EuroAfrica-ICT Awareness Workshop – Gaborone, Botswana – October, 2007

The European Union's 7th Framework Programme for research & development (ICT Theme)

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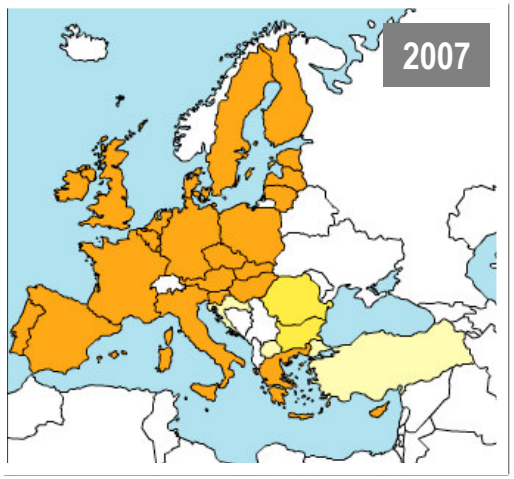
The European Union in a few words

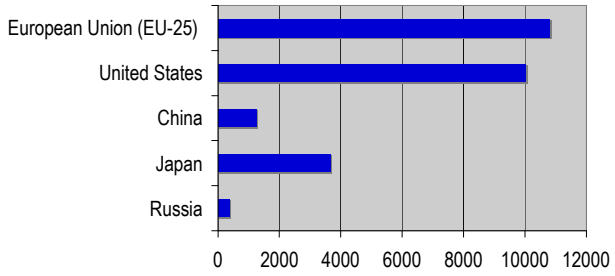
- "United in diversity" (EU motto)
  - "Together since 1957"
    - when the Treaty of Rome established the European Economic Community
    - following the earlier creation of the European Coal and Steel Community
  - Sharing the ideals of unity, solidarity and harmony between the peoples
    - symbolised by the 12 stars in a circle of the EU flag
  - In order to create an area of peace and prosperity
    - fully contributing to world's issues
    - organised as a "single market" with the "four freedoms" of movement (goods, services, people and money)
    - with a debate on the future of EU raging since its creation… (logical in a democratic construction between nations)



Today's EU

- 27 Member States
  - and 3 candidate countries
    - Croatia, Turkey, FYROM
- A population of nearly half a billion
  - world's third largest after China and India
    - 7% of world's population
  - 4 countries represent 50%+ of EU population (F-D-I-UK)
- A GDP of 11 000 billion € (world's largest)
- A major trading partner
  - EU accounts for 20% of global imports and exports
- The world's leading supplier of development aid
- The ambition to become the world's most dynamic knowledge-based economy
  - with ICT playing a logical central role

GDP (billions euro) in 2005
Source: Eurostat - World Bank



ICT current EU position and trends in key ICT market segments

ISTAG report - March 2006

Segment	EU's Global Position	EU Industry Strengths	EU Industry Weaknesses	Key Market Features
Telecoms	Telecom services: Six EU companies in the world top-10 revenues in 2003: Deutsche Telekom (DE), Vodafone (UK), France Telecom (FR), Telecomitalia (IT), Telefónica (ES) and BT (UK). Telecom equipment and systems: Four EU companies in the world top-10 with a combined share of 45% of revenues: Nokia (FI), Siemens (DE), Ericsson (SE) and Alcatel (FR)	• Telecoms equipment & systems, especially optical systems; • Telecom services, especially mobile & networked services • World-leading communications research in academia		• Success of broadband in the European market. • Migration to an all-IP infrastructure for both fixed and mobile networks. • Connectivity being built in to an increasing range of devices and applications. • Emergence of multiple radio access techniques in the mobile segment.
Computer Hardware and Components	Three European companies are ranked among the world's top-ten for semiconductor manufacture: STMicro (FR/IT), Infineon (DE) and Philips (NL) Europe's main microelectronics research labs (e.g. IMEC, LETI , FhG, CNR and NMRC) have worldwide recognised know-how that is attracting private investments from across the world	• Electronic design, for sectors such as telecoms, consumer electronics, automotive systems and smartcards. • Signal processing and low-power chips. • Microsystems and related nano-technologies • Microelectronics research labs	• Microprocessors and memory chips	• Continuing strong growth rates worldwide (~10% p.a) • Emergence of distinct but interlinked market segments.
Software and Computer Services	Europe has world leaders in some key areas such as: SAP (DE) in enterprise software; and Dassault (FR) and BAE Systems (UK) in embedded systems	• Enterprise software • Embedded and distributed software; • Hard real-time design, • Dependable and fault-tolerant computing systems. • Software agent technologies • Software engineering. • High-end computing and GRID architectures	• Packaged software market is dominated by US companies such as Microsoft, Oracle, Adobe, IBM and Sun	• Increasing pervasiveness and complexity of software • Growth of embedded and distributed software systems • Open source as a new model for software development

