



FFG

**The 7th EU Framework Programme for
Research, Technological Development and
Demonstration
(FP7 2007-2013)**

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Outline

→ Background:

- ⇒ Lisbon/Barcelona strategies
- ⇒ Financial Perspective 2007-2010
- ⇒ New Lisbon Strategy 2005

→ 7th EU RTD Framework Programme

- ⇒ Objectives
- ⇒ Structure and contents
- ⇒ Instruments („tool box“ and activities)

→ Outlook, road map

- ⇒ Austrian EU Presidency etc.

European Councils Lisbon, Barcelona: New European Objectives for 2010

The general context of EU RTD policies

- **Lisbon 2000:**
**EU most competitive region in the
knowledge based society world wide**
- **Barcelona 2002:**
**average R&D expenditures in EU towards 3%
of GDP**

**Mobilisation of combined forces and efforts of
all member states is necessary!**

„Building our common future“

„Financial Perspective 2007-2013“

COM(2004) 101 final/3

→ Strengthening European efforts in research and technological development

→ Problems:

- EU RTD fragmented, isolated, insufficiently connected internationally
- EU RTD expenditures 2% GDP, USA 2,7%, J 3%
- EU attractiveness for the best researchers?
- Brain drain towards USA
- ⇒ Reduction of obstacles for outstanding research
- ⇒ quantitative increase of research activities



„Building our common future“

„Financial Perspective 2007-2013“

COM(2004) 101 final/3

→ 3 objectives for European Union:

⇒ Making a reality of the European Research Area

→ Internal market for research

→ Coordination of regional and national RTD activities

⇒ by 2010: increase of R&D expenditures in EU to 3% of GDP of the EU

⇒ Promotion and strengthening of research in EU by direct financial support

→ Added value of EU research promotion

⇒ Critical mass, creativity through networking

„Building our common future“

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→ Strengthening EU research promotion 2007+

- ⇒ Basic/frontier research
- ⇒ Developing human resources
- ⇒ Research infrastructures of European dimension
- ⇒ European Technology-Platforms
- ⇒ Networking and collaboration in thematic priorities
- ⇒ Coordinating nat. & reg. RTD policies & programmes
- ⇒ Developing EU strategies for Space and Security
- ⇒ Dissemination of results, SMEs, EU participation and leadership in global initiatives - international Cooperation



The 7th EU Framework programme (FP7)

Objectives, Structure, Contents

(Commission proposal, 6 April 2005)

Objectives:

→ **Motto: „Knowledge for Growth“**

→ **Contribution to Lisbon strategy**

⇒ growth, competitiveness, employment and sustainable development

⇒ Realisation of the knowledge society

→ **Substantial Increase of research funding**

⇒ Doubling of the yearly EU FP RTD spending

⇒ Duration like „Financial Perspective“ 2007 - 2013

The 7th EU Framework programme (FP7)

Objectives, Structure, Contents (Proposal 6 April 2005)

Objectives (continued):

→ Stimulating the knowledge triangle:

⇒ research, education, innovation

→ FP7, RTD aspects in structural funds

→ new education and training programmes

→ Competitiveness and Innovation Programme (CIP)

→ Simplification and strengthening FP7:

⇒ Basis: Extended Impact Assessment (EIA)

⇒ Creating the European Research Area (ERA)

