Objectives and Operation of EURAMET

Wolfgang Schmid
EURAMET e.V.
Member Service Manager

EURAMET Information Day for INM Moldova

INM, Chisinau, 7 - 8 November 2018

Outline:
EURAMET Information Day for INM Moldova

- Establishment of EURAMET as RMO in Europe
- Membership
- EURAMET Structure and Bodies
- Cooperation within the Technical Committees

Evolution of European cooperation in metrology

EURAMET

Apr 1973
Western European Metrology Conference
NPL, Teddington

Jun 1974
1st WEMC Meeting
PTB, Braunschweig

Sep 1987
Signature of EUROMET MoU
Madrid

EUROMET

1974 – 1989 Western European Metrology Club (WEMC)

1988 – 2007

1970 1975 1980 1985 1990 199

1973
Establishment of Bureau Communautaire de Référence (BCR)

1974-1975
WEMC Working Group on Calibration Services

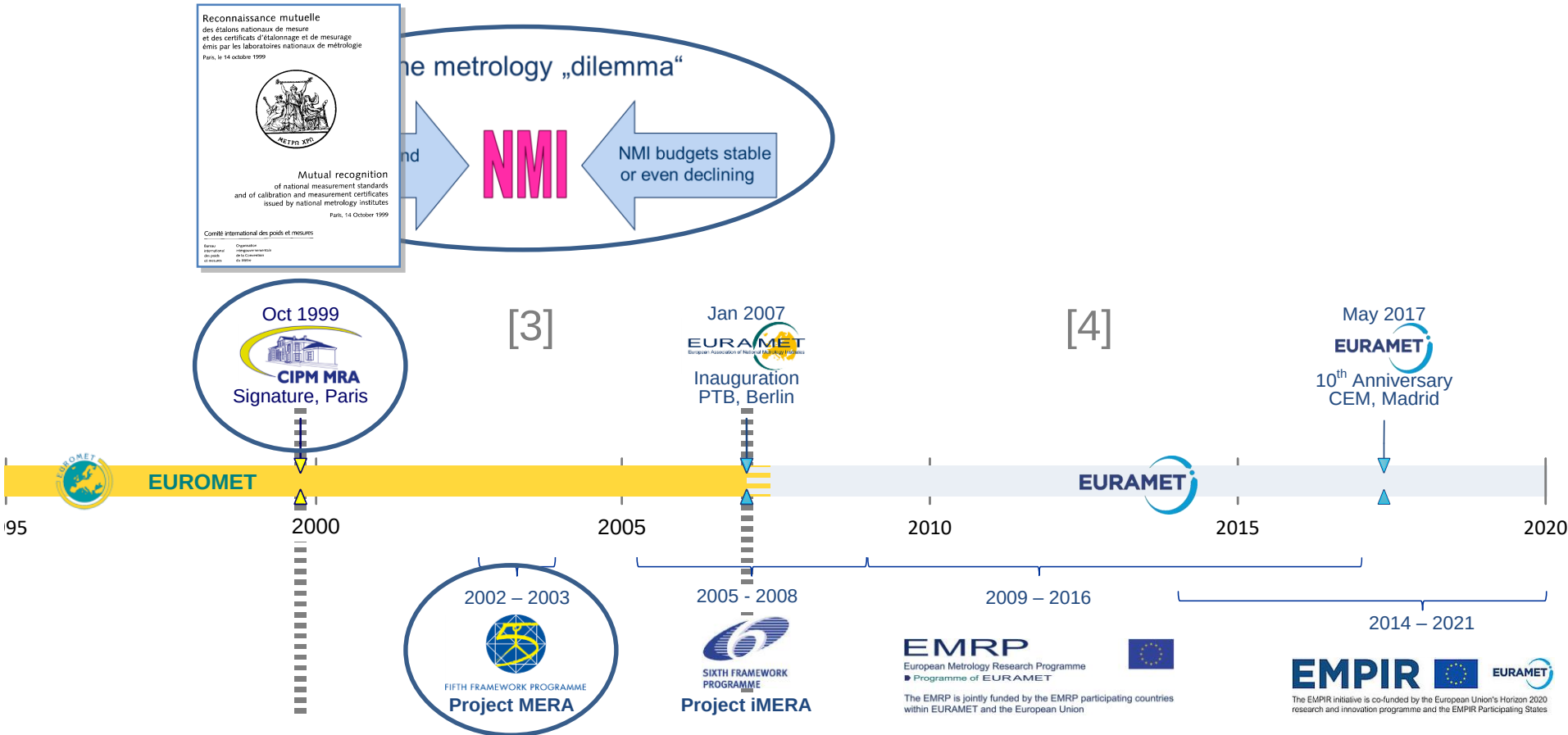
1976 – 1994 Western European Calibration Cooperation (WECC)

[1]

1990 Western European Legal Metrology Cooperation (WELMEC)

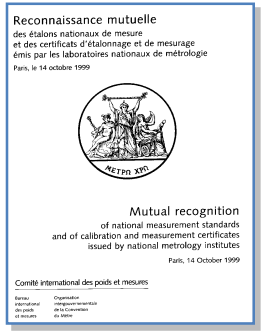
[2]

Evolution of European cooperation in metrology



Evolution of European cooperation in metrology

EURAMET



Reconnaissance mutuelle
des étalons nationaux de mesure
et des certificats d'étalonnage et de mesurage
émis par les laboratoires nationaux de métrologie
Paris, le 14 octobre 1999

