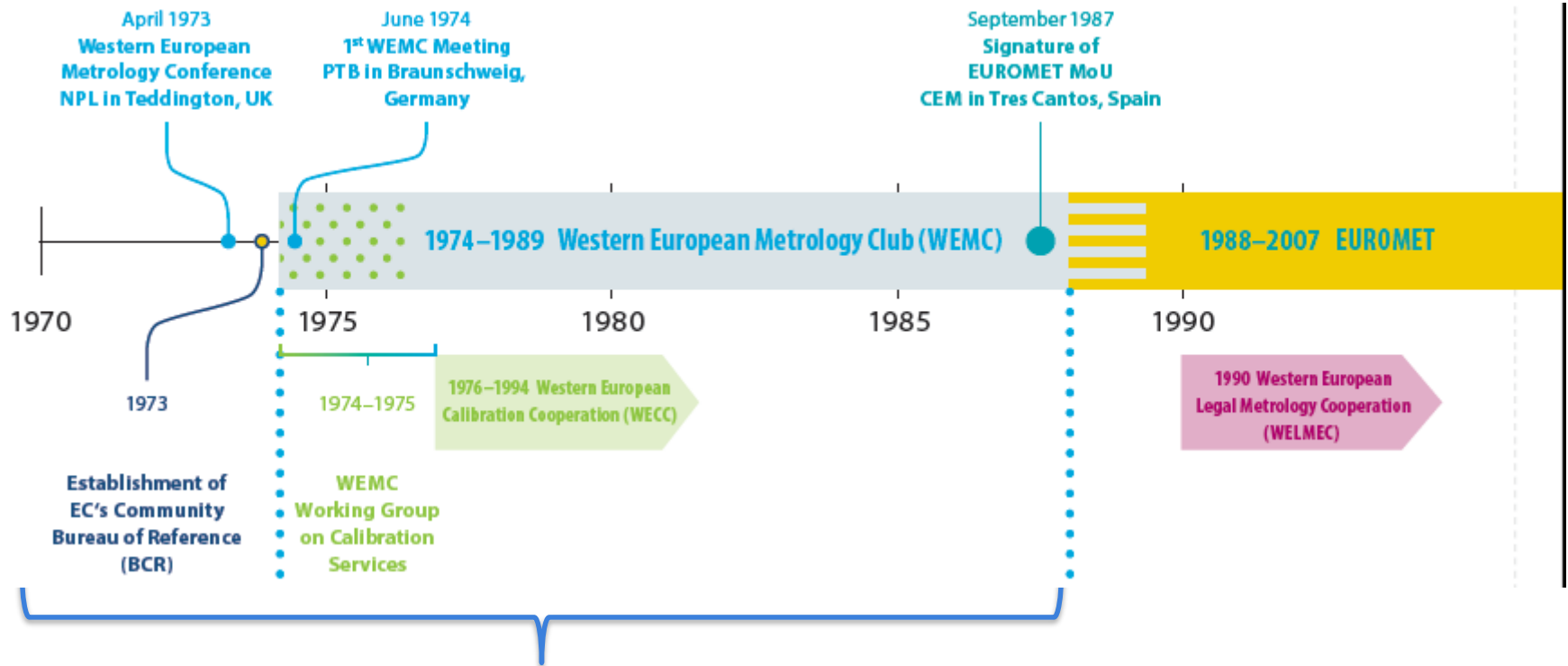




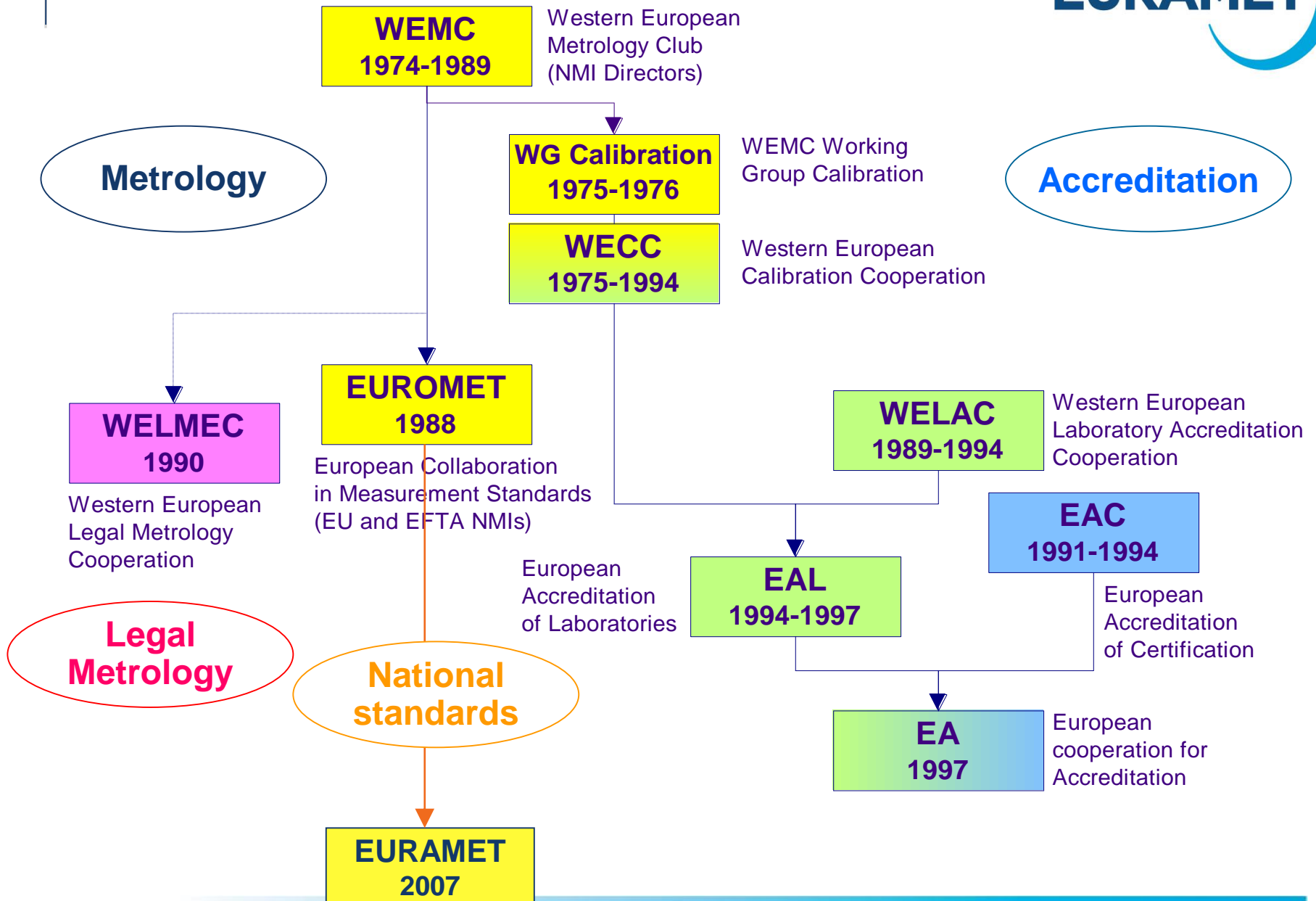
11th General Assembly
16 May 2017

Beat Jeckelmann, EURAMET Chairperson

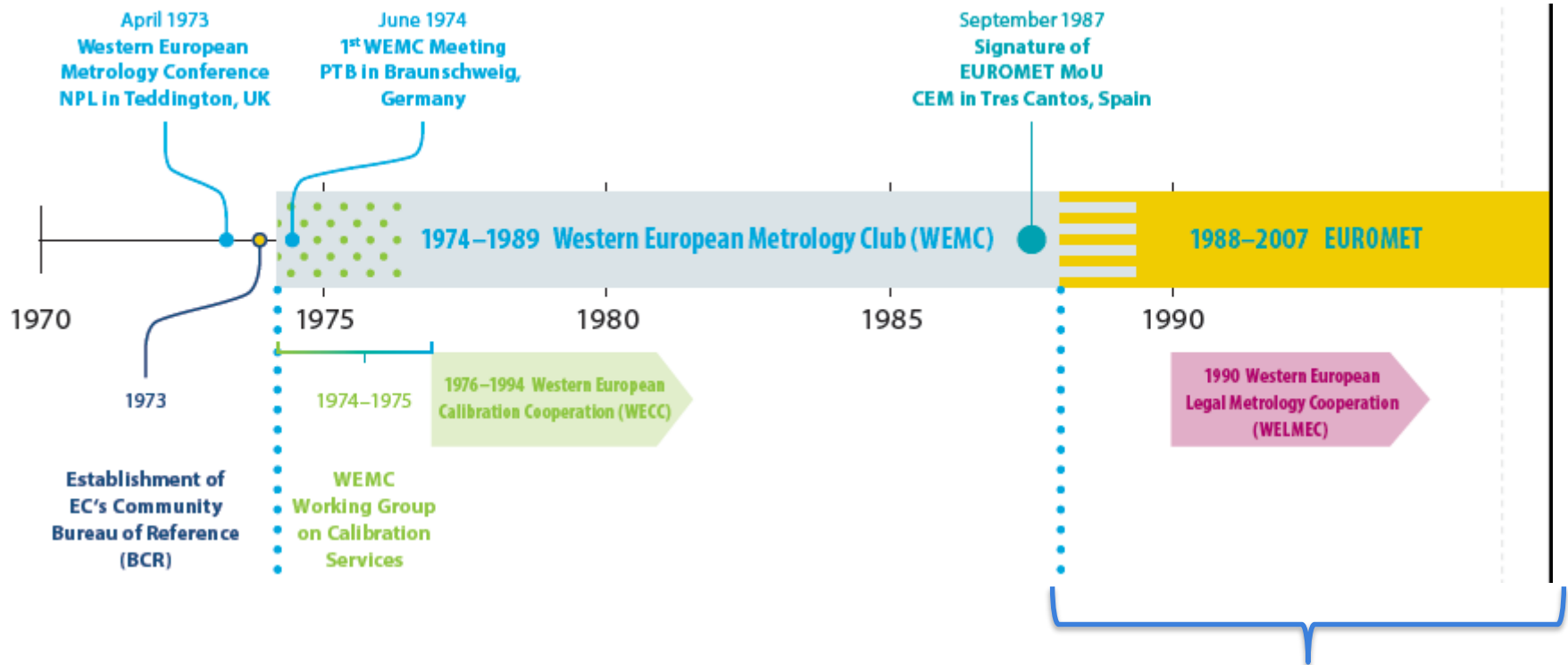
Timeline of collaboration