⇒ Making the knowledge society and economy a reality in Europe



FP7: Structure

Specific Programmes

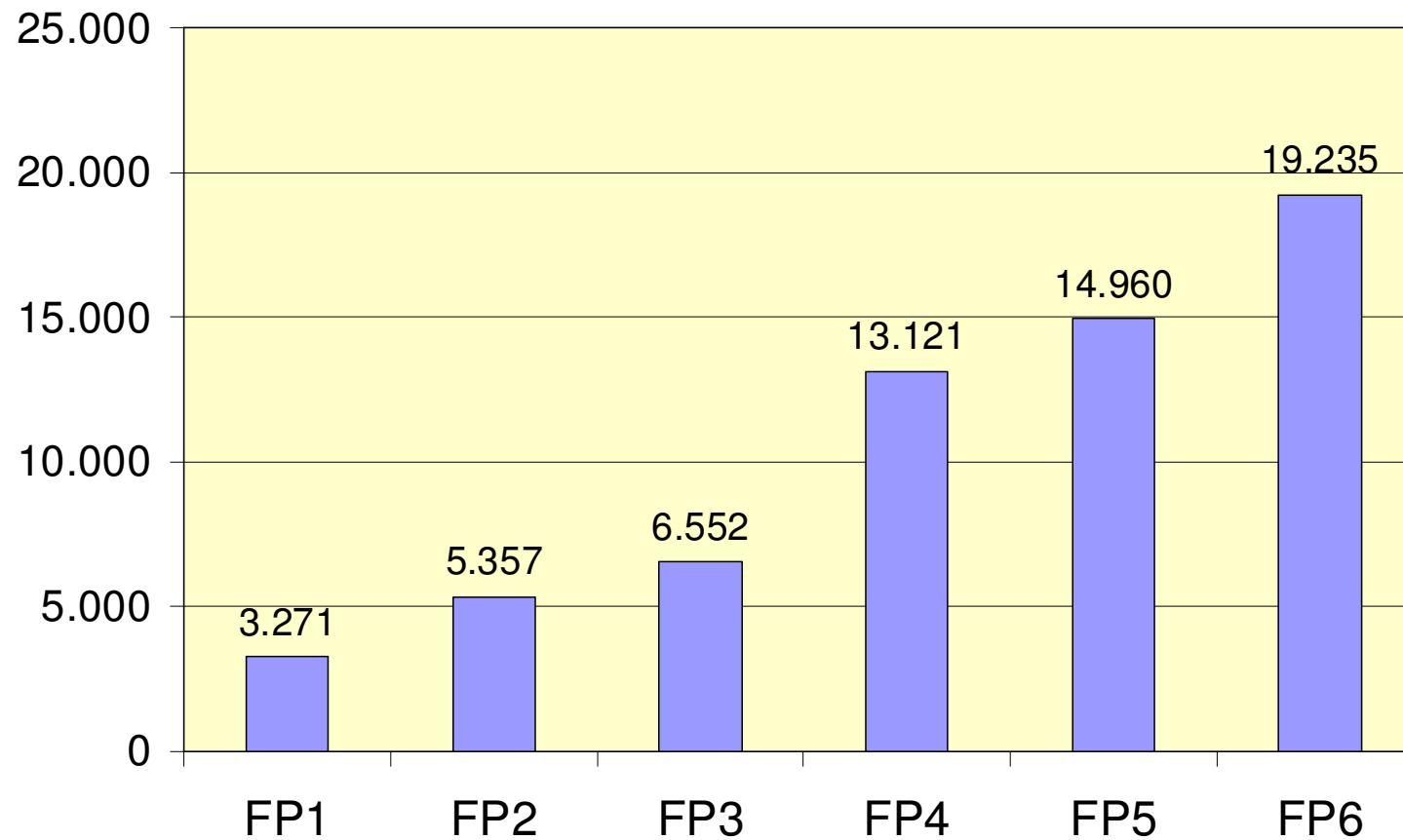
4 Specific programmes:

- ⇒ Cooperation
- ⇒ Ideas
- ⇒ People
- ⇒ Capacities

Two additional specific programmes:

- ➔ Joint Research Centre (JRC)
- ➔ EURATOM (nuclear research)

Evolution of FP budget (Mio. EURO)



50.521

FP7

Source: DG Research

FP7: Budget

Starting situation 2005:

→ Commission and European Parliament request drastic increase **Erhöhung**

- ⇒ Commission Proposal, 6 April 2005: € 72.726 Mio
 - Average annual budgets FP7/FP6 approx. doubled

→ **Financial Perspective 2007-2013**

- ⇒ European Council 15-16 Dec ,05 (UK Pres.), and Council's Agreement of 24 July 2006: **€ 50.521 Mio**
 - Yearly average budget: FP7/FP6 = 1,60
 - Themes: FP7/FP6 yearly budget 1,34
 - But new activities: Security, Ideas, Infrastructures, ...

