

ICT in the FP and CIP: Future developments

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Outline

- ➔ • ICT in FP7: where do we stand?
 - ICT in FP7: What next?
 - the 2010-13 agenda
 - ICT in the CIP
 - Beyond FP7

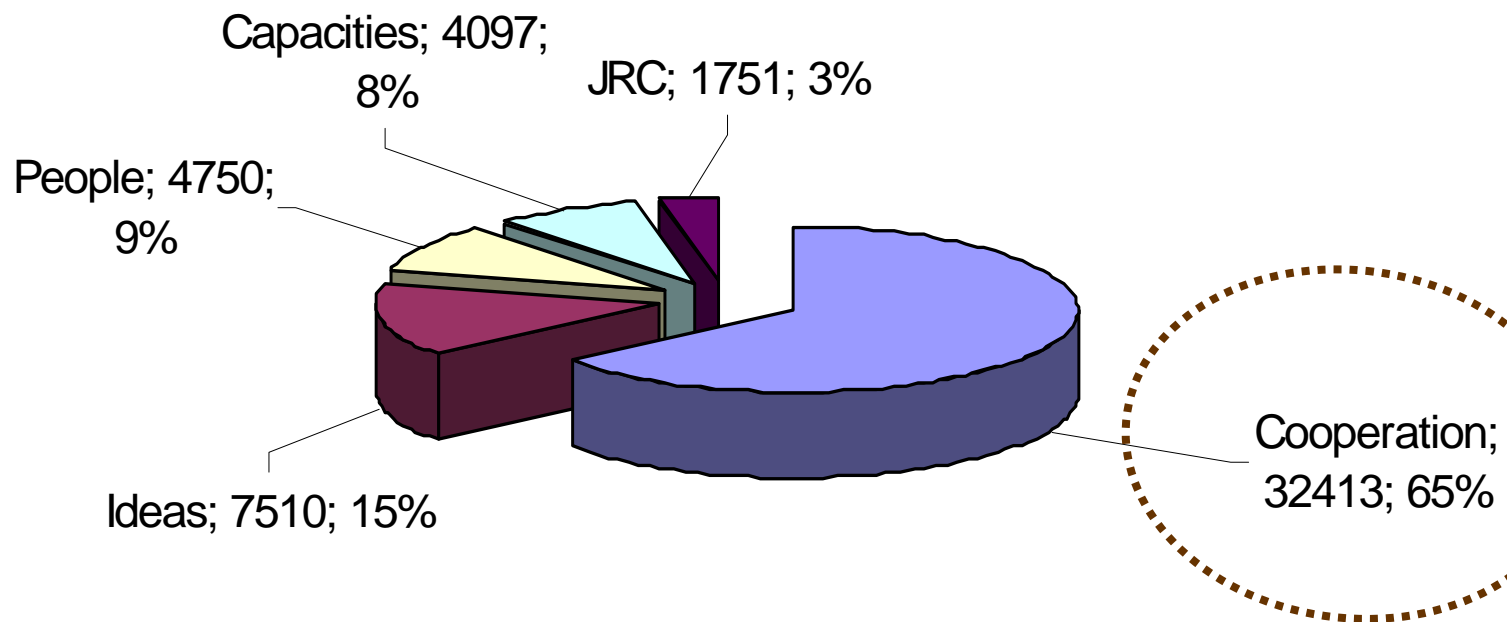


ICT in the FP: some key figures

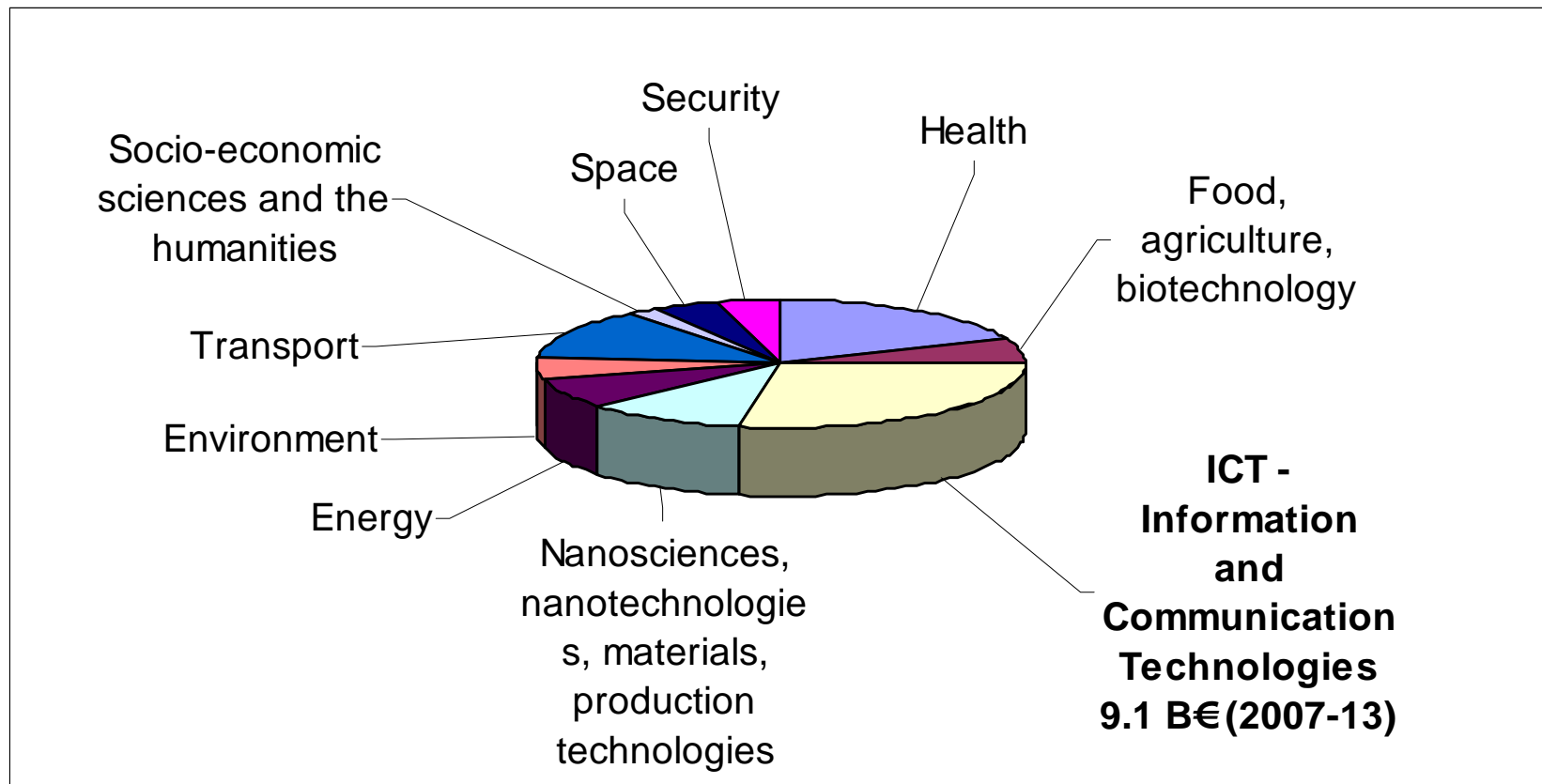
- ICT in the FP supports collaborative R&D projects
 - Bringing together industry & academia from at least three Member or associated States
 - Project size varies between 3M€ and 20 M€ of funding
 - 4 to 20 partners per project
- 40% of participants are industry, 40 % academia, the rest is public organisations
- It supports ~17000 researchers and engineers/year
- In FP6 (2003-2006),
 - ICT supported ~ 5000 distinct organisations
 - through ~14000 participations
 - in 1125 projects (in FP6)
 - 20% of participations are from SMEs