ICT current EU position and trends in key ICT market segments (contd)

ISTAG report - March 2006

Consumer Electronics	Three EU companies in the world top-ten: Thomson-Multimedia (FR), Philips (NL), and Siemens (DE). Thomson-Multimedia & Philips are number 1 and 2 in the US CE market. Strong competition from new Chinese manufacturers	• High-end audio & video systems	• Low-cost devices such as mp3 players and cameras.	• Broadband take-up is helping to drive market growth • Digital devices displacing analogue equivalents • Convergence bringing new functionalities & blurring device categories
Content and Media	Strong European players in companies such as Vivendi Universal and Bertlesmann, but these lack the global reach of the big US media conglomerates. In addition, Europe has strong creative SMEs	• Digital interactive TV • Image processing, representation and coding • Semantics and knowledge management • Computer vision • Virtual and augmented reality • Games, animation, and special effects	• Packaging & delivery of content and services	• Dominance of US media companies in EU markets • Positive knock-on effects for other ICT industry segments (e.g. PCs, digital cameras, telecoms) • Content value chains are increasingly complex
Automation	Automation of discrete manufacturing including industrial robotics is led by European companies such as ABB, Kuka, Siemens. Automation of the process industry including drives is globally led by European companies such as ABB, Invensys, Siemens	• Automation products such as PLC, DCS, Robotics, drives • Industrial real time solutions • Vertical and horizontal integration of software applications	• Japanese companies are often cost leaders especially in the less complex product areas	• Global solutions with high services content • Trend towards more customization drives demand for automation and innovative solutions
Security	European companies lag US suppliers, who are benefiting from strong domestic market & investment in security research. US companies benefiting from first-mover advantage as US standards are being adopted worldwide.	• CII • Information network security • Civil disaster management • Biometrics		• Emerging & fragmented market • Lack of coordination between national & European efforts • Separation of defence & civil research in Europe a key barrier

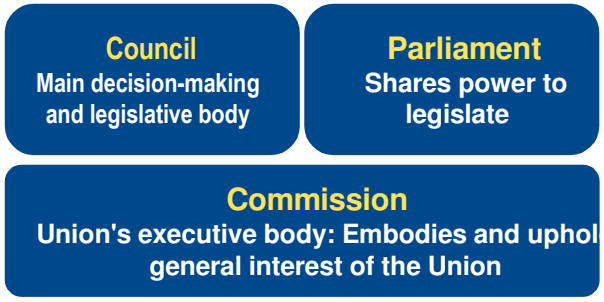
DG Information Society and Media in a few words

- One of the DGs ("Ministries") of the European Commission (EC)
  - other DGs: Research, External relations, Development, etc.
- Its role is to
  - support research on ICT (FP6 IST, FP7 ICT)
  - define and implement the EU regulatory environment
  - encourage ICT widespread availability and accessibility
  - foster the growth of content industries drawing on EU's cultural diversity
  - represent the EC in international dialogue and negotiations in these fields
- It is structured in Directorates and Units
  - among them the International Relations Unit
    - Contact for cooperation with Africa: Mr Thierry Devars

European Commission
Information Society and Media

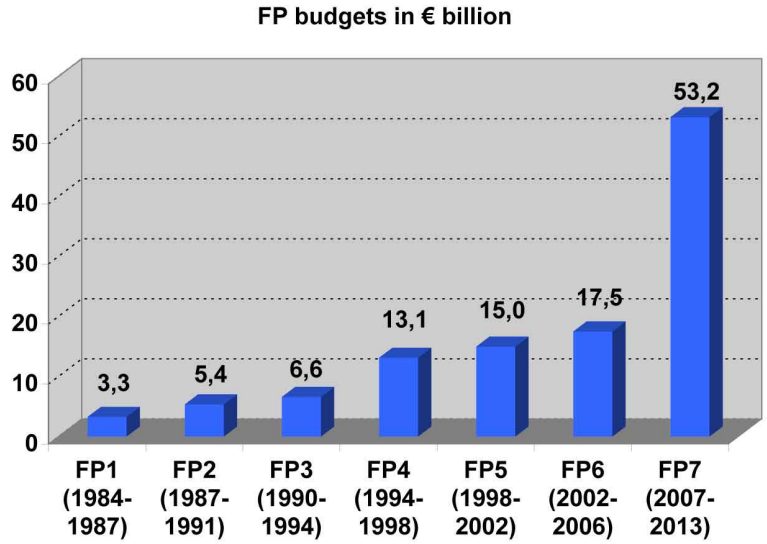
Ms Viviane Reding
European Commissioner
for Information Society and Media

