Joint Research Centre (JRC): Scientific and Technical Support to EU Policies

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JRC – *Robust science for policy making*

The JRC is the European Commission's in-house science provider of customer-driven scientific and technical support to EU policy making

Supporting citizen's security, research on energy, clean transport, agriculture and food security, environment and climate change, health, information and communication technologies, and safety and security.

Where does the JRC fit in the European Commission?

President Barroso

27 Commission Members

Commissioner Geoghegan-Quinn

Research, Innovation and Science

Joint Research Centre (JRC)

Research and Innovation DG

The Mission and the Vision of the Joint Research Centre

The Mission... is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies.
As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union.

Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

The Vision...is to be a trusted provider of science-based pc makers to address key challenges facing our society, unde recognised research.

5 research sites, 7 institutes

IRMM - *Geel, Belgium*
Institute for Reference Materials and Measurements

ITU - *Karlsruhe, Germany*
Institute for Transuranium Elements

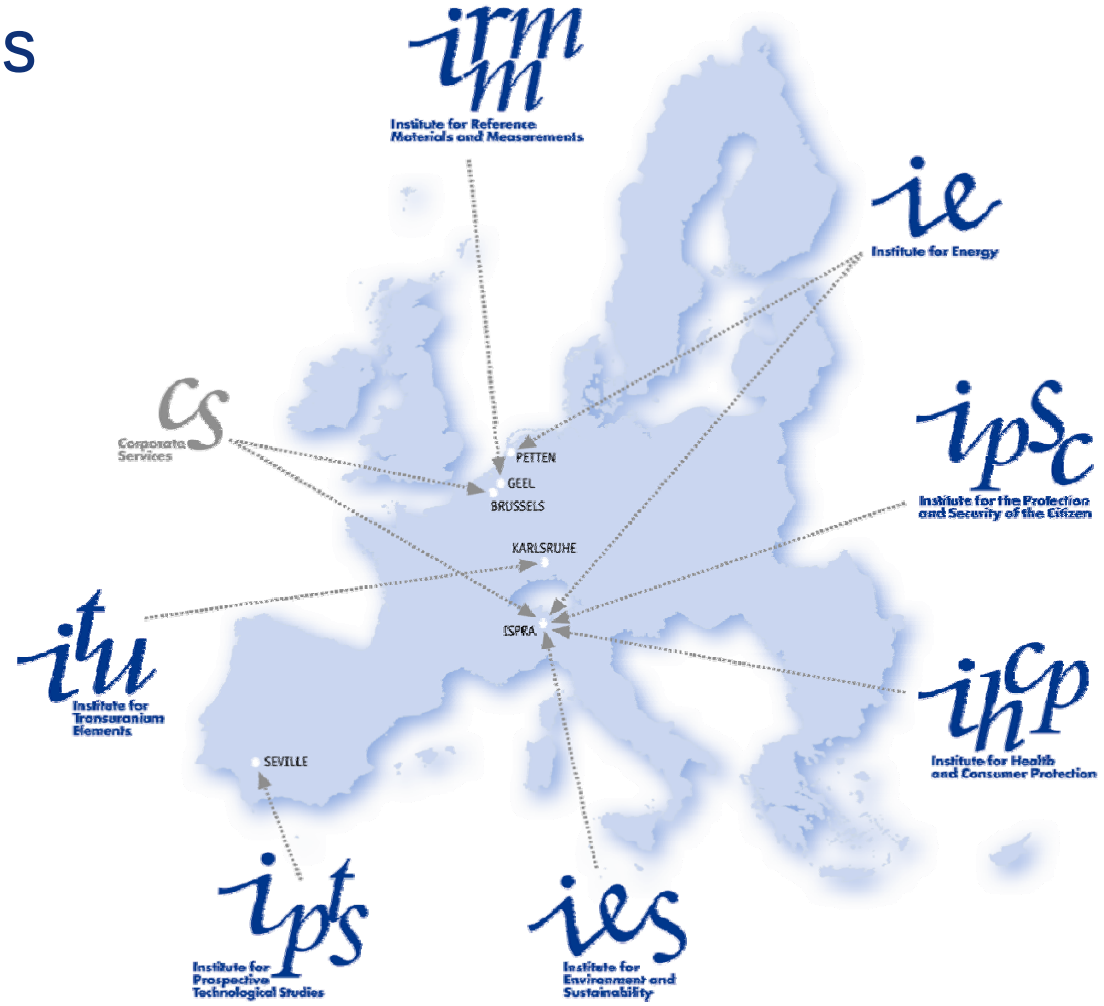
IE - *Petten, The Netherlands – Ispra, Italy*
Institute for Energy

