



INDTECH2018

Innovative industries for smart growth

29-31 October, 2018
Vienna, Austria

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PILLAR 3

Session 3.6

Capacity-building actions on a national and European level – EMPIR programme

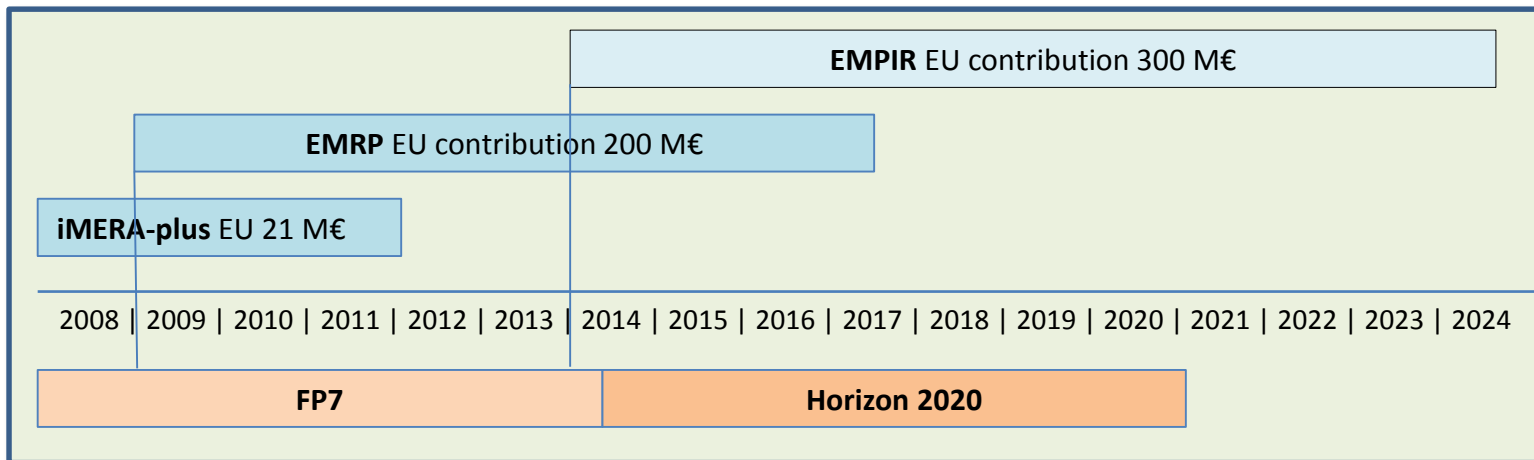
Hans Arne Frøystein

Euramet e.V.

31 October 2018

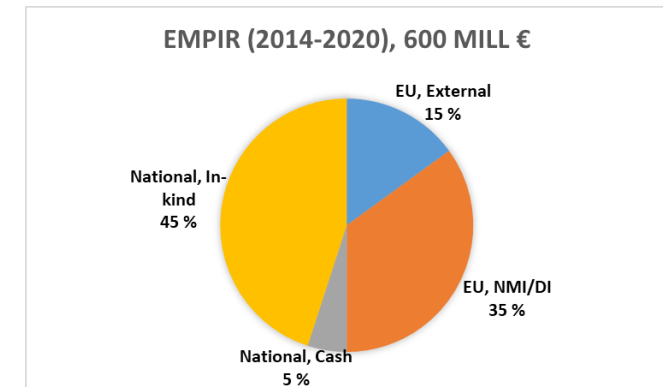
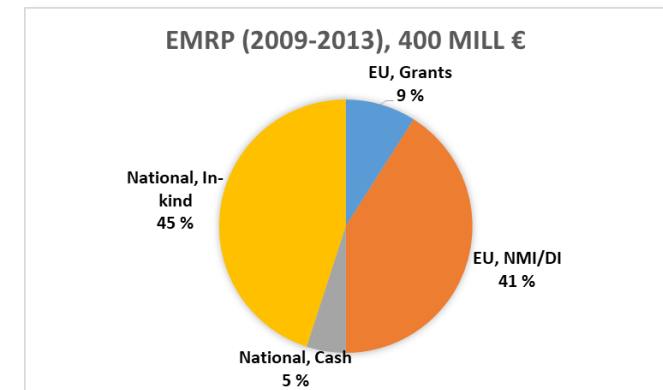
EUROPEAN METROLOGY RESEARCH PROGRAMMES

