MSTQ;
- Assistance to set up a national plan;
- Technical assistance in equipment and training in the following areas:
 - chemical metrology;
 - pressure metrology;
 - temperature metrology;
 - electrical metrology;
 - metrology applied to the environment;
 - time and frequency metrology.
- Mobile laboratory.

Contributions:

Internal resources:

- Development of adapted regulations;
- Facilities.

Whom to address:

During the Forum:

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COOMET

Core Problem:

WHAT IS COOMET? ...

The Euro-Asian cooperation of national metrology institutions (COOMET) is a regional MSTQ organization founded in June 1991. COOMET is open for metrology institutions from any other regions to join as associate members. Members of COOMET are the metrology institutions from Belarus, Bulgaria, Germany, Kazakhstan, Kyrgyzstan, DPR of Korea, Cuba, Lithuania, Moldova, Russia, Romania, Slovakia, Uzbekistan and Ukraine.

COOMET ACTIVITIES:

General questions concerning measurements (general metrology); measurement standards, legal metrology, accreditation and quality management systems, information and information technologies, training and rising proficiency level of experts.

The official languages for COOMET meetings and documents are Russian and English.

CORE PROBLEMS OF REGIONAL COOPERATION WITHIN COOMET:

- 1 Lack of specialized training courses for metrologists from NMIs or similar institutes of COOMET countries.
- 2 Traceability of standards of COOMET NMIs and participation in international comparisons are not satisfactory according to the numbers of core problems
- 3 Not enough advice on national legislation in the MSTQ field (comments below are given)

Significance of the problem:

- 1 Despite well arranged and widely acceptable national educational courses in CIS countries in the field of MSTQ, there is still a gap in practical experience regarding the expression of uncertainty of measurements, calibration, comparisons of measurement standards at international level, processing of measurement data of comparisons, maintenance of measurement standards, use of uncertainty for certified reference materials, implementation of mutual recognition arrangements etc. Without common approach in this field of knowledge NMIs of COOMET are not able to effectively cooperate with their colleagues all over the world and can not facilitate elimination of technical barriers in technical sectors of national economies.
- 2 Calibration of measurement standards against international ones is one of the key points in supporting mutual recognition arrangements. Currently, COOMET NMIs mostly can not afford international comparisons or calibrations because of high costs. However, they are able to participate in intra-regional COOMET comparisons. Support of some COOMET NMIs for participation in relevant international comparisons will suffice for establishing traceability of other COOMET NMIs' measurement standards to international ones.
- 3 Currently, Governments are not aware of policy of other countries in supporting metrology infrastructure and ensuring traceability in measurements, in particular. Being decision makers they need continuous advice on high priority metrology issues.

What is needed:

- 1 Feasible financial support for technical visits to donor NMIs, sponsorship of training and attending workshops, training courses etc.
- 2 Sponsorship for participation in international comparisons and calibrations against internationally traceable measurement standards.
- 3 Addressing Governments by international organisations (OIML, BIPM, ISO, IEC) with their decisions stating the urgent needs of metrology. Assisting NMIs with supporting documents and arguments stating the objectives and future tasks of metrology and its importance in terms of economy for survival in a globalized world market, e.g. preparation of leaflets and distribution at national administrative level.

Contributions:

- 1 Internal resources are available on self-educational basis as well as experts exchange in the frame of COOMET cooperation. Finance for participation in workshops at inter-regional level are provided to some extent.
- 2 Financial and other resources for maintaining the traceability of national measurement standards are allocated by NMIs, primarily to meet the demands of critical metrology applications (mass, length, angle, time measurements, etc.). Governments are addressed for appropriate sponsorship.
- 3 Organization of awareness events (e.g. conferences) with attendance of representatives from Government and other relevant administration.

Whom to address:

During and after the Forum:

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COSTA RICA

Core Problem:

- 1 There is no high capacity mobile weighing system infrastructure in the country.
- 2 There is a lack of infrastructure as standards for metrology development in the medical area.

Significance of the problem:

- 1 Negative impact on the economy and commerce due to fraud in tax collection and fair commercial transactions among third parties.
- 2 Negative impact on security and the environment due to lack of standards and equipment verification means in these areas: sound meter, dosimeters, audiometry.

What is needed:

- 1
 - a) Technical evaluation for confirmation and assessment of necessary equipment and infrastructure requirements for decision taking at the national level.
 - b) Equipment according to technical assessment.
- 2
 - a) Assessment of requirements and needs.
 - b) Standards for traceable development of those magnitudes.

Contributions:

- Law giving competence for the development of national metrology.
- A structure of MSTQ system for issuing national policies, but lacking financial resources.
- Availability of personnel for the infrastructure to be developed.
- Experience in successful participation in related projects.

Whom to address:

During the Forum:

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ECUADOR

Core Problem:

The problem is updating the traceability of the standards of Ecuador.
This problem affects the traceability of calibrations made for the trade sector.

*El problema es la actualización de los patrones del Ecuador.
Este problema afecta a la trazabilidad de las calibraciones realizadas para el sector industrial.*

Significance of the problem:

The equipment used by industry does not have updated traceability and they do not know if their equipment gives measure with the required accuracy. This is affecting the quality of products made by industry in Ecuador and the laboratories do not provide confidence in measurements.

Los equipos utilizados por la industria no tienen una trazabilidad actualizada y desconocen si sus equipos proporcionan mediciones con una exactitud necesaria. Esto afecta a la calidad de los productos hechos por la industria en Ecuador y los laboratorios no tienen seguridad en sus mediciones.

What is needed:

We need periodic comparisons of the required accuracy in mass, volume, length, pressure and force areas.

Necesitamos comparaciones periódicas con exactitud adecuada en las áreas de masa, volumen, longitud, presión y fuerza.

Contributions:

We are going to buy new mass equipment and we are going to establish a temperature laboratory.

Estamos en un proceso de compra de nuevos equipos en el área de masa y vamos a implementar un laboratorio de temperatura.

Whom to address:

During the Forum:



René Chanchay
Instituto Ecuatoriano de Normalización, INEN

After the Forum:

Ing. Felipe Urresta
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EGYPT

Core Problem:

No facilities for the calibration of:

- gas flow meters;
- weighs more than 20 kgm;
- electrical energy power meters in EOS calibration laboratories.

EOS calibration laboratories are not able to fulfil Metrology tasks.

Significance of the problem:

EOS calibration laboratories are not able to issue either calibration certificates or calibration third party certificates for the above-mentioned items.

What is needed:

Calibration system for calibration of:

- gas flow meters;
- weighs more than 20 kgm;
- electrical energy power meters.

Contributions:

Contribution of a maximum of 30 % of the total cost.

Whom to address:

During the Forum:

Egyptian Organization for Standardization and Quality Control (EOS)

After the Forum:

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EGYPT



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GABON

Core Problem:

Implementation of an efficient legal metrology system in Gabon

Significance of the problem:

- There is no type examination.
- There is no traceability to SI units.
- Uncertainty evaluation.

Not only are these three elements the cause of a great loss of profit, but they also negatively impact the image that the General Directorate for Customs and Indirect Taxes wants to have as concerns metrology.

Actors who are importing or who are in possession of measuring instruments are mainly economic operators and are also affected.

What is needed:

- National standards in the following areas:
 - Length;
 - Mass;
 - Small and large volume;
 - Temperature;
 - Pressure;
 - Electricity;
 - Environment.
- ISO 17025 certified laboratory.
- Management software for measuring instruments.
- Scaling software.

Contributions:

- Cooperation
- Logistical support

Whom to address:

During the Forum:

General Directorate for Customs and Indirect Taxes
GABON

After the Forum:

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GEORGIA

Core Problem:

Unsafe market - Participation of private enterprises in Legal Metrology

Georgia was separated from the standard basis of physical units (located in St.-Petersburg and Moscow).

At present, the reference standards of Georgia do not correspond to modern requirements, which creates certain limits in international trade and relations. This situation was caused by the inability of the state budget of Georgia to finance sufficiently the works aimed at developing standardization, legal metrology and the standard basis in the years 1992-2004.

Problems and difficulties which are expected in the process of reforms:

- Questions of institutional and organizational infrastructure, particularly concerning the ministries and institutions carrying out the functions of control and supervision. They consider reforms in the field of technical regulation as reducing the financing and sphere of their authority, particularly those which are directly connected to the control and supervision spheres. Georgian legislation does not recognize the withdrawal from market or destruction of products not corresponding to mandatory requirements.
- Unavailability of a uniform legislative basis for institutions authorised to carry out market supervision. Problems and difficulties which are expected in the process of reforms.