The beginnings



Timeline of collaboration (2)



2. EUROMET: Project phase

Signing of the EUROMET MoU

23 September 1987 CEM, Tres Cantos (Spain)



Project phase



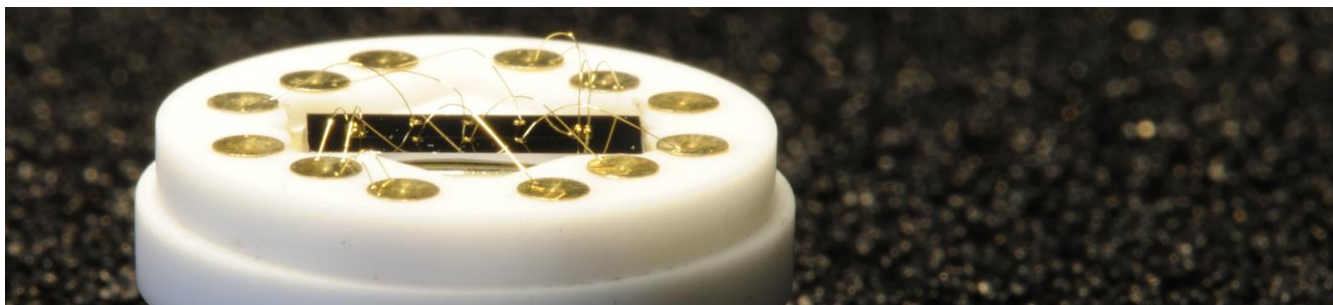
- Technical committees were established
- Collaboration projects started on:
 - Cooperation in research
 - Comparison of measurement standards
 - Consultation
 - Traceability
- Over 200 projects in the first 10 years

