

# FP7 ICT priority theme: Information and Communication Technologies

## A guide through the 2009-10 Work Programme: Focus on ICT calls 5, 6 and cross-thematic calls

*Note: FP7 ICT WP 2009-10 (except Objectives 9.5, 10.1, 10.2 and 10.3) has been agreed by the ICT Programme Committee. Final Committee agreement and Commission decision on the whole of FP7 ICT WP 2009-10 are foreseen for end of July 2009.*





# ICT Programme approach

- ✓ Address limited set of research **challenges** and **FET** through a limited set of **objectives**
- ✓ Objectives indicate the set of **outcomes** targeted by the research work and their **expected impact**
- ✓ Synergies between objectives but always with a **'center of gravity'**
  - ✓ Breakthroughs from **cross-overs** and **convergence** of technologies and disciplines
  - ✓ **Innovations from the use of ICT** in demanding application contexts



# 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"
- +
  - bridge the gap between long-term R&D and large-scale experimentation (evolutionary, 'clean slate')
  - federate research activities across Europe

## Expected Impact

- Strengthened position of European industry
- European leadership in supply of integrated business solutions
- +
  - Wider market opportunities from new classes of applications taking advantage of convergence
  - Global standards, interoperability and European IPRs
- +
  - Integrated large scale Experimental Facility
  - Improved coordination and integration of research activities in Europe

# Challenge 1: Objectives and Target Outcomes (I)

Call 5

80M€

## 1.1 **The Network of the Future** (IP, STREP)

### **“Future Internet” Architectures and Network Technologies**

- novel Internet architectures and technologies, flexible and cognitive network management and operation frameworks ...

Networks of Excellence and  
Coordination & Support actions  
(NoE, CSA)

Call 5

110M€

## 1.2 **Internet of Services, Software and Virtualisation** (IP, STREP)

### **Service Architectures and Platforms for the “Future Internet”**

- service front ends, service platforms, virtualised infrastructures ...

### **Innovative Service / Software Engineering**

- engineering, verification, validation, open source software ...

Coordination and support  
actions (CSA)

Call 5

37M€

## 1.3 **Internet of Things and Enterprise environments** (≥2 IP, STREP)

### **Architectures and technologies for an “Internet of Things”**

- event processing, governance schemes ...

### **Enterprise systems**

- software platforms supporting networked businesses ...

International cooperation  
and coordination (CSA)

# Challenge 1: Objectives and Target Outcomes (II)

Call 5

90M€

## 1.4 Trustworthy ICT

**“Trustworthy Network Infrastructures”** (IP)

**“Trustworthy Service Infrastructures”** (IP)

**Technology and Tools for Trustworthy ICT**  
(STREP)

Networking, Coordination and Support (NoE, CSA)

Call 5

50M€

## 1.6 **“Future Internet” experimental facility and experimentally-driven research**

**Building the Experimental Facility and stimulating its use** (IP)

**Experimentally-driven Research** (STREP)

Coordination actions (CSA)



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

80M€

Call 6

Objective 2.1:

# Cognitive systems and robotics

**a) engineering of artificial cognitive systems (STREP)**

- Interpretation of objects, situations, events
- Memory and learning
- Anticipatory behaviour in incompletely specified environments
- Collective behaviour

**c) complete robotic systems (IP)**

- Autonomous action in real-world environments
- Demonstrate robustness and improve through learning