EU Institutions



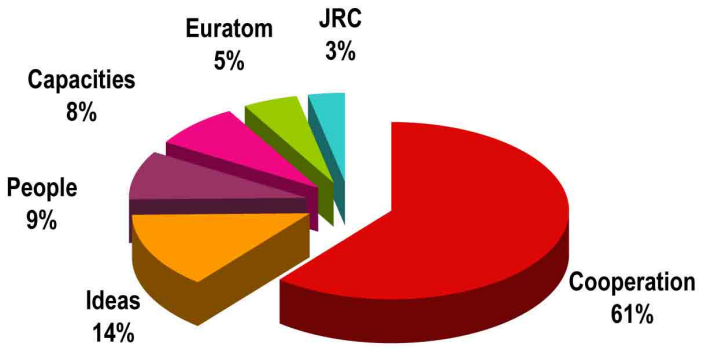
FP7 in a few words

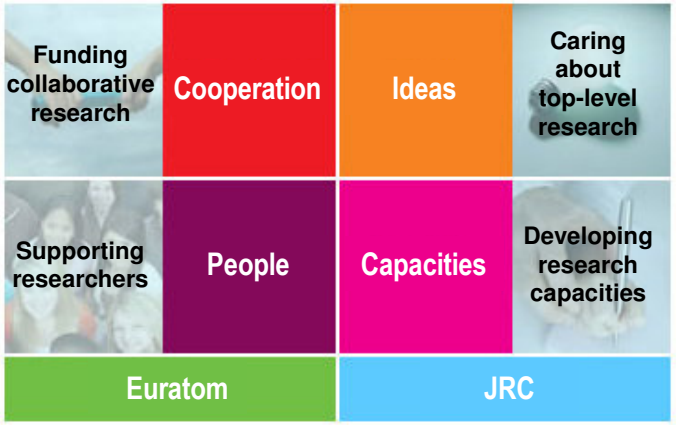
- FP7 is the short name for
  - the Seventh Framework Programme for Research and Technological Development
- It is the main instrument for funding research in Europe
- It is implemented by the European Commission and will run from 2007 to 2013
- Its total budget is of € 53,2 billion
  - an important budget increase from FP6



FP7 structure

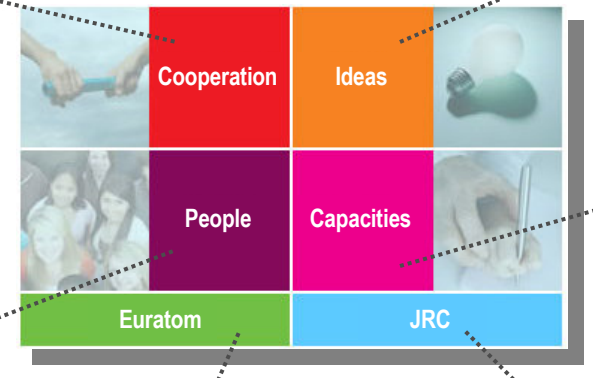
- FP7 is made up of 4 main specific programmes
  - plus a specific programme on nuclear research (Euratom and JRC)
- The budget of the Cooperation specific programme is the largest one
  - € 32,4 billion or around 60% of the total budget





FP7 research areas and activities

- Health
- Food, Agriculture and Biotechnology
- Information and Communication Technologies
- Nanosciences, Nanotechnologies, Materials and new Production Technologies
- Energy
- Environment (including climate change)
- Transport (including Aeronautics)
- Socio-economic sciences and Humanities
- Security
- Space



- Frontier research actions

- Research infrastructures
- Research for the benefit of SMEs
- Regions of Knowledge
- Research Potential
- Science in Society
- Support to the coherent development of research policies
- Specific activities of international cooperation

- Initial training of researchers - Marie Curie Networks
- Life-long training and career development - Individual fellowships
- Industry-academia pathways and partnerships
- International dimension - outgoing and incoming fellowships, international cooperation scheme, reintegration grants
- Excellence Awards