METPI XPI

Mutual recognition
of national measurement standards
and of calibration and measurement certificates
issued by national metrology institutes
Paris, 14 October 1999

Comité international des poids et mesures

Bureau international des poids et mesures — Organisation intergouvernementale de la Convention du Mètre

30 years of collaboration in European metrology 1987–2017

Oct 1999
CIPM MRA
Signature, Paris

[3]

Jan 2007
EURAMET
Inauguration
PTB, Berlin

[4]

May 2017
EURAMET
10th Anniversary
CEM, Madrid

EUROMET

EURAMET

95 2000 2005 2010 2015 2020

2002 – 2003
FIFTH FRAMEWORK PROGRAMME
Project MERA

2005 - 2008
SIXTH FRAMEWORK PROGRAMME
Project iMERA

2009 – 2016
EMRP
European Metrology Research Programme
Programme of EURAMET
The EMRP is jointly funded by the EMRP participating countries within EURAMET and the European Union

2014 – 2021
EMPIR
EURAMET
The EMPIR initiative is co-funded by the European Union's Horizon 2020 research and innovation programme and the EMPIR Participating States

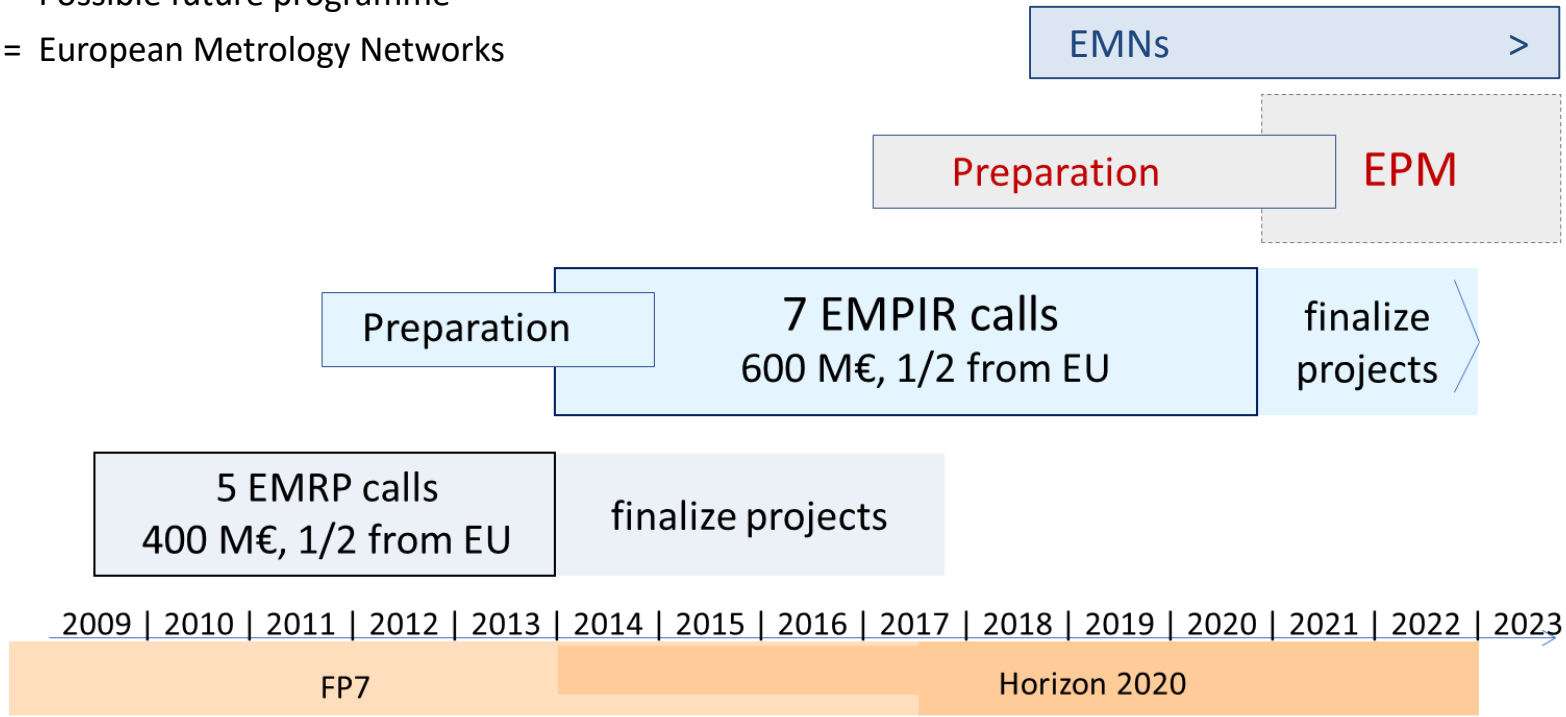
Coordinated research in EURAMET

EMRP = European Metrology Research Programme (2009-2017)

