



INSTITUT ZA MJERITELJSTVO BOSNE I HERCEGOVINE • ИНСТИТУТ ЗА МЕТРОЛОГИЈУ БОСНЕ И ХЕРЦЕГОВИНЕ • INSTITUTE OF METROLOGY OF BOSNIA AND HERZEGOVINA


INSTITUTE OF METROLOGY OF BOSNIA AND HERZEGOVINA (IMBIH)

Zijad Džemić
General Manager

6 - 9 June 2011
Sarajevo, BiH


5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

1



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Bosnia and Herzegovina



Bosnia and Herzegovina is a country in Southeast Europe, bordered by Adriatic Sea, Croatia, Serbia and Montenegro. Bosnia and Herzegovina covers area of 51129 square kilometers with population of 4 613 414 (estimated in 2007).

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

2



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History of (Institute of) metrology in Bosnia and Herzegovina

On September 1, 1912 as a part of Austro-Hungarian Monarchy Bosnia and Herzegovina got the **Law on measures in B&H**

Institute of Standards, Metrology and Patents of Bosnia and Herzegovina from 1992 - 2000, as a governmental institution.


Institute of Standards, Metrology and Intellectual Property of Bosnia and Herzegovina has been established in 2000, as a governmental institution.

The **Institute of Metrology of B&H (IMBIH)** has been established by restructuring the above mentioned Institute, as projected by the Law on Establishing the Institute for Metrology of B&H, issued in September 2004. Final separation between Institute of Metrology of B&H, Institute of Standardization of B&H and Institute of Intellectual Property of B&H has been done on **January 1, 2007**.

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

3



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Metrology system in B&H - Institutional structure

Consists of:


- The **Institute of Metrology of Bosnia and Herzegovina (IMBIH)**;
- The Entity Bureaus of Metrology: Bureau of Metrology of Federation B&H and Republic Bureau of Standardization and
- Metrology of Republic of Srpska;
- Nominated metrological Laboratories and Bodies (e.g. verification laboratories);
- Conformity assessment bodies for measuring instruments;
- Calibration laboratories.

Establishment of **distributed metrology system** is in its early phase.

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

4



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Legal framework of the Institute of Metrology of Bosnia and Herzegovina

IMBIH is the **National Measurement Institute** directly established under the Council of Ministers of B&H.


It is responsible for the establishment of a comprehensive measuring system in Bosnia and Herzegovina with traceability to the International System of Units, SI.

- **Law on Metrology of B&H** (Official Gazette of B&H, No. 19/2001)
- **Law on measuring units of B&H** (Official Gazette of B&H, No. 19/2001)
- **Law on the establishment of the Institute of Metrology of B&H** (Official Gazette of B&H, No. 43/2004).

6 - 9 June 2011
Sarajevo, BiH

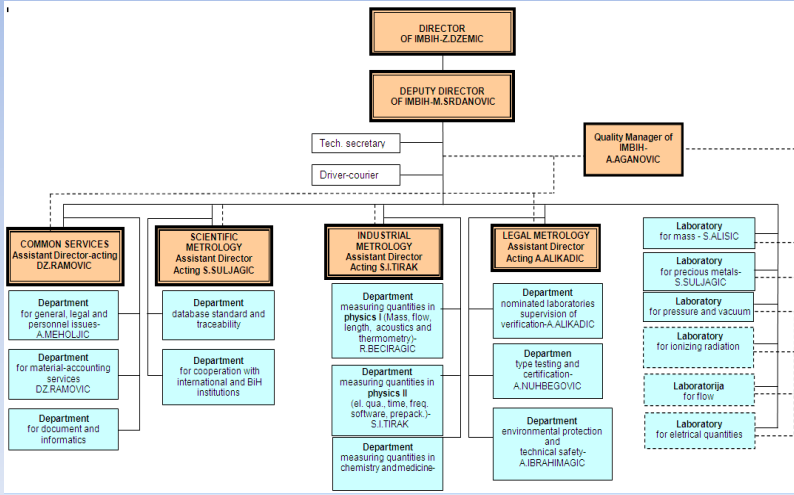
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5



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The current organizational structure of the IMBIH