FP7: 1. Cooperation

Collaborative Research

Continuity of Themes:

- Health
- Food, agriculture and biotechnology
- Information and communication technologies
- Nanosciences, nanotechnologies, materials and new production technologies
- Energy
- Environment (incl. climate change)
- Transport (inc. Aeronautics)
- Socio-economic sciences and the humanities
- Space
- Security



Health

Budget EC: € 6.050 Mio

- **Biotechnology, generic tools and technologies for human health**
- **Translating research for human health**
- **optimising the delivery of health care to European citizens**

Food, Agriculture & Biotechnology

Budget EC: € 1.935 Mio

- Sustainable production and management of biological resources from land, forest and aquatic environments
- „Fork to farm“: Food, health and well being
- Life sciences and biotechnology for sustainable non-food products and processes

Information and Communication Technologies (ICT) 1

Budget EC: € 9.110 Mio

→ ICT Technology Pillars

- ⇒ Nano-electronics, photonics and integrated micro/nano-systems
- ⇒ Ubiquitous and unlimited capacities communication networks
- ⇒ Embedded systems, computing and control
- ⇒ Software, Grids, security and dependability
- ⇒ Knowledge, cognitive and learning systems
- ⇒ Simulation, visualisation, interaction and mixed realities

→ Integration of Technologies

→ Applications Research

→ Future and Emerging Technologies (FET)



Information and Communication Technologies (ICT) 2

Budget EC: € 9.110 Mio

→ ICT Technology Pillars

→ Integration of Technologies

- ⇒ Personal environments, home environments
- ⇒ Robotic systems, intelligent infrastructures

→ Applications Research

- ⇒ ICT meeting societal needs
- ⇒ ICT for content, creativity, personal development
- ⇒ ICT for supporting businesses and industry
- ⇒ ICT for trust and confidence

→ Future and Emerging Technologies



Nanosciences, Nanotechnologies, Materials and New Production Technologies

Budget EC: € 3.500 Mio

- Nanosciences and Nanotechnologies**
- Materials**
- New Production**
- Integration of technologies for industrial applications**

Energy

Budget EC: € 2.300 Mio

- Hydrogen and fuel cells
- Renewable electricity generation
- Renewable fuel production
- Renewables for heating and cooling
- CO2 capture and storage technologies for zero emission power generation
- Clean coal technologies
- Smart energy networks
- Energy efficiency and savings
- Knowledge for energy policy making



Environment (incl. climate change)

Budget EC: € 1.900 Mio

- Climate change, pollution and risks
- Sustainable Management of Resources
- Environmental Technologies
- Earth observation and assessment tools

Transport (incl. Aeronautics)

Budget EC: € 4.180 Mio

- Aeronautics and air transport
- Surface transport (rail, road and waterborne)
- Support to the European global satellite navigation system (Galileo)

Socio-Economic Sciences and the Humanities

Budget EC: € 610 Mio

- Growth, employment and competitiveness in a knowledge society**
- Combining economic, social and environmental objectives in a European perspective**
- Major trends in society and their implications**
- Europe in the world**
- The citizen in the European Union**
- Socio-economic and scientific indicators**
- Foresight activities**



Security & Space

Budget EC: € 2.780 Mio

(Space: € 1.430 Mio / Security: € 1.350 Mio)

- **Protection against terrorism and crime**
- **Security of infrastructures and utilities**
- **Border security**
- **Restoring security in case of crisis**
- **Security systems integration and interoperability**
- **Security and society**
- **Security Research Coordination and structuring**

- ← **Space-based applications at the service of the European Society**
- ← **Exploration of space**
- ← **RTD for strengthening space foundations**



FP7: 1. Cooperation

Collaboration and networking

→ Collaborative research

- ⇒ Collaborative projects
- ⇒ Networks of Excellence
- ⇒ Coordination/Support Actions

→ Joint Technology Initiatives (JTI)