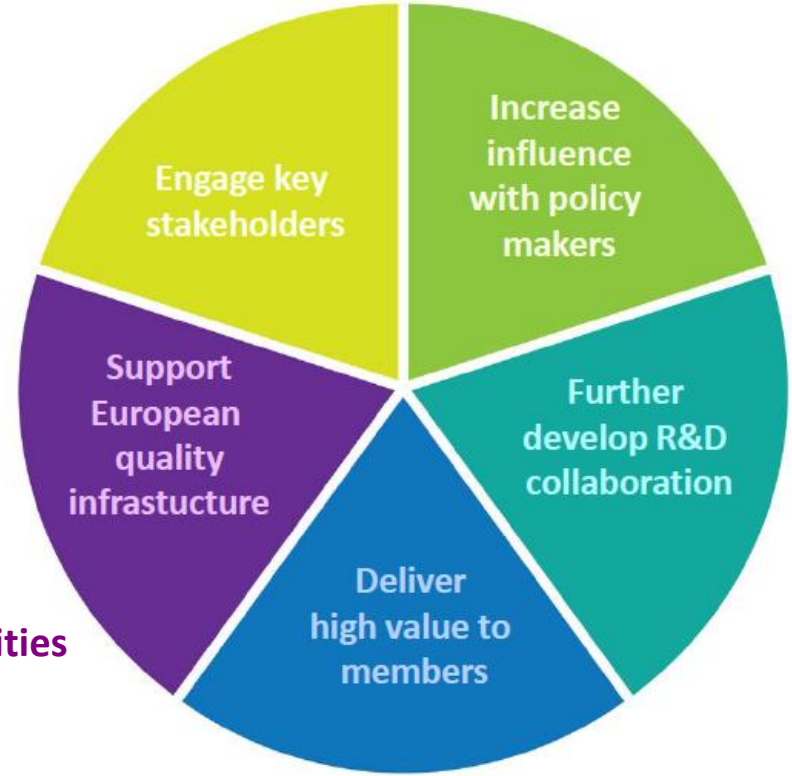
EMPIR = European Metrology Programme for Innovation and Research (2014-24)

EPM = Possible future programme

EMN = European Metrology Networks



EURAMET Strategic Objectives



CIPM MRA related activities

EMRP
EMPIR

Knowledge Transfer

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EURAMET Information Day for INM Moldova

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Regional Metrology Organisation - EURAMET

EURAMET e.V.

German non profit association

- **Members:**
  - 37 European NMIs
- **Associates:**
  - 1 Corresponding Applicant
  - 78 A-DIs
- **Liaison Organisations:**
  - RMOs & BIPM
  - 3 NMIs beyond Europe
  - KMA (Kosovo under UNSCR 1244)
  - 6 regional/international Organisations

EURAMET membership structure

- **Members:**

  European National Metrology Institutes (NMIs)

  - Permanent representative (Delegate) in the General Assembly (GA)
  - Representative in the EMPIR Committee (in case of EMPIR participation)
  - Represent further institutes of their country in GA and EMPIR-Committee
  - Annual fees: a) for member services / b) for EMPIR management (EMPIR member only)

- **Associates:**

  A) NMIs applying for membership

  B) Designated Institutes (DIs) of member countries

  - Eligible to participate in EURAMET activities (Technical Committees, EMRP, ...)
  - Observer in General Assembly, without voting right
  - Annual fees

- **Liaison Organisations:**

  Further institutes with activities related to metrology (national, regional, international)

Status of DIs in EURAMET

CIPM MRA		EURAMET
Signatories (NMIs)	→	Members
Designated Institutes (and further NMIs)	→	Associates (A-DI)

CIPM-MRA

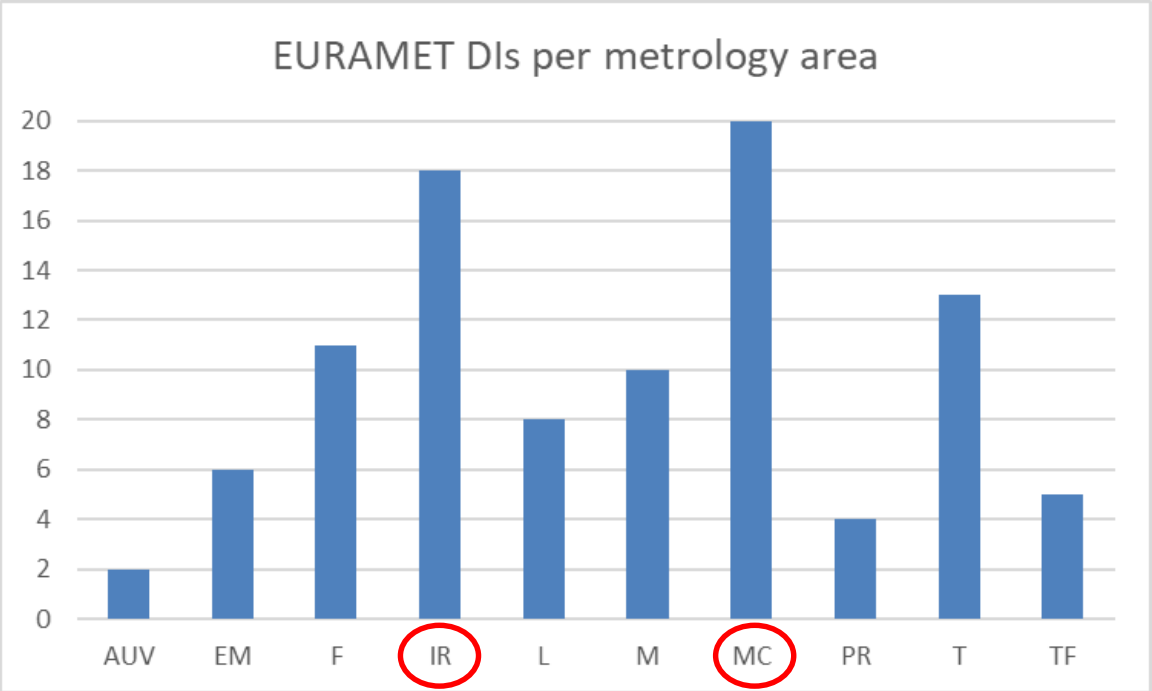
introduced “Designated Institutes" as responsible for certain national standards and associated services not covered by the activities of the "traditional" NMI”
(CIPM 2005-07)