IPSC - *Ispra, Italy*
Institute for the Protection and Security of the Citizen

IES - *Ispra, Italy*
Institute for Environment and Sustainability

IHCP - *Ispra, Italy*
Institute for Health and Consumer Protection

IPTS - *Seville, Spain*
Institute for Prospective Technological Studies



7th Framework Programme (FP7) – Institutional funding

Specific programme "JRC direct actions"

2007-2013

1,751 M€

EURATOM programme "JRC direct actions"

2007-2011

517 M€

FP7 indirect actions

Collaboration with national public and private research institutes, academia, industry and international bodies

Facts about the JRC

Scientific output

~ 600 peer-reviewed publications/year
~ 450 policy support reports/year
JRC works with over 1000 public and private research organisations, institutions and expert groups in more than 250 networks

Infrastructure

5 sites, 7 institutes
JRC builds and maintains its own general infrastructure, and 31 specialised research facilities and 48 scientific databases

Resources*

~ 700 specialised scientific core staff
~ 430 PhDs/PostDocs students
~ 55 nationalities
~ 338 M€ institutional budget
~ 67 M€ additional contracts
~ 18 M€ FP7 associated countries credits

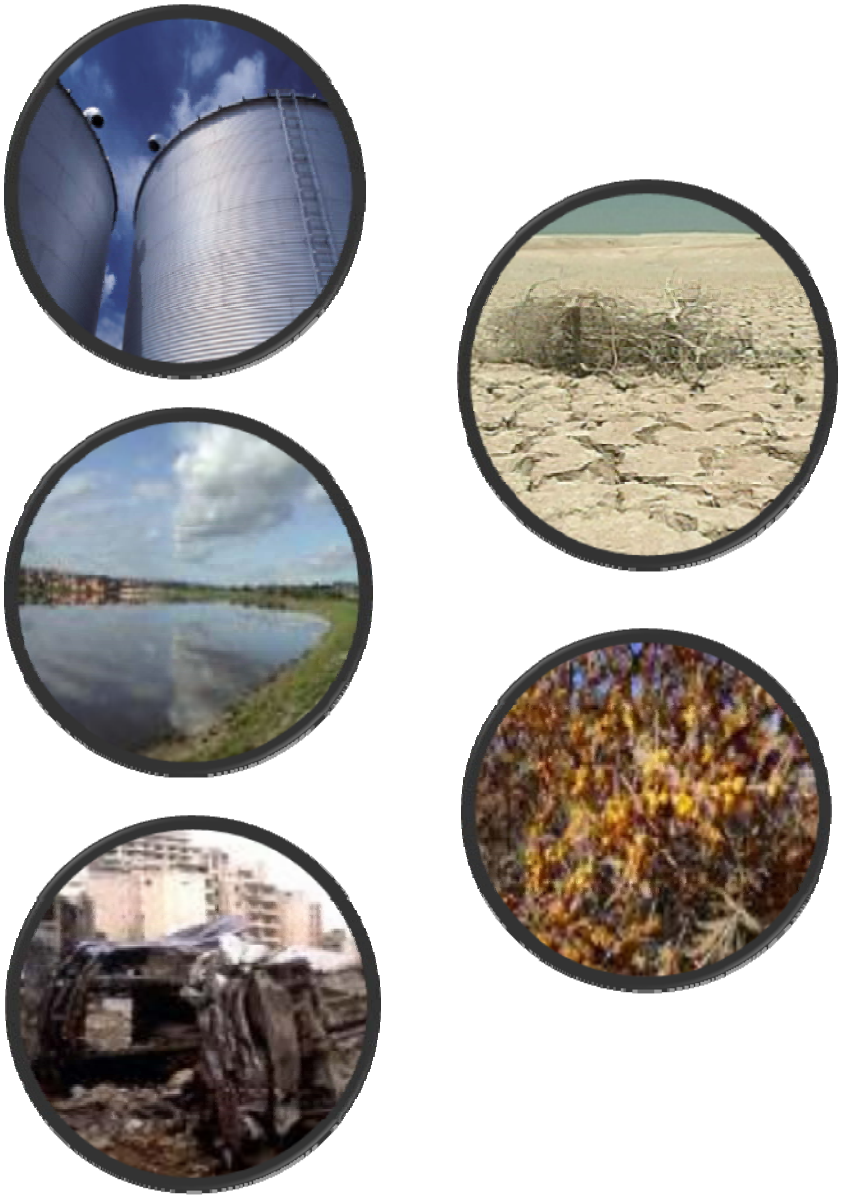
Quality management

The Quality management at JRC is based on ISO9001
8 Directorates already certified
12 laboratories - ISO 17001 accredited

(*) budget data - 2010; staff data –2011

Grand Challenges of the 21st Century

- Changes in the world economy
- Global Warming
- Energy supply and security
- Poverty
- Water scarcity and quality
- Food supply and quality
- Ageing society
- Public health
- International conflicts
- Terrorism



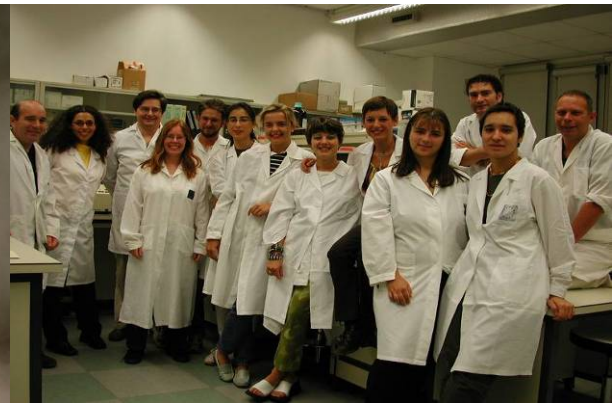
JRC's contribution to the European Research Area

The JRC works with over 1,000 public and private organisations, institutions and expert groups in more than 250 major networks

- Cooperation and partnerships with key organisations
- Support to enlargement
- Training and mobility of researchers
- Access to scientific infrastructures
- Support to ERA policies
- Support to standardisation

