

# 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



#### Objectives of Industrial Research

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

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### EUROPEAN 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



#### **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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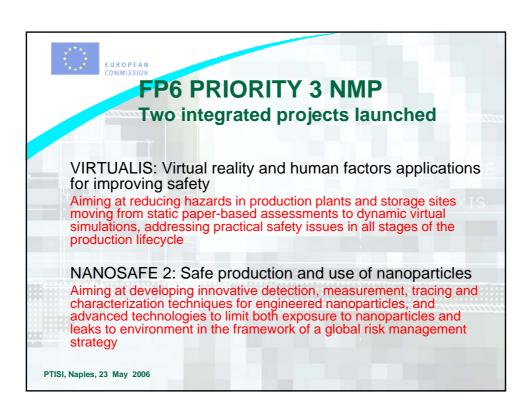
#### **RTD Projects**

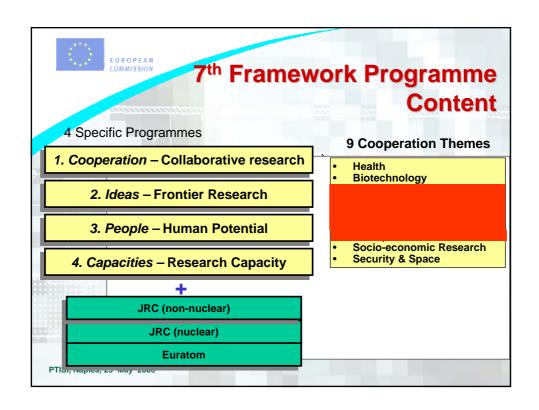
#### Aiming at:

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,







### 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



## 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 knowledgebased 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

<u>Topics include</u>: 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



## 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 valueadded products (nano, bio, info, cognitive..)



## 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.

<u>Topics include</u>: 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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## Nanosciences, nanotechnologies, materials and new production technologies

#### Joint European Technology Initiative:

**New Nano-electronics Approaches (with DG-INFSO)** 

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; ...



#### 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



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

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**National platforms** 

#### **Focus RTD groups:**

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



#### 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



#### 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