Significance of the problem:

On June 14, 2000 Georgia became the 137th member of the WTO. Together with joining the WTO the process of revising the country's legislative basis in the field of standards and technical rules has started according to modern requirements.

The obligation to improve the legislative basis derives from accession to the WTO and comprises the step-by-step harmonization of Georgian legislation with EC legislation, according to the Partnership and Cooperation Agreement signed between Georgia and the EC and its Member States.

The first steps in this direction have already been taken. For instance, after making relevant amendments to the Georgian Law on Standardization, it now recognizes the concepts of voluntary standardization and technical rules.

The development of various fields such as energy (oil, gas), public health, industrial engineering, etc. in the country, as well as in export-import operations cannot be achieved without accurate measurements. It should be mentioned that such projects as *Baku-Tbilisi-Geikhan* also require adequate metrological support.

What is needed:

It is necessary to:

- Elaborate and specify strategic principles of the reforms of technical regulation;
- Prepare the basis for and finance the accession of Georgia to such international organization as ISO, IEC, OIML, etc.;
- Use OIML publications as a basis when developing national standards in metrology;
- Prepare practical suggestions to provide the normative basis for legislative documents, taking into consideration the fact that the incorporation and harmonization of EU legislation, particularly the new approaches directives, as well as the recognition of European standards as national ones will have to be done simultaneously;
- Establish uniform translations of official documents. The difference in translations made by various organizations causes inefficiency in their practical use.

Obviously the existing technical regulation system needs deep and thorough reform according to modern requirements. Enforcement of the new laws aims at the solution of problems such as:

- The accession of Georgia to international organizations and participation in their work;
- Improvement of metrology and measurement traceability infrastructure and technical equipment basis;
- Harmonization of the product and service conformity assessment system to international standards and rules;
- Improvement of calibration, verification and test laboratories' accreditation systems in accordance with the requirements of international documents;
- Intergovernmental and international accreditation of laboratories for mutual recognition of calibration and measurement results;
- Participation in the standardization process of interested organizations, small, middle and large enterprises. Certification of their quality systems in accordance with the requirements of standards;
- Improvement of the standard basis of physical units is of great importance to Georgia to ensure the traceability of measurements with the accuracy required by international standards.

Georgia requires considerable assistance from partner states in metrology to improve its measurement infrastructure.

Whom to address:

During and after the Forum:



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Request for support**



GHANA

Core Problem:

The Metrology Division of Ghana Standards Board has the following core problem:

- None of the Metrology services is accredited;
- Our reference standards are not traceable since their calibration periods are over;
- Staff are not exposed to international laboratories.

Significance of the problem:

The country is promoting private sector development with emphasis on export of non-traditional exports.

The fact that none of our laboratories is accredited, most of the exporters prefer sending their products samples outside Ghana, especially to accredited laboratories in Europe, to have their samples tested and for conformance assessment.

This practice obviously is a drain to the companies and a loss to our country Ghana.

What is needed:

There is the need to have assistances in the following areas:

- Traceability to our physical standards;
- Accreditation to our mass, temperature, pressure and volume laboratories;
- Staff training and attachments to accredited laboratories outside Ghana.

Contributions:

Internally, GSB can contribute the following to overcome the problem:

- Modest metrology laboratory – for mass, temperature, pressure and volume
- Qualified staff to be trained. Some have already been trained in ISO/IEC 17025
- E₂ (1 mg – 2 kg), F₁ (1 mg – 20 kg) for calibration
- Equal arm balances of 200 g, 1 kg, and 5 kg capacity
- Mass comparators: 220 g × 0.1 mg/0.01 mg; 2300 g × 0.1 mg; 1 500 kg × 0.01 g; 1.5 t × 0.1 kg
- Temperature calibrators up to 650 °C
- Pressure calibrators up to 90 bar

Whom to address:

During the Forum:

Nimo Ahinkorah
Executive Director
Ghana Standards Board
Ministry of Trade and Industry and President's Special Initiative / Ghana

Kwasi Boadu
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**Forum: Metrology – Trade Facilitator
Request for support**



GUINEA

Core Problem:

- a) The metrology and testing laboratory of the National Institute of Normalisation and Metrology does not have the means to calibrate measuring instruments:
- of small volume (pipettes),
 - of pressure (manometers),
 - of temperature (thermometers),
 - electricity meters,
 - water meters,
- in order to support the metrology and testing laboratories in their quality approach toward accreditation.
- b) Difficulty in carrying out activities of training and awareness in the field:
- of metrology and quality management;
 - to support companies in their quality approach.
- c) Difficulty of the National Institute of Normalisation and Metrology in answering requests for information from exporters of:
- food-processing and fisheries in order to enable them to access the European market.

Significance of the problem:

- a) Inability for laboratories and companies to calibrate their own measuring instruments locally, which often create unacceptable discrepancies in the results of analyses and testing, as well as disputes with customers.
- Economically speaking, this leads to a lack of competitiveness and sometimes a considerable loss in profits.
 - For society as a whole, this can affect consumers' lives and represent a health hazard.
 - Commercially, this can result in a lack of fairness in transactions and internationally, this situation can induce unfair competition.
 - From a security point of view, material damages are recorded, as well as important loss of human life resulting from malfunctioning measuring instruments.
- In short, the absence of national standards for small volumes does not allow laboratories to efficiently analyze food-processing and fishing products, which are very important resources for Guinea.
- b) Inability for companies to bear the high costs of training by outside institutions.
- Economically and commercially, this causes a lack of competitiveness for the company.
 - From a security point of view, material damages are recorded, as well as loss of human life resulting from a deficiency in mastering procedures and security protocols.
- c) Inability of exporters to access information about international standards, conformity assessment procedures, European Directives, etc. at a lower cost.
- Economically, this causes production losses and a lack of competitiveness for the company.
 - From an international trade perspective, this situation can generate a technical barrier.
- In short, the absence of information on exporting markets puts food-processing and fishing companies at a disadvantage.

What is needed:

- Standards for the following measuring instruments:
- a) Pipettes, manometers (electronic and mechanical), pressure balances, thermometers, electricity meters, water meters, documentation, training and technical assistance.
- b) Training of trainers in metrology and quality management.
- c) Standards, European Directives, technical documentation, software.

Contributions:

- a) We have an adequate building to receive equipment and we are committed to bear transportation and customs costs.
- b) We have a motivated and university educated staff.
- c) We have a documentation and information centre and we are committed to bear transportation and customs costs.

Whom to address:

During the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



IRAN

Core Problem:

This is to inform you that some of ISIRI's existing problems related to Metrology sector are as follows:

1 Reinstallation of “Force Standard Calibration Machine”

On the basis of UNIDO Project No. DP/IRA/89/034 and Activity code:J 12102 and according to Contract No. 93/164 between UNIDO and Czech Metrology Institute to upgrade Metrology Department of ISIRI, a Force Standard Calibration Machine was installed in our Force Laboratory. Some defects occurred in a part of this machine and thus the Force Laboratory of the Metrology Department has completely become inactive. We therefore need technical support to render services for the reinstallation of this machine and to teach some of our personnel how to use it.

2 Lack of equipment for implementation of the requirements of OIML R76 and R60

This lack causes some problems for conformity assessment, so we would welcome support to equip the related laboratories and to provide professional training courses in this case.

3 Dimensional Laboratory

Upgrading our dimensional laboratory to a primary level requires new comparators and new traceable sets of “K grade” gauge blocks and suitable environmental conditions, so ISIRI request professional training courses and appropriate technical support in this case.

Significance of the problem:

What is needed:

Contributions:

Whom to address:

During the Forum:

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After the Forum:



Forum: Metrology – Trade Facilitator Request for support



IVORY COAST

Core Problem:

Legal metrology in Ivory Coast is regulated by a law dating from 1962 and managed by the Ministry of Trade. This law allows the private sector to undertake initial and periodic verification of measuring instruments. The business sectors mainly concerned are weighing, fuel dispensers, storage tanks and transport tankers for hydrocarbons.

Industrial metrology to assist in various quality approaches (ISO 9000, ISO 14000) is not covered by these provisions. In 2001, in order to confront the requirements of international trade, the state therefore equipped LANEMA with reference standards in the fields of temperature, electricity, hygrometry, mass and pressure with the help of donors.