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graph TD
    Director["DIRECTOR OF IMBIH - Z. DŽEMIĆ"] --> DeputyDirector["DEPUTY DIRECTOR OF IMBIH - M. SRĐANOVIĆ"]
    DeputyDirector --> TechSecretary["Tech. secretary"]
    DeputyDirector --> DriverCounier["Driver-counier"]
    DeputyDirector --> QualityManager["Quality Manager of IMBIH - A. AGANOVIĆ"]
    DeputyDirector --> CommonServices["COMMON SERVICES  
Assistant Director-acting  
DŽ. RAMOVIĆ"]
    DeputyDirector --> ScientificMetrology["SCIENTIFIC METROLOGY  
Assistant Director  
Acting S. SULJAGIĆ"]
    DeputyDirector --> IndustrialMetrology["INDUSTRIAL METROLOGY  
Assistant Director  
Acting S. ITRIĆ"]
    DeputyDirector --> LegalMetrology["LEGAL METROLOGY  
Assistant Director  
Acting A. ALIKADIĆ"]
    DeputyDirector --> Laboratories["Laboratories"]

    CommonServices --> DeptGeneralLegal["Department for general, legal and personnel issues - A. MEHOLIĆ"]
    CommonServices --> DeptMaterialAccounting["Department for material-accounting services - DŽ. RAMOVIĆ"]
    CommonServices --> DeptDocumentInformatics["Department for document and informatics"]

    ScientificMetrology --> DeptDatabase["Department database standard and traceability"]
    ScientificMetrology --> DeptCooperation["Department for cooperation with international and BIH institutions"]

    IndustrialMetrology --> DeptPhysicsI["Department measuring quantities in physics I (Mass, flow, length, acoustics and thermometry) - R. BEČIRAGIĆ"]
    IndustrialMetrology --> DeptPhysicsII["Department measuring quantities in physics II (el. qua., time, freq., software, prepack.) - S. ITRIĆ"]
    IndustrialMetrology --> DeptChemistryMedicine["Department measuring quantities in chemistry and medicine"]

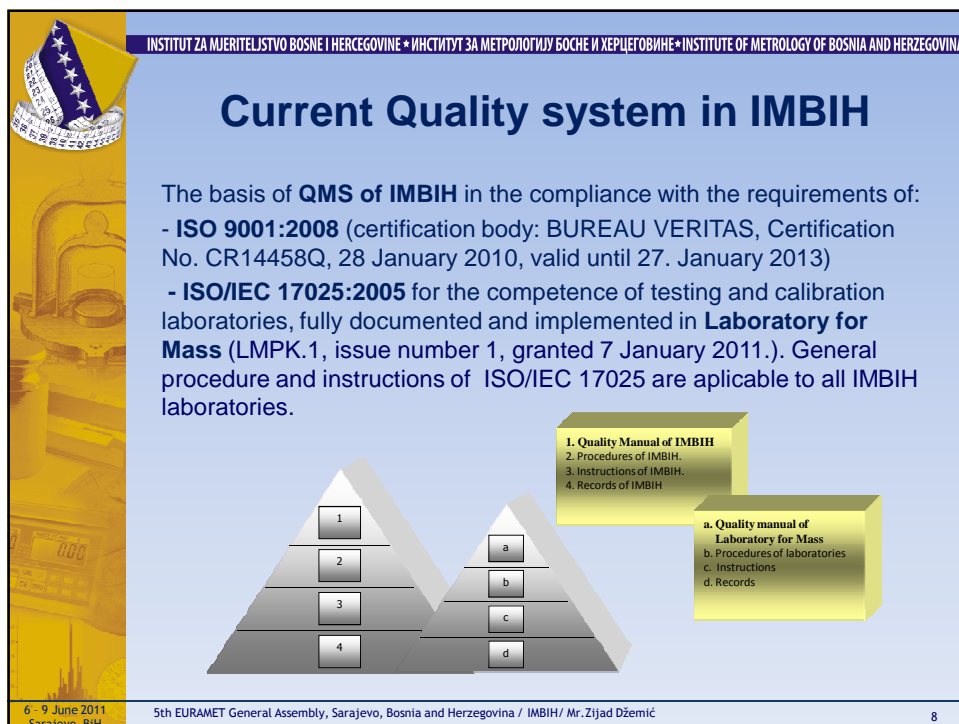
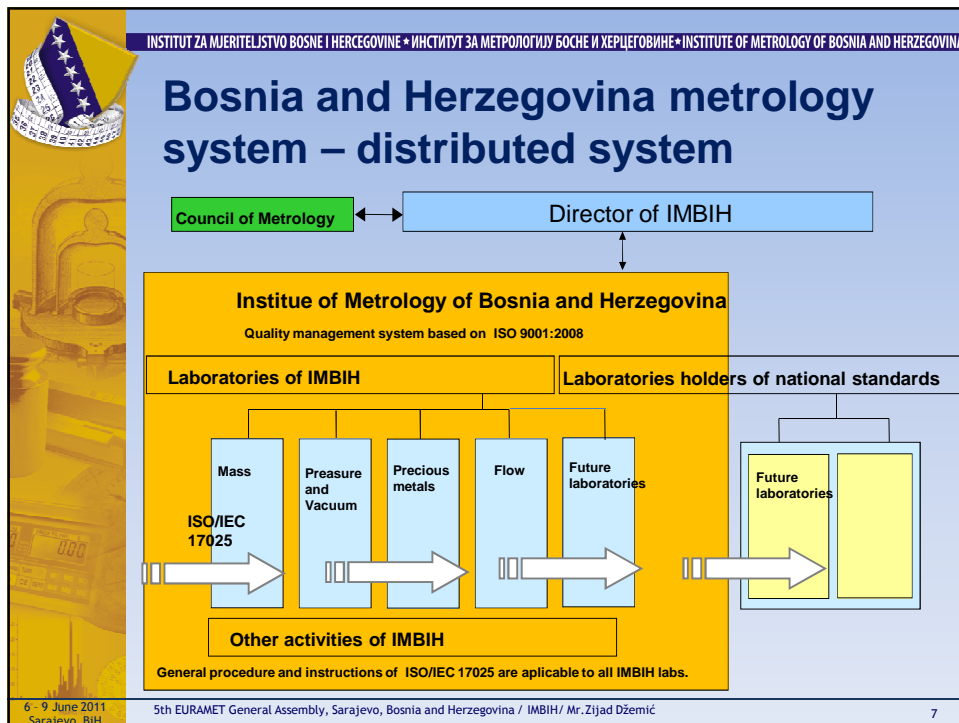
    LegalMetrology --> DeptNominated["Department nominated laboratories supervision of verification - A. ALIKADIĆ"]
    LegalMetrology --> DeptTypeTesting["Department type testing and certification - A. NUHBEGOVIĆ"]
    LegalMetrology --> DeptEnvProtection["Department environmental protection and technical safety - A. IBRAHIMAGIĆ"]