European Research Area





JRC Thematic Areas

Sustainable Growth and Development

Safety and Security

Towards an open and competitive economy

Nuclear safety and security

Safety of food and consumer products

Joint Research Centre 2010-2020 strategy

Development of a low carbon society

Sustainable management of natural resources

Reference materials and measurements

Security and crisis management

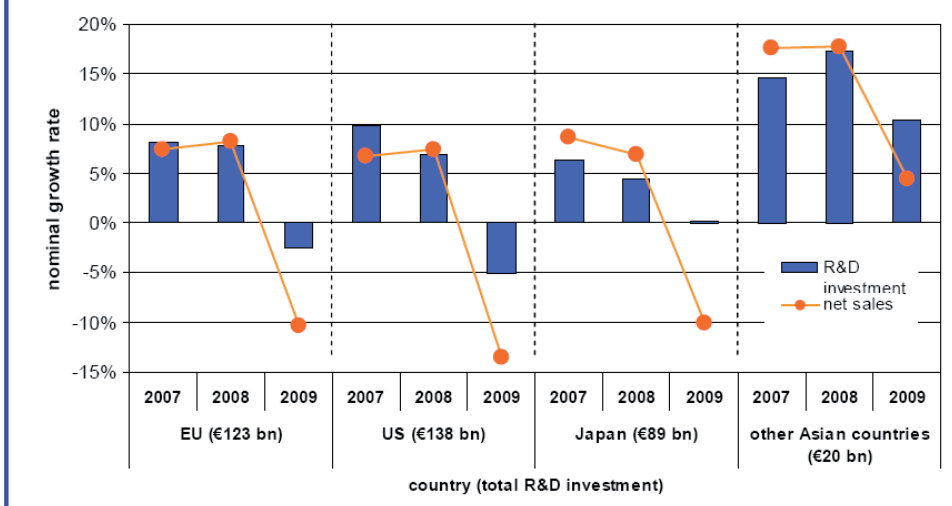
TA1

Towards an open and competitive economy

providing integrated socio-economic and policy support on macro-economic policies, structural reform agenda, employment, education and skills agenda

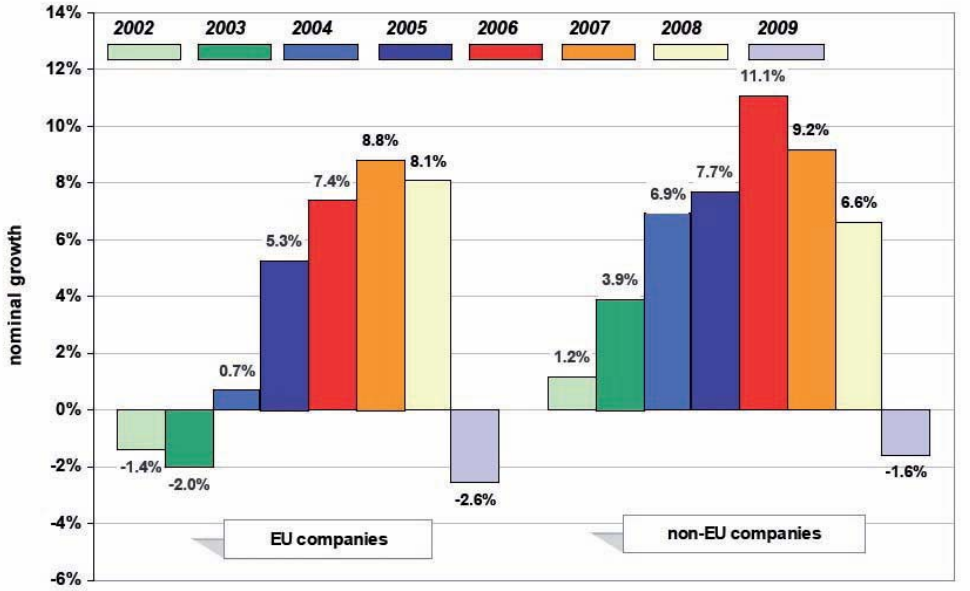
Example: EU Industrial R&D Investment Scoreboard

Figure S3. Growth of R&D investment and net sales in the *Scoreboard*



Other Asian countries include South Korea, Taiwan, China, India and Hong Kong.

Source: The 2010 EU Industrial R&D Investment Scoreboard European Commission, JRC/DG RTD.



Note: The different *Scoreboards* are not directly comparable because of changes in the sample composition.

Source: The EU Industrial R&D Investment Scoreboards (of 2004, 2005, 2006, 2007, 2008, 2009 and 2010) European Commission, JRC/DG RTD.