**e) cross-fertilisation between academic and industrial research in robotics (IP)**

- Experiment with industry-strength platforms in labs

**h) coordination: (CA) multidisciplinary artificial cognitive systems research**

- Cohesion among communities

and Mec



# 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:

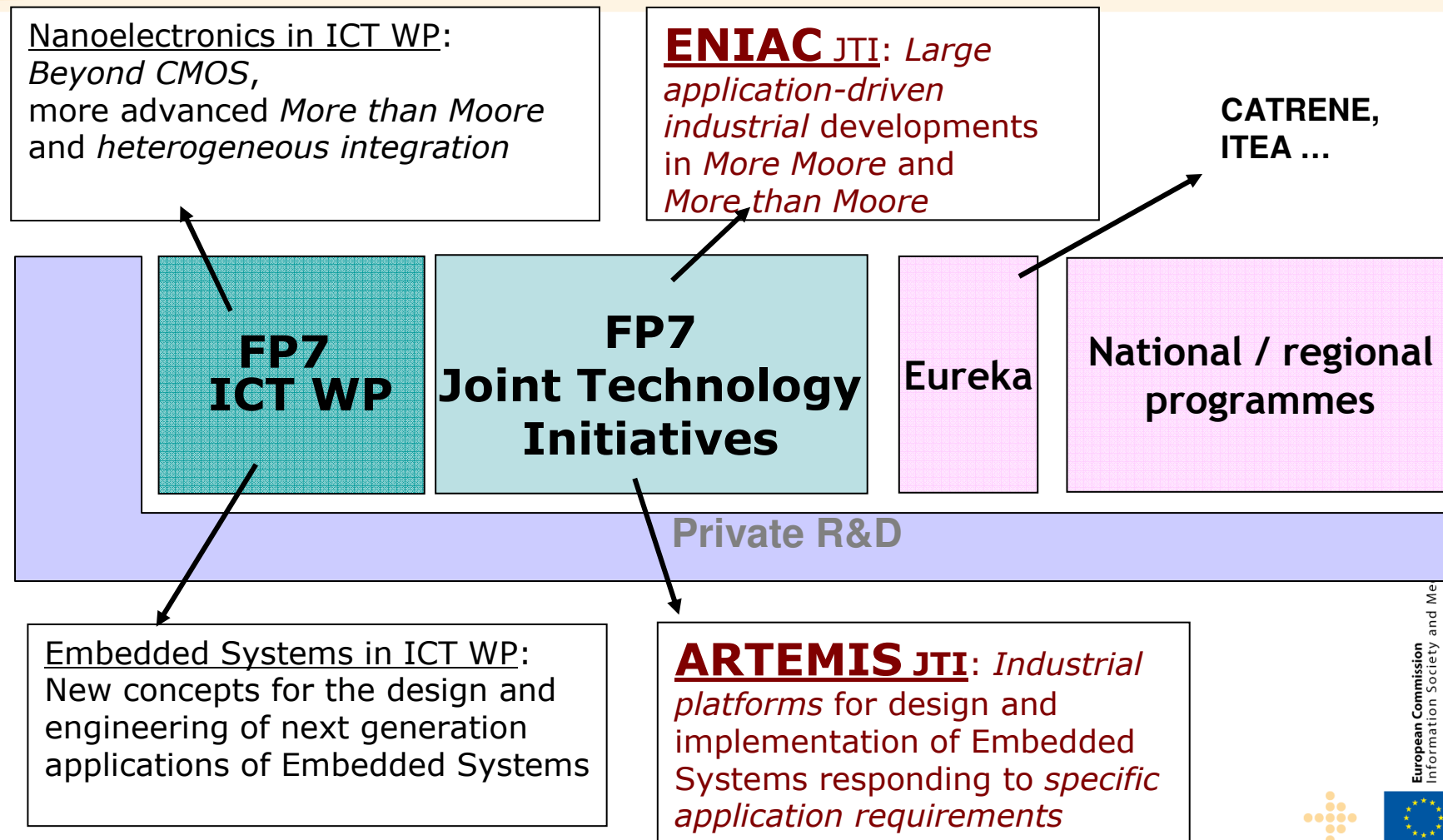
New types of devices & intelligent system

- 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

# Nanoelectronics Embedded Computing Systems Coordinated approach to SRA implementation



# Challenge 3: Objectives and Target Outcomes (I)

Call 5

35M€

## 3.1 Nanoelectronics Technology

- Call 5 -

### **Miniaturisation and functionalisation**

- Beyond 22 nm devices (STREP)
- Merging of 'Beyond CMOS' and advanced 'More than Moore' devices and processes (NoE)

### **Manufacturing technologies**

(≥1 IP, STREP)

Support measures (CSA)

Call 5

32M€

## 3.5 Engineering of Networked Monitoring and Control systems

- Call 5 -

### **Foundations of complex systems engineering** (STREP, NoE)

### **Wireless Sensor Networks and Cooperating Objects**

- 1 IP: architectures and integration platforms
- STREP: specific issues or topics