Two engineers were trained in 2002 and two others are being trained in 2004-5. The Ivory Coast is in the process of constructing a laboratory for which certain problems remain:

- The laboratory under construction is not yet operational due to a lack of laboratory benches and services;
- The legislation is not adapted to the requirements of today's international trade;
- The role of the state, of the private sector, of a reference laboratory and of the administrative structure is not clearly defined;
- There are not enough trained staff;
- There is not a system in place for the certification of private sector operators in the type approval process for instruments to be placed on the Ivorian market and for weights cast in domestic foundries;
- For certain quantities, such as dimensions and force, there are no service providers.

Significance of the problem:

The consequences of these problems are:

- The lack of a voice for commercial interests at the level of the state;
- Confusion between legal and industrial metrology;
- Loss of market share for commercial interests;
- Loss of income for the state;
- Difficulties for companies in the dimensional and force fields in their quality approach;
- There is no metrological control of climatic chambers;
- Other analytical and test laboratories have difficulties in assuring their internal metrology due to the lack of a reference laboratory to ensure the traceability of their standards;
- The need to send equipment to Europe, with the associated risks of damage and long periods of unavailability leads large companies to buy double sets of equipment;
- The lack of local expertise leads to financial losses due to the minimal knowledge of the management of metrology in industry;
- The lack of trainers within LANEMA to make industry aware of the management of metrology.

What is needed:

In order to counter these problems, LANEMA's needs are as follows:

Training (the most important issue)

It is important to obtain long (engineer) and short (technician) duration training in different quantities. We are looking for a partnership with schools, technical universities and metrology testing laboratories for the training of:

- National experts on the creation and establishment of a metrology system in industry;
- Consultants for measuring systems and service providers in the field of state approval;
- Type approval experts;
- Techniques for the gauging and calibration of storage tanks and transport tankers;

Traceability and maintenance of standards (very important)

The traceability of reference standards is a problem, due to the principle of "payment after provision of service" imposed by the state. We are looking for a partnership with a reference laboratory such as the PTB or LNE.

Technical assistance in accreditation

We need experts and financial assistance for accreditation in three fields (mass, temperature and pressure) before 2007.

Equipment

- Equipment for dimensional and force measurement (very important);
- Additional equipment for existing fields of measurement;
- IT equipment and software for the automation of calibration systems and for the management of metrological activities (very important);
- Software for the gauging and calibration of storage tanks and transport tankers (very important).

Technical assistance

To enable the setting up of a type approval laboratory, as well as a system for verification and the follow-up of the quality systems and competence of private sector laboratories

Documentation (very important)

The establishment of a specialised testing, metrology and quality library.

Contributions:

The Ivory Coast Government has allocated, in 2004, a budget of 180 million Francs CFA for the laboratory project. This needs to be topped up to better adapt the facilities to metrology and testing.

The state can cover cost for:

- Travel of national experts
- The cost of annual verification of standards on condition that a partnership is signed with a reference laboratory.

Whom to address:

During the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



KAZAKHSTAN

Core Problem:

At present the “Kazakhstan Institute of Metrology” Republic State Enterprise (“KazInMetr” RSE) is in possession of 29 State measurement standards, but the Staff members, who are responsible for their use, conservation and operational condition, are not qualified and trained enough to carry out international intercomparisons of those standards.

This problem prevents the Republic of Kazakhstan from entering the Metre Convention and raises a question about the reliability of measurements which are carried out in Kazakhstan.

Significance of the problem:

According to the “Programme of development of the system of measurement uniformity assurance in the Republic of Kazakhstan for 2004 – 2006”, new measurement standards and standard equipment are purchased every year on funds of the Republican budget, which enables the improvement of the national standard reserve and metrological supply of the country.

Being a national Institute of Metrology of the Republic of Kazakhstan, the “KazInMetr” RSE must be able to organize intercomparisons and know the procedures to be applied (e.g. participation in the procedure of intercomparison, making records on results received).

Realization of the tasks mentioned above would make an important contribution to the development of intercomparisons both on national and international levels, and would be to advantage of Kazakhstan in its wish to join the WTO, and eventually it would contribute to the development of world trade.

What is needed:

“KazInMetr” RSE needs to have its specialists trained in countries which have extensive large experience in the field of international intercomparisons of state measurement standards, and to take part in the procedure of standard intercomparisons being carried out in national metrological institutions of developed countries.

Contributions:

Financing of national and international intercomparisons of state measurement standards and also specialists’ training and travel expenses is envisaged in the “Programme of development of the system of measurement uniformity assurance in the Republic of Kazakhstan for 2004 – 2006”, approved by the Resolution of the Government of Republic of Kazakhstan, No. 321 of 16 March, 2004.

Whom to address:

During the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



KENYA

Core Problem:

- 1 Inadequate mass standards, lack modern mass comparators.
- 2 Inadequate working standards (mass, volume, length) and testing equipment for inspectors in the field to verify equipment.
- 3 Lack of sufficient equipment for the inspection of pre-packaged products by inspectors.
- 4 Laboratories are not environmentally controlled and lack some performance test facilities for type approval.
- 5 Lack of test equipment for utility meters (particularly water and electricity).
- 6 Metrology laboratories for the maintenance of national measurement standards lack versatile on-site calibration capability.
- 7 Nuclear technology measurements are not traceable and the use of radiochemistry and non-destructive testing is minimal.
- 8 Lack of equipment for residue analysis of materials and products (gas liquid chromatographs, high pressure liquid chromatographs).
- 9 Lack of recognition and capacity of the Kenya National Accreditation Services for testing and calibration laboratories, product and management systems and inspection bodies/personnel registration.

Significance of the problem:

- 1 Poor traceability of standards and lack of confidence in measurements, use of manual balances time consuming and costly, unreliable standards for use by inspectors.
- 2 All verification takes too long, and therefore much trade equipment remains unverified. This leads to loss of credibility, incorrect evaluation of dutiable products thus reducing government revenue, purchasers not getting value for money, thus increasing poverty, undervaluation of exported goods thus decreased national income, increased level of public complaints.
- 3 Commodity inspection does not meet R 87 and the quality of controls is poor. Inspections take too long. Under packed goods result in losses to the trader, consumer and government revenue and therefore inhibits sustainable development.
- 4 Instruments are placed on the market without sufficient testing, leading to lack of confidence in measurements, unfair trading, uncompetitive exports and incorrect evaluation of national income.
- 5 Unfair billing of consumers, who are then unable to pay for their basic needs.
- 6 High quality, traceable measurements are not available to industry, which requires this.
- 7 Incorrect dosage in the treatment of cancers. Inability to test radioactive residues in products for human consumption, thus threatening the health and safety of the public.
- 8 Inadequate conformity assessment testing affects exported products and thus national income. Inability to test imported products exposes the public to health and safety problems.
- 9 Lack of international recognition limits the scope of the quality assessment scheme to product and management system, personnel registration and calibration laboratories, which hampers trade with partners.

What is needed:

- 1 Electronic mass comparators for F2 weights, national mass standards of F2 and M1, mass laboratory computerisation, training.
- 2 F₂ and M₁ Mass working standards, truck with 500x200 kg roller weights, truck with reference meter and instrumentation, dispensing pump test measures, linear measures.
- 3 Pre-package inspection system: portable kit for inspectors, equipment for volume and density determination of solid, liquid and semi-solid products, training.
- 4 Performance test facilities.
- 5 Standard utility meter test equipment, technical regulations, training.
- 6 Three mobile calibration units with modules for volume/flow, mass, pressure, electricity, temperature, density, viscosity.
- 7 Establishment of a national dosimetry standards laboratory and the upgrading of the radiochemistry and non-destructive testing facilities.
- 8 Upgrading of existing facilities, development of chemical metrology and the production of certified reference materials.
- 9 Assistance in setting up Kenya's national accreditation scheme to enable it to enter into mutual recognition agreements.

Contributions:

In all cases, human resources can be provided. In addition, the following contributions can be made for specific items above:

- For item 1: Physical laboratory facilities;
- For item 4: Space for setting up type approval laboratory;
- For items 6, 8 and 9: Operational resources;
- For item 7: Physical facilities already exist for the proposed dosimetry, radiochemistry and non-destructive testing laboratories

Whom to address:

During the Forum:

Mr I. M. Ngatia
Director of Weights and Measures



After the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



DPR of KOREA

Core Problem:

At present, it is urgently required to develop the metrology, standardization and quality in the DPR of Korea. To know the time correctly is very important not only in the daily life of people, but also in economy. Time measurement is to correctly reproduce the second, the unit of time, one of 7 base units of the SI (international system of units).

