

**First European Conference on
Earthquake Engineering and Seismology
(1st ECEES)
September 3-8, 2006**

***EU funded research on Earthquake Engineering and
Seismology***

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Towards the 7th Framework Program

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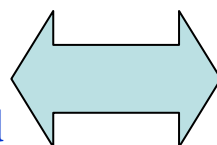
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RTD policy drivers

LISBON

(March 2000)

Most competitive and
dynamic knowledge-based
economy by 2010



BARCELONA

(March 2002)

Need to boost RTD
Aim: 3% of EU GDP by
2010 (2/3 private)

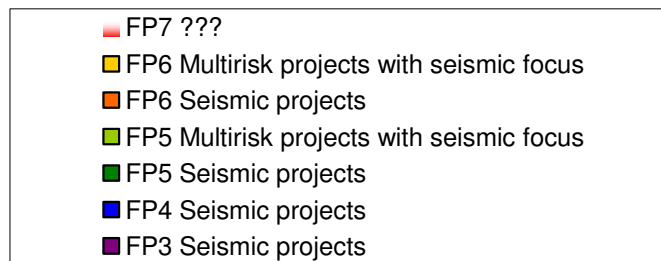
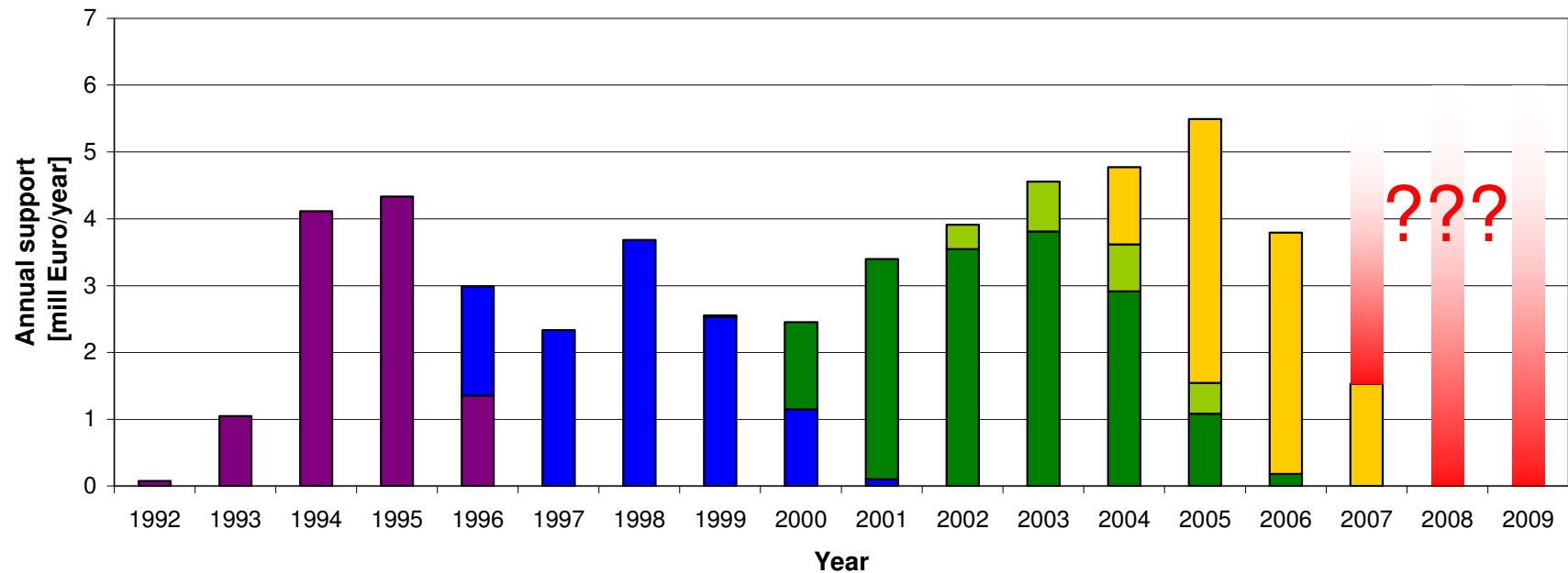