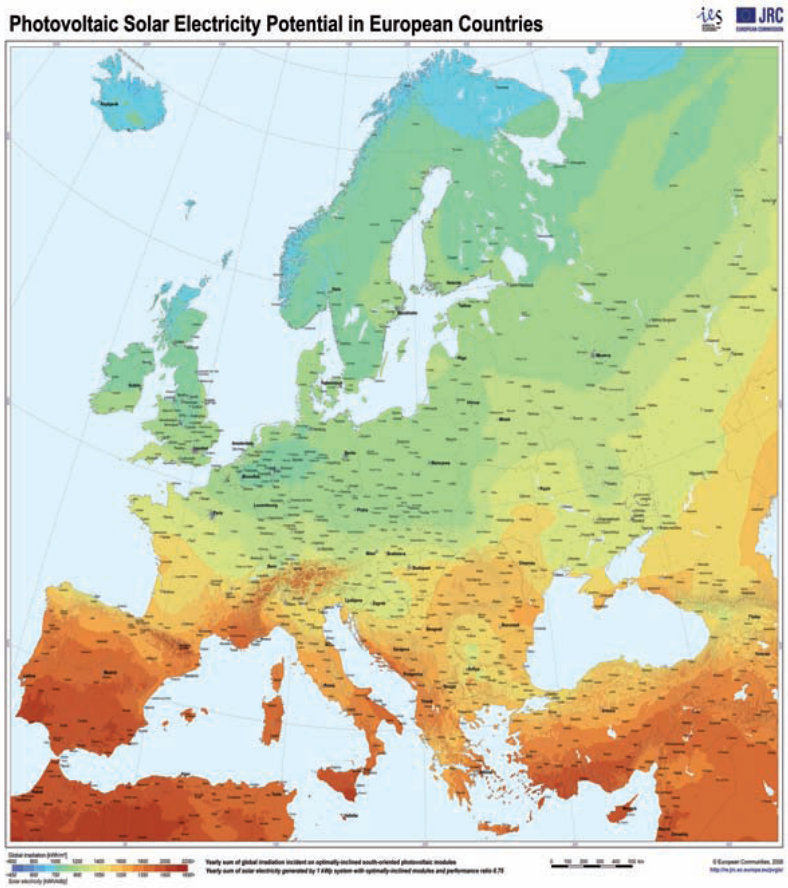
TA2

Development of a low carbon society
by addressing energy, transport, clean production technologies and consumption patterns, issues that will be pivotal to the progressive transition of the EU towards a 'low carbon society'

Example: Contributing to greener transport

Vehicle Emissions Laboratory

Example: Making energy clean and efficient



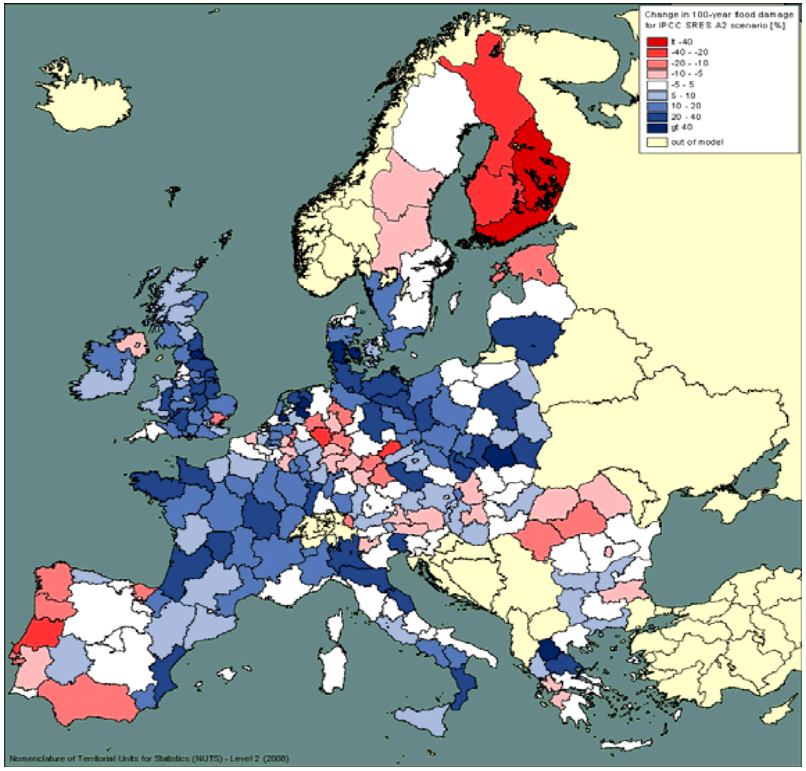
TA3

Sustainable management of natural resources

by addressing issues related to the sustainable management and use of strategic resources such as food, water, air, minerals and land and thereby improve the knowledge of the functioning of the complex atmosphere-hydrosphere-biosphere-pedosphere system

Example: Predicting floods and forest fires

Example: Putting a price on climate change damage: the PESETA study



JRC Thematic Areas

TA4

Safety of food and consumer products
by contributing to the development of European legislation on safety of food and feed,
and on other new consumer products (e.g. containing chemicals and nanomaterials).