At an early stage of mankind, people knew the time, date and month by the sun and constellations, and nowadays by TV and radio broadcasting.

The accurate measurement of time is of great importance for the synchronization of modern means of communication, the service of satellite communication and research in athletic and nautical sciences.

Significance of the problem:

The demand for the accurate measurement of time is getting greater than ever due to the development of science and technology and the introduction of computers.

Each country has its own time standard. However, the Central Institute of Metrology (CIM), which is responsible for guaranteeing the whole metrology of the country in a scientific and technical way, is only engaged in verifying stop watches, nautical clocks, low frequency generators and electronic clocks by means of a rubidium generator.

The time and frequency laboratory in CIM measures the time with an accuracy of 1 and frequency with the accuracy of 1.5×10^{-12} . It receives the time signals from the neighboring countries and transmits them to the TV and radio broadcasting centers.

In accordance with the improvement of people's living standard and advances in science and technology, the time measurement laboratory should, at least, establish the time standard by caesium generators and transmit the time signals through TV broadcasting, thus setting the time of whole country to international time.

However, owing to the lack of investment in this field due to the transient difficulties of the economy, time measurement accuracy is not high, thus adversely affecting various fields of people's lives, such as communication, transportation, science, etc.

In this situation, it is urgent to equip it with the necessary equipment and competent technicians.

What is needed:

CIM needs to reinforce the time measuring equipment and train technicians for its management and operation in its time measurement laboratory.

- a. required equipment:
 - 3 caesium atomic clocks;
 - time and frequency operating equipment (GPS receiver, time scale synchronizer, double-line oscillograph);
 - ancillary equipment(frequency and phase comparators).
- b. training of technicians:
 - invitation lecture for our experts by supporters; 1 person for 10 days;
 - training abroad of our experts; 3 persons for 20 days.

Contributions:

Input for this project: 400,000 Euros

- a. our input:

• building and facilities	73 000
• ancillary equipment and materials	40 000
• power supply and environment creation	27 000
• furniture	7 000
• transportation	40 000
• miscellaneous	13 000
TOTAL	200 000 €
- b. input from supporter:

• invitation lecture for foreign experts	30 000
• training of internal experts	40 000
• delivery of equipment	120 000
• miscellaneous	10 000
TOTAL	200 000 €

This project will be carried out with close cooperation between the international cooperation body and CIM. CIM will provide financial and material assistance relating to the buildings and conveniences necessary for the realization of the project and assure the safety of foreign experts.

There are no external influences on the realization of project.

Whom to address:

During the Forum:

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After the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



LAO PEOPLE'S DEMOCRATIC REPUBLIC

Core Problem:

The Department of Intellectual Property, Standardization and Metrology (DISM), established in 1993 under the Science, Technology and Environment Agency (STEA) is the governmental body having responsibility for implementing SMTQ activities in the country, including the formulation of national standards, the maintenance of national measurement standards, the provision of testing services, quality assurance and certification. Standards activities are carried out by the Standards Division, and the metrology activities by the Metrology Division of the DISM.

As for the legal framework, Decrees on metrology management (26 October 1993) and standards and product quality management (2 November 1995) have been promulgated. Also regulations for the control of products and measuring instruments and national standard marks have been issued.

Vientiane, the capital city of Lao PDR is identified as the priority for the establishment of a metrology laboratory and the capability to verify weighing and measuring instruments, and it requires equipment, staff training and transportation. The establishment of a metrology laboratory will in particular enable us to provide traceable measurements to the branch offices and industry. But in fact, Lao's overall legal metrology infrastructure is poor and doesn't have the ability to support trade measurements, nor domestic or export markets because the central metrology office only has some simple weights up to about 5 kg for testing weighing equipment and 5 litre measures for testing fuel dispensers. Neither the masses nor the volume measures have been calibrated due to the lack of calibration equipment and reference mass or volume standards.

Significance of the problem:

Since the testing laboratories have been established in Lao, neither their equipment, nor measuring instruments have been calibrated. There are always problems with the export of goods or trade products to other countries due to products not meeting their specifications or standards.

There are also problems at the fuel depot of the fuel company. The storage tanks, initially fitted with gauging devices to measure the quantity of fuel contained have not been calibrated for 18 years, and neither have their dipsticks. These gauges have not worked for many years, and now we rely upon dipsticks to determine the amount of product. Petroleum products are delivered from imported road tankers to the storage tanks and the quantity is measured by simple dipsticks used to determine the product level. The company loses up to 1.5 %. Unexplained losses are also an indication of possible leaks, with impacts on the environment and on safety.

We always get complaints from households and manufacturers about watt meters and water meters. We, the main authority on Legal Metrology directly responsible for the management of these matters have only informed the electricity company to fix the problems. We don't have our own electricity laboratory or portable master meters. Sometimes companies or industries have installed watt-meters (class 2) instead of class 1 due to lack of knowledge. Then they lose money.

What is needed:

We have a very weak metrology infrastructure, such as facilities and skilled manpower to handle effective testing and inspection of electricity and water meters as well as calibration and verification of length, mass, volume and calibration of mobile mass laboratory. Urgent needs for improving the MSTQ system in Laos are the following:

- A technical expert visit to Lao to provide expertise and assistance in the development and implementation of policy, legislation, testing procedures and training programs.
- Working standards of mass, volume and length for the department of Intellectual Property Standardisation and Metrology (DISM) to undertake the verification of weighing and measuring equipment and the inspection of goods and trade products.
- Small mobile laboratory for mass and volume for calibrating standards and measuring instruments in the provinces.
- Training courses on the use of the equipment mentioned in the paragraph above and procedures for inspecting and verifying as well as standards for calibrating weighing and measuring equipment for key staff and attend metrology training for the implementation of OIML Recommendations such as R 111, R 76-1, R 117 and other important related Recommendations.

Contributions:

The Lao government, along with the Science Technology and Environment Agency will provide:

- Assistance to permit effective execution of the work,
- Offices and land areas for working and training courses, and
- Personal salary.

Whom to address:

During and after the Forum:



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**Forum: Metrology – Trade Facilitator
Request for support**



MOLDOVA

Core Problem:

The elaboration of the National Pressure Standard on the basis of a weight piston manometer and standard weights for the range of measurements from 3 kPa up to 70 kPa.

The National Institute for Standardization and Metrology of Moldova doesn't have the possibility to develop the standard with its own efforts.

Significance of the problem:

The absence of a National Pressure Standard narrows the domain of work possible for the economic needs of the country.

This leads to additional expenses for verification in other countries. It lowers the precision of measurements, resulting in the reduction of the competitiveness of goods and services, and to the non-fulfillment of the demands of maintenance of the unity of measurements in trade, especially in the framework of the World Trade Organization (WTO), in spheres of common interests to countries (ecology, health care, security, science).

The development of a National Pressure Standard is one of the main points in the Programme for the Development of the National System of Standards of the Republic of Moldova.

What is needed:

We need help to buy the weight piston pressure standard (manometer) and standard weights.

Contributions:

The National Institute for Standardization and Metrology (NISM) is going to provide the necessary conditions for keeping and operating the standard, training of personnel, conduct of investigations and research, comparisons of the standard.

Whom to address:

During the Forum:

Elena Hanganu
Chief Main Division for Metrology
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Serghei Ceapa
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**Forum: Metrology – Trade Facilitator
Request for support**



MONGOLIA

Core Problem:

Our country is in the process of restructuring its industry and economy.

This leads to an increasing demand for modern technology and equipment, e.g. in the fields of telecommunications, computerisation, information technologies, health care, food processing and industry.

Significance of the problem:

Metrology and standardisation should play an important role in solving problems related to this modernization. In our country, legal metrology predominantly needs help from foreign investors.

In our country, the Great Governmental Khural (GGK) enacted the "Law on providing a unity of measurements" in 1994 and in 2003 the "Law on changes and amendments to the law on ensuring uniformity of measurements".