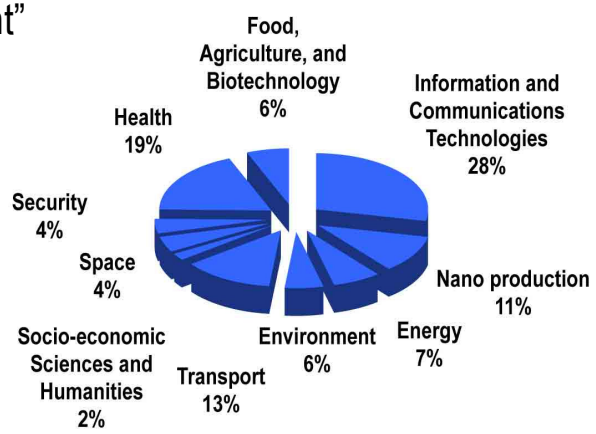
- Fusion energy - ITER
- Nuclear fission and radiation protection

- Direct actions in Euratom
- Non-nuclear actions

ICT research in FP7 - Overview

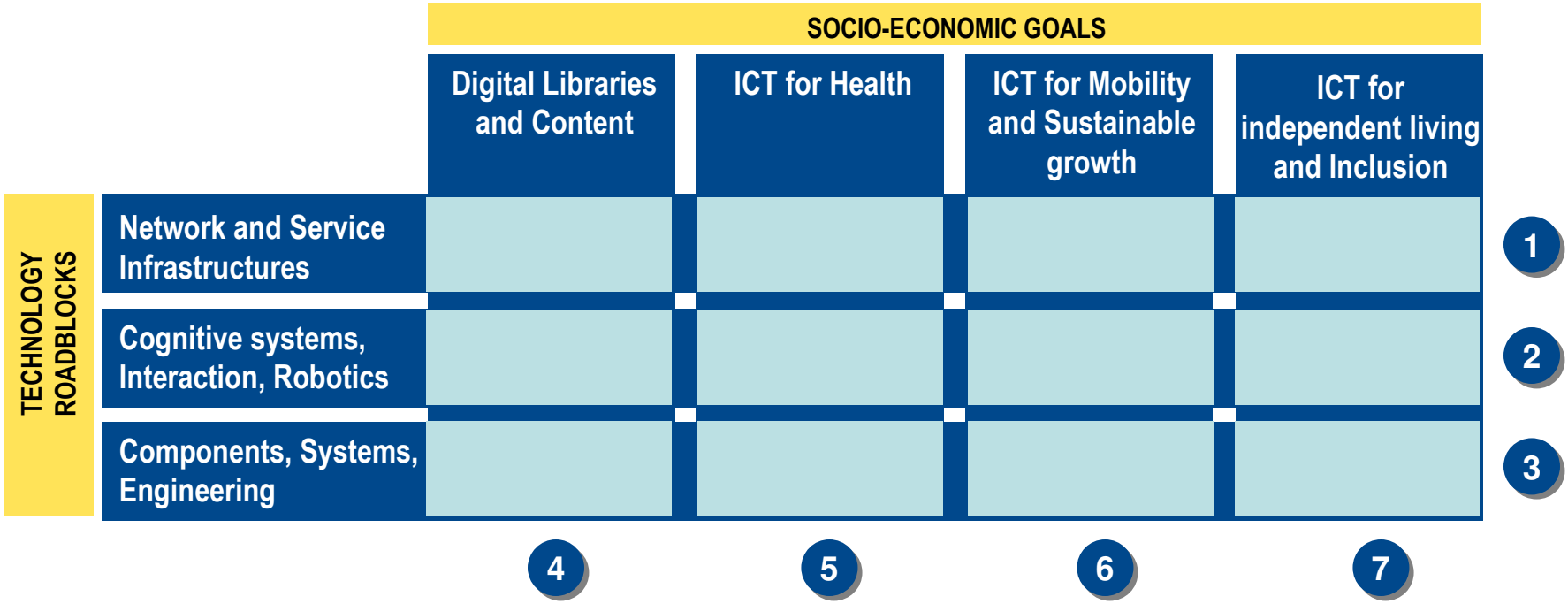
- The ICT thematic area is the largest one in the Cooperation programme
  - with a budget of € 9,1 billion (28% of the total budget)
- It is under the responsibility of DG Information Society and Media
  - all other themes under the one of other DGs (Research, Environment, etc.)
- The ICT work programme is in line with the policy priorities defined in EU's i2010 initiative
  - "a European Information Society for Growth and Employment"

To be noted: the Ideas and People Programmes, covering all S&T research, will also fund ICT-related research



ICT research in FP7 - Structure

- **7 key challenges**
  - And 2 cross-area actions: Future & Emerging Technologies (FET) + Horizontal support actions



FP7 ICT detailed research areas and budget repartition

Challenge 1: Pervasive and trusted network and service infrastructures

1. The network of the future
2. Service and software architectures, infrastructures and engineering
3. ICT in support of the networked enterprise
4. Secure, dependable and trusted infrastructures
5. Networked media
6. New Paradigms and experimental facilities
7. Critical infrastructure protection