### **Control of large-scale systems**

- 1 IP: architect, develop and demonstrate process automation systems
- STREP: specific issues or topics

International cooperation (CSA)



# Challenge 3: Objectives and Target Outcomes (II)

Call 5

## 3.7 Photonics

50M€

### Photonics technologies, components and (sub)systems

- Communications (IP/STREP)
- Lighting and light sources (IP/STREP)
- Biophotonics (STREP)
- Imaging for Safety & Security (STREP)
- Highly integrated components for high power lasers (STREP)

### Cost-effective versatile foundry processes for photonic integrated components (IP)

Coordination and support actions (CSA)

Call 5

## 3.9 Microsystems and Smart Miniaturised Systems

80M€

### Heterogeneous integration (IP, STREP)

- processing, comms, sensing, actuating ...

### Autonomous energy efficient smart systems (STREP)

- energy management
- communication solutions

### Application-specific microsystems and smart miniaturised systems (IP, STREP)

- Biomedical
- Telecommunications
- Environment and food/beverage
- Transport, safety and security
- Smart Fabrics and Interactive Textiles

Coordination and support actions (CSA)



# 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



# Challenge 4: Objectives and Target Outcomes

Call 6

4.1

69 M€

## **Digital Libraries and Digital Preservation**

### **Adaptive cultural experiences** (STREP)

- knwl tech, visu, interaction ...

### **Solutions for assembling multimedia libraries** (IP)

- collaborative use
- aggregate, annotate ... objects ...

+

### **Advanced preservation scenarios**

- complex objects (STREP)
- intelligent digital curation and preservation systems (IP)

### **Digital content preservation systems and services** (IP)

- end-to-end workflows
- demos in large-scale testbeds
- integrity and authenticity

Research Network (NoE)  
Uptake and roadmapping (CSA)

Call 5

4.2

49M€

## **Technology-enhanced Learning**

### **Learning in the 21st century** (IP)

- large-scale pilots for design of future classroom ...

### **Link between individual and organisational learning** (IP, STREP)

- embed in organisational processes...

### **Adaptive and intuitive systems** (STREP)

- e.g. game-based, simulation ...

### **Learning appliances** (STREP)

- e.g. toys, virtual characters ...

Research network (NoE)

Awareness and knowledge management (CSA)

Call 5

4.3

70M€

## **Intelligent Information Management**

### **Capturing tractable information** (IP, STREP, NoE)

- sources: extract, integrate ...

### **Delivering pertinent information** (IP, STREP)

- analysis: make info actionable...

+

### **Collaboration and decision support** (IP, STREP)

- tools: business, science, Web...

### **Personal sphere** (STREP)

- context: manage, visualise...

+

Coordination and networking (CSA)

# 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
- +
- New ICT-based environments for biomedical research and predictive medicine
- Reinforced leadership of EU's eHealth and medical devices industries



# Challenge 5: Objective 5.3

Call 6

63M€

## **5.3** **Virtual Physiological** **Human**

### **Patient-specific computer based models and simulation**

(≥1 IP, STREP)

- integrating multi-scale models ...

### **ICT tools, services and infrastructures for bio- medical researchers**

(≥1 IP, STREP)

- sharing data and applications,  
collaborative environments ...

Support action (1 CSA) on  
evaluation and assessment

Observatories on achievements  
and evolution of Biomedical  
Informatics (1 CSA)



# 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



# Challenge 6: Objective 6.2

Call 6

37 M€

## 6.2 ICT for “Mobility of the Future”

### **Field Operational Tests for Integrated Safety and Co- operative Systems**

(≥2 IPs, STREP, CSA)

- efficiency, safety...

### **ICT-based systems and services for Smart Urban Mobility and new Mobility Concepts** (STREP)

- environment, safety, demand mgmt...