EURAMET

requests a formal registration of a DI as Associate before DI is eligible to participate in TC-projects

- EURAMET KCs and SCs
- review of the QMS by the EURAMET TC-Q
- review of the CMCs by the concerned EURAMET TC

EURAMET: Metrology fields and DIs



Note:

- Total number 97 (> 78)
  Several DIs are designated for more than one field
- Highest number of DIs in Metrology for Chemistry (MC): 20
  Ionising Radiation (IR): 18

Status: November 2018

Rights and duties of Members & Associates

EURAMET

Rights:

- Participation in General Assembly *
- Contact persons to Technical Committees (TC)
- Participation in TC-meetings and TC-projects (e.g. comparisons)
- Getting QMS and CMCs reviewed in the framework of the CIPM MRA
- Eligible for EURAMET Capacity Building
- Eligible for EMPIR Joint Research Projects (JRP) as internal or external partner

* Associates have observer status and cannot be elected as officials (Chairs, BoD, etc.)

Duties:

- Payment of annual fee*

* Amount of annual fees is fixed by GA (currently 2 352 €, associates 50%)

Expectations:

- Participation in TC-activities
- Take active role in proposing, initiating and coordinating TC activities
- Contribute to CMC and QMS review in the frame of the CIPM MRA

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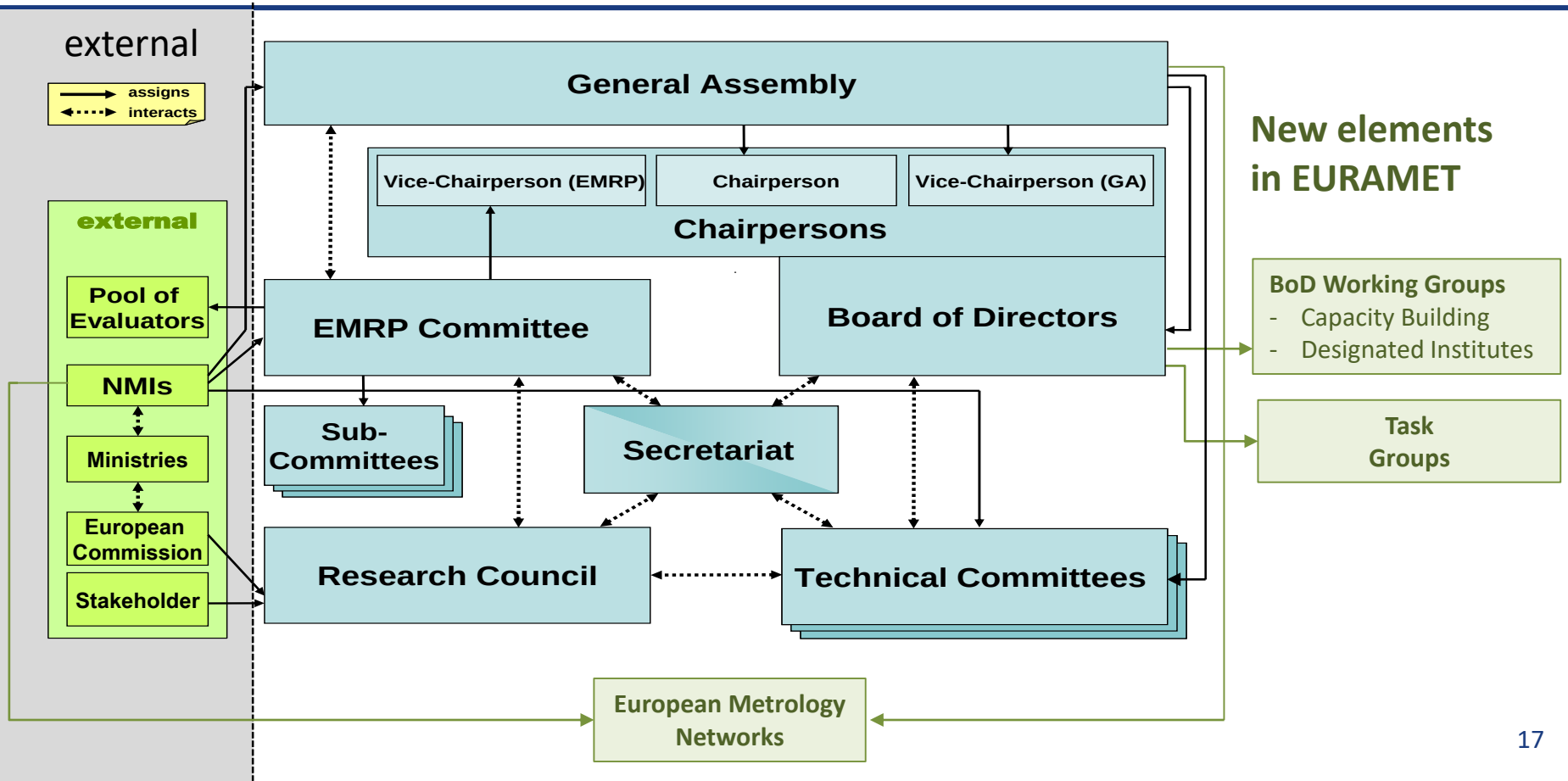
EURAMET - Organisational Structure



General Assembly

- Highest authority with respect to all EURAMET matters
- One Delegate per EURAMET Member NMI
- One vote per Delegate