EU research: the story so far

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- 1952:** ECSC treaty first projects started March 1955
 - 1957:** EURATOM treaty Joint Research Centre set up
 - 1983:** ESPRIT programme
 - 1984:** **First** Framework Programme (1984-1987)
 - 1987:** 'European Single Act' – science becomes a Community responsibility
Second Framework Programme (1987-1991)
 - 1990:** **Third** Framework Programme (1990-1994)
 - 1993:** Treaty on European Union
role of RTD in the enlarged EU
 - 1994:** **Fourth** Framework Programme (1994-1998)
 - 1998:** **Fifth** Framework Programme (1998-2002)
 - 2000:** European Research Area
 - 2002:** **Sixth** Framework Programme (2002-2006)
 - 2007:** Launching of the **Seventh** Framework Programme (2007-2013)

Framework Programmes Research on Earthquake Engineering and Seismology

More than 70 research projects funded



***A total of
51 million Euro
... so far***

Framework Programmes

2b) History

Research on Earthquake Engineering and Seismology

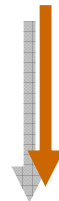
Some of the larger projects:

Acronym	Title	Area	FP	Budget M€
LESSLOSS	Risk Mitigation for Earthquakes and Landslides	MULTIRISK	FP6	6.43
3HAZ CORINTH	A multidisciplinary approach for measuring, modelling and predicting their triggering modes and their effects (earthquakes, slides and tsunami)	MULTIRISK	FP6	1.50
SPACE	Semi-active Passive Control of the Dynamic Behaviour of Structures subjected to Earthquake, wind and vibration	SEISMIC	FP5	1.67
RISK-UE	An advanced approach to earthquake risk scenarios with applications to Different European towns	SEISMIC	FP5	1.63
SAFEFLOOR	Low Risk and totally recyclable structural buildings	SEISMIC	FP5	1.55
EUROSEIS-RISK	Seismic Hazard Assessment, Site Effects and Soil Structure Interaction Studies in an Instrumented Basin	SEISMIC	FP5	1.47
	Southern Europe network for analysis of seismic data	SEISMIC	FP3	1.43
VAST-IMAGE	Development of Variable Stiffness Seismic Isolators and Vibration Mitigation Dampers Based on Magnetically Controlled Elastomers	SEISMIC	FP5	1.31
INDEPTH	Development of Innovative Devices for Seismic Protection of Petrochemical Facilities	SEISMIC	FP5	1.24
PREPARED	Application of practical experience gained from two recent large Earthquakes in the South Iceland seismic zone in the context of earthquake prediction research to develop Technology for improving preparedness and mitigating risk	SEISMIC	FP5	1.12

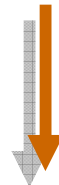
Natural Hazards Research in the 7th Framework Programme

EC RESEARCH STRUCTURE

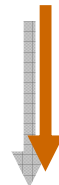
Framework Programme (Council and EP)



Specific Programme (Council + opinion EP)