- ⇒ Technology Platforms: Collaborative Research, JTI

→ Coordination of national research programmes

- ⇒ ERA-NET, ERA-NET PLUS, Art. 169 EGV

→ International cooperation

- ⇒ opening all thematic activities to all third countries
- ⇒ dedicated cooperation with spec.groups of countries



FP7: 1. Cooperation

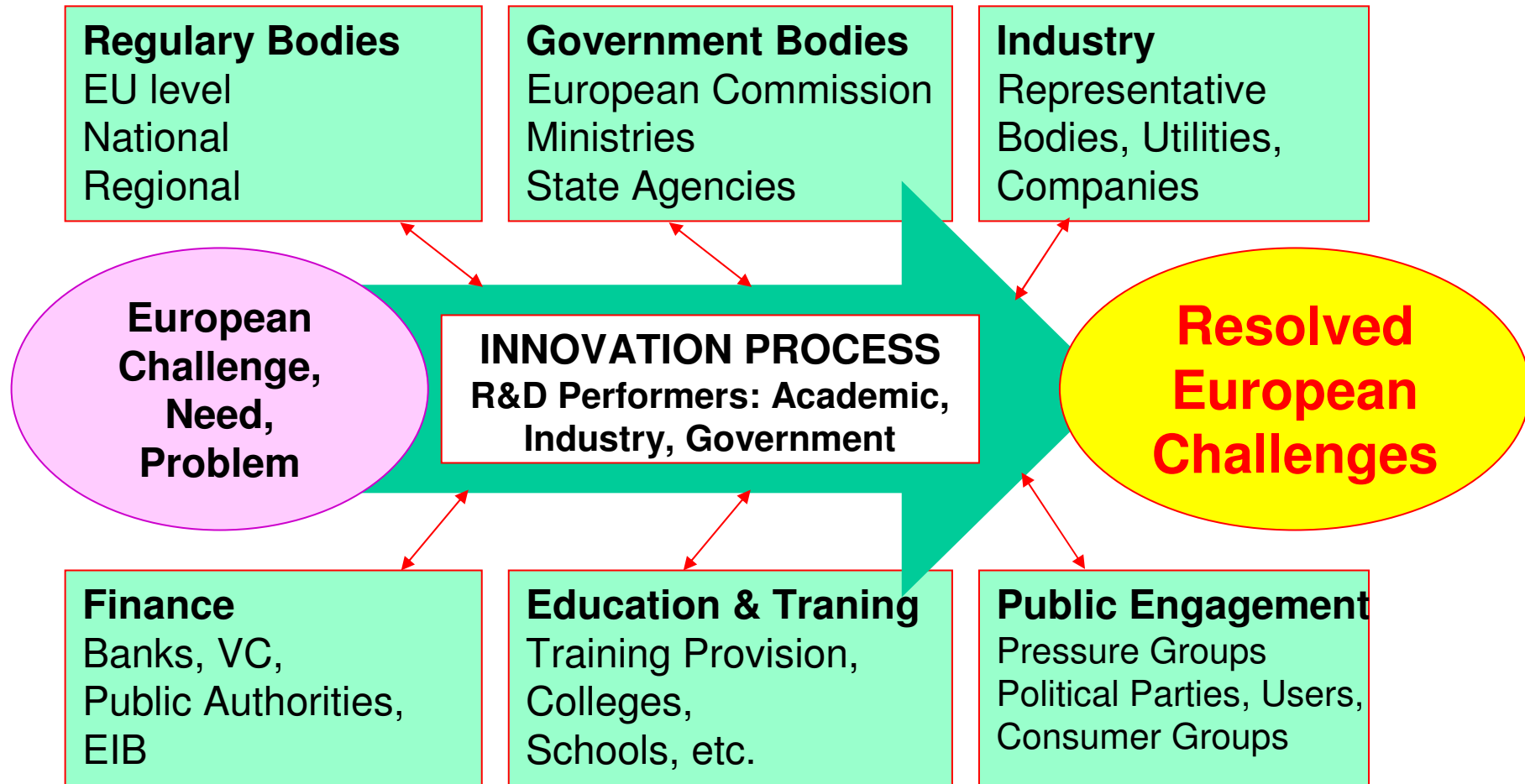
Joint Technology Initiatives

- Major pan-european, mission-oriented initiatives aimed at strengthening Europe's capacity to organise and deliver innovation
- a Technology Platform will bring together relevant stakeholders and many actors
 - ⇒ to identify the innovation challenge
 - ⇒ to develop the necessary research programme
 - ⇒ to implement the results
- Task: **Strategic Research Agenda** (Road Map)
- Implementation:
 - ⇒ Collaborative Research
 - ⇒ a few JTI - Joint Technology Initiatives



FP7: 1. Cooperation

Joint Technology Initiatives



Source: EURAB 04.010-final, January 2004

FP7: 1. Cooperation

Joint Technology Initiatives Examples of ETPs

→ Hydrogen

→ Steel

→ Nanoelectronics

→ Nanomedicine

→ Innovative Medicines

→ Plantgenomics

→ Global livestock

→ White biotechnology

→ Photovoltaics

→ Road transport

→ Aeronautics

→ Wireless communication

→ Embedded systems

→ Manufacturing

→ Textiles

→ Sustainable Chemistry

→ Water

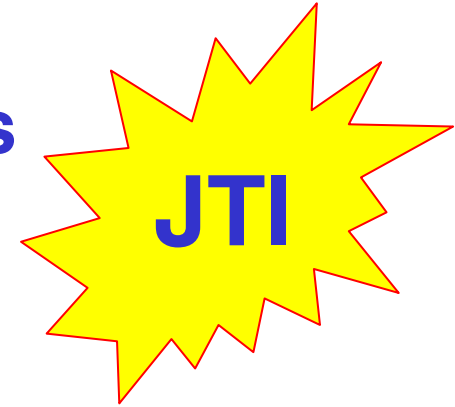
→ Solar energy

Survival of the fittest 2-4 ETPs ... : JTIs, Art. 171



FP7: 1. Cooperation

Joint Technology Initiatives



→ Selection criteria for JTIs:

- ⇒ strong industrial financial commitment
- ⇒ scale of industrial impact
- ⇒ a response to major European challenges
- ⇒ importance of contributions to public objectives
- ⇒ capacity to leverage additional national support
- ⇒ added value of European coordination
