

Presentation of the Albanian Metrology Directorate

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History...



Long tradition in legal metrology

First evidences date from century XVII (studies from Prof. Zija Shkodra)

First Law (On local government with provisions on measurements) dates from 1921

The first Law on Metric System – 1922

Law on Weights and measures -1928

The Directorate for the Control of Measuring Instruments was established in 1946

Today the DPM ...



- is the most important national provider of metrological services
- is a national authority under the auspices of the Ministry of Economy, Trade and Energetic (METE)
- has a staff of approx. 110 members
- has the central premises (laboratories) in Tirana and 4 Regional Centers in the country

DPM is NMI that is responsible for:

- ✓ Realization and maintaining of national measurement standards
- ✓ Their comparisons with international or foreign national standards
- ✓ Implementation of SI units
- ✓ Ensuring of measurement traceability to international level
- ✓ International cooperation

DPM laboratories



Pressure laboratory

- Pressure Balances:
 - Hydraulic: 0-6 bar, 0-60 bar, 10-600 bar
 - Hydraulic -120 bar
 - Hydraulic 1-700 bar
 - Water 0,3-300 bar
 - Standard manometers 2,5 – 600 bar, 14 pieces



- **Traceability: By direct calibration**

Force Laboratory

- Force Transducers
- Compression 20 N, 1-3 MN, 4 pieces
- Tension/Compression: 100 N – 100 kN



Traceability: By direct calibration of force transducer to other NMIs

DPM laboratories



Mass Laboratory

Reference standards: E2 weights,
1 mg – 20 kg (2 sets)
Traceability: By direct calibration
at other NMIs



Volume laboratory

- ✓ Volumetric flasks : from 10 ml up to 1 l
- ✓ Standard vessels: 20l , 50l
- ✓ Standard Densimeter DMA 4500
- ✓ Traceability: through mass laboratory
(gravimetric method)



DPM laboratories



Electrical laboratory

- Universal calibrator DC- 10 GHz
Amplifier
- Voltage Cells 1,018 V
- Reference voltage
- Standard Resistor 10, 10k ohm
- Standard Resistors 1 mΩ -10 kΩ

Traceability : Direct Calibration, at
other NMIs



Temperature laboratory

- Set of SPRTs,
- WTPs, HgTP, ZnFP, thermostats,
etc.
- Traceability: Direct Calibration,
MIRS