Example: Reducing the risk from dangerous chemicals

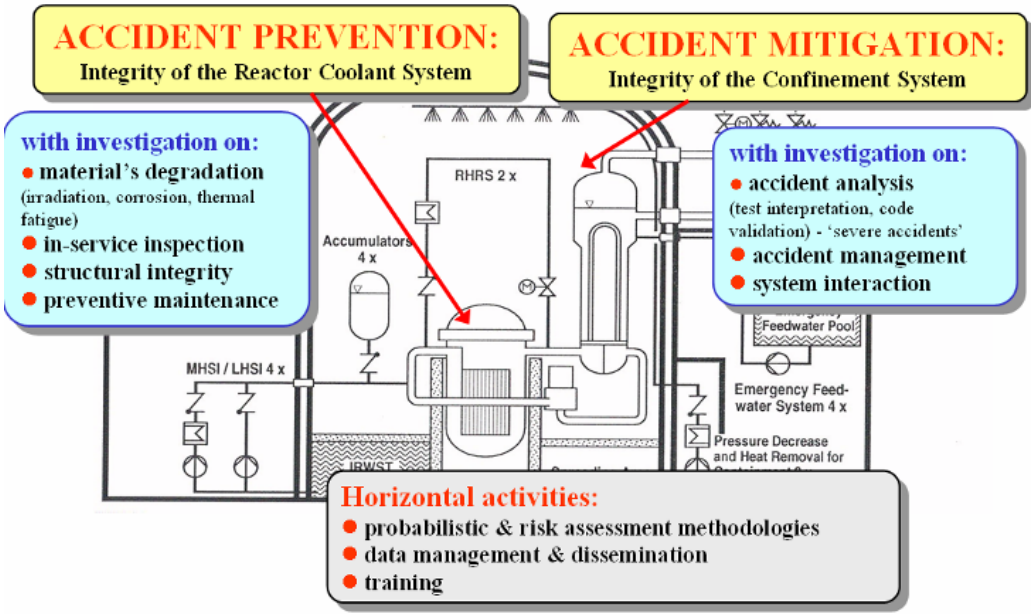
Example: Detecting Genetically Modified Organisms (GMOs)

EURL
European Union Reference Laboratory
for GM Food & Feed

TA5

Nuclear safety and security
by providing independent and reliable S&T assessment in the nuclear field on nuclear safety, safety of new generation of reactor technologies, and nuclear safeguards and non-proliferation

Example: Meeting the highest levels of nuclear safety



Example: Safeguarding and securing nuclear materials

JRC Thematic Areas

TA6

Security and crisis management
by contributing to the development of new technological approaches to enhance the security of citizens, including support to crisis management.