- ⇒ impossibility to achieve objectives through funding scheme based on Calls for Proposals by EC

→ PPP funding: EU + EIB, national, private

→ Art. 171 ECT: Joint undertakings



FP7: 1. Cooperation

Coordination of national research programmes

- **ERA-NET: from coordination towards cooperation**
- **complementarity between nat. programmes**
- **Improving the coherence of research agendas in EU:**
 - ⇒ coordination, opening, joint initiatives
- **Further development of ERA-NET towards joint calls and funding: ERA-NET PLUS**
- **Art. 169 ECT: joint programmes**

FP7: 1. Cooperation

Coordination of national research programmes

→ ERA-NET

- ⇒ encouraging to make larger use of the scheme
- ⇒ broadening, deepening their scope

→ ERA-NET PLUS

- ⇒ additional EU financing support for common fund

→ Art 169 EGV

- ⇒ „variable geometry“, EU financial participation
- ⇒ launched by EC with MS, based on criteria:
 - EU relevance
 - S&T excellence
 - pre-existing basis
 - added value of European coordination
 - impossibility to achieve objectives through CfP by EC

FP7: 1. Cooperation

International Cooperation

- **Opening all activities under the themes for the participation of International Cooperation Partner Countries (ICPC)**
- **Specific cooperation activities with selected target countries (close connection with S&T agreements of the EU):**
 - ⇒ Industrialized countries (USA, CAN, J, RU)
 - ⇒ Emerging economies, (Russia, China, India, Brasil) and regional associations (ASEM, MERCOSUR)
 - ⇒ Eastern European, Central Asia and Caucasus Countries (EECA)
 - ⇒ Developing countries
 - ⇒ Neighbouring countries
 - ⇒ Western Balkan countries
 - ⇒ Mediterranean countries
 - ⇒ Candidate countries

FP7: 2. Ideas

Budget EC: € 7.460 Mio

Frontier Research - Excellence!