DPM laboratories

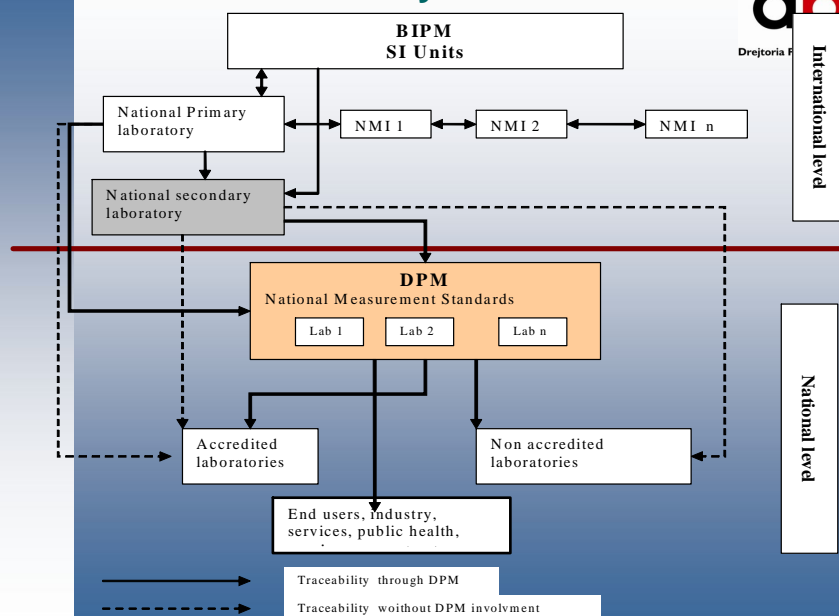


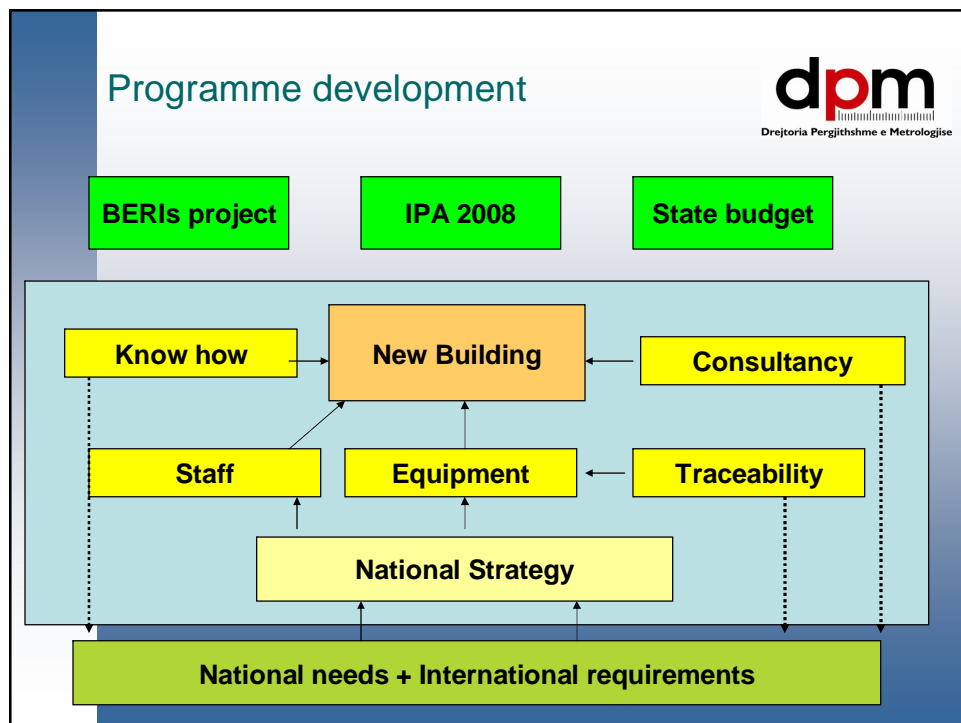
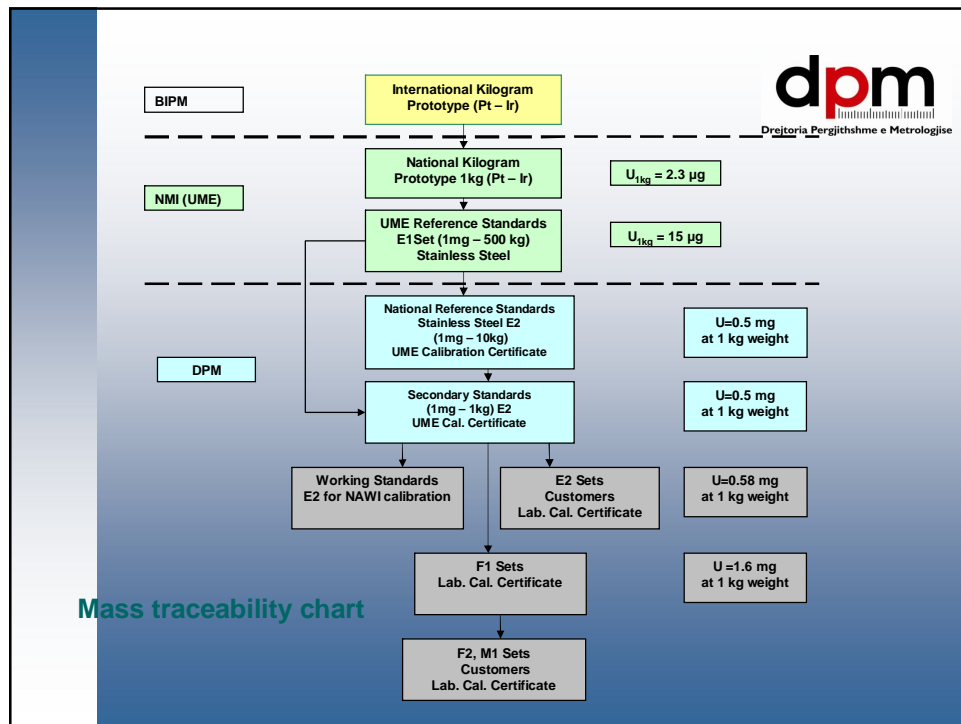
Length laboratory

- Interferometer up to 100 mm
- Gage Blocks, 0 and 1 grade
- Traceability: Direct Calibration of gage blocks at other NMIs



