EUROPEAN COMMISSION
Community research

The European Commission's approach to Nanotechnology – benefits, risks and the road ahead

Georgios Katalagarianakis
European Commission
Research DG
Industrial Technologies
Georgios.Katalagarianakis@ec.europa.eu

Disclaimer: Note that this presentation is not legally binding and does not represent any commitment on behalf of the European Commission

EC's Strategy for Nanotechnology development: "An integrated, safe and responsible approach"

- Research
- Infrastructures
- Human Resources
- Industrial Innovation
- Societal Issues
  - Outreach, Ethics, Code of Conduct
- Safety & Regulation
- International Cooperation
  - in Research, Safety, Governance etc

EC Communications on Strategy, Action Plan & Implementation:

COM(2004)338 of 12/05/04

COM(2005)243 of 07/06/05

COM(2007)505 of 06/09/07

COM(2009)607 of 29/10/09

SEC(2009)1468

Research – Investment:

- Community Funding
  - FP6: ~1.4 Billion € in 550 projects (not only from NMP) in 2003-2006
  - FP7: ~1.1 Billion € in 2007-2008
- Member States and FP7 Associated States
  - ~2.5 Billion € in 2007-2008
  - Community funding now accounts for ~1/4 of total public funding
- EU Private funding
  - ~2.5 billion € in 2007-2008
  - Still lagging behind public funding

Research - Results:

- **Much has been done in EU-funded projects:**
  - Understanding of fundamental phenomena
  - Development of tools
  - Many application routes explored
  - A wide range of topics covered, from nanomedicine to nanomaterials, to nanoelectronics
- **Much remains to be done:**
  - Increased focus on applications, possibly using more “Large Collaborative” projects
  - Address energy, environment and health, and of course safety.

Infrastructures and Human Resources:

- Support for Infrastructures
  - Community funding for access (and preparation)
  - Notable efforts of Member States
- Support for Human Resources
  - Marie Curie Actions (125 M€ in 2007-08)
  - European Research Council (80 M€ in 2007-08)
  - R&D projects and ETPs

Industrial Innovation:

- Private investment remains low; patents do not match publications

BUT

- Increasing industrial participation & patents in FP projects
- Funded R&D: Topics gradually moving from “enabling” science to industrial applications
- Important input from ETPs
- ObservatoryNANO.eu – offering analyses of opportunities in technology sectors

Societal Dimension:

- **General goal: To take account of people's expectations and concerns**
  - **"Code of Conduct for Responsible N&N Research", February 2008: C(2008)424**

    (voluntary and complementary)
  - **Ethical reviews in FP funding**
  - **FP projects on ethics and governance (e.g. Nanomed Round Table, Deepen, NanoPlat, Framing Nano)**
  - **EGE opinion on nanomedicine, January 2007**
  - **Transparency and public engagement (FP projects and Commission activities)**
  - **ec.europa.eu/nanotechnology**

Regulatory Aspects:

- **Is the regulatory framework sufficient?**
  - **Regulatory Review, June 2008: COM(2008)366**
  - **Accompanying Staff Working Document: SEC(2008)2036**
- **Relevant EU legislation**
  - **Chemicals (REACH)**
  - **Worker Protection**
  - **Products (Specific and General regulations)**
  - **Environmental protection (IPPC, Seveso II, Water, Waste directives)**

Safety Aspects:

- **SCENIHR opinions -latest in January 2009:**

  The methodology for both exposure estimations and hazard identification needs to be further developed, validated, and standardised. Ref: SCENIHR opinions

- **R&D to address safety gaps:**
  - **Effects on human health**
  - **Environmental effects, life cycle assessment**
  - **Exposure assessment**
  - **Test equipment**
  - **EC invested 28M€ up to 2006,**

    50M€ in 2007-08; work of JRC

The International Dimension:

- International collaboration in research
  - e.g. coordinated calls, access to FP7
- International cooperation in governance
  - International dialogue
  - Participation in OECD activities (safety and governance)
  - Participation in ISO

The Challenges Ahead:

- **Focus on applications and industrial uptake**
- **Address current challenges in energy, environment and health**
- **Research to address safety gaps:**
  - Effects on human health
  - Environmental effects, life-cycle
  - Exposure assessment
  - Test equipment
- **Remove barriers**
- **Enhanced societal dialogue**

⇨ ***Possible new action plan, 2010-14***

⇨ *Public consultation launched*

Information on Nanotechnology in EC

- **Commission Nanotechnologies homepage**

  http://cordis.europa.eu/nanotechnology

  http://ec.europa.eu/nanotechnology/index_en.html

  - Second Implementation Report
  - Staff working document
  - Public consultation