Challenge 2: Cognitive systems, interaction, robotics

1. Cognitive systems, interaction, robotics

Challenge 3: Components, systems, engineering

1. Next generation nanoelectronics components and electronics integration
2. Organic and large-area electronics and display systems
3. Embedded systems design
4. Computing systems
5. Photonic components and subsystems
6. Micro/nanosystems
7. Networked embedded and control systems

Challenge 4: Digital libraries and content

1. Digital libraries and technology-enhanced learning
2. Intelligent content and semantics

Challenge 5: Towards sustainable and personalised healthcare

1. Personal health systems for monitoring and point-of-care diagnostics
2. Advanced ICT for risk assessment and patient safety
3. Virtual physiological human

Challenge 6: ICT for mobility, environmental sustainability, and energy efficiency

1. ICT for the intelligent vehicles and mobility services
2. ICT for cooperative systems
3. ICT for the environmental management and energy efficiency

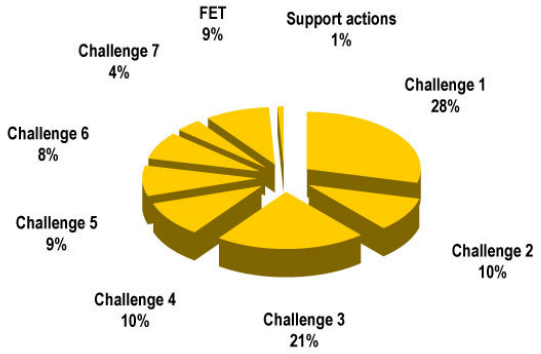
Challenge 7: ICT for independent living and inclusion

1. ICT and ageing
2. Accessible and inclusive ICT

Future and emerging technologies

Horizontal support actions

1. International cooperation
2. Trans-national co-operation among NCPs



Budget repartition for 2007-2008 (in % of around € 2 billion)

International cooperation within FP7 - Overview

- **A clear dimension of the FP7 programme to**
  - Address issues of common interest & mutual benefit
  - Support European competitiveness through research partnerships with 3rd countries in selected fields
  - Reinforce the EU's external relations & other relevant policy
- **FP7 is opened to the participation of organisations from third countries**
  - ICPC - International Cooperation Partner Countries (developing & emerging economies)
  - Industrialised countries (EC funding being exceptional)
- **Beyond this general framework**
  - Specific International Cooperation Actions (SICAs) are implemented under FP7
  - The "Capacities" specific programme includes an "INCO" programme

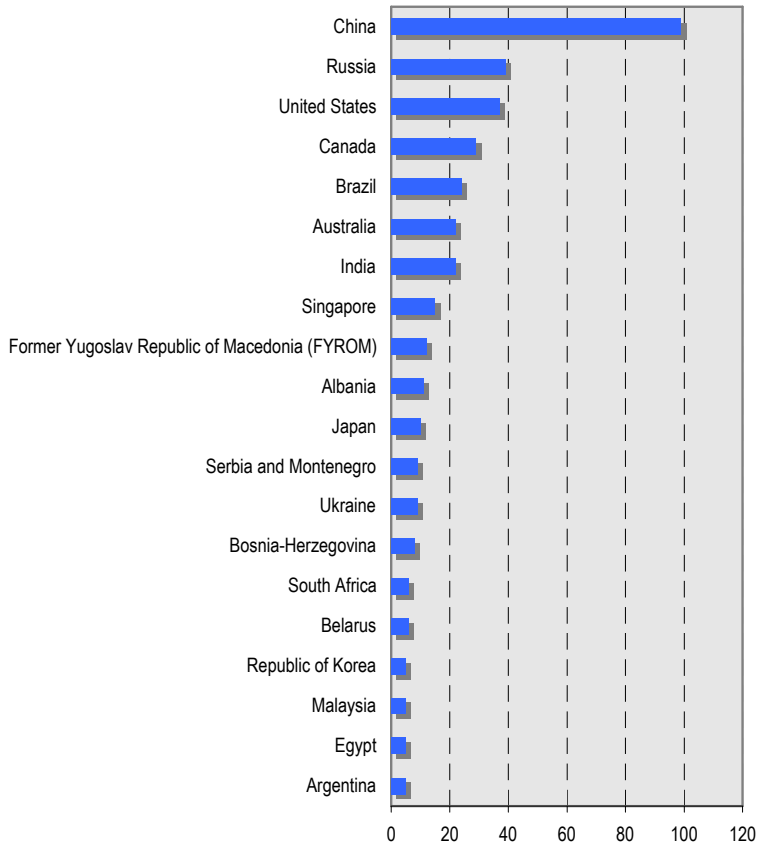
To be noted

A general rule is that a Consortium includes a minimum of 3 organisations from EU Member States or Associated countries