Responsibilities (among others):

- Decision-making body in all EURAMET matters *
- Approval of objectives and strategy
- Acceptance of members (& expulsion)
- Adoption of fundamental rules: Byelaws, RoP, ToR of bodies, policies
- Approval of the budget *
- Election of all EURAMET officials **
- Appointment of personal members of the Research Council

** but respecting the EMPIR Committee for EMPIR matters*
*** with exception of EMPIR-Chair*

Chairpersons

- Represent EURAMET legally
- Chairperson and Vice-Chairperson (GA) are elected by GA
- Vice-Chairperson (EMPIR) is elected by EMPIR-Committee

Responsibilities Chairperson:

- Represents EURAMET legally
- Prepares and chairs meetings of GA
- Coordinates meetings and activities of BoD

… and others

Responsibilities Vice-Chair (EMPIR):

- Represents EURAMET in matters related to EMPIR
- Prepares and chairs meetings of EMPIR-Committee

… and others

Responsibilities Vice-Chair (GA):

- Deputising of Chairperson
- Responsibilities for member issues (CB, DI, …)

… and others

EURAMET Chairpersons

CHAIRPERSON

Hans Arne Frøystein
Justervesenet - Norwegian Metrology Service (JV)

Fetveien 99
2007 Kjeller
Norway

Phone: +47 64 84 84 84
E-mail: chairperson@euramet.org

VICE-CHAIRPERSON (GA)

Dr Maria Luisa Rastello
Istituto Nazionale di Ricerca Metrologica (INRIM)

Strada delle Cacce 91
10135 Torino
Italy

Phone: +39 011 3919 219
Fax:+39 011 3463 84
E-mail: vicechairperson@euramet.org
About Maria Luisa >>

VICE-CHAIRPERSON (EMPIR)

Prof Erkki Ikonen
Aalto University, Metrology Research Institute (Aalto)

Otakaari 5
02150 Espoo
Finland

Phone: +358 50 5502283
E-mail: empirchair@euramet.org
About Erkki >>

PAST CHAIRPERSON

Dr Beat Jeckelmann
Federal Institute of Metrology METAS

Lindenweg
3003 Bern-Wabern
Switzerland

Phone: +41 58 387 0297
Fax:+41 58 387 0210
E-mail: beat.jeckelmann@metas.ch
About Beat >>

Board of Directors

- Governance body of EURAMET
- Members elected for 2 years' term, 2 direct re-elections possible

Byelaws §9 (2):

"The Board of Directors should reflect the diversity of the members in respect of geography, level of metrological development and metrological impact in Europe."

Responsibilities:

- Governance of EURAMET
- Development of Strategies
- Execution of decisions taken by the GA
- Employment of staff
- Discussion of the budget

Board of Directors

Name	Institute	Country	Position
Frøystein, Hans Arne	JV	Norway	Chairperson
Rastello, Maria Luisa	INRIM	Italy	Vice-Chairperson (GA)
Ikonen, Erkki	VTT	Finland	Vice-Chairperson (EMPIR)
Jeckelmann, Beat	METAS	Switzerland	Past-Chair
Chambon, Maguelonne	LNE	France	Member
Džemić, Zijad	IMBiH	Bosnia - Herzegovina	Member
Edelmeier, Robert	BEV	Austria	Member
Fokkema, Vincent	VSL	Netherlands	Member
Klenovský, Pavel	CMI	Czech Republic	Member
Stenger, Jörn	PTB	Germany	Member

EMPIR-Committee

- Representatives from EMPIR-members
- Decision-making body in all EMPIR matters
- Weighted voting

Responsibilities (among others):

- Developing and updating the EMRP
- Defining rules for calls and for development of proposals for JRPs
- Defining eligibility and selection criteria
- Defining calls for proposals and grants
- Defining budget profile
- Selecting the independent evaluators
- Decision on ranking list of JRPs to be funded
- Monitoring progress of funded JRPs
- Election of EMPIR-Chair