Example project

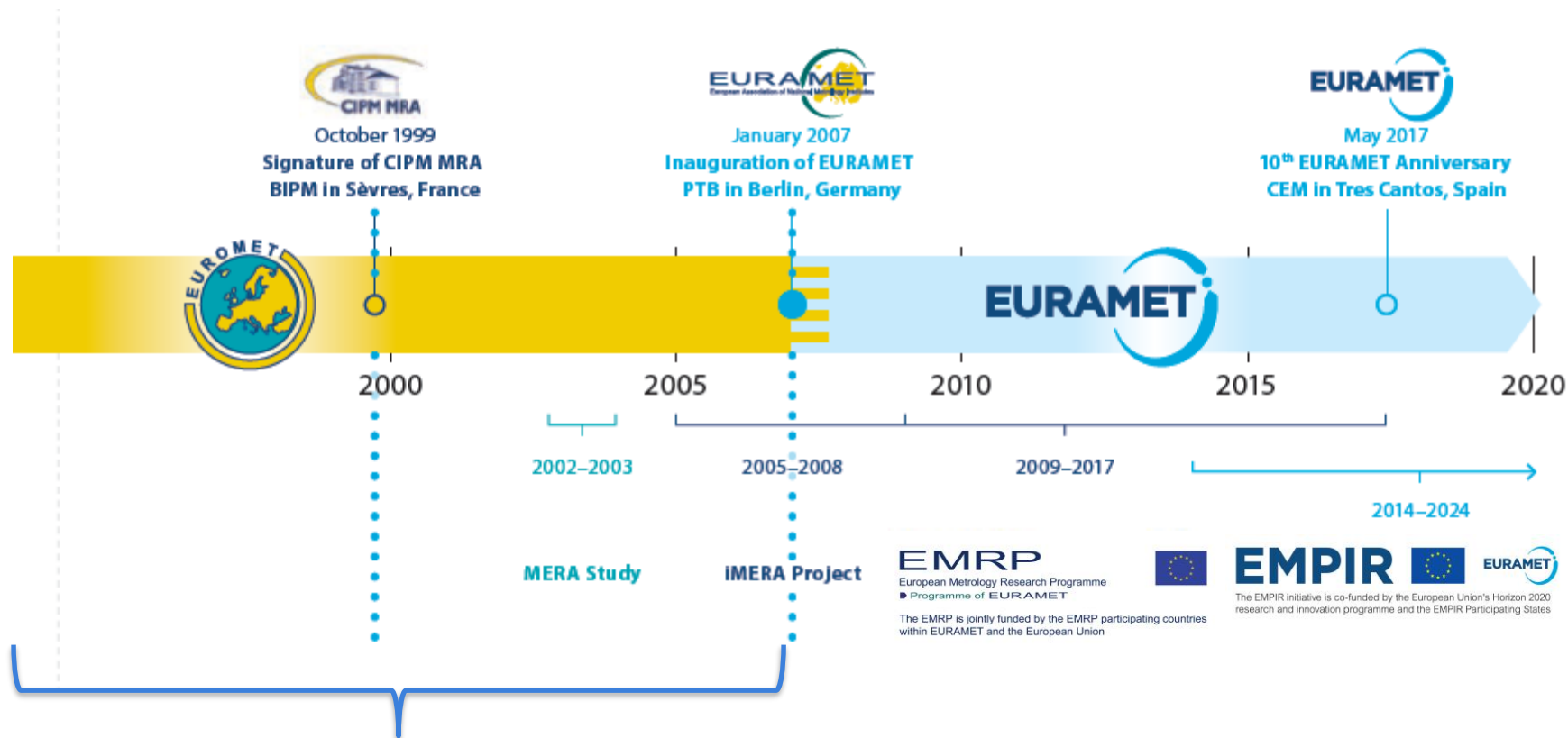
Field: Electricity
No: 15
Type: Research
Period: 1988-10-01 to 1990-12-31