- **Diagnosis: lack of competition in basic research at European level: need for a European initiative**
- **Promotion of individual researchers & teams on the sole criterion of excellence**
- **specific programme in FP7**
- **Implementation by ERC:
European Research Council**
- **Rules defined by independent Scientific Council**

FP7: 2. Ideas

ERC: Excellence in Research through Competition

European Research Council

→ Scientific Council

- ⇒ Setting the stage: objectives, rules, criteria
- ⇒ peer review and selection processes

→ Executive Agency

- ⇒ Implementation for the specific programme
- ⇒ financial & scientific management of the grants

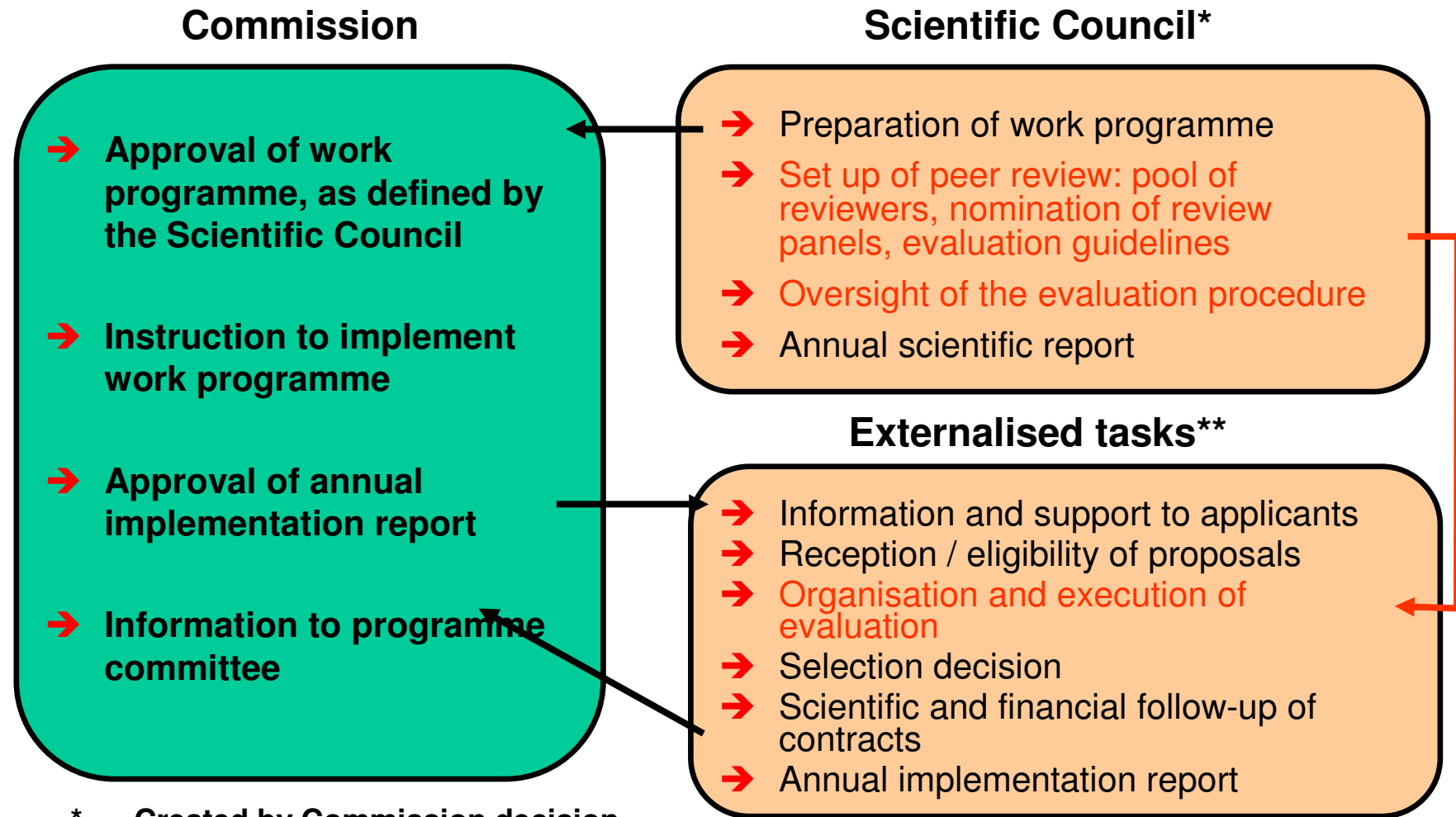
→ Funding

- ⇒ grants, providing high proportion of required resources, administrative and budgetary flexibility

→ Reporting to Commission: Annual Reports

Ideas – Frontier Research

ERC – European Research Council



* Created by Commission decision,

** Under the responsibility of the Commission



FP7: 3. People

Safeguarding the supplychain für researchers ...

- **Barcelona: the need for human resources to support 3% target**
 - ⇒ 700.000 additional researchers in EU (Jobs!?)
- **Removing obstacles for scientific careers and mobility of researchers**
- **Targeted programmes for young researchers**
- **Raising the attractiveness of Europe as a location for science - „scientific diaspora“**
- **Building on the success of the Marie Curie Scheme**



FP7: 3. People

Budget EC: 4.728 Mio

5 lines of „Marie Curie“ actions - 1

→ 1. Initial training of researchers

- ⇒ Marie Curie networks
- ⇒ Early stage researchers;
- ⇒ Training events; chairs, industry position, etc.

→ 2. Life-long training and career development

- ⇒ experienced researchers; returning to EU;
co-financing of regional, national or international
programmes

→ 3. Industry-academia pathways and partnerships

- ⇒ Joint research partnerships; secondments, events

FP7: 3. People

5 lines of „Marie Curie“ actions - 2

→ 4. The international dimension

- ⇒ attract researchers to EU; collaboration; outgoing and incoming international fellowships; partnerships (neighbours, S&T agreements)