Problems:

- I In connection with article 19.4 of the law on work equipment and natural resources, invoices of industry and services should be based on the results of reliable measuring instruments. However, there are not enough measuring instruments and therefore heat for flats, sanitary water, coal and other products of daily live are charged in lump sums.
- II In connection with the programme on the creation of a national system of measurement standards, which was enacted by the government, 10 national standards were set up. However, for the field of length measurement there is no standard. The very first standards established, those for time and frequency, do not correspond to the requirements in telecommunication, astronomy and military.
- III The working standards of the National Centre for Standardisation and Metrology and of its 21 branches in regional centres have been able to be renewed for almost 25 years.

Because of this, verification schemes don't work. For example, testing equipment and measuring instruments in medical analytical laboratories, and in the fields of construction and transport can't be verified because of missing working standards. This affects the quality of roads, objects and results of analyses and research as well as the medical service in a negative way.

During recent, years mechanical weighing machines in trade and customs were replaced by electronic ones. The state metrology service celebrated its 80th anniversary, but we cannot verify electronic weighing machines with capacities up to 100 t, as there are no mobile verification units. This results in unreliable measurements in export and import.
- IV Rising prices make it necessary to increase the accuracy of measurements for all goods. Therefore, we also have to increase the number of companies which deal with production, sale, assembly and repair of measuring instruments and measurement standards.
- V Old, imported and second-hand cars are not up to standards, because there are no working standards for diagnostics. For example, the metrological centres are not able to verify apparatus for the measurement of emissions, which results in excessive pollution of the atmosphere, especially in Ulaan Baatar, the Mongolian capital.

What is needed:

- 1 In connection with problem I and IV:
Advice and support for setting up companies which deal with import, sale, repair and maintenance of measuring and testing equipment.
- 2 In connection with problem II:
Support for the National Centre for Standardisation and Metrology to set up a national length standard and to renew the national standards for time and frequency.
- 3 In connection with problem III and V:
We are looking for support to supply the National Centre for Standardisation and Metrology with working standards.

Contributions:

In connection with Article 21.1 of the "Law on ensuring unity of measurements" and with the *programme for creating a national standards system* of Mongolia, the government will provide an appropriate sum of money to solve the above-mentioned problems and to develop legal metrology. Our government will support any effort of foreign investors in the field of metrology and those, who have wide experience and legal basis in this field.

Whom to address:

During and after the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



NIGER

Core Problem:

- a) In order to have their quality systems certified, our companies are obliged to calibrate their measuring instruments in conformity with normative requirements. Accreditation laboratories also need to have their measuring instruments calibrated by accredited laboratories. However, in Niger there are no accredited calibration laboratories. The fact that this service is not available at the national level raises the costs for calibrations which can hardly be borne by our companies with the risk of hindering the development of industrial metrology and quality.
- b) In Niger, traditional volume measures called TIA are usually used instead of balances for marketing cereals and flours. However this TIA varies from one area to another, and even from one village to another. Moreover, the TIA used for sales is different from that used for purchases. In addition, bags are filled by the TIA, causing the same disparities. These bags will be exported to other countries in the region. In times of globalisation where we use the International System of Units, SI, it is necessary to introduce sale by weight.

Significance of the problem:

- a) During an audit within the framework of the UEMOA's quality project (8 countries) financed by the European Union, this difficulty acts as a bottleneck for the introduction and development of a quality system. Our industrial candidates for certification (ISO 9000) and accreditation (ISO 17025) will be confronted with this difficulty which could endanger their quality objectives. This would have a negative impact on the competitiveness of their products on competitive markets with increasing requirements at the national, regional and international level. For exporting companies, this can result in reductions or losses in market share.
- b) The existence of various TIA creates confusion for consumers and peasants, who are the potential victims of speculation by tradesmen, who benefit from the current system. The importer is confronted with additional controls, which increase the duration of his stay and the cost of merchandise. Our country adopted the SI as the national system, so all instruments and methods of measurement must be connected to the SI. Therefore the TIA should be linked to the SI to solve this problem.

What is needed:

- a) Construction of a calibration laboratory according to accepted standards, acquisition of certain equipment, preparation for accreditation.
- b) Financial support in the form of a project to carry out the following objectives:
- Study on the harmonization of the TIA in order to link it to the SI.
 - Design of a national TIA standard.
 - Production and popularisation of working standards at moderate prices.

Contributions:

- a) Acquisition of ground for construction, acquisition of certain equipment through the German project on metrology in West Africa, personnel, legal and institutional framework.
- b) Personnel, logistic support.

Whom to address:

During the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



PERU

Core Problem:

Unsafe market - Participation of private enterprises in Legal Metrology

For over ten years, the Peruvian Government left Metrological control to Peruvian markets and stores.

The owners and/or users of these scales are not responsible for obtaining certification or controlling these instruments. However, they are responsible for maintaining them in optimal condition. In fact, it is the Peruvian State which is responsible for controlling the scales but which does not have enough resources to do so. This is the reason why private sector participation is sought.

This problem affects consumers because they cannot be sure that scales show the right weight.

Significance of the problem:

Peru has an estimated population of twenty five million people. Lima, its capital city, concentrates nearly one third of the country's population. In Metropolitan Lima alone, there are nearly 600 markets and 62 000 commercial establishments, which implies there are nearly 100 000 scales.

Since 1993, within the liberalization process of the economy and the privatization of public services, the State did not monopolize metrological control services for scales; instead it authorized private companies to offer this service requiring them only to calibrate periodically their main weights.

Unfortunately, these companies are not technically competent, nor do they calibrate their weights periodically.

In 2003, Law 27972 "Municipalities' Organic Law" was published. This Law establishes the control of weights and measures as one of the functions of Municipalities.

Municipalities do not have trained personnel, nor the equipment necessary to attend to this task. Nevertheless there is a risk that this function be used in order to increase their income.

Finally, consumers will continue unprotected and traders might be surprised.

What is needed:

Under this new legislation, our proposal is that private companies, duly authorized by INDECOPI (National Metrology Service), attend to the metrological control of scales.

Interested companies would have to demonstrate the technical competence of their staff, have adequately calibrated equipment and documented procedures.

Within a framework of free competition, authorized companies would offer their scale verification services to owners and/or users of the scales so they may choose a supplier of the service based on costs, opportunity and trust.

Municipalities will ensure that scales are certified and have a label (sticker) from one of the authorized companies. If necessary they will apply sanctions in the form of fines or seizure.

To apply this proposal it is necessary to:

- Receive technical assistance from experts who have implemented similar systems in which the private sector has been involved;
- Design information strategies so that traders and consumers are familiarized with this new system;
- Train municipalities' staff and traders;
- Develop Peruvian procedures to control scales' calibration.

Contributions:

The National Metrology Service, INDECOPI, has technical personnel and Metrology Laboratories that may work jointly with international experts to implement a solution to this problem.

Whom to address:

During the Forum:

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Forum: Metrology – Trade Facilitator Request for support



RWANDA

Core Problem:

The core problem facing RBS today is that of inadequate "Technical Capacity". RBS is under-funded and is therefore unable to adequately train its staff, hence making it difficult to assist industry in the implementation of the requirements of MSTQ as summarized here below:

- RBS staff lack basic training in metrology and therefore cannot offer calibration services to industry. This includes lack of training in the Management of calibration Laboratories, including the establishment of a credible and reliable traceability chain.
- RBS is unable to assist industry in the availing, in time, of much needed product standards. Knowledge in standards development and the importance and relevance of standards in the promotion of trade is needed. Adequate and relevant tools necessary for standards development work could be of help.
- Testing laboratory staff needs training to assist uplift standards of performance of the laboratory. The training should cover laboratory Management and the institution of proficiency testing in order to improve on the reliability of the test results. This is important for conformity assessment which will lead to eventual recognition and accreditation of the laboratories.

Knowledge and appreciation of quality management systems, including auditing is still at a rudimentary level. This is true for both RBS and the industry in country. This limits the possibility of Rwanda goods gaining access to the regional and global market.

Significance of the problem:

According to "The Industrial Policy of Rwanda", published in August 2002, the Bureau is categorized under government authorities with the task of providing services to industry, including Small and Medium Scale Enterprise (SMEs). Such strategic tasks are highlighted as:

- providing training to industry so as to upgrade the human resource,
- Setting of standards in order to assist improve the quality of goods and services,
- Advising on the necessary efficient equipment.