Development of the QHE as a resistance standard

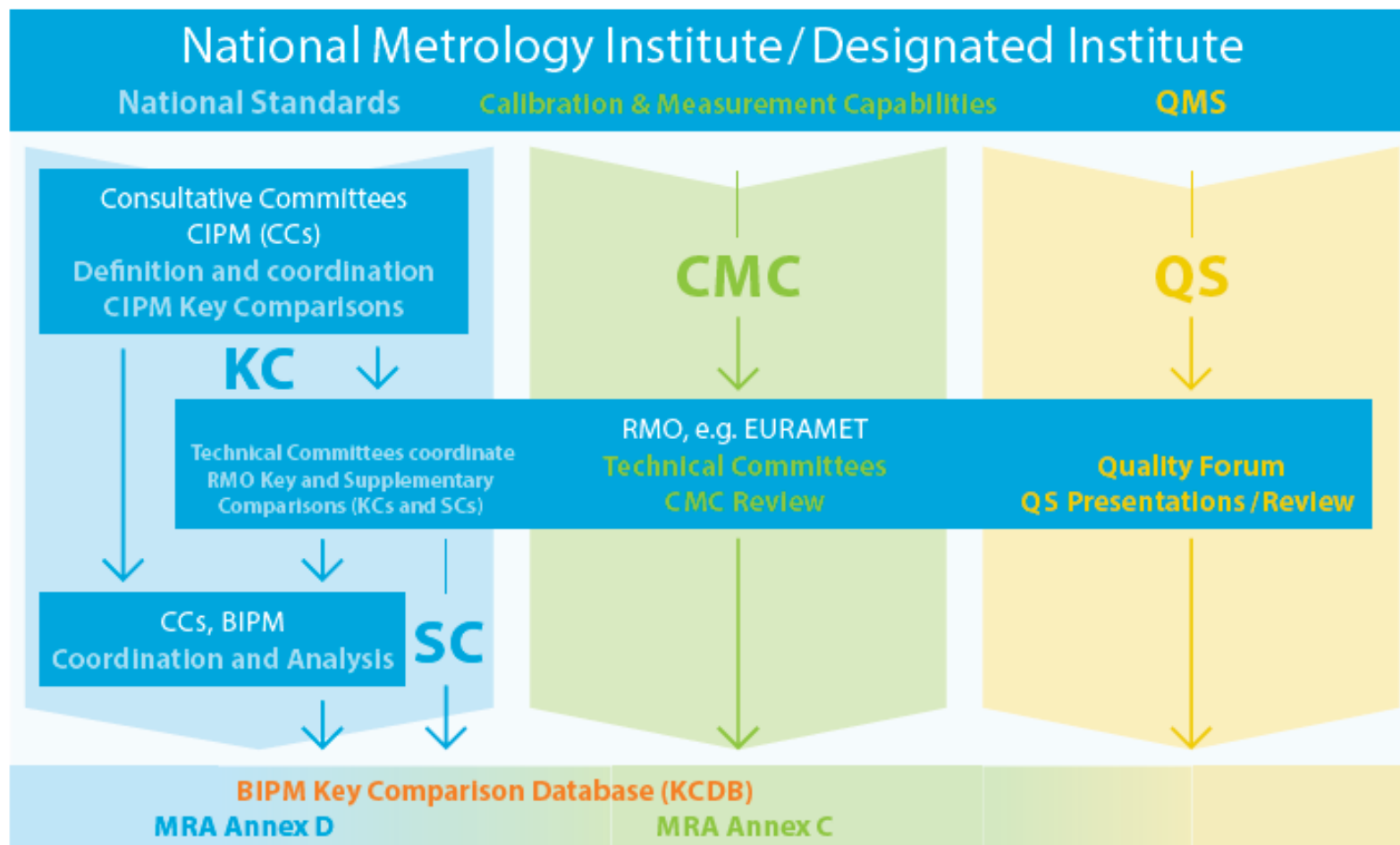
By exchange of quantum Hall samples and reference resistors and by performing high precision measurements at each other's site, more profound knowledge shall be gained on the metrological reliability of the effect with regard to its application as a new laboratory standard of resistance.



Timeline of collaboration (3)



