

## 7th Framework Programme RESEARCH INFRASTRUCTURES

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### Research is a significant part of European heritage and identity

- Europe was a world leader in research
- why not to take this position now?

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### *The necessary pre-condition*

The research career in Europe must become more attractive than in the USA (or elsewhere).

Otherwise:

- the outflow of European researchers will continue
- the inflow of foreign researchers will not increase

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**ERA – much more is needed...**

**we cannot stop in the middle of our way...**

**New Lisbon Strategy is required...**

**Triangle of Knowledge: education, research, innovation**

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### *the necessary condition: 3% of GDP expenditure on R&D*

#### Research as the key pillar of the Lisbon agenda

- „Science and technology, the key to Europe’s future - Guidelines for future EU policy to support research” COM(2004)0353
- „knowledge and innovation for growth – a pillar of the Lisbon Action Programme” – European Council March 2005
- European Parliament

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### *the necessary condition: 3% of GDP expenditure on R&D*

#### Research as the key factor for growth in all Member States

- all EU members should reach the level of 3% of GDP expenditure on R&D (no money no results)
- political support in all MC
- stimulation of investments in industrial R&D

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## Triangle of Knowledge

| Programme   | Description  | Budget   |
|---|--|--|
| <b>7th Framework Programme</b>                            | The central action in support the development of the knowledge economy   | 77 billion euro from 2007 to 2013              |
| <b>Structural and Cohesion Funds</b>                      | Support less advanced regions in EU will have a strong focus on development R&D capacities   | 345 billion euro for 2007-2013                 |
| <b>Competitiveness and Innovation Framework Programme</b> | New programme aimed at enhancing European innovation capacity, through support to innovating SMEs, innovation networks, the dissemination of results, technology transfer and the funding of technology innovation through risk capital  | 4.2 billion euro                               |
| <b>Education and Training Programmes</b>                  | Programmes such as Socrates and Leonardo da Vinci, are aimed at raising the capacity to produce, master and exploit knowledge in Europe through an integrated action on life-long education and training covering in particular university education and training of researchers | approx. 2 billion euro                         |
| <b>The Quick-start Programme</b>                          | The Quick-start programme identifies key areas for investment in network and knowledge. The split between private and public investment will vary depending on the type of projects supported.   | total investments €60 billion for 2003 - 2010. |

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„knowledge triangle”: education – research - innovation

### education

- ❑ high level education (new concept of universities)
- ❑ integrated MSc + PhD, European scientific carrier
- ❑ competing for talents
- ❑ providing best opportunities to generate and develop new ideas
- ❑ multi/interdisciplinary approach
- ❑ entrepreneurial skills, risk taking, creativity

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## 7th Framework Programme

Cooperation – Collaborative research

Ideas – Frontier Research

People – Human Potential

Capacities – Research Capacity

+

JRC (non-nuclear)

JRC (nuclear)

Euratom

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„knowledge triangle”: education – research - innovation

### research

- reinforce the scientific excellence in new, fast growing research areas
  - biotechnology, medical research, nanotechnology, information and communication technologies, clean energy...
- competing for the finest talents, supporting young researchers

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„knowledge triangle”: education – research - innovation

### research

- balanced basic and applied research
- “frontier research” by ERC as continuation of NEST programme (investigator-driven)
- centers of excellence - standardized units throughout Europe
- open and friendly for foreign researchers

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„knowledge triangle”: education – research - innovation

#### innovation

- centers of excellence, Networks of Excellence
- linking research to technological innovation
  - industrial R&D centers,
  - technology parks,
  - technology incubators
  - creation of spin-offs
- key problem : bringing research closer to industry

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## EUROPEAN RESEARCH AND INNOVATION AREA

- FP6 was oriented towards development of ERA - a borderless area of joint research, integrating European, national and regional efforts, mobility, joint infrastructure, carrying out jointly large technology initiatives. Many successful initiatives were initiated and developed.
- Now, the next step forward should be commenced – development of the **European Research and Innovation Area (ERIA)**, which will orient our efforts towards closer integration of research with innovation, development of technologies with demonstration and commercialization, development of pools/centers of scientific and technological excellence and **large infrastructure** that can attract and retain high value added business investments.

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## Capacities – Research Capacity

6 parts

- Research Infrastructures**
- Research for the benefit of SMEs
- Regions of Knowledge
- Research Potential
- Science in Society
- Activities of International Cooperation

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## RESEARCH INFRASTRUCTURES

- **possible sources of investments:**
  - 7th Framework Programme
  - Structural funds
  - Private – public partnership within JTI

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### 1. Research Infrastructures

Support to existing research infrastructures:

Transnational Access

Integrating activities

Research e-infrastructures

Support to new research infrastructures:

Construction of new research infrastructures and major updates of existing ones

Design studies

Contribution to development of new infrastructure supported primarily from structural funds (matching funds)

## STRUCTURAL FUNDS

- The research potential of the convergence regions will not be neglected in taking decisions about new infrastructures since they may provide low cost operational environment. The development of infrastructure should be closely coordinated with **structural funds** and other financial instruments available at European and national level.
- This measure may contribute to the **development of large infrastructure** at national level, in particular supported by structural funds, by assuring its accessibility and networking within ERIA

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**Example: Poland**  
**Operational Programme „Research, new technologies and information society” 2007-2013**

- Total budget **5.9 billion euro**  
including 2.9 billion euro of EU contribution
- Priority I **3.2 billion euro**  
**Strengthening of research potential**  
**(including the development of infrastructure)**
- Priority II **1.7 billion euro**  
**Strengthening applied research**
- Priority III **0.5 billion euro**  
**Information society development**

**EXAMPLE: EUROPEAN RESEARCH AND INNOVATION AREA IN POLAND**

**100 CENTERS OF EXCELLENCE**  
**26 CENTERS OF ADVANCED TECHNOLOGY**  
**12 TECHNOLOGY PARKS**



**EUROPEAN TECHNOLOGY PLATFORMS**

- **European Technology Platforms** can provide a means to foster effective public-private partnerships between the research community, industry and policy makers in order to deliver the impetus to mobilize the research and innovation effort towards achieving a common goal. The role of Technology Platforms in stimulating more effective RTD, particularly in the private sector, can contribute directly to achieving the Lisbon objectives, developing the European Research and Innovation Area and **increasing private investment** in R&D contributing towards the 3% of GDP target.

**RESEARCH INFRASTRUCTURES REQUIRED BY JTI**

- **Joint Technology Initiatives** will combine private sector investment and national and European public funding, including grant funding from the Research Framework Programme and loan finance from the European Investment Bank. Joint Technology Initiatives may be decided on the basis of Article 171 of the Treaty (this may include the creation of a joint undertaking) or on the basis of the Specific Programme Decisions in accordance with Article 166 of the Treaty.

**RESEARCH INFRASTRUCTURES BY JTI**

- **Possible large infrastructures required by JTI**
  - Pilot plant for generation of hydrogen
  - Pilot plant for combined power generation and clean coal technologies