With its present structure and strength, it is almost impossible for the Bureau to fulfill its mandate as spelt out in the industrial policy. It is for this reason that the inadequate technical capacity negatively impacts on the economy, society, international trade and the environment. The following should also be borne in mind, as they are relevant to the present existing situation in Rwanda:

- Trade is based on reliable and traceable measurement. Measurement which customers can trust. The lack of such level of measurement does not just affect RBS, it also has negative effect on the industrial development of the country. The products rarely conform to the requirements of the standard, where such standards do exist. They cannot compete with other products in the regional and international Market.
- When the products cannot sell, the country cannot export to earn the much needed hard currency. The country becomes unable to service its debts and even to procure the needed high technology equipment, drugs and other life saving items.
- Unemployment becomes a problem when industries cannot expand. Standard of living drops and the social fabric of the society collapses. This affects the security, health and safety of the general population.
- Environmental protection is only possible in a state where the people are able to get the normal provisions. Evidence shows that poor countries are not known for encouraging existence of safe, healthy and sustainable environments. Already the country faces problems with the disposal of large amounts of substandard and unsafe products imported into the country.
- Infrastructural improvement and maintenance is expensive and calls for heavy funding. In the absence of viable trade, to earn the necessary cash, the country finds it difficult to set a side the needed funds. This leads to deterioration in other sectors of the economy especially when the cost of transport and general communication is factored in.
- Conformity assessment regimes is totally lacking. As a result of this deficiency, Rwandan goods cannot penetrate and compete fairly in the cross-border and international markets.
- The country is speedily becoming a dumping ground for substandard and counterfeit goods. This is mainly as a result of RBS not having the capacity to put in place checks and balances for such practices and habits. These impacts negatively on the young upcoming industries which are striving to manufacture quality products.
- The economy of Rwanda is basically Agro-based. This calls for good knowledge on Management principles in the areas of HCCP, GMP and SPS, in order to assist the industry to fulfill the requirements of WTO and take full advantage of market potentials. Training in these areas is needed.
- Industry needs to be trained on the implementation of standards in addition to assisting them develop enterprise standards. This is a culture which needs to be ingrained into the industrial sector. RBS needs the capacity to impart this knowledge.

What is needed:

The Rwanda Bureau of Standards (RBS) needs assistance for capacity building in the following areas:

- Basic Industrial Metrology, Calibration techniques, Analysis of results and Laboratory Management.
- Legal metrology and the enforcement of fair trade including the interpretation of OIML recommendations.
- Enhancement of capacity in Standards Development including assistance in the acquisition of necessary aids to help speed up processing of standards.
- Assistance in the establishment of a National Enquiry Point (NEP) in order to meet the requirements of WTO and provide information necessary for the business community.
- Strengthening of the present existing laboratories with a little additional equipment assistance.
- Training in laboratory testing, especially in chemistry, food and microbiology, including instrumentation.
- Capacity building in the following areas also needs to be covered:
 - ISO 9000 Quality Management System (QMS);
 - ISO 1400 Environment Management Systems (EMS);
 - SPS, HCCP and GMP Management System;
 - Auditing of both Quality Management and Environment Management Systems (ISO 19011).

Rwanda has never had a formal legal Metrology system. There has never been any national body tasked with the responsibility of verifying measuring instruments and measuring units to ensure correct measurement in areas of public interest such as trade, environment health, and safety. The population has been at the mercy of the sellers - "virgin sellers Market".

Rwanda Bureau of Standards, though still young has been given the mandate of setting up a legal Metrology (Weight and measures) system in the country. Recently, RBS has been accepted as a member of OIML, and thus representing Rwanda.

There is hope in this new development as the Institute struggles to put in place structures and systems which could enable it enforce fair trade in the market place and promote health and safety, in addition to protecting the environment. Needing urgent attention are the weighing scales, the fuel dispensers and other volume measures.

Major assistance required in this area can be summarized as:

- Training of staff in legal metrology;
- Assistance in the acquisition of basic measurement standards and other relevant enabling tools to facilitate the work.

Contributions:

The Government of Rwanda has provided the following resources:

- Modestly equipped laboratories, Standards development working areas and a library space;
- Human resource which can be capacitated to competently run the facilities;
- Office space and equipment including Internet Network.

Whom to address:

During the Forum:

Dr. Tito Migabo, Director General, Rwanda Bureau of Standards.

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**Forum: Metrology – Trade Facilitator
Request for support**



SADC Region

Core Problem:

Inadequate or inappropriate technical regulations applicable in member States and the lack of technical capacity in the MSTQ sector for effective harmonisation, implementation and maintenance of technical regulations.

Significance of the problem:

Negative Impact of the Problem:

- 1 Unharmonised and inappropriate technical regulations of Member States create TBT's that constrain trade and investment.
- 2 Safety of society and protection of the environment are compromised through inappropriate technical regulations.
- 3 SADC Member States fail to meet their obligations under the WTO/TBT Agreement.

What is needed:

- 1 Regional policy for the development, implementation and maintenance of technical regulations.
- 2 Analysis and development of adequate and appropriate technical regulations.
- 3 Regional capacity building in terms of technical, infrastructural, human resource requirements.
- 4 MSTQ functionality in every SADC Member State.
- 5 Technical and Funding assistance in the Conformity Assessment areas.

Contributions:

Provision From Internal Sources

- 1 MSTQ awareness campaigns.
- 2 Suitably trained personnel.
- 3 Government support.

Whom to address:

During the Forum:

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SADC Cooperation in Legal Metrology (SADCMEL)
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**Forum: Metrology – Trade Facilitator
Request for support**



SENEGAL

Core Problem:

- Non-existence of a resource center allowing the traceability of standards.
- Non-existence of internationally recognized texts.

Significance of the problem:

- The main consequence of this situation is the inaccuracy of measures regarding imports and exports. Disputes follow that are harmful to economic actors.

What is needed:

- Resource centers in charge of keeping the national references and of tracing the standards of work for companies and services in charge of metrology.
- Calibrating and traceability laboratories.
- Competence for awareness and training.

Contributions:

- The planning of the resource centers project could benefit from the help of the equipment budget. It is difficult to determine its level before the planning of the project itself.

Whom to address:

During the Forum:

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Directeur du Commerce Intérieur
Représentant Sénégal

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**Forum: Metrology – Trade Facilitator
Request for support**



SERBIA and MONTENEGRO

Core Problem:

The new Law on metrology in SCG regulates field of prepackages for the first time.

ZMDM shall prescribe metrological requirements to be met by quantities of prepackages, the manner of indicating quantities, permitted tolerances, a list of nominal quantities and metrological supervision of quantities of prepackages on the market.

The task of introducing the necessary metrological regulations, control and supervision of prepackages, as specified by WELMEC, should empower ZMDM to cover this very significant field in a proper manner.

Significance of the problem:

Now the field of prepackages is deregulated and partly regulated in an obsolete manner. The lack of appropriate metrological regulations, control and supervision of prepackages has negative impacts on the economy and on society, especially on international and local trade.

The new Law on metrology enables regulation of this field, but the comprehensively established metrological control of prepackages would facilitate import and export of prepackages to and from the European Union through harmonized regulation and unified practice.

What is needed:

ZMDM needs support to prescribe:

- metrological requirements to be met by the quantities of prepackages;
- manner of indicating quantities;
- permitted tolerance of actual quantities from indicated nominal quantities;
- list of nominal quantities of prepackages;
- method of metrological supervision of prepackages;
- method of supervision of fulfillment of metrological requirements by quantities of prepackages;
- procedure for the designation of legal persons for specific technical tasks related to the metrological supervision of prepackages; and
- tasks of these designated legal persons.

ZMDM **mainly** needs support to establish the metrological control of prepackages, including support to obtain the necessary equipment and to train experts from ZMDM in the metrological control of prepackages.

Special support is needed to organize the metrological supervision of prepackages and to carry out the training of experts from ZMDM for the metrological supervision of prepackages.

Contributions:

ZMDM would provide adequate premises for metrological control and equipment installation.

Local experts have OIML Recommendations on the metrological control of prepackages, but not regulations and documentation at the EU level (WELMEC).

Whom to address:

During the Forum:

Mr. Dragan Milošević, M. Sc., Director
Dr. Zoran M. Marković, Advisor to Director, Member of CIML
Bureau of Measures and Precious Metals - ZMDM
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**Forum: Metrology – Trade Facilitator
Request for support**



SOUTH AFRICA

Core Problem:

The South African Legal Metrology Department has the following problems:

- 1 Shortage of trained staff;
- 2 Equipment for the type approval, verification and inspection of measuring instruments;
- 3 Sustained financial support.