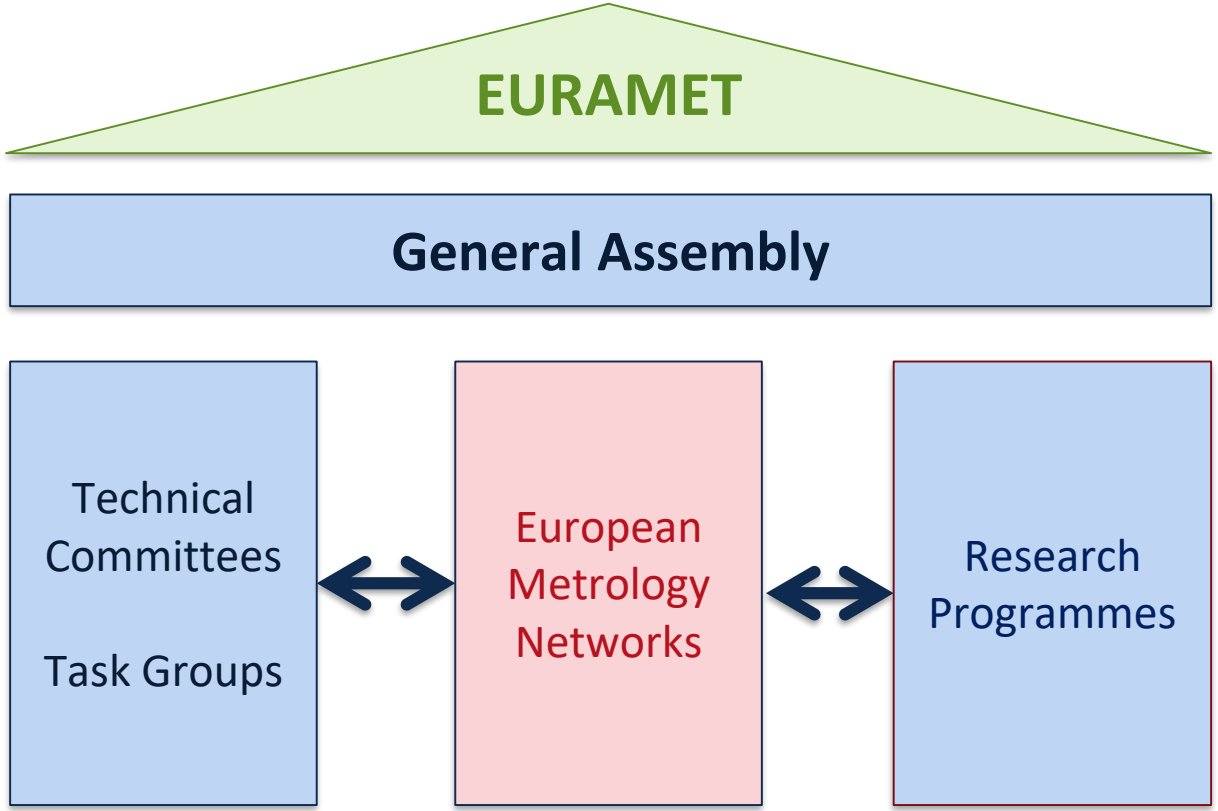
Technical Committees

- See next chapter of this presentation

BoD Working Group for Capacity Building

- See presentation on Thursday 9h00:
  “Capacity Building in EURAMET“

European Metrology Networks (EMN)



European Metrology Networks:

- new structural element in EURAMET
- objective is to create sustainable structures **in areas of strategic importance** for the future of European metrology

European Metrology Networks

- At the EURAMET GA in 2018 the first 6 EMN were approved.
- They are now in process of establishment
- EMN may be funded within EMPIR as “Joint Network Projects” (JNP)

TITLE	CHAMPION	COUNTRIES CONSIDERING JOINING
Mathmet	Markus Baer	BA, IT, PT, FR, GB, DE, SE, PL, BE, IT
Quantum Photonics	Ivo Pietro Degiovanni	IT, FI, CZ, EE, GB, DE, CH, PL, IT, NL
Laboratory Medicine	Rainer Stosch	DE, CH, CZ, GB, FR, NL, PL, IT, TR
Smart Grids	Gert Rietveld	NL, CH, DE, NO, CZ, EE, GB, FI, FR, SI, PL, TR, BA, SE, ES, IT, GR
Energy Gases	Annarita Baldan	NL, GB, FI, FR, PL, BA, SE, ES, DE, TR
Climate and Ocean Observation	Emma Woolliams	UK, FI, NL, RO

EURAMET Secretariat

EURAMET

Management Board
- General Secretary (GS)
- Member Services Manager
- EMRP/EMPIR Programme Manager

Legal Adviser

Financial Officer

Communication Officer

Quality Manager

Braunschweig

Member Services
- Member Services Manager (MSM)

Administration of members and documentation
- Administrative support
- Documentation
- Maintenance website & databases

Financial Management

Members' support
- Capacity Building
- KT
- TC-Q support
- Member information analysis

+ WELMEC Secretariat

+ general support of EMRP/EMPIR

EMRP/EMPIR
- EMRP/EMPIR Programme Manager (PM)

EMRP/EMPIR management support unit

Teddington

GENERAL SECRETARY

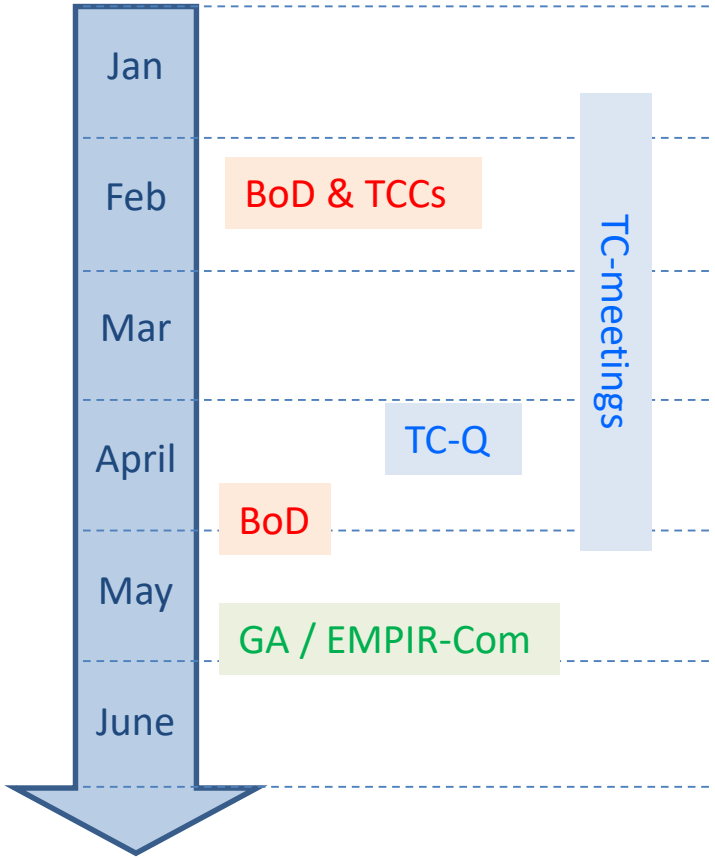
Duncan Jarvis

EURAMET e.V.
Bundesallee 100
38116 Braunschweig, Germany

Phone: +44 20 8943 6707
duncan.jarvis@euramet.org

- Permanent staff, part of it directly employed by EURAMET
- Plus secondments from UME, LNE, IMBIH
- MSU, subcontracted to NPL

