Global Forum 2009

European programs in the benefit of local and regional development

A guide through the 2009-10 Work Programme:
Focus on Calls 5 and 6

Bucarest, 20 October 2009

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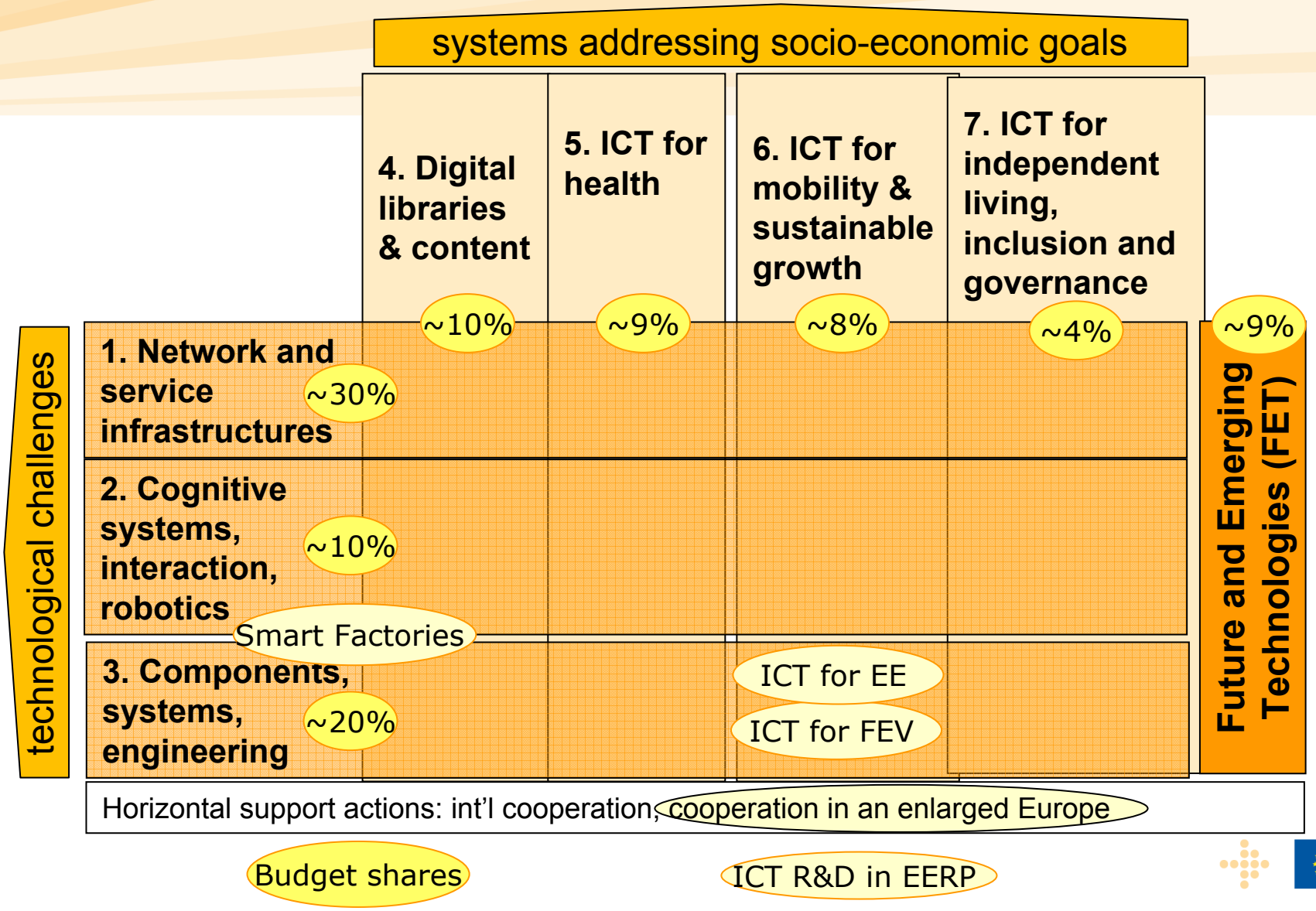
Information Society and Media

Programme approach

- ✓ Continue to focus on the identified limited set of research **challenges** and the **FET** scheme
- ✓ Address challenges through a limited set of **objectives**
- ✓ Objectives indicate the set of **outcomes** targeted by the research work and their expected **impact**