    Laboratories --> LabMass["Laboratory for mass - S. ALIŠIĆ"]
    Laboratories --> LabPreciousMetals["Laboratory for precious metals - S. SULJAGIĆ"]
    Laboratories --> LabPressureVacuum["Laboratory for pressure and vacuum"]
    Laboratories --> LabIonizingRadiation["Laboratory for ionizing radiation"]
    Laboratories --> LabFlow["Laboratorija for flow"]
    Laboratories --> LabElectrical["Laboratory for electrical quantities"]
  
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6 - 9 June 2011
Sarajevo, BiH

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6



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Future concept of Quality Management System of IMBIH

Quality management system of IMBIH

Unique Quality Manual of IMBIH covering activities according to:

- ISO/IEC 17025
- ISO/IEC 17020
- ISO 9001
- (depending on future development of activities)

-Quality Manual will be updated continuously during integration of other laboratories in QMS system

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

9

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Participation in intercomparisons in frame of EURAMET

- **EUROMET project No. 592** "Inter-comparison in mass" (coordinator: NPL), realized in February 1998
- **EUROMET project No. 593** "Inter-comparison in length" (coordinator BNM-LNE), realized in January 1998
- **EUROMET project No. 594** "Inter-comparison in electrical quantities" (coordinator: NMI), realized in March 1998
- **EURAMET project No. 1046** "Inter-comparison of electromagnetic flow-meters" (coordinator: CMI, Czech Republic), realized in 2009
- **EURAMET Project no. 1041** "Comparison up to 200 kPa in absolute and gauge pressure" (coordinator: METAS, Switzerland) – planned for 2011
- **EURAMET Project no. 1096** "SEE exercise comparison of mass standards of 1 kg and submultiples of the kilogram" (coordinator: EIM, Greece), realized in 2008
- **EURAMET Project no. 1040** "Comparison from 100 μ Pa up to 1 Pa using a SRG as a transfer standard" (coordinator: METAS, Switzerland), realized in 2009
- **EURAMET Project no. 1120** "Comparison of Mass Standards for SEE" (coordinator: BEV Austria) realized in 2009, realized in 2009
- **EURAMET project No. 1125** "Evaluation of cross-float measurements with pressure balances – 1st loop" & "Evaluation of cross-float measurements with pressure balances – 2nd loop" realized in 2010

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

10



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IMBIH in process to declare first CMC in KCDB