3. CIPM MRA

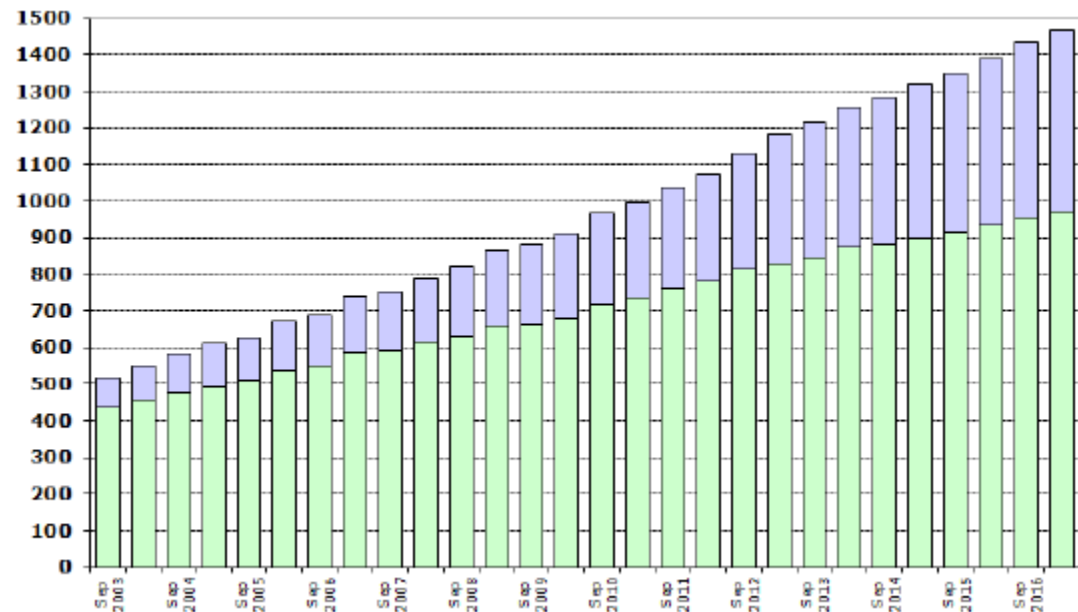


CIPM-MRA: A system based on technical evidence



In 2017:

- 160 EURAMET KC and 175 SC
- 11'125 CMCs (out of 24'903 in the KCDB)



Key comparisons
And supplementary comparisons

Future development of European metrology infrastructure

- Evolution not Revolution
- **Local delivery of services** and expertise is **valued**
- devolution not an issue for most NMIs
- **High potential** for increasing efficiency and efficacy
via closer cooperation in R&D
- Arrangements are needed to enable
strategic planning of longer term R&D collaboration
- Scope for improved planning and sharing of facilities