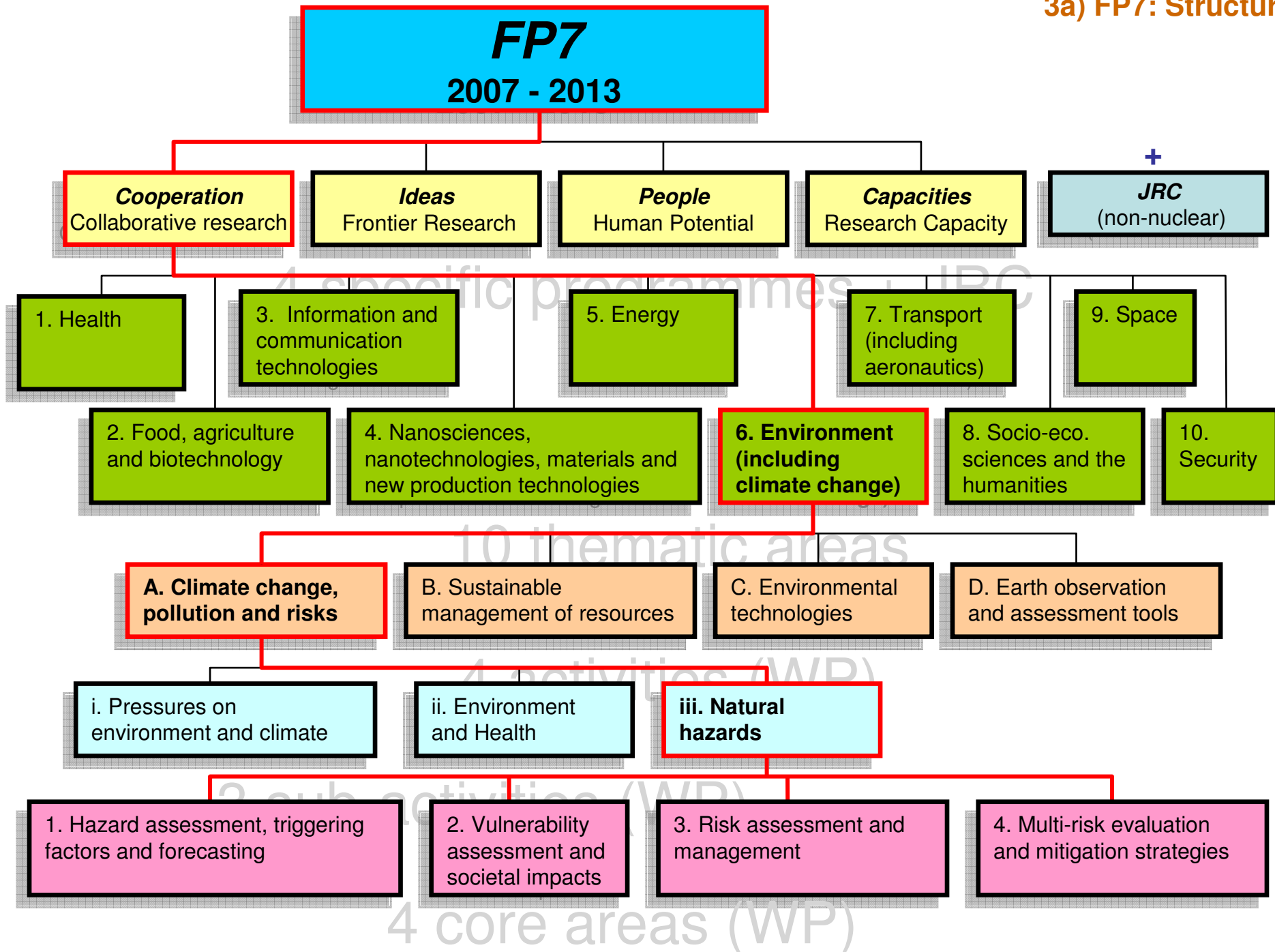


Work Programmes (Commission)