The “EURAMET year“



EMPIR call cycle:
See presentation on EMPIR, Th 11h30

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EURAMET Technical Committees

EURAMET

- Acoustics, Ultrasound and Vibration
- Electricity and Magnetism
- Flow
- Ionising Radiation
- Length
- Mass and Related Quantities
- Metrology in Chemistry
- Photometry and Radiometry
- Thermometry
- Time and Frequency

10 TCs for metrological areas

- Quality
- Interdisciplinary Metrology

2 TCs for horizonal areas

Technical Committee Chairs

TC	TC-Chair	Institute	Country
AUV	Stephen Robinson	NPL	United Kingdom
EM	Luca Callegaro	INRIM	Italy
F	Petra Milota	BEV	Austria
IM	Miruna Dobre	SME	Belgium
IR	Ulrike Ankerhold	PTB	Germany
L	Harald Bosse	PTB	Germany
M	Isabel Spohr	IPQ	Portugal
MC	Hanspeter Andres	METAS	Switzerland
PR	Stefan Kück	PTB	Germany
Q	Kai Stoll-Malke	PZB	Germany
T	Dolores del Campo	CEM	Spain
TF	Peter Whibberley	NPL	United Kingdom

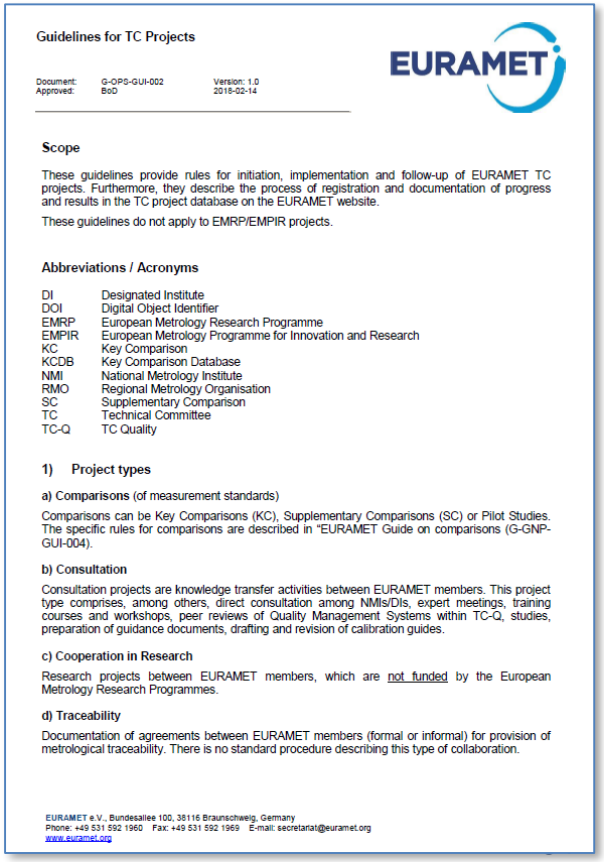
Technical Committees: Activities

- Forum for scientific and technical cooperation among members
- Implementation of CIMP MRA related requirements for EURAMET members
- Contributions to elaboration and execution of EMPIR
- Contributions to Capacity Building
- Preparation of Calibration Guides

TC projects *

* not EMPIR-projects

- **4 project types:**
  traceability, comparisons, research, consultation
- **Projects are not funded:**
  each participant commits own resources (in kind)
- **Discussed and approved at annual TC-meetings:**
  rules are described in “Guidelines for TC-projects”
- **TC project database on EURAMET website:**
  registration of projects and reporting of progress



Guidelines for TC Projects

Document: G-OPS-GUI-002 Version: 1.0
Approved: BoD 2018-02-14

Scope

These guidelines provide rules for initiation, implementation and follow-up of EURAMET TC projects. Furthermore, they describe the process of registration and documentation of progress and results in the TC project database on the EURAMET website.

These guidelines do not apply to EMRP/EMPIR projects.

Abbreviations / Acronyms

DI	Designated Institute
DOI	Digital Object Identifier
EMRP	European Metrology Research Programme
EMPIR	European Metrology Programme for Innovation and Research
KC	Key Comparison
KCDB	Key Comparison Database
NMI	National Metrology Institute
RMO	Regional Metrology Organisation
SC	Supplementary Comparison
TC	Technical Committee
TC-Q	TC Quality

1) Project types

a) Comparisons (of measurement standards)

Comparisons can be Key Comparisons (KC), Supplementary Comparisons (SC) or Pilot Studies. The specific rules for comparisons are described in "EURAMET Guide on comparisons (G-GNP-GUI-004).

b) Consultation

Consultation projects are knowledge transfer activities between EURAMET members. This project type comprises, among others, direct consultation among NMIs/DIs, expert meetings, training courses and workshops, peer reviews of Quality Management Systems within TC-Q, studies, preparation of guidance documents, drafting and revision of calibration guides.

c) Cooperation in Research

Research projects between EURAMET members, which are not funded by the European Metrology Research Programmes.

d) Traceability

Documentation of agreements between EURAMET members (formal or informal) for provision of metrological traceability. There is no standard procedure describing this type of collaboration.