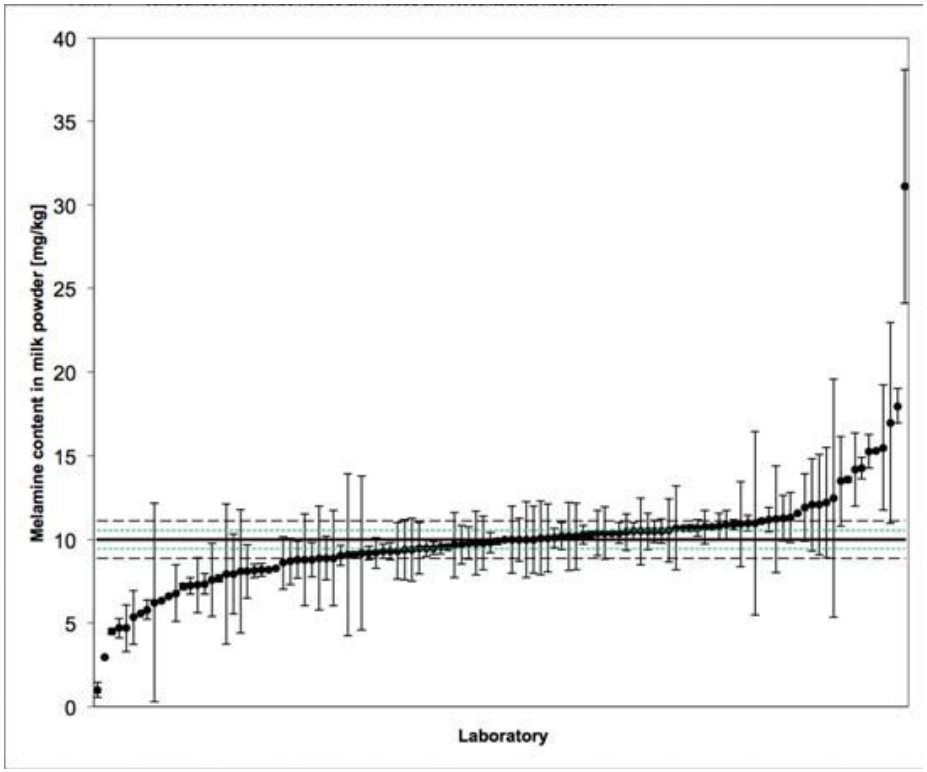
Example: Safer buildings through building standards

Example: Responding to crises

TA7

Reference materials and measurements
by maintaining a strong reference role in the area of standards and reference measurements

Example: Ensuring reliable reference materials and measurements



JRC Research Infrastructure

Accelerator Laboratories at JRC

7 MV van de Graaff accelerator driven quasi mono-energetic neutron source

Institute for Reference Materials and Measurements

Linear Electron Accelerator at JRC

GELINA - 150 MeV linear electron accelerator

Institute for Reference Materials and Measurements

EU Reference Laboratories at JRC

On feed additives, heavy metals, mycotoxins, GMO's, etc.

