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## European developments addressing safety technology under GROWTH and NMP programmes

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## *Basis of EU Research Programmes*

- *Objective "Lisbon"*: to become the most dynamic and most competitive knowledge-based economy
- *Objective "Göteborg"*: sustainable development (environment, health, economy, employment)
- *European Research Area (ERA)*: Integrating, reinforcing, structuring and stimulating investment in Research & Development

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## Objectives of Industrial Research

- Modernisation of industrial sectors improving quality, safety and resource efficiency
- Transformation of EU industry from resource-based to knowledge-based promoting real breakthroughs
- Integration of production and consumption patterns
- Integration of education and skills development

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## RTD policy in support of industrial safety

- Support from RTD to other EU policies (HSW action plan, Seveso, IPPC, ATEX directives, standardisation)
- Major element in RTD portfolio with several projects and networks being funded under FP5/GROWTH and FP6/NMP specific programmes and others
- Guidance and support to the initiative of stakeholders to launch a technology platform on industrial safety
- Support seamless contacts with industrial sectors and other TPs
- Ensure continuity into the 7th FP
- Support in implementing EU priorities defined in the SRA
- Support for synergy of EU national and private efforts

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## Networks

### Aiming at:

- Avoiding fragmentation of work, create synergy between efforts, bring together stakeholders
- Address efficiently common goals for standardisation, communication, training, future strategy

### Areas addressed

Risk based methods, human factors, process safety, monitoring, structural safety

### Examples

- RIMAP, SAFERELNET, PRISM, FITNET, S 2 S, ADVANCED CREEP, SHAPERISK, SAMCO, IALAD

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## RTD Projects

### Aiming at:

- Development and implementation of new technology responding to programme objectives

### Areas addressed

- Structural monitoring and control, Risk based methods, industrial ecotoxicology

### Examples

- RIMAP RTD, OMNIITOX, XPECTION, HIDA APPLICABILITY,

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## FP6 PRIORITY 3 NMP

### Two integrated projects launched

**VIRTUALIS: Virtual reality and human factors applications for improving safety**

Aiming at reducing hazards in production plants and storage sites moving from static paper-based assessments to dynamic virtual simulations, addressing practical safety issues in all stages of the production lifecycle

**NANOSAFE 2: Safe production and use of nanoparticles**

Aiming at developing innovative detection, measurement, tracing and characterization techniques for engineered nanoparticles, and advanced technologies to limit both exposure to nanoparticles and leaks to environment in the framework of a global risk management strategy

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## 7<sup>th</sup> Framework Programme Content

4 Specific Programmes

**1. Cooperation – Collaborative research**

**2. Ideas – Frontier Research**

**3. People – Human Potential**

**4. Capacities – Research Capacity**

+

JRC (non-nuclear)

JRC (nuclear)

Euratom

9 Cooperation Themes

- Health
- Biotechnology

- Socio-economic Research
- Security & Space

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## Cooperation – Collaborative Research (2)

- Collaborative research  
(Collaborative projects; Networks of Excellence;  
Coordination/support actions)
- Joint Technology Initiatives
- Coordination of non-Community research  
programmes  
(ERA-NET; ERA-NET+; Article 169)
- International Cooperation

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## Joint Technology Initiatives

- Firmly Anchored in Thematic Areas of the  
Cooperation Programme
- In Fields of Major European Public Interest
- Six Fields Envisaged at this Stage
  - innovative medicines
  - nanoelectronics
  - embedded systems
  - aeronautics and air traffic management
  - hydrogen and fuel cells
  - global monitoring for environment and security
- Other Fields Possible Subsequently

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## Theme 4: Nanosciences, nanotechnologies, materials and new production technologies

**Overall objective: improve the competitiveness of EU industry (including SMEs) and ensure its transformation through:**

- the effective transition from a resource-based to knowledge-based industry
- generation of new breakthrough, applicable, knowledge
- strengthening EU leadership in nano, materials and production technologies
- emphasis on integrating different technologies and disciplines across many sectors

**Importance of Technology Platforms to help establish common research priorities and targets**

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## Theme 4: Nanosciences, nanotechnologies, materials and new production technologies

### ■ Nanosciences and nanotechnologies

**Objective:** increase and support the take up of knowledge generated in this revolutionary field for all industrial sectors

**Topics include:** *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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## Theme 4: Nanosciences, nanotechnologies, materials and new production technologies

### ■ Materials

**Objective:** generate new knowledge to enable new industrial products and processes to be achieved, exploiting the potential of interdisciplinary approaches in materials research.