Programme structure



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Challenge 1: Pervasive and Trustworthy Network and Service Infrastructures

Challenges

- Current Internet: severe limitations in terms of capacity, mobility, flexibility, scalability, security, reliability and resilience of networks and services

Need to:

- rethink networking architectures
- support an "Internet of Services"
- support an "Internet of Things"
- be trustworthy
- support a "3D Media Internet"

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- bridge the gap between long-term research and large-scale experimentation
- federate research activities across Europe

Expected Impact

- Strengthened position of European industry
- European leadership in supply of integrated business solutions

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- Wider market opportunities from new classes of applications taking advantage of convergence
- Global standards, interoperability and European IPRs

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- Integrated large scale Experimental Facility
- Improved coordination and integration of research activities in Europe

Challenge 2: Cognitive Systems, Interaction, Robotics

Challenges

Artificial Cognitive Systems

- Robots operating in 'modelled', 'structured' and 'constrained' environments
- Basic understanding of computational representations of cognitive processes
- Human-robot interactions rather static/passive

Translation Systems

- Machine translation of limited quality, human supervised
- Automatic translation in limited domains / language pairs
- Content / workflow management not automated

Expected Impact

- More competitive robotics industry + more innovation capacity in application domains
- Robots, machines and systems exhibiting advanced behaviour: operating with gaps in knowledge, in changing environments
- Machines and systems that understand their users / context
- Robotic systems with rich interaction

- Higher quality automatic translation
- Faster human translation

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- Self-learning machine translation
- Progressive independence from topic and language pair
- Automated versioning and management of multilingual web sites

Challenge 3: Components, Systems, Engineering

Challenges

Trends: miniaturisation, diversification, increasing software content and emphasis on a systems approach

Challenges:

- Integrated hardware/software systems
- Heterogeneous micro-systems
- Widely distributed systems
- Multi-disciplinarity

Cross cutting issues:

- Efficient energy management
- Minimum environmental footprint

Opportunities:

New types of devices & intelligent system

- nano-scale integration …
- embedded ICT …
- new materials, photonics, organic electronics …

Expected Impact

- Strengthened competitiveness of EU industry through risk sharing and pooling of resources in generic underlying technology developments
- Exploration of alternative paths, fostering of new types of collaborations, emergence and growth of new companies
- Higher attractiveness of EU to investments and skills
- Higher energy efficiency and lower environmental impact
- Maintained leading position of EU in product innovation and design
- Wider use of smart devices and systems in various application sectors
- Closer cooperation between Member States, and internationally

Challenge 4: Digital Libraries and Content

Challenges

- Data volumes growing faster than manageable
  - interpreting data (real-time, multi-dimensional, semantics)
  - automating preservation
  - complex objects
- Content and cultural experiences are not sufficiently immersive, adaptive
- Learning tools do not exploit creativity, collaboration and independent experimentation

Expected Impact

- Increased competitiveness in effective, intelligent information management systems
- Effective and reliable preservation and usability over time of digital objects
- New cultural experiences
- Personalised learning (through ICT) experiences

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Challenge 5: Towards Sustainable and Personalised Healthcare

Challenges

- Sustainable delivery of quality health care at affordable cost

- Demographic changes
- Chronic diseases
- Inefficiencies, inadequate safety and control

- Demand for best-quality care
- Demand for prevention as well as treatment
- Demand for skilled specialists

Expected Impact

- Saving in lives and resources

- Improved productivity of healthcare systems

- Continuous and personalised care solutions

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- New ICT-based environments for biomedical research and predictive medicine

- Reinforced leadership of EU's eHealth and medical devices industries

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Challenge 6: ICT for Mobility, Environmental Sustainability and Energy Efficiency

Challenges

- Increasing demand for energy
- Need for energy efficiency in most energy-intensive sectors

- Need for climate change adaptation
- Need for environmental sustainability

- Need to increase safety
- Need to reduce CO2 emissions

Expected Impact

- Reduced energy intensity
- Reinforced competitiveness in ICT-enabled energy efficiency technologies

- New environmental services
- Increased capacity to mitigate impacts of disasters

- Improved safety, security and comfort of transport
- European leadership in clean and intelligent vehicle systems and in cooperative systems

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'Factories of the Future'

- Combined envelope of ~€1.2 bn
  - *'to help EU manufacturers across sectors, in particular SMEs, to adapt to global competitive pressures by increasing the technological base of EU manufacturing'*