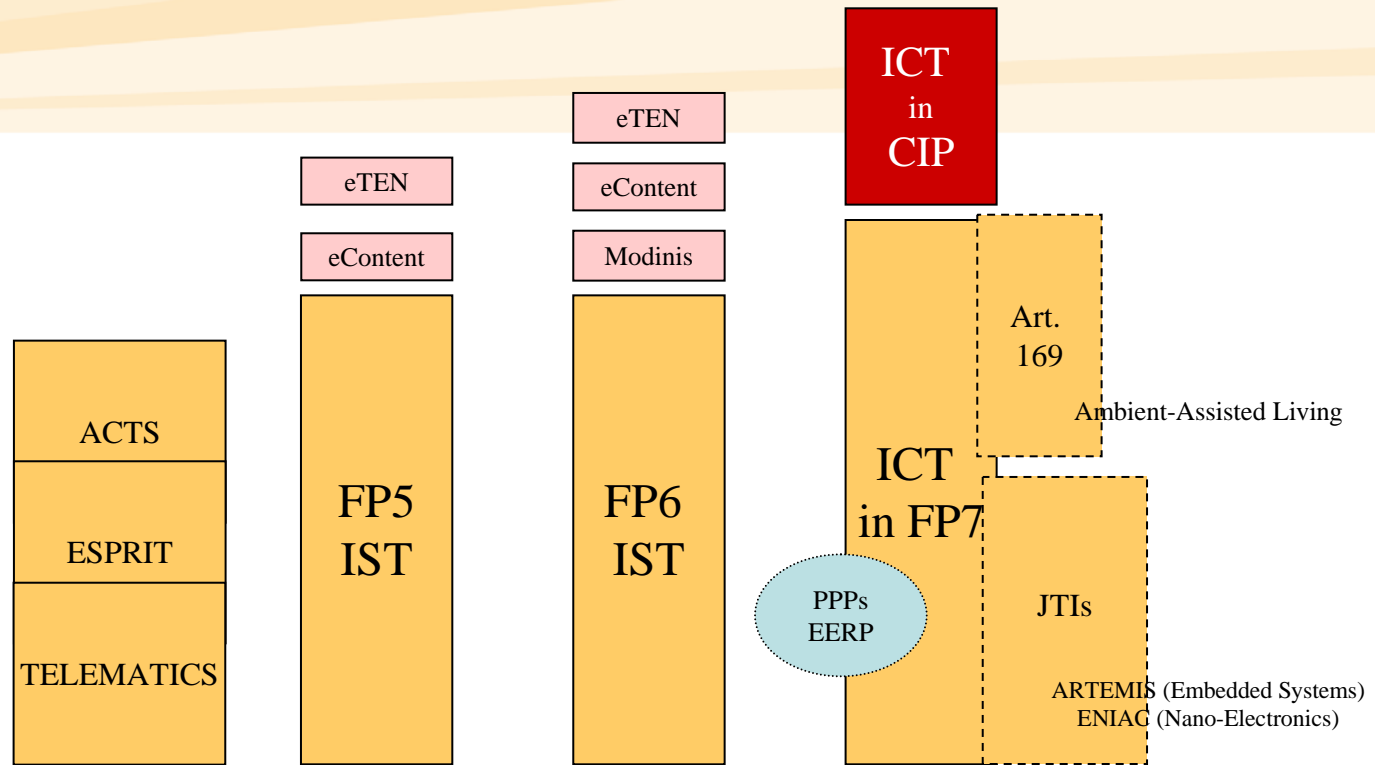
Seventh EU Framework Programme for RTD: total ~50 B€ 2007-13



FP7 Cooperation Programme



EU Framework Programmes evolution: Complementary instruments and wider mobilisation of resources