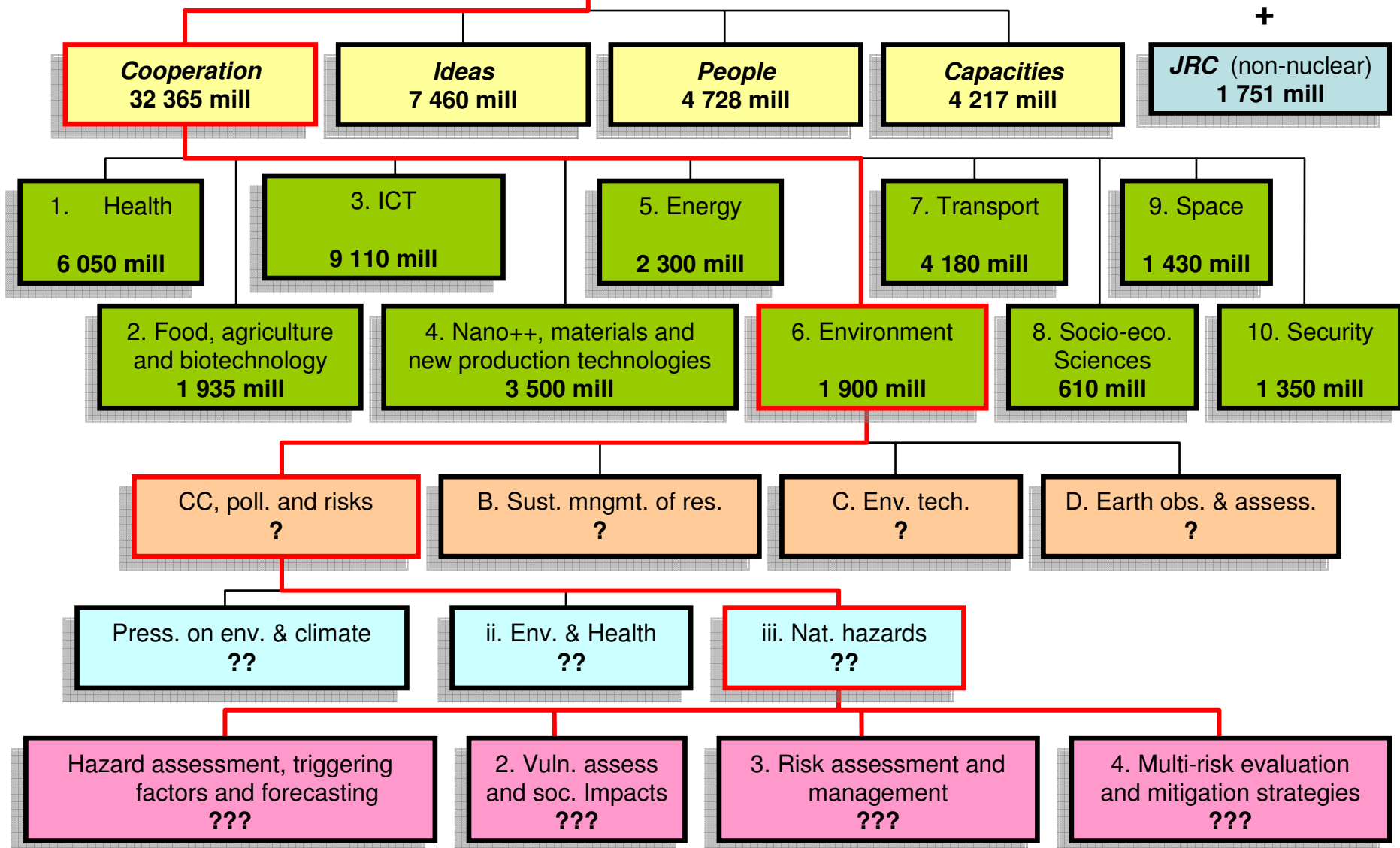
Yearly calls (specific topics, choice of instruments,...)

