7TH MEETING OF THE SMIIC METROLOGY COUNCIL

Information about the Metrological Activity In the Republic of Tunisia

PRESENTED BY FEKIRI CHERIF
Director of Scientific and Industrial Metrology – ANM
Phone : 0021698642205
Email : fekiri.cherif@gmail.com
Legal metrology, rooted in Tunisia for more than 120 years

- **14 February 1895**: First Instance of Weights and Measures
- **29 July 1909**: Beylical Decree on the verification of weights and measures
- **10 May 1930**: Decree on the conditions of acceptance of measuring instruments
- **9 March 1950**: Adoption of the SI unit system

- **2 January 2009**: ANM: Starting the activity
- **11 February 2008**: Law on Metrology & Creation of ANM
- **10 May 1999**: First law on Legal Metrology
The National Agency of Metrology - missions

Central Metrology Authority

- **Implementation** of strategic directions for the development of the national policy.
- **Coordination** of metrological activities between the different ministerial departments.
- **Piloting** cooperation programs with international and regional organizations.
- **Training**, technical assistance, and participation in the development of national training and education programs.
- **Technological watch** in the field of metrology and transfer of technology in the industrial field.
The National Agency of Metrology – missions

Legislative corpus & citizen expectations

- **Preparation of regulatory texts and metrological guides.**
- **Realization of legal metrology control**: the legal control of measuring instruments; metrological surveillance and metrological expertise.
- **Evaluation of accredited bodies** for verification of measuring instruments.
- **Inspection of installers / repairers** of measuring instruments.
- **Dissemination** of information and promotion of scientific research.
The National Agency of Metrology, international dynamism

Founding member of the OIML & International Performance

- Tunisia (ANM) member of the OIML since 1957
- Active participation in WELMEC technical committees
- Tunisia (ANM) permanent member of the BIPM since February 1st, 2012
- Signature of the CIPM-MRA, October 14th, 2013

Registration of CMCs

- On December 5th, 2016, CMCs in the field Electricity-Magnetism
- April 24th, 2017, CMCs in the field Time-Frequency
Regional integration

Tunisia (ANM) founding member of the following organizations:

- **AFRIMETS**
- **MAGMET**
- **AIDMO**, the ANM chairmanship of the program Arab legal metrology **ARAMEL** since 2012; and the ANM chairmanship of the Program Arab of Scientific and Industrial Metrology **ARAMET** since 2018.
- Tunisia is a full member of **SMIIC MC**
The National System of Metrology

- A centralized system
- A law in accordance with the OIML document D1

A multi-repository quality management system

- ISO 17020 for metrological control activities.
- ISO 17024 for certification of skills (inspectors, verifiers, repairers, ...).
- ISO 17025 for testing and calibration laboratories

International recognition

- Tunisia member of the OIML since 1957.
- Cooperation with variable geometry.

Awareness and communication

- A dynamic and interactive website.
- Training and awareness days.
- Brochures and guides..
Goals of the National Strategy of Metrology

- Active and effective role at the regional and international levels.
- Modern metrological infrastructure in line with international requirements.
- Key role in the recognition and competitiveness of Tunisian products.
- Consumer protection and guarantee of transparency.
- Better coverage of the areas of intervention (health, environment, security, ...).
Goals of the National Strategy of Metrology

- Up-to-date and effective legal metrological control (personnel, logistics and procedures).
- Close collaboration with the institutions of education, vocational training and scientific research.
- Traceability of measurements to national standards.
- Support to the components of the national metrology system.
Legal Metrology: Infrastructure & stakeholders

Ministry of Commerce

ANM
Department of Legal Metrology

TUNAC
Accreditation + Upgrading industry

Legal metrological controls
Audit of accredited bodies
Elaboration of the guides
Training & awareness

40 control offices and technical centers

INNORPI

normalization + harmonization of OIML recommendations

80 authorized manufacturers and installers

Consumer Protection
Competition and economic surveys
Quality and internal trade
Cooperation and foreign trade
24 regional offices of ML
Pattern Approval

Counting system EMLAE & Skid gas counting

- Approval tests by comparison with a standard tank.
- Approval tests of a gas counting skid.
Initial Verification

- Validation of the manufacture of approximately 800 thousand IM / year
- Extend this operation: to cover other IMs, the new Ministerial Order allows it at other ranges: High Flow for fluids

Distribution in terms of verified IMs

- Utility meters: 54.62%
- Length measurement: 43.27%
- Weighing: 0.28%
- Liquids measuring systems: 1.61%
- Taximeters & tachographs: 0.21%
- Others: 3.13%

Distribution in terms of revenue

- Utility meters: 62.14%
- Length measurement: 13.55%
- Weighing: 16.88%
- Liquids measuring systems: 2.85%
- Taximeters & tachographs: 1.45%
- Others: 3.13%
Periodic Verification

- Increase the number of IMs subjected to this operation:
- Multiplication of economic control operations in coordination with the services of the Ministry of Industry and Trade
- Multiplication also awareness actions via emails

Distribution in terms of verified IMs
- 93.96%
- 6.00%
- 0.04%

Distribution in terms of revenue
- 85.60%
- 14.22%
- 0.18%

- Weighing
- Liquids measuring systems
- Others
130 metrological control operations of prepackaged products per year.