Institute for Health and Consumer Protection

Institute for Reference Materials and Measurements

Vehicle Emissions Laboratory at JRC

Institute for Environment and Sustainability

High Flux Reactor at JRC

45 MW High Flux Reactor (HFR)

Institute for Energy

Indoortron at JRC

Institute for Health and Consumer Protection

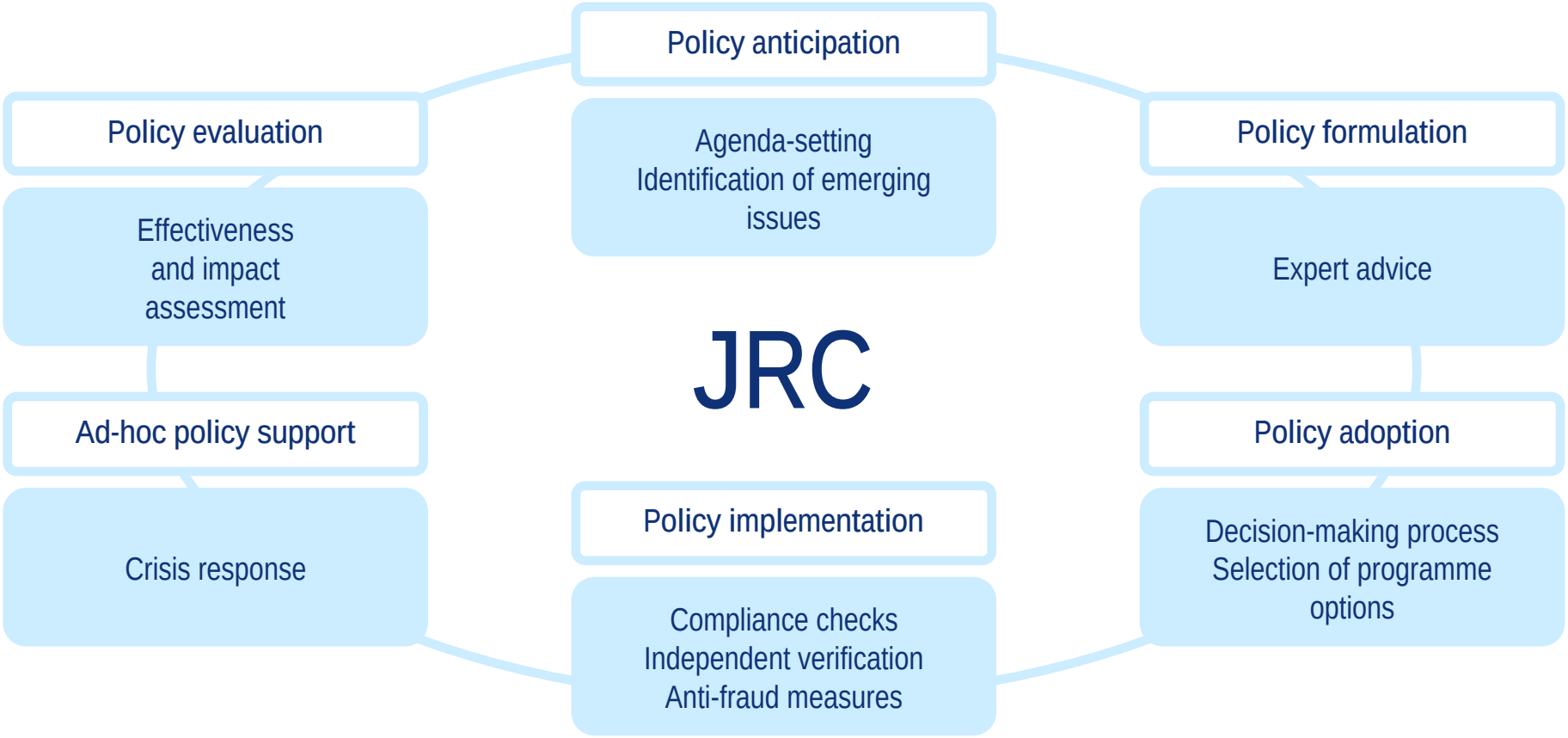
Cyclotron at JRC

Institute for Health and Consumer Protection

ELSA at JRC

Institute for the Protection and Security of the Citizen

JRC's Support to Policy



Recent examples of policy support

Financial crisis – impact study of policy options

DG MARKT amending legislation on deposit protection: new Directive 2009/14/EC-JRC delivered a 450 pp impact assessment in January 2010

VELA-7 for full size trucks and buses

Regulation (EC) No 715/2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles and on access to vehicle repair and maintenance information

INSPIRE – drafting the implementation rules

COMMISSION REGULATION (EC) No 976/2009 implementing Directive INSPIRE 2007/2/EC of the European Parliament and of the Council as regards the Network Services (Discovery and View)

Alternatives to testing on animals

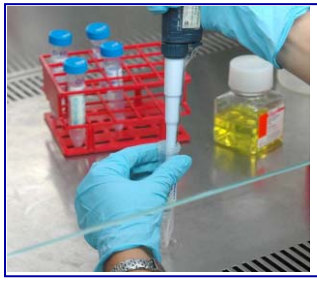
ECVAM (European Centre for the Validation of Alternative Methods) signed a Memorandum of cooperation with equivalent international bodies in US, Canada and Japan in support of Directive 86/609 (EEC).

Verification of declared/detection of undeclared nuclear activities

In support of Regulation (EC) No 1717/2006 The JRC established a programme to analyse dust samples from inspection campaigns, which is based on mass spectrometric measurements

Haiti earthquake: damage assessment

The JRC provided support to rescue operations by carrying out a rapid damage assessment based on the analysis of very high resolution satellite imagery acquired before and after the Haiti earthquake in 2010



Validated 7 alternative test methods for regulatory acceptance

Accelerated the implementation of (1) the Cosmetics Directive to completely ban tests for skin/eye irritation in humans (from 11 March, 2009) and (2) the REACH legislation

Thank you for your attention