3a) FP7: Structure

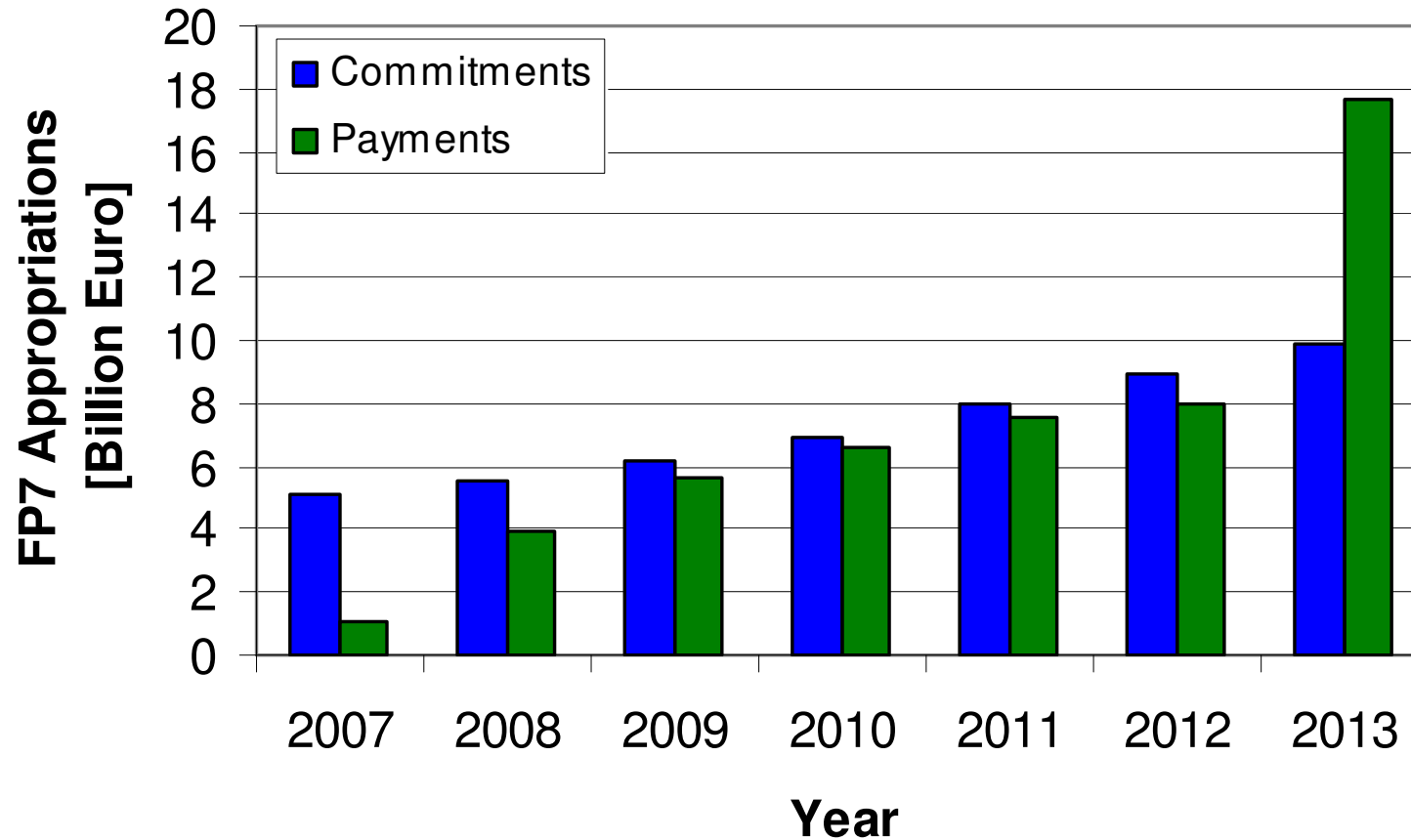


FP7
EUR 50 521 mill

2007 - 2013



FP7 2007-2013 (per year)



FP7 2007-2013

Funding schemes

primarily implemented on the basis of calls for proposals

1. Collaborative projects (Small 2.5 M€ - Large 12 M€)

Support to research projects carried out by consortia with participants from different countries, aiming at developing new knowledge, new technology, products, demonstration activities or common resources for research. The size, scope and internal organisation of projects can vary from field to field and from topic to topic. Projects can range from small or medium-scale focused research actions to large-scale integrating projects for achieving a defined objective. Projects may also be targeted to special groups such as SMEs.

2. Networks of Excellence (Typically 6 - 15 M€)

Support to Joint Programme of Activities implemented by a number of research organisations integrating their activities in a given field, carried out by research teams in the framework of longer term cooperation. The implementation of this Joint Programme of Activities will require a formal commitment from the organisations integrating part of their resources and their activities.

3. Coordination and support actions (< 1 M€)

Support to activities aimed at coordinating or supporting research activities and policies (networking, exchanges, trans-national access to research infrastructures, studies, conferences, etc). These actions may also be implemented by means other than calls for proposals.

4. Support for "frontier" research

Support to projects carried out by individual national or transnational research teams. This scheme will be used to support investigator-driven "frontier" research projects funded in the framework of the European Research Council.

5. Support for training and career development of researchers

Support for training and career development of researchers, mainly used for the implementation of the Marie Curie actions.