General traceability chart



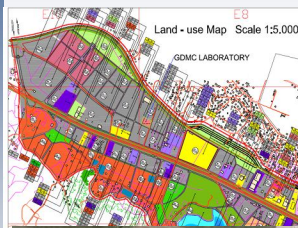


New building

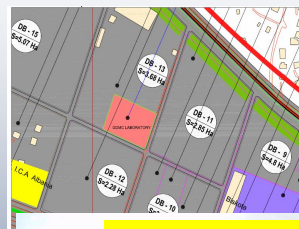
- ▶ To establish a state of the art building with contemporary architectural and electro mechanical installation elements
- ▶ The maximal size of building is about 5400 square meter
- ▶ 5 floors with 2 floors underground
- ▶ 20 laboratories covering more than 40 measurements fields/subfields
- ▶ 90% of laboratories will be built underground:
-1F & -2F
- ▶ Individual precision air conditioning unit and primary air and ventilation from AHU (air handling unit)
 - ▶ Temperature $20^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$
 - ▶ Temperature $20^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$

Architecture Design

Urban Study Scale 1: 5 000



Urban Study Scale 1: 1 000



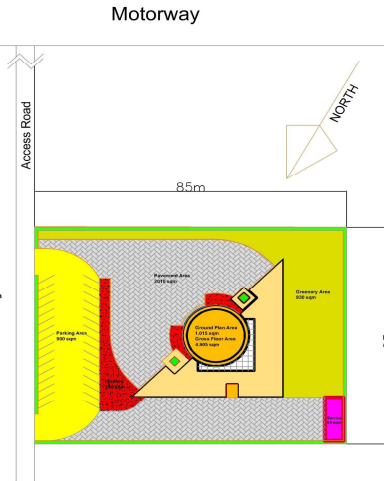
Location: Kashar Comune Km 7,



Architecture Design

General Layout

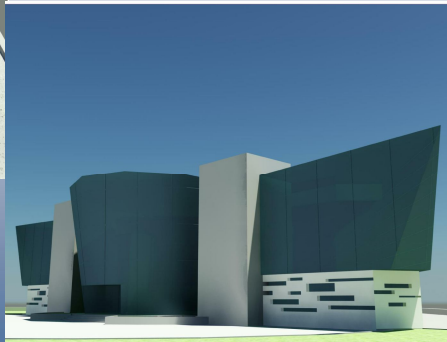
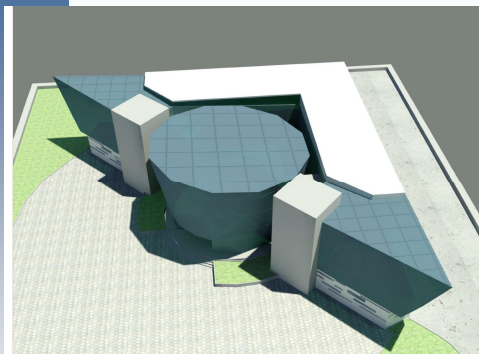
- Building Area 930 sqm
- Parking Area 900 sqm
- Pavement Area 2010 sqm
- Greenery Area 930 sqm
- Flowers Area 260 sqm
- Service Area 65 sqm
- Lifts



Architecture Design



Architecture Design (3D)



The overall objective is to facilitate the international trade through the increased quality of products produced in Albania, thus increasing of the export capacities.

Specific objectives:

- ☐ strengthening and upgrading of metrological infrastructure and
- ☐ increasing of technical competence of DPM;
- ☐ Upgrading of measurement standards and other metrological equipment,
- ☐ aligning of the Albanian metrology practices with these of EU members

Priorities on *Scientific and Industrial Metrology*



- Upgrading of the national measurement standards by industry-led demands
- Traceability of national measurement standards established and maintained
- Active participation in international inter-laboratory comparisons to have available results
- Upgrading of the technical knowledge of the technical staff of DPM;
- Implementation of the Quality Management System according to S SH ISO /IEC 17025:2005;
- Presentation at EURAMET TC-Q
- Accreditation of DPM laboratories according to the priorities
- Room for other institutions (public or private) to be involved within the national system;
- **Joint the EURAMET as full member**

Cooperation and participation



- **At national level:**
 - DPM has signed cooperation agreements with scientific institutions in the country; DA, IFB,
- **At the regional and International level:**
 - ☞ Full member of OIML
 - ☞ Applicant member of EURAMET
 - ☞ Full member of IMEKO
 - ☞ Associate member of Meter Convention
 - ☞ CIPM MRA was signed in October 2007
 - ☞ Observer member of WELMEC

Full member of EURAMET e.V since last EURAMET GA

Strategic goal



Traceability
documented

+

Interlaboratory
comparisons results
achieved

+

Quality system
developed and
implemented

Calibration services developed according to the recommended practices



Albanian metrology institute ready to apply for international recognition of its calibration and measurement capabilities (CMCs)



CMCs presented and
internationally approved

Quality system presented and
approved by EURAMET



Thank you for the attention!

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