Significance of the problem:

The negative impact on:

- 1 Society - inadequate customer protection;
- 2 Economy - playing field not level,
- confidence in trade measurements not adequately addressed;
- 3 International trade - access to international market for SA manufacturers limited;
- 4 Safety - confidence in measurements not ensure;
- 5 Environment - not addressed at present.

What is needed:

- 1 Equipment to test for:
 - a) Power voltage variation;
 - b) Short time power reduction;
 - c) Electrical bursts;
 - d) Electrical surges;
 - e) Electrostatic discharge;
 - f) Electromagnetic susceptibility;
 - g) Environmental condition;
 - h) Vibration;
 - i) Tilting.
- 2 Equipment to test:
 - a) Liquid meters to capacity 5000 L/min;
 - b) LPG meters to capacity 1000L/min.
- 3 Trailers:
 - a) With measures to test liquid fuel dispensers;
 - b) To carry mass pieces to capacity 1 tonne.
- 4 Training:
 - a) More specialized training for qualified personnel.

Contributions:

Contributions for internal resources:

1. Purchase of equipment for inspection purposes;
2. Employment and in-house training of inspectors.

Whom to address:

During the Forum:

Mr. Stuart Carstens
Divisional Manager
Legal Metrology Department; South African Bureau of Standards

After the Forum:

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South African Bureau of Standards
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South Africa



**Forum: Metrology – Trade Facilitator
Request for support**



SYRIA

Core Problem:

Currently, Syria is setting up a Legal Metrology System, and our country needs to get help for developing and establishing this system.

Significance of the problem:

- 1 The National Metrology Standards are not calibrated by International Accredited Laboratories to achieve the traceability of the system.
- 2 There is a great lack of experience of laboratory staff who are working in the field of metrology.

What is needed:

SASMO needs an offer of support:

- 1 From an internationally accredited laboratory for calibrating national standards in order to achieve traceability.
- 2 From an internationally accredited laboratory for training of staff or national trainers in the field of metrology.
- 3 From a consultation body to qualify our national laboratory according to ISO 17025 in order to achieve accreditation.

Contributions:

We can only provide logistical support.

Whom to address:

During the Forum:

Mr Khaled Osman
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**Forum: Metrology – Trade Facilitator
Request for support**



Tanzania

Core Problem:

Inadequacy of equipment and training to ensure the traceability of legal measurements and to enforce legal requirements.

Significance of the problem:

- Insufficient international confidence in trade measurements (bulk agricultural products and prepackages);
- Consumers not fully / adequately protected;
- Industries / manufacturers not adequately protected from unfair competition caused by uncontrolled measurements, thus inhibiting industrial development.

What is needed:

Capacity building in the following areas:

- Facilities and equipment for the calibration of verification standards to ensure traceability;
- Training in order to enhance skills for conducting calibration and verification;
- Verification of important consumer measuring instruments such as non-automatic scales and fuel dispensers;
- Calibration and verification of bulk measuring instruments such as bulk meters and storage tanks;
- Inspection of pre-packaged products;
- Verification of utility meters (water and electricity).

Contributions:

- Manpower;
- Laboratory space;
- Legislation;
- Government support / political will / commitment

Whom to address:

During the Forum:

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Weights and Measures Agency, Tanzania

After the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



TOGO

Core Problem:

Metrology is in an embryonic state in Togo and does not meet the requirements of international trade, security, health, or environmental protection.

Significance of the problem:

The negative impacts of this situation can be summarized as follows:

- lack of confidence in exported goods for want of a credible certification system;
- trade exchanges are not facilitated;
- lack of accuracy of results from medical analysis laboratories;
- lack of accuracy of environmental and security standards due to the use of non-calibrated instruments.

What is needed:

Needs are as follows:

- 1 Outfitting of the national metrology laboratory to reach the norms of conservation and use for standards (conditions of temperature, hygrometry, pressure, etc)
- 2 Strengthening of capabilities in the following areas:
 - weights (comparators of 35 kg capacity);
 - volumes (standard capacity measures of 500 L, 50 L, 20 L, 10 L, 5 L);
 - electricity (test bed for the calibration and checking of electricity meters);
 - water (testing bed for the calibration and checking of water meters);
 - temperature;
 - pressure;
 - hygrometry.
- 3 Training in various areas.
- 4 Access to standards and Recommendations; necessity for Togo to join the OIML.
- 5 Raising the awareness of managers and users of MSTQ.

Contributions:

Contributions based on own resources are as follows:

- 1 Infrastructure for the laboratory.
- 2 Bearing the costs of water, electricity and phone use.
- 3 Commitment of Togo to the implementation of a metrology and testing system in the context of the West African Economic and Monetary Union (UEMOA).
- 4 Existence of 4 higher technicians in metrology.
- 5 Existence of weight standards certified thanks to the cooperation with PTB.

Whom to address:

During the Forum:

Afole Ayawo EKLOU
Directeur de la Qualité et de la Métrologie
Ministère du Commerce de l'Industrie des Transports et du
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After the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



TRINIDAD and TOBAGO

Core Problem:

The core problem is the infrastructural underdevelopment of systems and mechanisms which will assure competence (confidence) in Measurement (M), Standards (S), Testing (T) and Quality (Q). A vital prerequisite for developing countries such as Trinidad & Tobago to inspire and gain the confidence of its trading partners, opening up sustainable Markets (repeat business) for the various commodities it has to trade, in a very global market, ranging from Petrochemicals and Fuels to Agricultural Produce and specialised “niche” market items – tropical fish, cut flowers, honey, sugar, cocoa and tropical fruit. A lack of technical expertise is at the helm – while the political will exists – passing of Metrology Bill in June 2004, some capital investment – there is no resident Organisation which can determine and implement the infrastructure best-suited for the islands, given their own unique situation and needs. An in-depth analysis is required, and a prioritised short, medium and long-term action plan, avoiding the pitfalls which other, more experienced counterparts are able to identify.

Significance of the problem:

With regard to the economy, society, international trade, safety and the environment, the negative impacts are real. Lack of competitiveness in international trade and under pricing and the inability to properly measure Flow, Mass and Volumes, hamper economic growth. With small islands, the environment is critical – safety of beaches, food etc is vital to the tourists and tourism is a significant contributor to employment here. The Government has National Development Plans (available from the GOTT website) and this social and economic policy framework emphasises sustainable development, protection of the environment, improvement in social policies (healthcare, education, labour conditions, care of the disabled, elderly and very young) – these depend on Revenue and once again confidence in Measurement and Quality Assurance are critical.

What is needed:

Support in analysing the entire MSTQ arena, holistically and uniquely from the local standpoint as well as the vital role a country, so strategically located geographically as T&T, like this plays from a global perspective is paramount. The various opinions need to be substantiated by factual investigation and determinations. An assessment of the current state or situation, with vital leads to the way forward is critical – this must be done by experts, who have the technical background, competence and training which is not now available in the Caribbean – there is no formal educational path for anyone to pursue – reliance is purely on trying to imbibe and incorporate ad hoc, piecemeal policies, loosely adopted from what someone “saw” or “heard” at some point in time, having no complete knowledge of either the science or the endeavour, previously.

(Note that a request may be made for support in analysing the MSTQ problems)

Contributions:

The Government is willing to contribute the human resource to do the work, and money for the purchase of equipment. (I currently have a budget of TT\$1,000,000 to spend on equipment purchase. The technical guidance and training are what are not available here. For example, who are the best (or highly recommended) suppliers/manufacturers of this type of specialised Calibration and Test Equipment?

Whom to address:

During the Forum:

Anne Marie Sirju,
Head, Laboratory Services Division (includes Metrology, since TTBS is the legally appointed NMI),
Trinidad & Tobago Bureau of Standards (TTBS),
Ministry of Trade and Industry (MTI),
Trinidad & Tobago

After the Forum:

Executive Director,
Trinidad and Tobago Bureau of Standards,
Trincity Industrial Estate,
Macoya,
Tunapuna,
Trinidad & Tobago,
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OR

P.O. Box 467, Port of Spain, Trinidad.



