



Assessing the impact of the European metrology research programmes

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Impact assessment process



2009-2017

Design monitoring & evaluation plan

Pilot tools

Implement data collection

Report & use the data

Objectives hierarchy & programme logic model Identify indicators /design data collection tools Pilot & revise tools

Data collection as part of standard project reporting processes

Post-project methods / M&E staff in central team

Communication with research teams

Annual reports to the Commission Reports for external evaluators Inform future programmes Programme publicity material

Objectives for EMPR & EMPIR



EMPR / EMPIR

High-level objectives

European growth and jobs

Respond to societal challenges

Create an integrated European Research Area

Specific objectives

- Boost industrial uptake of metrology research supporting development of new & improved products and services
- Improve standardisation / regulation
- Underpin a coherent, sustainable and integrated European metrology landscape

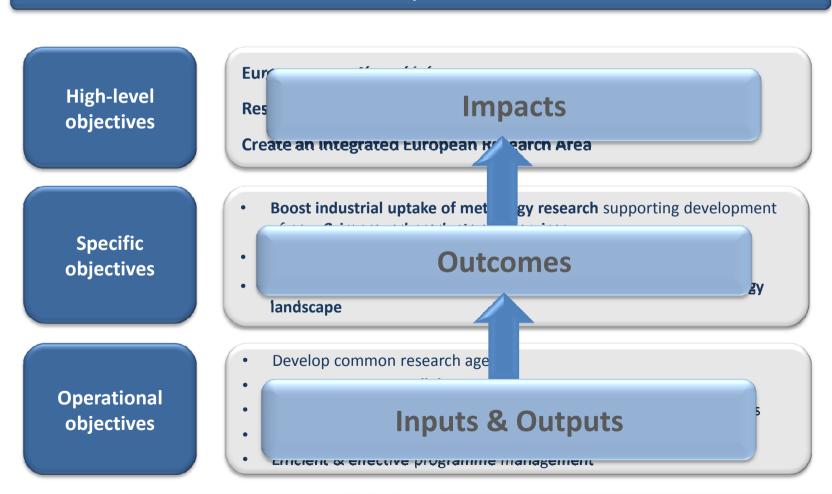
Operational objectives

- Develop common research agenda
- Support European collaboration
- Fund projects that support innovation, regulation, societal challenges
- Capacity building across Europe
- Efficient & effective programme management

Objectives for EMPR & EMPIR



EMPR / EMPIR



Logic model



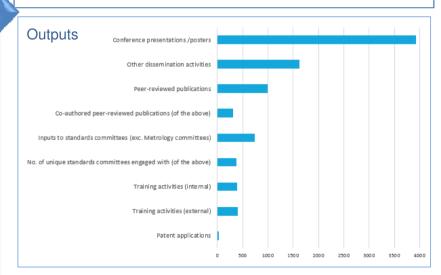
Inputs / activities	Outputs	Outcomes	Impact
ADMINISTRATIVE National & EU financial resources Governance structures & processes Management & administration structures & processes Develop Strategic Research Agenda Human resources Training / capacity building PROJECTS Design, select & conduct collaborative metrology research	INTEGRATION 50% of national metrology research investments in Europe coordinated via EMRP/ EMPIR Strategic Research Agenda Effective governance, management and administration deployed: Centralised processes for project selection, monitoring, payments Common rules & processes for grant agreements, costings, etc. Improved capacity of developing NMIs PROJECTS Scientific papers Contribution to standards committees, working groups	INTEGRATION Progress towards financial / management/ scientific integration PROJECTS Adoption of technical outputs by measurement users to support product and process improvements & innovation New or revised standards (ISO, CEN, etc) in use	Integrated European metrology landscape Increased business growth and productivity Solutions to the challenges of climate change, improved healthcare and security
	Training Patents Communication & dissemination		

Inputs / activities / outputs



Inputs / activities **Outputs ADMINISTRATIVE INTEGRATION** National & EU financial resources 50% of national metrology research investments in Europe coordinated **Governance structures & processes** via EMRP/ EMPIR **Management & administration** Common rules & processes for grant structures & processes agreements costings etc MSU documents / databases MSU project reporting tools Contribution to standards committees, working groups **Training Patents Communication & dissemination**

- Descriptions and data on call management / project selection
- Data on financial management national and EC funding allocated and spent
- Information on the EURAMET management processes
- Data on aggregated project outputs collected via project reporting processes