→ 5. Specific actions

- ⇒ supporting the creation of a genuine European labour market for researchers
- ⇒ remove obstacles for mobility and enhance career perspectives of researchers in Europe
- ⇒ public awareness: awards

FP7: 4. Capacities

Budget EC: 4.217 Mio

- Research infrastructures
- Research for the benefit of SMEs
- Regions of knowledge
- Research potential
- Science in Society
- International cooperation
 - ⇒ Horizontal activities
 - ⇒ Specific support actions
 - ⇒ Coordination of international cooperation activities



FP7: 4. Capacities

Research Infrastructures

Budget EC: € 1.850 Mio

→ **Research infrastructures of EU dimension**

→ **EU support for**

- ⇒ transnational access, integrating activities, e-infrastructure
- ⇒ Design and construction of new infrastructures
 - Capacity for services at EU level
 - Relevance at international level
 - technical feasibility
 - Possibilities of European partnerships and commitment of important stakeholders
 - Evaluation of costs of construction and operation

FP7: 4. Capacities

Research for and by SMEs

Budget EC: € 1.336 Mio

→ Specific support for research for and by SMEs

- ⇒ Outsourcing of R&D activities to universities, etc.
- ⇒ Research of small groups of SMEs („*CRAFT*“)
- ⇒ Research for SME associations („*Collective*“)

→ Activities for stimulating SME participation

- ⇒ Simplification and rationalisation of procedures
- ⇒ Considering SME aspects in work programmes
- ⇒ Support measures of intermediary organisations („*Exploratory Awards*“)



FP7: 4. Capacities

Regions of knowledge

Budget EC: € 126 Mio

→ Joint actions of all RTD actors

⇒ Unis, research centres, industry, regional development agencies

→ Problem analysis of regional clusters

⇒ Development of solutions in research activities

→ Exploitation of research results

→ Access to RTD promotion and funding

→ Inducing of spill-overs into the regional economy

⇒ Close cooperation with EU regional policy

→ In general in FP7: Synergies between FP7 and structural funds - „Convergence Regions“