- R&D in production technologies, materials and ICT, including:
  - 'Smart' factories: agile manufacturing and customisation
    - process automation, control and optimisation, robotics …
  - 'Virtual' factories: global networked operations
    - supply chain management, product-service linkages, management of distributed manufacturing assets …
  - 'Digital' factories: optimised design of systems and processes
    - modelling, simulation, visualisation, lifecycle and knowledge management …

'Energy-Efficient Buildings'

- Combined envelope of ~€1 bn
  - *'to promote green technologies and the development of energy-efficient systems and materials in new and renovated buildings with a view to reducing radically their energy consumption and CO2 emissions'*

- Non-R&D measures
  - Regulatory and standardisation components; Procurement network of regional and local authorities

- R&D in energy, environmental, production technologies, materials, nanotechnologies and ICT, including:
  - Monitoring and control of energy consumption
  - Advanced lighting systems
  - Smarter and optimised interconnections with the power grids

'Green Cars'

- Combined envelope of >€5 bn
  - *'to achieve a breakthrough in the use of renewable and non-polluting energy sources, safety and traffic fluidity'*

- Non-R&D measures
  - Loans to car producers and suppliers; Reduction of taxes for lower emission cars and for scrapping old cars; Procurement network of regional and local authorities to pool demand for clean buses

- R&D (~€1 bn) in transport, energy, environmental and production technologies, materials and ICT, including:

  ICT for Fully Electric Vehicles
  - Battery management and power supply
  - Control mechanisms
  - Interconnections with the transport and power infrastructures

Call 5: Open 31 Jul 2009, Close **3 Nov 2009**; 802 M€

(=722+80 M€)

Challenge	Objectives
Challenge 1: Pervasive and Trusted Network and Service Infrastructures	ICT 2009.1.1 The Network of the Future (call 5) ICT 2009.1.2 Internet of Services, Software & virtualisation ICT 2009.1.3 Internet of Things and enterprise environments ICT 2009.1.4 Trustworthy ICT ICT 2009.1.6 Future Internet Experimental Facility and Experimentally-driven Research
Challenge 3: Components, systems, engineering	ICT 2009.3.1 Nanoelectronics Technology ICT 2009.3.5 Engineering of Networked Monitoring and Control Systems ICT 2009.3.7 Photonics ICT 2009.3.9 Microsystems and Smart Miniaturised Systems
Challenge 4: Digital Libraries and Content	ICT 2009.4.2 Technology-Enhanced Learning ICT 2009.4.3 Intelligent information management
Future and emerging technologies	ICT 2009.8.4,5,6,9,10 FET-Proactive
Horizontal support actions	ICT 2009.9.2 Supplements to support International Cooperation, ongoing projects **ICT 2009.9.5 Supplements to Strengthen Cooperation in ICT R&D in an Enlarged Europe**
Contribution of the ICT Theme to Public-Private Partnerships for R&D in the European Economic Recovery Plan	**ICT 2009.10.1 Smart Factories: ICT for agile and environmentally friendly manufacturing** **ICT 2009.10.2 ICT for energy-efficient buildings and spaces of public use** **ICT 2009.10.3 ICT for the Fully Electric Vehicle**

Call 6: Open 24 Nov 2009, Close **13 April 2010**; 286 M€

Challenge	Objectives
Challenge 2: Cognitive systems, interaction, robotics	ICT 2009.2.1 Cognitive Systems and Robotics
Challenge 4: Digital Libraries and Content	ICT 2009.4.1 Digital Libraries and Digital Preservation
Challenge 5: Towards sustainable and personalised healthcare	ICT 2009.5.3 Virtual Physiological Human
Challenge 6: ICT for mobility, environmental sustainability and energy efficiency	ICT 2009.6.2 ICT for Mobility of the Future
Future and emerging technologies	ICT 2009.8.7,8,9,10 FET-Proactive
Horizontal support actions	ICT 2009.9.1 International Cooperation ICT 2009.9.2 Supplements to support International Cooperation between ongoing projects

Networking for ICT Calls

- After the ICT Proposers' Day 2009, networking continues via the event website: http://ec.europa.eu/ictproposersday

- What? Proposal ideas in the form of:
  - Research & Technology demands and offers
  - Presentations and comments
  - all linked to a specific Work Programme objective
- How?
  - Consult the available proposal ideas and get in touch with the authors (hundreds of ideas are already on line)

  or
  - Submit your own proposal idea and be ready to be contacted

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