- **General Program**: sector diversification
  - Subsidized products
  - Food industry
  - Canned food
  - Cement
  - acking and packaging
  - Cleaners
  - ..... 

- **Specific program** dedicated to subsidized products adapted to the national need.
National Projects
Continuous support of legal metrology services
• Preliminary natural gas processing center (CPF NAWARA) regrouping (09) recently discovered wells.

• Natural gas treatment center (GTP) fed by a 370 km pipeline via counting ramps controlled by the Legal Metrology Services of the ANM.

• Another counting ramp is installed at the condensate pipeline at the exit of CPF NAWARA.
Gas Storage Project

- Counting systems based on ramps connected to underground storage spheres, approved by the ANM.
- The counting ramps are checked and checked by the Legal Metrology Services of the ANM.
Crude Oil Production Project

Dynamic counting, supervised by the ANM

- Dynamic counting controlled from the production phase of the crude.
- Turbines calibrated by a standard loop connected to a prover.

- Verification of the turbines installed on a platform in the IFRIKIA 2 bank.
- Counting system at (04) ramps: turbine, calculator, pressure and temperature transmitters.
Calibration of storage tanks

Assistance and Accompaniment
Metrological verification of a bunkering meter by comparison with a standard tank.

Metrological verification via a test bench of a LPG meter fixed on a tank truck dedicated to supplying the industrial sector.
Water meters

Measure well to better govern rare natural resources

- Water meter test benches approved by the ANM, better manage this natural wealth.
- National production: constant integration.
Electric energy meters
Measure in constant improvement, more competitiveness

Exact measurements implies:

- Rationalization of energy consumption
- Control of the contribution of energy in the price structure
- Incentive to create renewable energy projects

Ambition based on the performance of Tunisia in the field of scientific metrology "electricity-magnetism" & "time-frequency": CMCs in the BIPM KCDB: December 5, 2016 and April 24, 2017.
Models of mechanical weighing instruments approved by the ANM and exported mainly to Africa.
Weighbridges
For more confidence in the industrialists

- 1000 weighbridges on the territory.
- 5 stallions (2 public, 3 private)
- Cereal collection centers, food industry, cement plants, ..
Axle weighing scales and radar speedmeters
Close collaboration with the National Guard
Categorical order in progress.
3 local manufacturer.
20 approved models.

- 9 approved installers.
- 800 instruments checked per year.
- Periodic verification (in progress).
A specific order in force since 2003 in accordance with the OIML recommendation R55

- 10 approved models
- 1500 devices subject to initial verification each year
- Ongoing preparations for AETR membership.
Technical receptions
Validation at the manufacturer

Guarantee of conformity of instruments to international tenders.
Exchanges and be up-to-date with new products from leading brands of measuring instrument manufacturers.
International cooperation
North-South & South-South

- ANM Cooperation Agreement - General Department for Legal Metrology (Morocco): 2017-2020
8 and 9 January 2020: 7th general assembly of ARAMEL and ARAMET will be held in Tunis (Tunisia).
World Metrology Day “The SI in constant evolution“.
National Prize for Metrology, 3rd Edition 2019
Guide to Legal Metrology
Guide to the control of prepackaged
Guide on Industrial Metrology
Spots and awareness leaflets
Halal Food in Tunisia
The national halal label INNORPI (National Institute of Standardization and Industrial Property) applies to dates, spices, dried fruits, vegetables, olive oil and tuna. Again, the labelling policy encourages the modernization of the sector.

The halal label INNORPI requires the prior corporate compliance with the ISO 22000 standard, which guarantees the safety of the product. Companies receive annual certification from INNORPI once the Muftis of Dar El IFTA agree. Halal has thus become, quite recently, a stake within intra-Muslim international trade.
Tunisia developed its halal label to conquer foreign markets

It is a tool of industrial and economic development at the national level and, increasingly, a religious legitimacy issue, much as it is in non-Muslim countries.
Tunisia developed its halal label to conquer foreign markets

The Commerce Department plans to build on the development of exports of “Halal” given the increased demand for these products on the European and Asian markets.

Example:
Company description: STICAP is a limited liability Tunisian company, produces the double concentrate of tomato, harissa, cherry tomatoes, different types of jam
Certifications :ISO & HACCP/ HALAL
Thank you for your attention