Coordination and support actions (CA)

International cooperation (CA)



# Challenge 7: ICT for Independent Living, Inclusion and Participatory Governance

## Challenges

- Ageing population
- Demand for inclusion
  
- Meeting eAccessibility requirements
  
- ICT-enabled governance and policy modelling: lack of models, process flows and analytical tools



## Expected Impact

- Increased efficiency of care and prolonged independence of elderly and their carers
  
- Generalised accessibility support for people with special needs
  
- Empowerment of individuals, groups and communities and more efficient feedback in governance and policy making
  
- New markets and reinforced competitiveness

- **ICT & Ageing**
- AAL programme: market-oriented R&D; cost-efficiency; adaptation to specific demands
- ICT WP: longer-term R&D; integration of new ICT and new ideas; open platforms and interoperability



# Future & Emerging Technologies – FET

An incubator and pathfinder for new ideas and themes for long-term research in the area of ICT

High risk research, offset by potential breakthrough with high technological and/or societal impact

## FET Open

- bottom-up approach
- exploring new and alternative ideas at the frontiers

61 M€



## FET Proactive

- top-down approach
- spearheading transformative research and supporting community building

110 M€

European Commission  
Information Society and Media



# FET-Open

“FET-Open targets *foundational breakthroughs* that open the way towards radically new forms and uses of ICT”

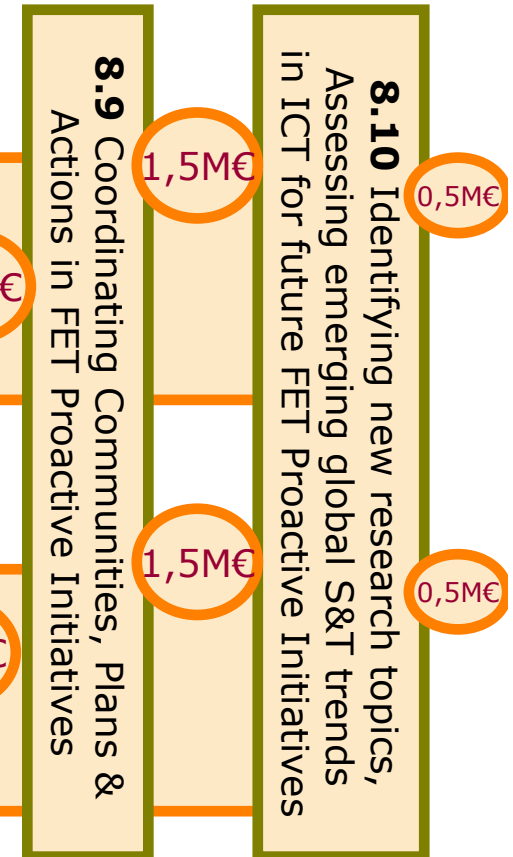
- **STREP: scientific foundations of future ICT that may be radically different from present day ICT**
  - **new avenues, paradigm shifts ...**
- **CSA: catalyse lasting and transformative effect on communities and practises for high-risk and high-impact research**
- **Continuously receivable**
  - **two step submission for STREPs**
  - **specific eligibility and evaluation criteria**
- **61M€**
  - **committed following cut-off dates**  
(for short STREPs: ... 8/9/09, 12/1/10, 11/5/10, 7/9/10, 4/1/11 ...)



# FET Proactive

CSA

CSA



## Call 5

**8.4 Human-Computer Confluence** (IP) 15M€

**8.5 Self-Awareness in Autonomic Systems** (IP, STREP) 15M€

**8.6 Towards Zero-Power ICT** (STREP) 7M€

## Call 6

**8.7 Molecular Scale Devices and Systems** (IP, STREP) 15M€

**8.8 Brain Inspired ICT** (IP, STREP) 15M€



# ICT contribution to Public Private Partnerships for R&D in the European Economic Recovery Plan

- 'Factories of the Future'
- 'Energy-Efficient Buildings'
- 'Green Cars'



# '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 ...



# 'Factories of the Future'

## 10.1: Smart Factories: ICT for agile and environmentally-friendly manufacturing

- a) Integrated process automation and optimisation
    - shopfloor-based platforms and systems ... (IP)
  - b) Real-time monitoring of energy use and material flow
    - context-aware ICT applications and scalable sensor networks integrated in machines and factory-level infrastr. (IP)
  - c) Robotics-enabled production processes
    - robotic prototypes in smart factory environments ... (STREP)
  - d) Laser applications
    - laser systems in processes and production ... (STREP)
  - e) Coordination Action
    - industrial learning and roadmapping across industries ... (CSA)
- a) – d): **integration + validation**