- **Topics include:** *high performance, sustainable and knowledge-based materials; design and simulation; nano-, bio- and hybrid materials and their processing; chemical technologies and materials processing industries*

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## Theme 4: Nanosciences, nanotechnologies, materials and new production technologies

### ■ New production

**Objective:** create continuously innovating production capabilities to achieve leadership in industrial products & processes in the global marketplace.

- **Topics include:** *Knowledge-intensive production; new paradigms for emerging industrial needs; adaptive, networked and knowledge-based production; convergence of technologies for next generation of high value-added products (nano, bio, info, cognitive..)*

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## Theme 4: Nanosciences, nanotechnologies, materials and new production technologies

### 4. Integration of technologies for industrial applications

**Objective:** accelerate the rate of industrial transformation by exploiting the application potential of new generic technologies.

**Topics include:** *Integration of nano, materials and production technologies in sectoral and cross-sectoral applications (e.g. health, construction, transport, energy, chemistry, environment, textiles & clothing, pulp & paper, mechanical engineering, safety)*

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## Theme 4: Nanosciences, nanotechnologies, materials and new production technologies

**Joint European Technology Initiative:  
New Nano-electronics Approaches (with DG-INFOS)**

**Technology Platforms related to Theme 4:**

**Nano-electronics (ENIAC); Nano-medicine;  
Sustainable Chemistry; Steel; Future Textiles &  
Clothing; Manufacturing Technologies;  
Construction Technology; Industrial Safety;  
Hydrogen; Photo-voltaics; ...**

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## Technology platforms - the concept

Technology platforms should

- Be established in areas where RTD plays a vital role in **addressing major economic, technological and societal challenges**
- generate **sustainable competitiveness** of the EU, stimulate increased and **more effective investment in RTD**, **accelerate innovation** and **eliminate barriers** to the deployment and growth of new technologies.

Technology platforms should

- **bring together all stakeholders** (research, industry, regulators, policy makers) **to develop a long term vision** for the deployment and growth of new technologies, including the downstream regulatory environment in which technologies are developed and marketed
- **create a coherent strategy and action plan** to deliver agreed programs of activities and optimise the benefits of all
- elaborate and follow-up a **strategic research agenda**

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## An ETP for Safety

- Effort started in January 2004
- Stakeholders workshop in October 2004
- Official launch in June 2005
- European seminar in December 2005
- Publication of the SRA in February 2006

**Motive: As a global conclusion, it was noticed that increasing quality of life makes the risks unacceptable. If we want to maintain a sustainable industry in the EU, industrial safety should be improved, but also the public aversion to risk should evolve.**

<http://www.industrialsafety-tp.org>

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## TP for safety: What for?

**The challenge:** Meeting societal expectations in safety and environmental protection while remaining competitive

**The means:** Breakthrough progress in industrial and environmental safety via co-ordinated focussed research and implementation process

### Strategy

Communication  
Systemic approach  
Education, training  
Risk governance  
Standards, regulation  
Knowledge transfer and implementation  
National platforms

### Focus RTD groups:

- Risk assessment and management
- Risk reduction
- Structural safety
- Human factors, organisational safety
- New emerging risks
- Nano-safety

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## National platforms (i)

**To maximise synergy and impact at national level:**

- Improve awareness at national level
- Collaborate for vision, SRA & roadmap
- Implementation at national level
- Set up links, promote new participation
- Disseminate outcome within all MS
- Involve & represent national authorities

**Work in local language**

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## National platforms (ii)

**At national level a key role for a real impact:**

- Set up links with regional & local stakeholders
- Improve the involvement of SMEs
- Define research needs
- Implement a dedicated training & education strategy;
- Feedback to European level
- Identify & involve national and regional research
- Identify gaps and barriers to innovation
- Create synergy on items of high EU added value
- Identify and enhance national financial support schemes

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**Thank you for your attention!**

<http://www.cordis.lu/technology-platforms/home.html>

<http://europa.eu.int/comm/research>

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