6. Research for the benefit of specific groups (in particular SMEs) (1 - 2 M€?)

Support to research projects where the bulk of the research and technological development is carried out by universities, research centres or other legal entities, for the benefit of specific groups, in particular SMEs or associations of SMEs. Efforts will be undertaken to mobilise additional financing from the EIB and other financial organisations.

Climate Change, Pollution and Risks

Natural Hazards: core issues

- Disasters related to climate (such as storms, droughts, forest fires, landslides, floods), and geological hazards (such as earthquakes, volcanoes, tsunamis) will be studied.
- Managing natural disasters requires a multi risk approach.
- There is a need for improved knowledge, methods and integrated framework for the assessment of hazards, vulnerability and risks.
- Mapping, management, prevention and mitigation strategies including consideration of economic and social factors need to be developed.
- The research will allow the underlying processes to be better understood, and prediction and forecasting methods to be improved on the basis of a probabilistic/deterministic approaches.
- Research will also underpin the development of early warning and information systems.
- Societal repercussions of major natural hazards will be quantified.

Natural Hazards Work Program

Core Areas and Call Priorities for 2007

1. Hazard assessment, triggering factors and forecasting

✓ Focus will be on European storm risk

2. Vulnerability assessment and societal impacts

✓ Focus will be on establishing a frame for better vulnerability assessment

3. Risk assessment and management

✓ Focus will be on volcanic threat, harmonising avalanche forecasting (risk mapping and warning) and Europe's risk from droughts

4. Multi-risk evaluation and mitigation strategies

✓ Focus will be on European (multi) hazard database analysis

Natural Hazards Work Program

Open questions

- √ Towards a European Research Agenda for Natural Hazards
- √ What are the challenges in Earthquake Engineering / Seismology at European Level?
- √ What are the research priorities in these fields?

European Technology Platforms (1 of 2)

What are the objectives?

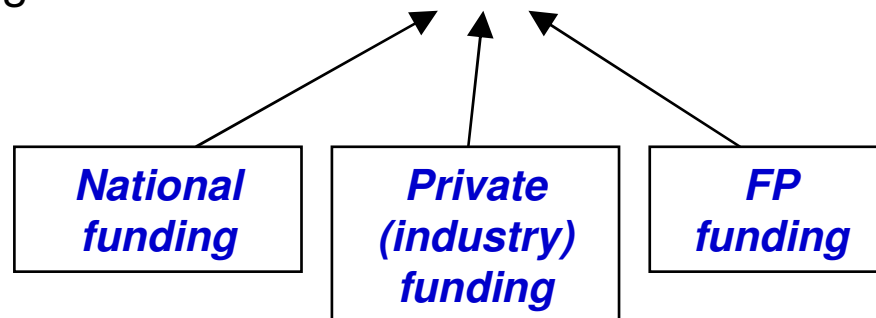
- Provide a framework for stakeholders, led by industry, to define research and development priorities in the medium to long term.
- Play a key role in ensuring an adequate focus of research funding on areas with a high degree of industrial relevance. Fostering effective public-private partnerships.
- Address technological challenges that can potentially contribute to a number of key policy objectives which are essential for Europe's future competitiveness.

European Technology Platforms (2 of 2)

How do they work?

Technology platforms follow a three-stage process of development:

1. Stakeholders, led by industry, come together to agree a common vision for the technology.
2. Stakeholders define a Strategic Research Agenda (SRA) setting out the necessary medium- to long-term objectives for the technology.
3. Stakeholders implement the Strategic Research Agenda with the mobilisation of significant human and financial resources.



Information

- **EUROPEAN RESEARCH ON NATURAL HAZARDS:
Catalogue of selected FP5 and FP6 Projects - Volume 1**
- **More information on European Commission environmental research: <http://www.cordis.lu/sustdev/environment/>**
- **Information on Seventh Framework Programme (FP7):
<http://ec.europa.eu/research/fp7/>**
- **Information on calls for proposals on environmental research:
<http://www.cordis.lu/sustdev/environment/calls.htm>**
- **European Technology Platforms:
http://cordis.europa.eu/technology-platforms/home_en.html**

Thank you!



Questions?