- **EUROMET to evaluate its own structures**



Complete report available:
<http://www.euramet.org/index.php?id=documents>

The iMERA Project



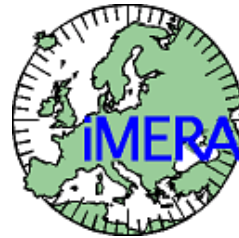
iMERA

= “implementing the
Metrology **European Research Area**”

EC “ERA-NET” Coordinating Action

04/2005 to 12/2008

Coordinated by NPL



Major Objectives:

- Elaboration of an **EMRP**
= European Metrology Research Programme
- Establishment of **Structures**
for the execution of the EMRP
- **Funding Aspects:**
ERA-NET Plus, A-169 (now A-185)
- Knowledge Transfer

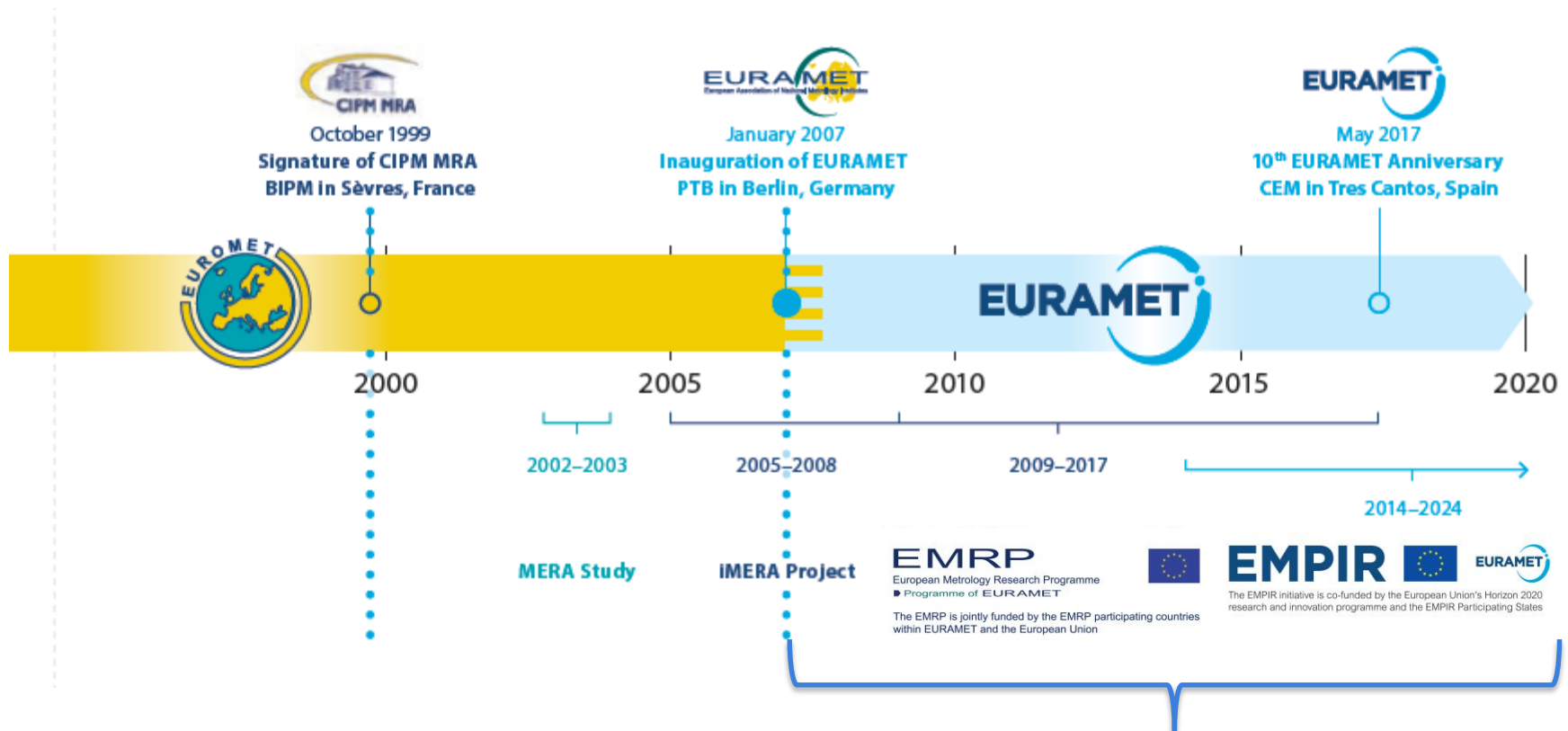
*Funded by the
European Commission (EC)*