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FP4

FP5

FP6

FP7

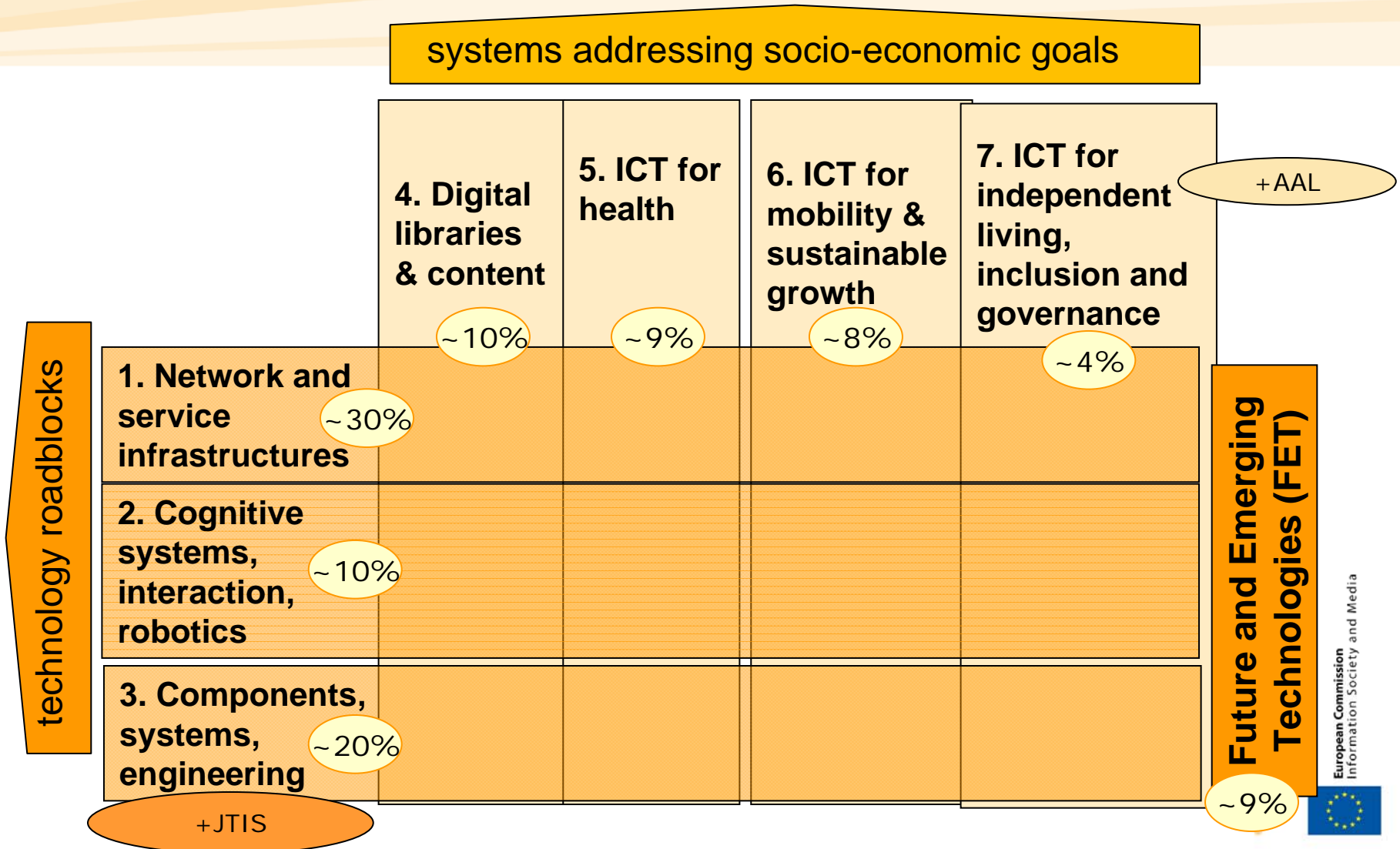


ICT in FP7 so far: Work Programme approach & structure

- A limited set of Challenges that
 - respond to well-identified industry and technology needs and/or
 - target specific socio-economic goals
- A Challenge is addressed through a limited set of Objectives
 - that form the basis of Calls for Proposals
- An Objective is described in terms of
 - target outcome
 - expected impact on industrial competitiveness, societal goals,..
 - Funding schemes
- A total of ~25 Objectives expressed within 7 Challenges



ICT in FP7 so far: 7 Challenges + FET



ICT in FP7: Where do we stand?

- In 2009 the FP7 ICT Programme is in its third year of implementation.
- Four main calls have been launched
- Three Calls for proposals have been finalised and projects contracted
 - 581 projects have been launched so far for a total Community funding of about 2 B€.
- A fourth call has just been evaluated
 - contracts in negotiation for 801 M€
 - Around 225 new projects selected
- A call is currently open, Call5 for 722 M€
- Call 6 will be launched in Nov 2009.



Still one call to go in 2009

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

ICT in FP7: JTIs +AAL so far

- Joint Technology Initiatives (JTIs) in ICT
 - Two “Joint Undertakings” with pooling of resources from EU, MSs and Private sector
 - Have their own budgets and work programmes
 - Address: Embedded systems, nano-electronics
 - Total budget ~4.5 B€ including ~850 M€ from the FP
 - Two calls so far and 18 projects selected
- The AAL joint programme using Art 169
 - Addresses ICT for ageing
 - EU + MSs funding of 350 M€ (50% EC, 50% MSs)
 - Two calls so far: 24 projects selected



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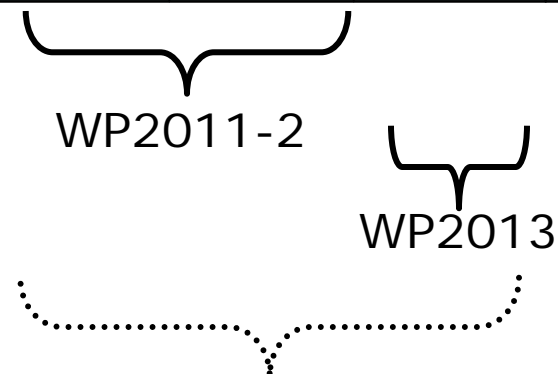
The 2011-13 plans

