# Nanosciences and nanotechnologies in the EU 7th Framework Programme (2007 – 2013)

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**5th Roundtable on Micro / Nanotechnologies for Space**
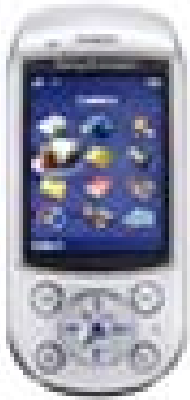**Noordwijk, 3 October 2005**

# Framework Programme 7 : Supporting Lisbon objectives / building the Europe of knowledge through
# enhanced European co-operation

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**Nanosciences and Nanotechnology
will be strongly supported
throughout the 7th Framework Programme**

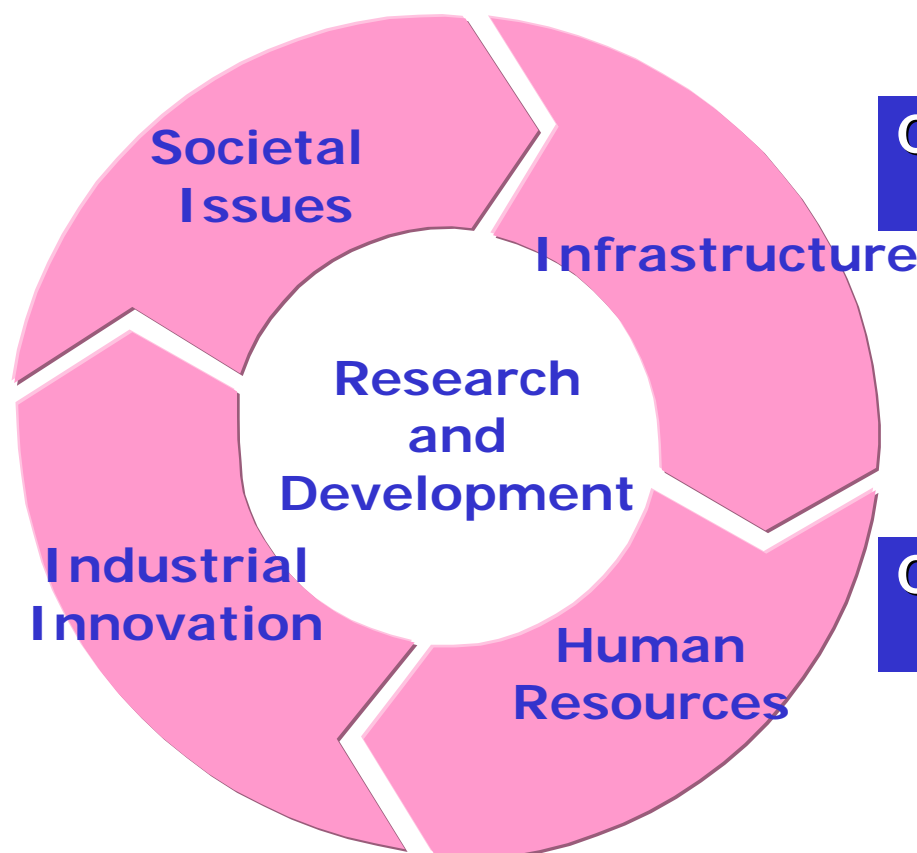The European approach: *integrated* and *responsible*

Communication by the European Commission:
"**Towards a European strategy for nanotechnology**"
and newly adopted "**Action Plan**"

Societal Issues

Infrastructure

Health, safety, environmental and consumer protection

Research and Development

International Co-operation

Industrial Innovation

Human Resources

COM(2004) 338 of 12.5.2004

COM(2005) 243 of 7.6.2005

## The Action Plan has been adopted on 7 June 2005: COM(2005)234

- **Eight groups of actions divided according to:**
  - **Research, Development and Innovation**
  - **Infrastructure and European Poles of Excellence**
  - **Interdisciplinary Human Resources: Europe needs Creativity**
  - **Industrial Innovation: From Knowledge to the Market**
  - **Integrating the Societal Dimension: Expectations and Concerns**
  - **Public Health, Safety, Environment and Consumer Protection**
  - **International Cooperation**
  - **Implementing a Coherent Approach at European Level**

http://www.cordis.lu/nanotechnology/actionplan.htm

# Cooperation – Collaborative Research

| 9 Thematic Priorities proposed | Mio Euro |
|---|---|
| 1. Health | 7 325 |
| 2. Biotechnology, food and agriculture | 2 163 |
| 3. Information society | 11 159 |
| 4. Nanotechnologies, materials and production | 4 256 |
| 5. Energy | 2 581 |
| 6. Environment | 2 232 |
| 7. Transport | 5 232 |
| 8. Socio-economic research | 698 |
| 9. Security and space | 3 488 |
| Total | 39 134* |