Outcomes



Impact

Impact category INTEGRATION	Method / data sources Data: Survey of NMI/ DI/ EURAMET staff Case studies: new pan-European networks / centres in metrology fields	INTEGRATION Progress towards financial / management/ scientific integration PROJECTS Adoption of technical outputs by measurement users to support product and process improvements & innovation New or revised standards (ISO, CEN, etc) in use	Integrated European metrology landscape Increased business growth and productivity
SOCIAL	Data: Annual survey of industrial participants Case studies: industrial adoption of project outputs Data: contributions to standards committees / regulators Case studies: adoption of project outputs in draft or published standards		Solutions to the challenges of climate change, improved healthcare and security
SCIENTIFIC CAPACITY BUILDING	Bibliometrics: citation, co-author analysis Case studies: capacity building		

Outcomes

Integration

Pilot Call 2007

iMERA-Plus

Czech Republic

Austria

Belgium

Denmark

Estonia

Finland

France

Italy

Germany

Norway

Portugal

Romania

Slovakia

Slovenia

Sweden

Turkey

UK

EC

Switzerland

Spain

Netherlands

Calls 2009-2013

EMRP

Austria

Bosnia-

Herzegovina

Denmark

France

Norway

Poland

Portugal

Slovakia

Spain

Switzerland

Turkey

Implementation

Belgium

Czech Republic

Estonia

Finland

Germany

Hungary

Italy

Netherlands

Romania

Slovenia

Sweden

UK

EC

EMPIR



Austria

Belgium Bosnia-

Herzegovina

Broadening

From 2014

Bulgaria

Croatia

Czech Republic

Denmark

Estonia

Finland

France Germany

Greece

Hungary

Ireland

Italv

Netherlands

Norway

Poland Portugal

Romania

Serbia

Slovakia

Slovenia Spain

Sweden

Switzerland

Turkev

UK

2002 ...

Deciding

iMERA

Czech Republid

Denmark

Finland France

Germany

Italy

Netherlands

Norway Poland

Slovakia

Slovenia Sweden

Switzerland

UK

EC

Exploring

MERA

Czech Republic

Denmark France

Germany

Ireland Italy

Netherlands

Norway Sweden

Switzerland

UK

Integration

Pilot Call 2007

Austria

Belgium

Denmark Estonia

Finland

France

Netherlands

Norway

Slovakia

Sweden Switzerland

Turkey

UK EC

iMERA-Plus

Czech Republic

Germany

Italy

Portugal

Romania

Slovenia

Spain

From 2014

Implementation

Calls 2009-2013

EMRP

Austria

Belgium

Bosnia-

Herzegovina

Denmark

Estonia

Finland

France

Germany

Hungary

Norway

Poland

Portugal

Romania

Slovakia

Slovenia

Sweden

Turkey

UK

EC

Switzerland

Spain

Netherlands

Italy

Czech Republic

EURAMET

EMPIR

Austria

Belgium

Bosnia-Herzegovina

Broadening

Bulgaria Croatia

Czech Republis

Denmark

Estonia Finland

France Germany

Greece

Hungary Ireland

Italy

Netherlands

Norway Poland

Portugal

Romania Serbia

Slovakia Slovenia

Spain

Sweden Switzerland

Turkev UK

50%

national metrology research budgets coordinated via EMPIR

Common SRA and research calls focused on societal challenges

Enduring governance processes at European level established

New relationships among scientists Several networks of excellence established in specific technical areas

Discussions currently underway to explore next level of integration

2002 ...

Exploring

MERA

Czech

Republic

Denmark

Germany

Netherlands

Switzerland

France

Ireland

Norway

Sweden

Italy

Deciding

iMERA

Czech Republid

Denmark Finland

France

Germany

Italy

Netherlands

Norway Poland

Slovakia Slovenia

Sweden

Switzerland

UK EC

UK

Economic and social impact







Evidence of €109M in sales of innovation products attributable to EMRP projects

Project reporting on standards and regulation



739 contributions to 379 standards committees resulting in **contributions to 17 published and 103 draft standards**







57 impact case studies demonstrating adoption of project outputs by industry, standards community & public organisations

Bibliometrics



Showing improved citation impact & levels of co-authorship

Challenges



- Impact timescales
- Over-focus on operational objectives
- Resources and 'buy-in' to data collection processes

Presenting impact evidence



European Metrology Research Programme



European Metrology Research Programme Delivering Impact





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



Diversifying Europe's energy supply

The recent increase in energy prices and instability of pipeline gas imports over the past few years have heightened concerns about the security, diversity, and competitiveness of Europe's natural gas supply. Coupled to this, alternative fuels are urgently needed to break the over-dependence of European transport on oil. Liquefied natural gas (LNG) could play a major role in diversifying Europe's energy supply and securing a stable, greener future.

Europa's National Measurement Institutes working togethe

The European Mothology 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.