The programmes are partnerships between participating countries and the EU under A185 of the Treaty of the EU, implemented by EURAMET e.V. , the European Association of National Metrology Institutes. www.euramet.org , <https://msu.euramet.org/>



EMRP (23 countries): AT, BE, CZ, CH, DE, DK, EE, ES, FI, FR, HU, IT, NL, NO, PL, PT, RO, SE, SK, SL, TR, UK, JRC

EMPIR (28 countries): AT, BE, BiH, BG, CR, CZ, CH, DE, DK, EE, ES, FI, FR, GR, HU, IE, IT, NL, NO, PL, PT, RO, SE, SK, SL, SR, TR, UK



EMPIR – European Metrology Programme for Innovation and Research

From the Codecision text:

“EMPIR shall pursue the following general objectives:

- (a) provide *appropriate, integrated and fit-for-purpose metrology solutions* supporting *innovation and industrial competitiveness*, as well as measurement technologies addressing societal challenges such as *health, environment and energy*, including support to policy development and implementation;
- (b) create an *integrated European Metrology Research system* with critical mass and active engagement at *regional, national, European and international level*. “

Annual thematic calls on: SI traceability, Fundamental science, Industry and Innovation, the grand challenges Health, Energy and Environment, Standardization, and Capacity building

Specifically on capacity building:

“EMPIR may support: ...*metrology capacity-building activities* on different technological levels aiming to achieve a *balanced and integrated metrology system in the Participating States*, and enabling them to *develop their scientific and technical capabilities in metrology*.”

4 examples of metrology research in:



MR guided radiotherapy



H₂ as vehicle fuel



ISO standard for magnetic nanoparticles



Climate observation

EURAMET/EMPIR Capacity building instruments

1) Human and Institutional Capacity Building (HI-CB)

Training courses, typically of 2-5 days, on technical subjects, International recognition, EMPIR processes, NMI strategy, management & communications, legal metrology

2) Researcher Mobility Grants (RMGs) to join Joint Research Projects

Researchers from EURAMET members/associates join a JRP-partner (NMI/DI) to undertake research additional to the project for 1 - 18 months.

Goal: Develop employing NMI/DIs research capacity, enhance research of EMPIR projects, raise new researchers in metrology

3) EMPIR Research Potential Projects (RPT)

Annual calls for specific JRPs supporting emerging NMIs to develop research capabilities in areas of national and regional strategic priority

HI-CB training courses
& Researcher Mobility Grants

250 k€ available, financed from
EMPIR members „cash contribution“

RPT Annual Financing:

1,5 M€ EU (2014-2018 budget
average)



3 examples of „Research Potential Projects“



Project 15RPT04

Traceability routes for electrical power quality measurements

Věra Nováková Zachovalová

CMI

+420 545 555 305

vnovakovazachovalova@cmi.cz

www.euramet.org/project-15rpt04



Project 15RPT02

Underwater acoustic calibration standards for frequencies below 1 kHz

Alper Biber

TUBITAK

+90 262 677 3159

alper.biber@tubitak.gov.tr

www.euramet.org/project-15rpt02



Project 15RPT03

Expansion of European research capabilities in humidity measurement

Nedžadeta Hodzic

IMBiH

+38 733568928

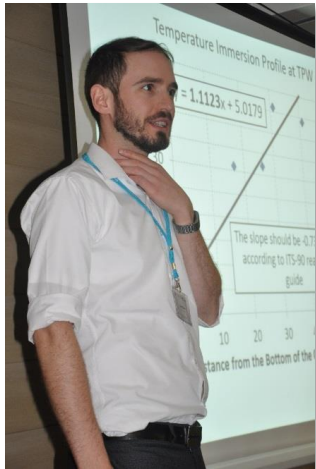
nedzadeta.hodzic@met.gov.ba

www.euramet.org/project-15rpt03

Training course – EURAMET Summer school on thermal metrology

44 students, 36 from EURAMET
NMIs and DIs and 8 guests from all
other RMOs

EIM, Thessaloniki, 17-21 Sep 2018



coming from: AL, BA, AT, BE, BG, CZ,
DK, EE, FR, GR, IE, IT, ME, NL, NO,
PO, PT, MD, RS, RO, SK, SI, ES, UK
and

BR, BF, GH, KG, PH, RU, TH, AE