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Phone: +49 531 592 1960 Fax: +49 531 592 1969 E-mail: secretariat@euramet.org
www.euramet.org

TC project database

SUBJECT	REG. NO.	STARTING	TITLE	COORDINATING INSTITUTE	STATUS	COLLABORATION TYPE	KCDB
MC	1462	2018-11-01	Electrolytic conductivity at pure water level	PTB	in progress	Comparison	EURAMET.QM-S12
EM	1461	2018-04-01	Comparison on Voltage Reflection Coefficient (VRC) of an RF source	INTA	in progress	Comparison	
IM	1460	2018-03-28	Memorandum of Understanding for Closer Collaboration in Baltic States	Metrosert	ongoing	Consultation	
T	1459	2018-06-01	Air Temperature Metrology - ATM	INRIM	in progress	Research	
Q	1458	2018-11-01	On-site peer review of STUK	STUK	agreed	Consultation	
T	1457	2018-09-01	Comparison of measurement parameters required in radiance temperature scale realization from 156 °C to 1100 °C	INRIM	agreed	Comparison	
PR	1456	2018-10-01	Key comparison on spectral regular transmittance 2018	LNE-INM	agreed	Comparison	

See: www.euramet.org/technical-committees/tc-projects/

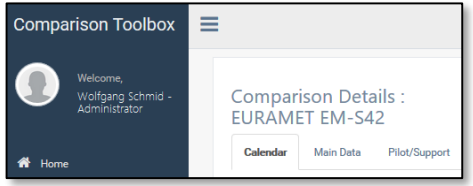
Role of the TCs within the CIPM MRA

EURAMET

Role of EURAMET as RMO within the CIPM MRA

CIPM MRA

- Organise intercomparisons → **TCs**
- Review of QMS of NMIs and DIs → **TC-Q**
- Review CMC claims of NMIs and DIs → **TCs**



TC project database

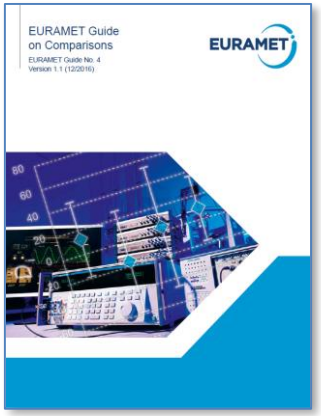
SUBJECT	REG. NO.	STARTING	TITLE
EM	1426	2017-07-17	Comparison of S-parameter Measurements in
F	1425	2017-09-01	Calibration of micropipettes using the photom
MC	1424	2017-06-01	Determination of Elements in River Water

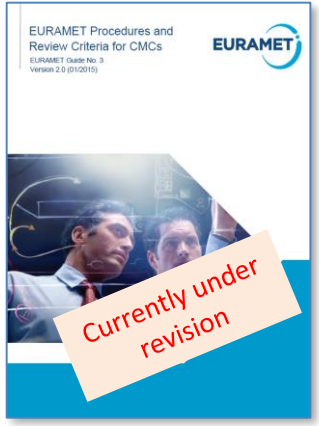
SEARCH IN TC-Q DATABASE

Search for QMS Review Search for Annual Reports

OVERVIEW TABLE

Country	Institute	EURAMET Status	EURAMET Member/Associate since
Albania	DPM	M	2007
Austria	BEV	M	2007
Austria	EAA	A-DI	2010



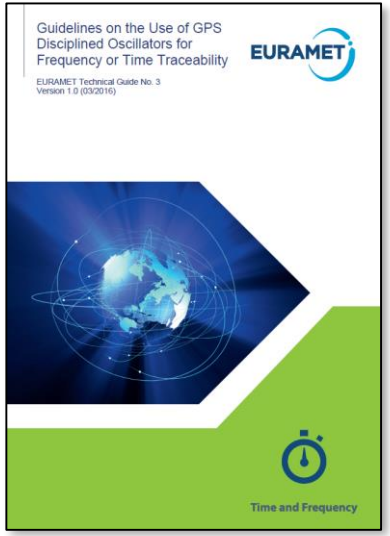


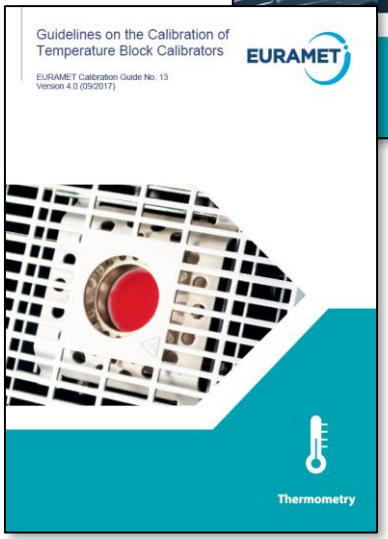
Calibration Guides

EURAMET has published

20 Calibration Guides & 3 Technical Guides

For free download from the website:
www.euramet.org/publications-media-centre





Technical Committees: Organisation

- Each Member and Associate can participate in the TC of their fields of activity
- Nomination of a Contact Person by the Delegate (nomination form)
- TCs hold annual meetings
- Structure of TCs (typically):
  - Sub-Committees or working groups (WG)
  - WGs for Strategy, CIPM MRA, EMPIR, …
- TC-Chairs:
  - elected by the GA
  - term of 2 years, one re-election is possible

Questions?

Thank you for your attention!

wolfgang.schmid@euramet.org