International cooperation on ICT in FP7

- All research areas are opened to international cooperation
  - but this dimension is specifically underlined in the 2007-2008 Work Programme in certain areas and targeting certain regions or countries (see next slide)
- A horizontal action is devoted to International cooperation
  - cross-theme 9: Horizontal support actions

Number of participations of third country organisations in FP6 IST projects - Top 20 countries



International cooperation on ICT in FP7 : specific target outcomes

Challenge 1: Pervasive and trusted network and service infrastructures	
1. The network of the future	
2. Service and software architectures, infrastructures and engineering	
3. ICT in support of the networked enterprise	One SA for RFID standardisation (China, Korea, Japan, USA, É)
4. Secure, dependable and trusted infrastructures	International cooperation with developed countries
5. Networked media	
6. New Paradigms and experimental facilities	
7. Critical infrastructure protection	
Challenge 2: Cognitive systems, interaction, robotics	
1. Cognitive systems, interaction, robotics	
Challenge 3: Components, systems, engineering	
1. Next generation nanoelectronics components and electronics integration	International cooperation with developed countries
2. Organic and large-area electronics and display systems	
3. Embedded systems design	
4. Computing systems	
5. Photonic components and subsystems	International cooperation with developed countries
6. Micro/nanosystems	
7. Networked embedded and control systems	Cooperation with USA, Russia, and Western Balkans
Challenge 4: Digital libraries and content	
1. Digital libraries and technology-enhanced learning	
2. Intelligent content and semantics	
Challenge 5: Towards sustainable and personalised healthcare	
1. Personal health systems for monitoring and point-of-care diagnostics	
2. Advanced ICT for risk assessment and patient safety	One SA and one SICA for cooperation with Latin America
3. Virtual physiological human	Two SICAs + Insight into Latin America, Western Balkans, Mediterranean countries
Challenge 6: ICT for mobility, environmental sustainability, and energy efficiency	
1. ICT for the intelligent vehicles and mobility services	
2. ICT for cooperative systems	International cooperation with developed countries
3. ICT for the environmental management and energy efficiency	One SICA on environmental disaster management
Challenge 7: ICT for independent living and inclusion	
1. ICT and ageing	Standards and strategic cooperation with USA and Japan
2. Accessible and inclusive ICT	Cooperation with North America and Asia
Future and emerging technologies	
Horizontal support actions	
1. International cooperation	Development of cooperation opportunities / support to policy dialogues (ACP and Asia) + 3 SICAs (Language technologies - Arabic speaking-, OSS - Asia, ACP, and Latin America-, Accessible and inclusive ICT - Latin America and ACP-)
2. Trans-national co-operation among NCPs	International cooperation specific action

ETPs and JTIs in FP7

- European Technology Platforms (ETPs)
  - are large open groupings of industry and academic stakeholders in a given field
  - have produced in particular Strategic Research Agendas as inputs to the FP7 Work Programme
  - are well represented in the ICT field: 9 ETPs
- Joint Technology initiatives (JTIs)
  - are in their emergence phase and in a limited number
  - mainly generate from ETPs (e.g. Artemis)
  - aim at setting up ambitious, long term, public private partnerships in a given field

ETPs in the ICT field

European Nanoelectronics Initiative Advisory Council (ENIAC)
Advanced R&D on Embedded Intelligent Systems (ARTEMIS)
Mobile and wireless communications technology (eMobility)
Integral Satcom Initiative (ISI)
Networked and electronic media platform (NEM)
Networked European Software and Services Initiative (NESSI)
European Robotics Platform (EUROP)
Consolidated European Photonics Research Initiative (Photonics21)
European Platform on Smart Systems Integration (EPoSS)

FP7 Call 1 to 3 (ICT theme)

	Call 1	Call 2	Call 3
Challenge 1: Pervasive and trusted network and service infrastructures			
1. The network of the future	200		
2. Service and software architectures, infrastructures and engineering	120		
3. ICT in support of the networked enterprise	30		
4. Secure, dependable and trusted infrastructures	90		
5. Networked media	85		
6. New Paradigms and experimental facilities		40	
7. Critical infrastructure protection	20		
Challenge 2: Cognitive systems, interaction, robotics			
1. Cognitive systems, interaction, robotics	96		97
Challenge 3: Components, systems, engineering			
1. Next generation nanoelectronics components and electronics integration	86		
2. Organic and large-area electronics and display systems	63		
3. Embedded systems design	40		
4. Computing systems	25		
5. Photonic components and subsystems		90	
6. Micro/nanosystems		83	
7. Networked embedded and control systems		47	