⇒ e.g. „bonus“ for FP7 projects



FP7: 4. Capacities

Research potential

Budget EC: € 370 Mio

→ **Stimulating the research potential of the enlarged EU, realisation of the ERA!**

→ **Activities**

⇒ Staff exchange

⇒ Acquisition & development of RTD-equipment, creating the material environment for fully utilizing the intellectual potential in the new member states

⇒ Workshops, conferences

⇒ International evaluation of research organisations by independent experts



FP7: 4. Capacities

Science in Society

Budget EC: € 280 Mio

→ Towards the knowledge society: Integrating science into society

→ Activities

- ⇒ Interacting researchers/society in science related questions, for clarifying political and ethical aspects
- ⇒ Scientific counselling and expertise
- ⇒ Reflection and debate: S&T in society
- ⇒ promoting curiosity for science
- ⇒ Reflecting the role of universities
- ⇒ Improving the communication science-society

→ Research projects, studies, networking, awards, surveys, data collection etc.



FP7: 4. Capacities

Specific activities of international cooperation

Budget EC: € 185 Mio

- „Horizontal“ support actions and measures in addition to activities in the 10 themes
- Strengthening the S&T partnerships between the European Union and third countries
 - ⇒ Supporting the strengthening and development of research capacities in less developed third countries
- Coordination of the international cooperation activities under FP7

FP7: Financing schemes 1

→ For actions that will be implemented via Calls for Proposals:

- ⇒ Collaborative projects
- ⇒ Networks of Excellence (NoE)
- ⇒ Individual projects (IDEAS - frontier research)
- ⇒ Coordination actions (CA)
- ⇒ Specific support actions (SSA)
- ⇒ Research projects for third parties (SMEs)
- ⇒ Fellowships (People - Marie Curie)

FP7: Financing schemes 2

→ For actions to be implemented on the basis of decisions of the Council and the European Parliament, Art. 169, Art. 171:

⇒ Commission proposal

⇒ Commission contribution to multi-financed initiatives of substantial magnitude

→ Community contribution to

⇒ **Joint implementation of nat. programmes** by Art. 169 with specific implementation structure, financing plan with national commitments

⇒ Implementation of **Joint Technology Initiatives**, Art. 171, funding: FP, EIB, national, RC, private; financing plan with commitments of all partners

⇒ Development of **new research infrastructures**



FP7: General aspects

Coherent development of research policies of the member states

→ Strengthening of the EU research system

- ⇒ Improving the boundary conditions

- ⇒ Strengthening the leverage effects of public intervention

→ Activities:

- ⇒ Monitoring and analysis of public measures and industrial strategies for preparing, designing, implementing, monitoring and evaluation of research policies, including indicators

- ⇒ coordination of research policies

- ⇒ Preparing community initiatives

→ studies, expert groups, seminars, conferences, information systems, CFP



The benefits of participation in EU RTD

- additional financial and other resources
- strengthening international competitiveness
- achieving critical mass for RTD
- sharing the risks and the opportunities for innovation
- getting international, finding strategic partners
- gaining information, orientation and know how
- personnel and organisational development
- benchmarking
- image and reputation

FP7: Road map

- 6 April 2005: EC proposal for FP7
- 21 Sept 2005: EC proposal for Spec. Programmes
- 23 Dec 2005: EC proposal for Rules for Participation
- 16 Dec 2005: European Council, Financial Perspective
- 27 April 2006: AT Pres. proposal for rev. FP7 budget
- May 2006: Inter-institutional agreement on Financial Perspective
- May 2006: first reading of FP7 by Europ. Parliament
- June 2006: revised EC proposal for FP7
- July 2006: Council: Common Position on FP7
- Autumn 2006, FI presidency: all remaining decisions for FP7, SP, RfP

- Dec 2006/Jan 2007: first Calls for Proposals for FP7



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