\* Not including non-nuclear activities of the Joint Research Centre: €1 617 million

# 3. Information and Communication Technologies

**ICT Technology Pillars**

**Integration of Technologies**

**Applications Research**

**Future and Emerging Technologies**

# ICT Technology Pillars

- **Nano-electronics, photonics & integrated micro/nano-systems**
- Ubiquitous and unlimited capacity communication networks
- Embedded systems, computing and control
- Software, Grids, security and dependability
- Knowledge, cognitive and learning systems
- Simulation, visualisation, interaction and mixed realities
- New perspectives emerging in ICT drawing on other science and technology disciplines

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## 4. Nanosciences, Nanotechnologies, Materials and new Production Technologies

**Nanosciences and Nanotechnologies**

**Materials**

**New Production technologies**

**Integration of technologies for industrial applications**

# Nanosciences and nanotechnologies

- **Topics include for example:**
  - interface and size dependent phenomena
  - materials properties at nano-scale
  - self assembly
  - metrology
  - new concepts and approaches
  - impacts on health and safety
  - convergence of emerging technologies

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# *Cooperation* – Collaborative research
## Support will be implemented across all themes through

**Collaborative research**
**(Collaborative projects; Networks of Excellence; Coordination/support actions)**

**Coordination of non-Community research programmes**
**(ERA-NET; ERA-NET+; Article 169)**

**International Cooperation**

**Joint Technology Initiatives**

# Ideas – Frontier research

- New Scheme to be introduced in FP7
- Support to individual teams, to promote excellence through Europe-wide competition
- Dedicated implementation structure (Executive Agency)
- Independent scientific governance (Scientific Council)
- Simplified grant mechanism

# People – Human Potential

**Initial training of researchers**

Marie Curie Networks and fellowships

**Life-long training and career development**

**Industry-academia path ways and partnerships**

**International dimension**

**Specific actions -** Excellence awards

# Capacities – research capacities

1. Research Infrastructures
2. Research for and by SMEs
3. Regions of Knowledge
4. Research Potential
5. Coherent development of research policies
6. Specific activities of International Cooperation
7. Science in Society

# International Cooperation

- As in FP6, the 7th Framework Programme will be open to international cooperation

- Associated States

- Funding available for cooperation with third countries

- Specific cooperation actions

# Technology Platforms

- **High level R&D coordination mechanism**
- **Bringing together the main public and private stakeholders to address major technological challenges**
- **Key concepts are:**
  - **Development of a shared long-term vision;**
  - **Definition of a Strategic Research Agenda to achieve this vision;**
  - **Leading role of industry with the stakeholders**

**http://www.cordis.lu/technology-platforms/**

# Technology Platforms

- **Examples of Technology Platforms**
  - Space
  - Nanoelectronics (ENIAC)
  - Photovoltaics
  - Hydrogen & Fuel Cells
  - Embedded Systems (ARTEMIS)
  - Mobile and Wireless Communications (eMobility)
  - Aeronautics (ACARE)
  - Photonics (EPIC)  (being created)
  - In total about 25 topics

# FP7 Timetable

| | |
|---|---|
| **6 April 2005** | **Commission's proposal** |
| **September 2005** | **Specific programmes' proposal** |
| **December 2005 ?** | **First reading at EP** |
| **January 2006 ?** | **Common position at Council** |
| **March 2006 ?** | **Second reading and approval at EP** |
| **June 2006 ?** | **Adoption** |
| **November 2006 ?** | **First calls for proposals** |
| **December 2006 ?** | **Launch Conference** |

# Further Information

- **www.cordis.lu/fp7**
- **www.cordis.lu/nanotechnology**
- **www.cordis.lu/technology-platforms**

**Documents available at the Conference:**
- **FP7 Proposal  COM (2005) 119 final**
- **Towards a European Strategy for Nanotechnology**
- **DVD:  Nano the next dimension**
- **Brochure: Nanotechnology – Innovation for tomorrow's world**