# 'Factories of the Future' Budget

- Draft indicative budget envelopes:

(M€)	ICT	NMP
<b>2010</b>	35	60
<b>2011</b>	210	340
<b>2012</b>		
<b>2013</b>		
Total	645	



# '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



15 M€

Objective 10.2

## 'Energy-Efficient Buildings'

### 10.2: ICT for energy-efficient buildings and spaces of public use

- a) Integrated ICT-based management and control systems
    - governing lighting/heat exchange/air treatment subsystems
    - deployed in spaces of public use
    - interoperating with security/safety/comfort subsystems (STREP)
  - b) Coordination Action
    - reviewing needs, roadmapping ... (CSA)
- a): systems integration + validation



# 'Energy-Efficient Buildings' Budget

- Draft indicative budget envelopes:

(M€)	<b>ICT</b>	<b>NMP</b>	<b>Energy</b>	<b>Env</b>
<b>2010</b>	15	30	15	5
<b>2011</b>	90	220	110	20
<b>2012</b>				
<b>2013</b>				
<b>Total</b>	505			



# '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



## 10.3: ICT for the Fully Electric Vehicles

### Highly energy-efficient ICT components and solutions for FEVs

- a) Solutions for overall efficiency gains in electric vehicle
    - electrical and thermal management, electrified auxiliaries, closed-loop control and cooperative interaction ... (STREP)
  - b) Safe and robust subsystems
    - communication, sensors, actuators, distributed controls, power electronics, active safety and comfort ... (STREP)
  - c) Fail-safe systems and electrical architectures, vehicle-to-road infrastructure integration ... (STREP)
  - d) Coordination Action
    - reviewing needs, roadmapping ... (CSA)
- a) – c): optimisation at vehicle and system level  
+ simulation, testing ...

# 'Green Cars' Budget

- Draft indicative budget envelopes:

(M€)	<b>ICT</b>	<b>Transport</b>	<b>Energy</b>	<b>NMP</b>	<b>Env</b>
<b>2010</b>	20	45	15	10	5
<b>2011</b>	90	175	35	50	45
<b>2012</b>					
<b>2013</b>					
Total	490				



# International Cooperation: Targeted Openings in CSAs in Calls 5 and 6

- Coordination and Support Actions
  - Challenge 1. Networks and services
    - 1.1: Network of the Future (USA, Japan)
    - 1.3: Internet of Things (USA, Japan, Korea, China, India)
  - Challenge 3. Components, Systems, Engineering
    - 3.1: Nanoelectronics technology (USA, Russia, Taiwan, Japan)
    - 3.5: Engineering of networked monitoring and control systems (Western Balkan, USA, India)
    - 3.7: Photonics (Canada, Russia, USA)
  - Challenge 6: ICT for mobility, environmental sustainability
    - 6.2: ICT for Mobility of the Future (Japan, USA)



# International Cooperation: Horizontal actions + Supplements

- Objective 9.1:  
Horizontal actions for international cooperation 5 M€ Call 6
  - 9.1.b) Support to the uptake of EU ICT research results in developing economies
    - adapt to local requirements
    - analyse, test, network, transfer
    - STREP/SICA

- Objective 9.2:  
Supplements to support int'l cooperation between ongoing IP/STREP projects (<100K€/project) 0.7 M€ Calls 5, 6
  - Call 5: Trustworthy ICT
  - Call 6: Nanoelectronics, ICT for Mobility



# Supplements to strengthen Cooperation in ICT R&D in an Enlarged Europe

- Reinforcing cooperation between research teams across the enlarged Europe **10 M€**  
**Call 5**
  - Strengthening integration of the European Research Area in ICT
  - Support to:
    - increase level of expertise
    - broaden scope
    - accelerate developments
- Additional funding to on-going FP7/ICT IP/STREP projects ending after April 2011