Inauguration of **EURAMET e.V.**

11th January 2007
Berlin, Germany

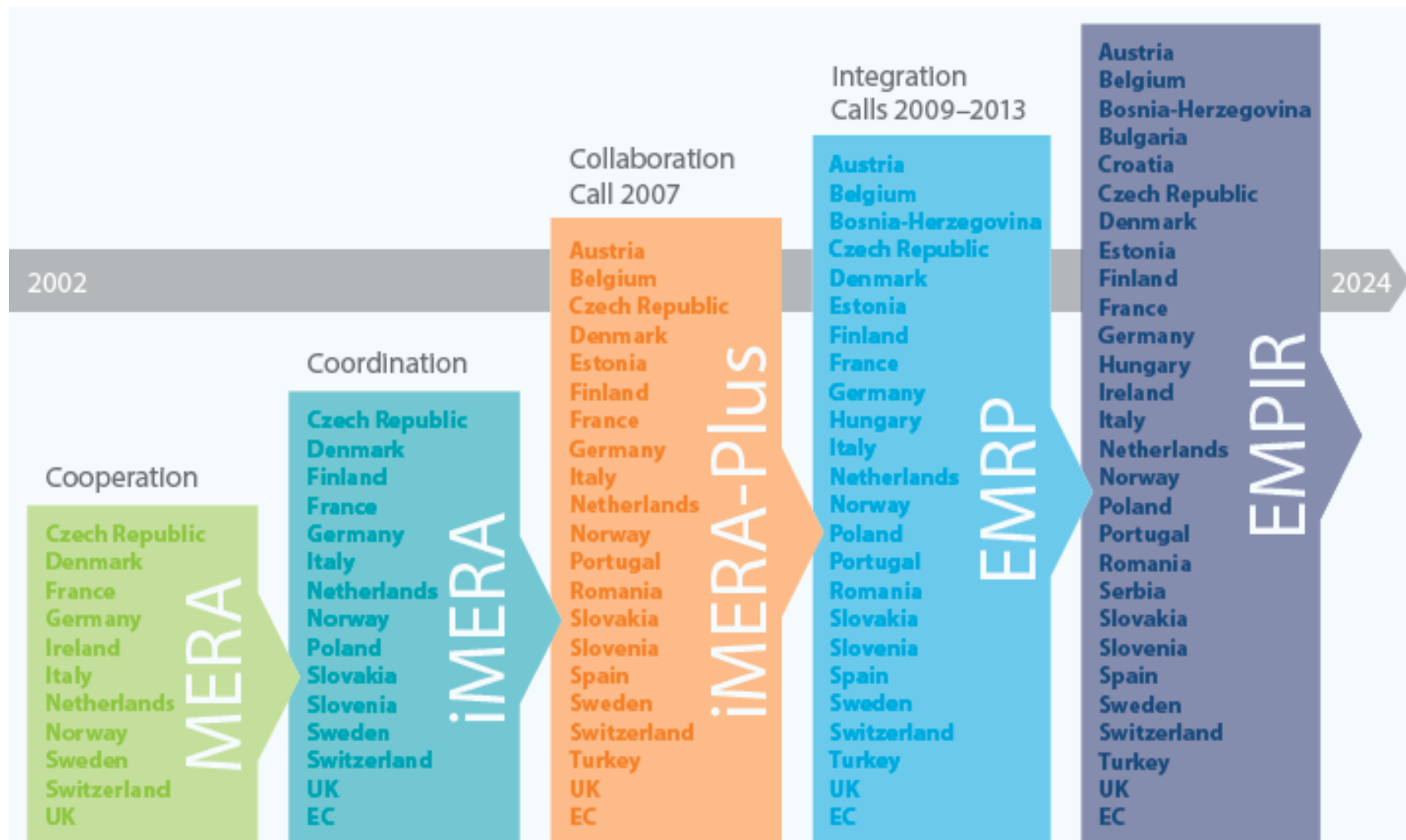


Timeline of collaboration (4)



4. Metrology Programmes

Developing cooperation in R&D



Delivering Impact



European Metrology
Research Programme



Environment impact report

A summary of the outputs and impact of the first EMRP joint research projects in Environment.

The aim of this theme is to improve data quality for environmental policy making, underpin environmental research activities and stimulate technological innovation. The research is focused at both the local environmental level for air, water and soil quality and at the global level for challenges relating to climate change.

EURAMET e.V. - the European Association of National Metrology Institutes

Improved exhaust monitoring

Air pollution continues to be responsible for more than 430,000 premature deaths each year in Europe. Automotive vehicles are a major source of air pollution - of particular concern are the fine particles emitted by diesel and direct injection petrol engines. To improve public health and environmental quality, the EU regulates pollution from road vehicles and new passenger cars must meet the European emission standards (the standard currently in force is known as Euro 6) before they can be type approved.

Europe's National Measurement Institutes working together

The European Metrology Research Programme (EMRP) brings together National Measurement Institutes in 23 countries to address key measurement challenges at a European level. It supports collaborative research to ensure that measurement science meets the future needs of industry and wider society.

European Metrology
Research Programme



Industry impact report

A summary of the outputs and impact of the first EMRP joint research projects in the Industry theme.

The aim of research in this theme is to develop metrological methods and techniques to improve the measurement infrastructure for industry in order to support product innovation, process improvement and quality assurance. The research is focused on advanced manufacturing processes in a wide range of industrial sectors.

EURAMET e.V. - the European Association of National Metrology Institutes

Investigating nano-defects

As electronics get ever smaller, detecting defects during quality control becomes more difficult. NSMM, a scanning microscopy technique, offers a new way to spot defects by measuring electromagnetic properties and has potential for investigating new materials for faster chips. For it to be viable for either of these, traceable calibration methods are needed so ultrafast electronics manufacturers' have confidence in its use.

Europe's National Measurement Institutes working together

The European Metrology Research Programme (EMRP) brings together National Measurement Institutes in 23 countries to address key measurement challenges at a European level. It supports collaborative research to ensure that measurement science meets the future needs of industry and wider society.

EMRP in numbers



119 projects with experts from
23 EMRP participating countries
and 21 additional countries
916 non-NMI/DI organisations



1359 peer-review papers

3928 conference presentations

73 mobility grants

676 trainings

36 patents

739 contributions to
379 standards committees

Sharing knowledge and building capacity

- 2008: Focus Group for 'Facilitating National Metrology Infrastructure Development'
- 2015: BoD Working Group Capacity Building
- Guidance documents
- Trainings
- Researcher mobility
- Research potential projects
-



A large, light blue number "3" is positioned on the left side of the slide. To its right is a large, stylized number "3" composed of many small, multi-colored dots in shades of orange, yellow, pink, and blue, creating a pixelated or mosaic effect.

Thank you for your attention!
chairperson@euramet.org