**Forum: Metrology – Trade Facilitator
Request for support**



TUNISIA

Core Problem:

a) Lack of a National Metrology Institute (NMI)

Because of the lack of calibration laboratories in Tunisia, laboratories and enterprises are suffering from the waste of time and money caused by the calibration of measuring instruments in foreign countries (mainly European countries).

b) Lack of expert in metrology

Through lack of experts in metrology, mainly in some fields (chemistry for example), some activities are not well defined (laws, methods of calibration and verification, equipments needs for testing).

Significance of the problem:

a) Custom procedures and formalities, transports delay, measuring instrument damaging risks, are negative factors relating to economic competitiveness.

b) In spite of their social and financial importance, some metrological activities, especially those dealing with environment, road safety and public health, are not carried out. The verification fees are not collected by the government and the law is not enforced in these fields.

What is needed:

a)

- Support of calibration laboratories for accreditation according to ISO 17025 standard.
- Creation of National Metrology Institute (NMI). The metrological activities of the NMI can be extending to other countries of the Maghreb Region.

b)

- Financial support of training activities in the field of metrology. The training of trainers is the most important theme with the objective of creating a core of experts who will take over the metrological training activities of inspectors.
- Creation of Training Centre with the aim of developing the ability and experience of inspectors. The activities of this centre can be extending to other countries in the Maghreb Region (Language of training: Arabic and French).

Contributions:

a)

- Designation and preparation of calibration laboratories for accreditation according to ISO17025.
- Establishment of laws for designating national laboratories.

b)

- To develop a branch of metrology teaching in university.
- To benefit from a bilateral cooperation program (with France for example) to train inspectors and trainers.

Whom to address:

During the Forum:

Mrs Ghaïet El Mouna ANNABI, Ministry of Trade, Tunisia
Chairperson, OIML Development Council

After the Forum:

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TUNISIE



**Forum: Metrology – Trade Facilitator
Request for support**



UGANDA

Core Problem:

- National legislation is not harmonized with international standards and excludes the regulation of the measurements for health, safety and environment issues.
- There is a general lack of technical competence and equipment to ensure consumer protection and to facilitate trade.

Significance of the problem:

- Surveillance is not adequately done on prepackaged goods, this may lead to rejection and lack of confidence in exported goods.
- Measurements used for the protection of society and the environment are not adequately regulated, leading to a lack of traceability and possibly to incorrect results.
- Lack of knowledge about the repair of electronic instruments, resulting in increased and unnecessary costs to the economy to ensure accuracy.
- Lack of harmonized legislation may result in rejection of internationally acceptable instruments and equipment.

What is needed:

- Assistance in drafting new legislation in line with international standards.
- Supply of OIML Recommendations and other Documents.
- Technical training on international requirements on instruments (used for trade, inspection and regulatory purposes).
- Technical training on the repair of electronic instruments.

Contributions:

- Trainees;
- Lectures rooms;
- Sustainability after training and improvement of facilities and.

Whom to address:

During the Forum:

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**Forum: Metrology – Trade Facilitator
Request for support**



UKRAINE

Core Problem:

According to the plans of governmental body of Ukraine, for providing economics, sale and science with reliable measurements and objective test national standards are created on all kinds of measurements. They provide unity of measurements in the country and also, through comparisons, connection with international standards and standards of other countries. However, this work isn't completed yet and many problems of technical standard equipment, conditions of their exploitation and also extension of service range, offered at standards, should be solved.

Significance of the problem:

As far as some problems aren't solved yet, the service level on some standards is lower than it should be in the international practice and consumers don't get reliable and well timed information, it concerns the standards of time and frequency and the service of time and frequency created on its base, which is necessary for consumers, standards of electrical and optical quantities based on cryogenic technique and also standards of mass and related quantities.

What is needed:

For solving the problems of increasing the level of metrological service on national standards there should exist supporting in providing with financial and technical resources.

- 1 In the field of electrical and temperature measurements:
To support the effort of the institute in creating a cryogenic laboratory and necessary equipment for the exploitation of created standards, units of Volt on Josephson effect, Candela, and creating the standard of resistance on Hall quantum effect.
- 2 To support the certification testing laboratory for electromagnetic compatibility (EMC), according to "Technical regulations on confirming correspondence of electromagnetic compatibility" of Ukraine, according to European Union Directive 89/336/EEC.
 - test equipment;
 - provision of normative documents on conducting EMC tests;
 - training of specialists in the field of EMC tests.
- 3 In the field of time and frequency measurements:
 - 3.1 To support with consultations in solving the problem of standard and receiver choice.
 - 3.2 To support the effort of the institute in buying:
 - caesium frequency standard (HP type HP 5071A);
 - time signal receivers CPHC GLONASS and GPS (3S Navigation type R-100/30 or Astech Z12-T).
- 4 In the field of mass quantities and other quantities:
To support the effort of the institute in buying of:
 - 1 kg platinum-iridium alloy weights
 - measurement systems (Hommel TESTER T8000)
 - measurement microscope (TESA)
 - relative gravimeter (SCINTREX)

Contributions:

To achieve the intended purpose the institute has information and energy resources and also suitable apartments, as well as financial and technical resources for solving the intended problems.

Whom to address:

During the Forum:

After the Forum:



Borys Markov
NSC "Institute of metrology", Ukraine

NSC "Institute of metrology"
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UZBEKISTAN

Core Problem:

The main problems of MSTQ sector development are the following:

- 1 Necessity to supply laboratories with modern testing and measuring equipment.
- 2 Comparison of the national measurement standards and ensuring the traceability to international standards.
- 3 Training of QM experts and entering them in international registers (e.g. COOMET database).
- 4 Lack of experience in creation of technical regulations.
- 5 Language barrier in working with technical documentation.

Significance of the problem:

Low accuracy of measurements, and therefore also insufficiently reliable measuring information, leads to incorrect handling and conduct of technological processes, and consequently to worse product quality. That is why the Republic of Uzbekistan attaches great importance to the metrological provisions of production.

For further improvement of these metrological provisions, their harmonisation with international requirements, increasing accuracy and validity of measurement results, recognition to international levels for testing and certification results of products, the Government of Uzbekistan legislated for creating a National Standards Base and improvement of the metrological provision. Nowadays, the programme for developing the National Standards Base of the Republic of Uzbekistan is revised.

What is needed:

- 1 Technical assistance in equipping testing and measuring laboratories.
- 2 Financial support for comparisons of the national measurement standards.
- 3 Training for QM experts and after this, entering them in international registers.
- 4 Training in metrology at leading metrological institutes of EU countries.
- 5 Consultations in working out technical regulations.
- 6 Certification to ISO 9000 and 14000 series standards on special conditions for Uzbekistan companies.

Contributions:

Partial absorption of expenses in connection with the training of experts.

Whom to address:

During and after the Forum:



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VENEZUELA

Core Problem:

Insufficiency for prototype approval in the following priority areas:

- 1 Automatic non-invasive sphygmomanometers;
- 2 Analysers and monitors of electrical energy conditions;
- 3 Diaphragm gas meters.

Significance of the problem:

- 1) In the case of automatic non-invasive sphygmomanometers, most models have been refused. Clinical and electronic simulation testing has been undertaken for type approval, but in most cases, high standard deviation has been found. We have also found many models with excessive errors.

According to Venezuelan metrology laws, models from different countries which have been refused approval cannot be sold in Venezuela. At the present, only few models have been approved.

Our technicians and physicians have been working for two years in this field.
- 2) In the case of analysers and monitors of electrical energy conditions, national policy is to guide and regulate the electrical energy suppliers in order to guarantee the quality of the electrical power supplied to the population and to industry. According to new laws, static and transitory variations (black outs, brown outs, flicker, sag and swell) must be evaluated.

At the moment, we are looking for a technical solution to undertake the type approval and periodic verification of commercial analysers according to ISO-IEC 61000-4, 61000-7, 61000-15 and 61000-30.
- 3) For diaphragm gas meter approval our country current has an old "branch and bells" system.

At the moment, national policy is to replace the gas cylinder system with a direct gas system. In this case, diaphragm gas meters must be installed.

For type approval and periodic verification, our country has old branches and bells. We are working on the recovery and characterization of the bells and the branch. Type approval will be according to the appropriate OIML Recommendation.

What is needed:

In all cases we need:

- Coaching and training in the application of OIML Recommendations or other international standards to type approval testing (sending of experts and visits to other NMIs);
- Technical support in the selection of equipment and standards;
- Benchmarking with our peers.

Contributions:

Whom to address:

During the Forum:

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Head of Metrology – SENCAMER – Venezuela

After the Forum:

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