	Call 1	Call 2	Call 3
Challenge 4: Digital libraries and content			
1. Digital libraries and technology-enhanced learning	52		50
2. Intelligent content and semantics	51		50
Challenge 5: Towards sustainable and personalised healthcare			
1. Personal health systems for monitoring and point-of-care diagnostics	72		
2. Advanced ICT for risk assessment and patient safety	30		
3. Virtual physiological human		72	
Challenge 6: ICT for mobility, environmental sustainability, and energy efficienc			
1. ICT for the intelligent vehicles and mobility services	57		
2. ICT for cooperative systems		48	
3. ICT for the environmental management and energy efficiency		54	
Challenge 7: ICT for independent living and inclusion			
1. ICT and ageing	30		
2. Accessible and inclusive ICT		43	
Future and emerging technologies	60	65	60
Horizontal support actions			
1. International cooperation	7		5
2. Trans-national co-operation among NCPs			3

Budget per area and per Call (in M €)

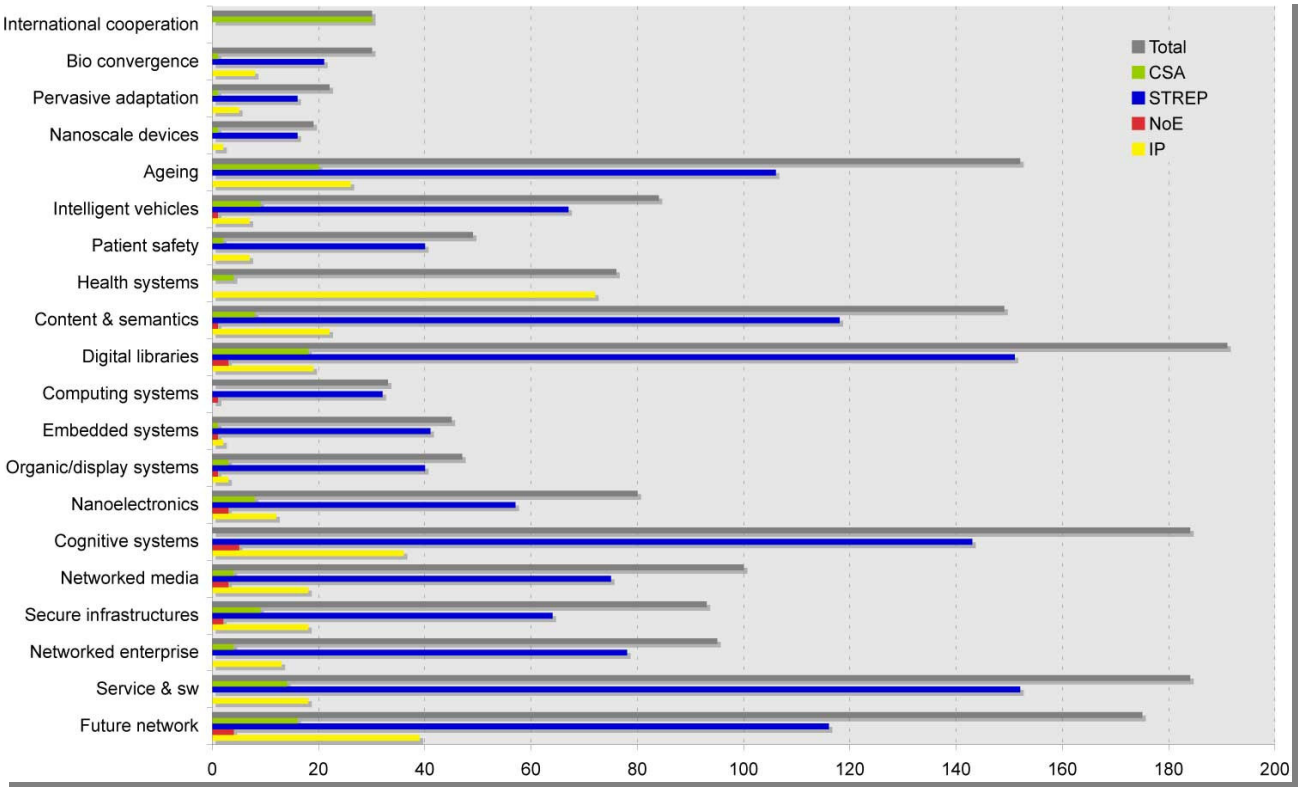
Types and characteristics of eligible projects