- A Work Programme for 2011-12 followed by a Work Programme for 2013
- WP2011-12 to be announced in July 2010
 - Orientations to be discussed with programme Committee in February 2010.
 - ICT Call 7 in July/Sept 2010
 - Partnering/information in ICT event in Brussels on 27-29 September
- JTI and AAL have annual WPs and Calls



ICT in FP7: The budget profile

	2007	2008	2009	2010	2011	2012	2013	Total
ICT in FP7	1.107	1.114	1.142	1.202	1.323	1.512	1.710	9.110



WP2011-12: Setting priorities

- Reinforce Europe's strongholds
 - Europe's industry and technology position
- Seize new opportunities
 - Technology and use driven innovations
- Ensure that interventions are significant and that Europe has the capacities to implement
 - high-risk, medium-to-long term, trans-national collaborative research



Significance of the intervention

- Total public investment in ICT RTD in the Union: 5 -7 B€/year
 - Public investment: building knowledge capacities and risk sharing with industry
- ICT in FP6: ~1 B€/year. 15-20% of total public investment
- Private investment in ICT research: 30-35 B€/year
 - Large part of private investment (> 90%) concentrated on “development” (commercial prototypes).
- Community funding logic
 - medium to long term collaborative research requiring risk sharing with industry and the academic research community.
 - Community support represents ~50 % of total EU effort



Reinforce Europe's strongholds

- Network and service infrastructures
 - communication equipment and services, business software, security solutions ...
- Components and embedded systems
 - in vertical markets mainly
 - semiconductors, equipment, photonics, plastic electronics, integrated micro/nano systems ... embedded systems in vertical markets: cars, planes, medical, telecom ...
- A strong and broad knowledge base
 - strong academic research community
 - in core ICT fields and in other disciplines relevant for ICT: biotech, materials, cognitive sciences ...



Seize new opportunities for Europe

- New technology paths
 - Future Internet: of things, of services
 - Alternative paths to components and systems
 - Technology convergence
- Innovation from ICT use
 - ICT for a low Carbon economy
 - Health, well being and ageing
 - digital content and knowledge creation and use
 - Business and manufacturing