- **IMBIH Member of EURAMET since 2009**
- **EURAMET intercomparison 1120** – It is KCDB comparison linked to both **EUROMET.M.M-K4** and **EUROMET.M.M-K2** via BEV (Austria) and EIM (Greece). The comparison included weights of 1 kg, 500 g, 20 g, 2 g, 100 mg.
- **Draft B** of EURAMET 1120 was presented on **TC Mass Meeting on March 2nd 2011**, on Malta. Results of Laboratory for Mass of IMBIH show very good agreement with reference value.
- Presentation of **Quality system of IMBIH with** Laboratory for Mass – Approved on **TC Q Meeting in 2011** in Belgrade
- IMBIH to publish **first CMC in KCDB** database – CMC in mass field

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

11



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New information on <http://www.bipm.org/>

New associate of the CGPM: Bosnia and Herzegovina:

As of 24 May 2011,
Bosnia and Herzegovina is an
Associate of the CGPM.

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

12

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IMBIH staff that brought to Bosnia and Herzegovina CGPM Associate Status

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

13

INSTITUT ZA MJERITELJSTVO BOSNE I HERCEGOVINE • ИНСТИТУТ ЗА МЕТРОЛОГИЈУ БОСНЕ И ХЕРЦЕГОВИНЕ • INSTITUTE OF METROLOGY OF BOSNIA AND HERZEGOVINA

Current membership and participation in International Organizations

EURAMET - Member since 2009
OIML - Corresponding Member since March 1997
WELMEC - Associate member since 2009
BIPM – Associate member since 2011

Seven IMBIH staff as a contact persons in EURAMET TCs
 (quality, flow, interdisciplinary metrology, chemistry, time and frequency, electricity and magnetism, mass and related quantities).

Eight IMBIH staff as a contact persons in WELMEC WGs
 (Directive implementation, General aspects of legal metrology, Metrological supervision, Pre-packages, Software, Measuring instrument directive, Measuring equipment for liquids other than water, Utility meters).

IMBIH has 14 members of engineering staff (out of 35) certified as technical assessors by some EA accredited body.

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

14



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Current international cooperation and assistance

- Instrument of Pre-Accession – new EC assistance instrument – IPA 2007, IPA 2008, IPA 2009
- EU TAIEX programs of education
- Regional Cooperation in South-Eastern Europe lead by PTB
- Cooperation with IMT and Government of Slovenia
- Bilateral Cooperation with PTB (Germany) from 2009
- Bilateral Cooperation with BEV (Austria) from 2009
- Bilateral Cooperation with UME (Turkey) from 2008
- Bilateral Cooperation with MIRS (Slovenia) from 2008

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

15



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Plans for development


IMBIH will carry out a tasks which include:

- Facilitating traceability to the primary realizations of the SI,
- Coordinating intercomparisons of national measurements standards,
- Recognition of national measurement standards towards their international recognition,
- Legal metrology and development of geographically distributed system of metrology,
- Cooperation in metrological research and development,
- Sharing technical capabilities (in particular special facilities),
- Developing technical competencies and quality systems,
- Laboratories accreditation;
- IMBIH shall encourage private and public sector in obtaining the appropriate appointment of designated laboratories in order to expand distributed system of metrology
- Continuous education for its personnel, follow-up trainings.

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

16



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Compliments for headship in development in last 30 years

Belong to Mr. Esad TUZOVIĆ

- From 1980 – 1992 head of legal metrology in Bosnia and Herzegovina as a part of ex Yugoslavia
- From 1992 – 1993 made preliminary work for establishment of a new B&H state metrology institution
- From 1993 – 2004 Executive director for metrology in Institute for standards, metrology and Patents of B&H
- From 2004 – 2007 director of Institute for standards, metrology and (Patents) Intellectual property of B&H
- From 2007 – 2010 director of Institute of metrology of B&H

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

17



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Mr. Esad TUZOVIĆ

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH / Mr. Zijad Džemić

18



INSTITUT ZA MJERITELJSTVO BOSNE I HERCEGOVINE • ИНСТИТУТ ЗА МЕТРОЛОГИЈУ БОСНЕ И ХЕРЦЕГОВИНЕ • INSTITUTE OF METROLOGY OF BOSNIA AND HERZEGOVINA

Thank you for your kind attention!

Zijad Džemić, IMBIH, June 2011

6 - 9 June 2011
Sarajevo, BiH

5th EURAMET General Assembly, Sarajevo, Bosnia and Herzegovina / IMBIH/ Mr. Zijad Džemić

19