Project type		Aim	Number of partners	Project duration	EC contribution
	Integrated project (IP)	Large scale integrating research project	10 to 20	36 to 60 months	4 to 25 M€
	Specific Targeted Research Project (STREP)	Small to medium scale focused research project	6 to 15	18 to 36 months	1 to 4 M€
	Specific International Cooperation Action (SICA)	R&D project with developing countries or emerging economies (ICPC)	*SICAs did not exist under FP6*		
Network of Excellence (NOE)		Integration of research activities and capacities	6 to 12	48 to 60 months	4 to 10 M€
	Coordination Action (CA)	Coordination of research activities and policies	13 to 26	18 to 36 months	0,5 to 2 M€
	Specific Support Action (SSA)	Support to research activities and policies	1 to 15	9 to 30 months	0,03 to 3 M€

NB: This table is only indicative and presents average characteristics of FP6 projects

ICT Call 1 statistics

- A total of over 1800 proposals submitted

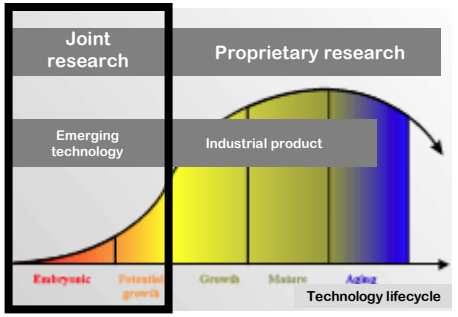


Why submitting a proposal to the European Commission?

- (not only) Because the proposal, if selected, will be funded
  - a grant of 50 to 100%
    - depending on the nature of the project, of the type of organisation, etc.
  - with no rights claimed by the EC
    - in terms of research results, IPRs, payback scheme, etc.
- (but first and foremost) Because FP7 is an opportunity for an organisation to
  - improve its knowledge
    - FP7 vision, framework, roadmap, activities, information, tools, etc.
  - benefit from a true collaborative (international) programme / project
    - contacts, sharing of knowledge and experience, finding complementary skills, etc.
  - enhance its image through key references

What kind of proposals can be submitted?

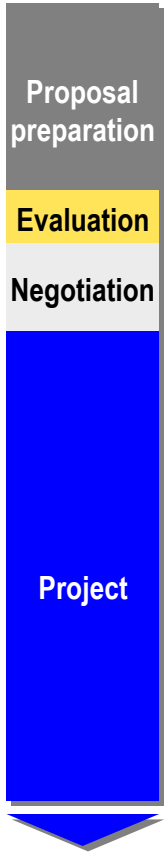
- A highly innovative R&D project
  - It's R&D (beyond CSAs), not support to deployment or to commercial initiatives for instance, and it's very competitive
    - most proposed projects are of high quality and only few are selected!
- Only collaborative projects
  - The basic idea is to encourage organisations from EU countries (and from third countries) to join their forces
    - see the typical participation rule: "(at least) 3 independent legal entities from 3 different member States or associated countries"
- Projects answering the specification of FP7 Calls
  - Proposals can be submitted only in response to Calls for proposals and have to strictly answer the specification of the Calls
    - specific rules for participation, addressed ICT areas, expected project outcomes, foreseen budget per type of project (IP, STREP, SICA, etc.)



Type of research funded under FP7

From the proposal to the project…

- Submission
  - To be made electronically through a set of documents respecting detailed templates & guidelines, and… in time (strict deadline!)
- Evaluation
  - A fair, transparent and relatively quick process (2-3 months) involving independent experts working on the basis of the Call documents and of (public) selection criteria
- Negotiation
  - If the proposal is pre-selected, the proposers and the EC work together on the possibility to transform the proposal into a project, on the basis of evaluators' remarks and comments
- Contract
  - (if the negotiation phase is successful) Can be signed between the EC and the project coordinator as soon as 4 to 6 months after the submission deadline
- Project
  - The project can then smoothly develop on the basis of a "Description of Work" and of the "Contract and its annexes" (administrative and financial issues)
  - its progress will be reviewed by the EC every 6-12 months



Useful links

- **The EU's web portal** > http://europa.eu/
- **The European Commission** > http://ec.europa.eu/
- **DG Information Society and Media (DG Infso)** > http://ec.europa.eu/dgs/information_society/
- **The International relations Unit of DG Infso** > http://cordis.europa.eu/ist/international/
- **European Technology Platforms** > http://cordis.europa.eu/technology-platforms/
- **FP7** > http://cordis.europa.eu/fp7
- **EU's i2010 initiative** > http://ec.europa.eu/i2010

Thank you for your attention

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