# Call 5: Open 30 Jul 2009, Close **26 Oct 2009**; 732 M€

Challenge	Objectives
<b>Challenge 1: Pervasive and Trusted Network and Service Infrastructures</b>	ICT 2009.1.1 The Network of the Future 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
<b>Challenge 3: Components, systems, engineering</b>	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
<b>Challenge 4: Digital Libraries and Content</b>	ICT 2009.4.2 Technology-Enhanced Learning ICT 2009.4.3 Intelligent information management
<b>Future and emerging technologies</b>	ICT 2009.8.4,5,6,9,10 FET-Proactive
<b>Horizontal support actions</b>	ICT 2009.9.2 Supplements to support International Cooperation between ongoing projects ICT 2009.9.5 Supplements to Strengthen Cooperation in ICT R&D in an Enlarged Europe



# Three Cross-Thematic Calls:

Open 30 Jul 2009, Close **3 Nov 2009**; 35+15+20 M€

	<b>Objectives</b>
<b>Contribution of ICT to PPPs for R&amp;D in the EERP: Factories of the Future</b>	FoF-ICT-2010-10.1 Smart Factories: ICT for agile and environmentally friendly manufacturing
<b>Contribution of ICT to PPPs for R&amp;D in the EERP: Energy-Efficient Buildings</b>	EeB-ICT-2010-10.2 ICT for energy-efficient buildings and spaces of public use
<b>Contribution of ICT to PPPs for R&amp;D in the EERP: Green Cars</b>	GC-ICT-2010-10.3 ICT for the Fully Electric Vehicle



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

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



# Some Future Trends and Attention Points ...

- **SOCIETAL AND ECONOMIC TRENDS**
  - The individual
  - Society
  - Business
- **ICT MEGATRENDS & THEIR IMPACT**
  - Infrastructure
  - Smart things
  - User
  - Systems
  - Applications
  - Underlying technology
- **A STRATEGY FOR EUROPE**
  - Goals
  - Approach
    - Science and technology
    - Skills and knowledge
    - An infrastructure for innovation
    - Applications and Solutions
  - **A CALL FOR ACTION**

**Ensure that Europe develops and sustains:**



**the knowledge and the technical capabilities to develop and to frame the Future Internet infrastructure, services, access devices and systems.**



**the applications & solutions for the user, in terms of new intelligent products/services – or 'end systems', benefiting notably from the Future Internet.**



**the (e-)skills, to be capable to use these new capabilities.**



# Trends

## Users – Applications – Services

- More connected users, more active users, virtual communities ...
- Location aware, context aware, role aware ...
- Inclusion, social networking ...
- Involvement, active content creation ...
- ...
- Sustainability: resources, costs ...
- Business webs, new business models ...
- ...
- Web-based service industry ...
- Services and service development: end-to-end, flexible and dynamic composition, assembly of customized solutions ...
- ...



# Some Attention Points

## Infrastructures - Systems

- Scalability:
  - connecting places, people, services, things
  - supporting changing traffic types
- ...
- Ubiquitous broadband / mobile networks ...
- Connecting “Internet of Things” and “Internet of Services”
- “3D Media Internet” / interaction and interfacing
- Trust, privacy, identity / Safety, security, reliability
- Demand Pull / large scale experimentation ...
- ...
- Clouds:
  - Application clouds: software-as-a-service
  - Infrastructure clouds: hardware-as-a service
  - Development clouds: platforms-as-a-service
- ...



# Some Attention Points

## Components – ‘Smart Things’

- Continued reductions in cost, size and energy consumption, improvements in performance and capacity
- ...
- Systems-in-a-box → systems-on-a-chip
- Single, stand-alone → safe, complex and critical systems
- New design methodologies to support predictability and reliability
- ...
- Cyber physical systems, networked sensors and actuators ...
- Distributed, autonomous systems ...
- ...
- “Green” computing, energy-efficient components ...
- ...





# Networking & More Information

## Networking:

- <http://ec.europa.eu/ictproposersday>
  - Consult proposal ideas and get in touch with the authors
  - Submit your own proposal idea and be contacted
- <http://www.ideal-ist.net>
  - Partner search through network of National Contact Points

## More information:

- <http://cordis.europa.eu/fp7/ict>