Future Internet

New emerging network and service infrastructures

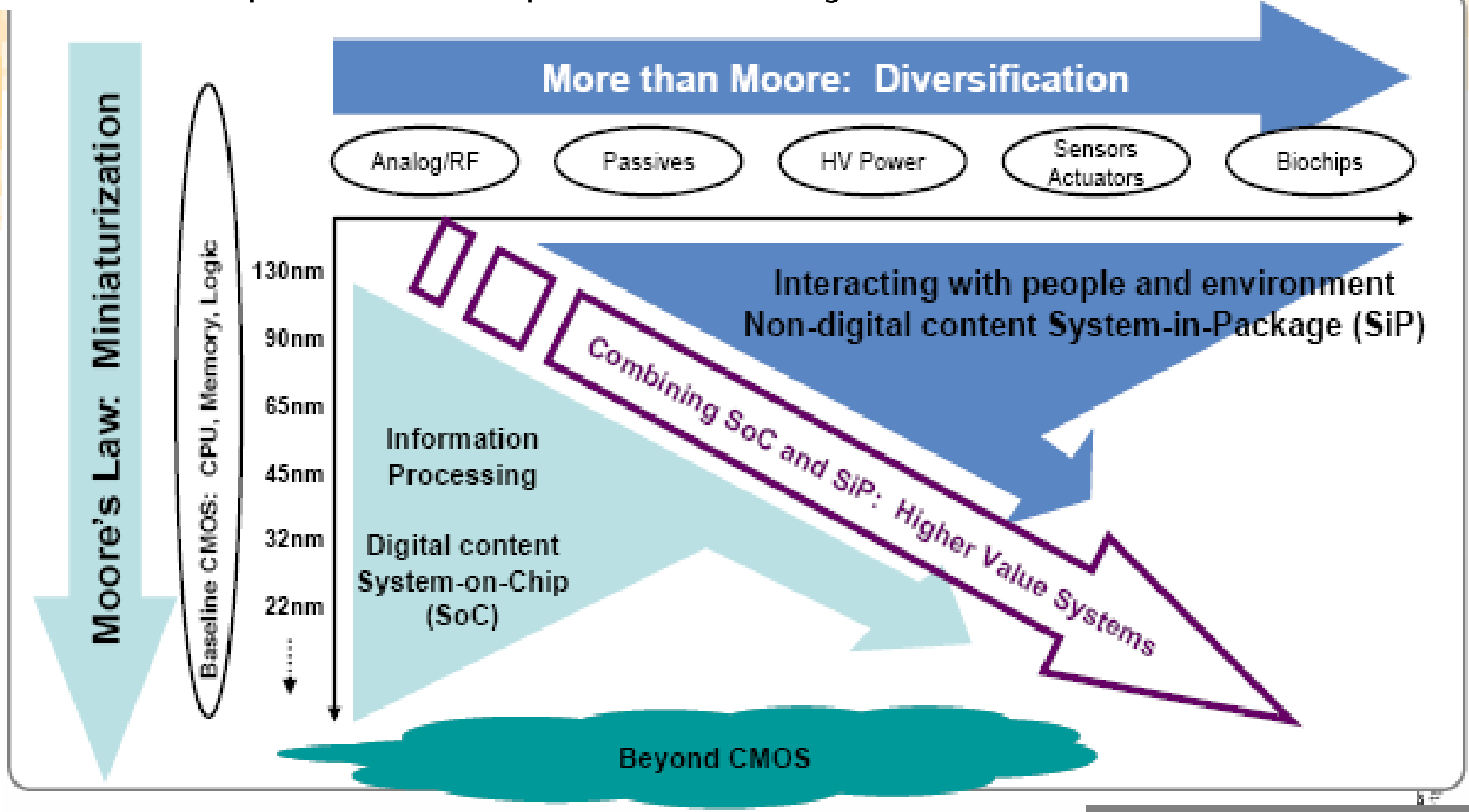
- unlimited bandwidth and computing capacity
- Mobile/wireless access anywhere
- trillions of devices interconnected
- integrated security and trust for all
- adaptive and personalised services
- 3D semantic-based browsing systems

Offering

- Anywhere anytime connection for everyone
- An internet of services,
 - Web-based, Cloud comp.
- An internet of things
 - Sensors, RFIDs, MEMS, ...



Alternative paths to components and systems



- **'More Moore'**: more nano (miniaturisation: silicon < 45nm: smaller, higher perf, lower cost)
- **'More than Moore'**: more functions (heterogeneous techs: sensors, actuators, bio-nano)
- **Micro/nano-systems, SoC & SiP**: integration and diversification
- **Organic and large area electronics** : disposable electronics: e-paper, e-tags
- **Photonics** : light sources, fibres, lasers: lighting efficiency, medicine, biology



Technology convergence

- Bio- inspired ICT
 - Cognitive systems
 - Self-adaptable and learning systems
 - Robotics, in unstructured environments
 - New interaction techniques
- Quantum information processing
- Complexity theory



New opportunities ahead

The user drive

- Energy efficiency, low carbon economy
 - Green ICT and ICT for greening..
 - Better understanding/monitoring, etc..
 - Green transport, Green car
- Health, Ageing, inclusion
 - Personalised health systems, implants, imaging..
 - Active ageing, social interaction, health monitoring
- Enterprise, manufacturing and production systems
 - Smart manufacturing, virtual manufacturing, etc..
- Leisure, digital content
 - Web 2.0 and beyond, Games, entertainment, ..



What could change in WP2011-12

- A structure still based on Challenges
 - Revised challenges and objectives within the challenges
- Reinforced work across themes
 - to address Europe's key socioeconomic needs
 - 3 PPPs already launched in 2010 to continue and expand
 - Total budget for 2011-13: 390 M€ from ICT
- A new Future Internet PPP implemented in the WP
 - Commission Communication in Oct. 2009
 - Total budget 2011-13 of about 300 M€
- Strengthened support to ICT for a low carbon economy
- Special measures for SMEs in Content/creative industries?
- Increase of 20% per year for FET
 - Already announced



PPPs implemented through the WP

- For the three announced in the recovery package
 - FoF, Green car, EEB
 - Series of coordinated calls between the relevant FP7 themes
 - reflecting industry-driven research roadmaps and priorities
 - Each theme describes its contribution in a separate section of the theme's WP
- For the new PPP on Future Internet
 - Idem but only for ICT



'Factories of the Future'

- Combined envelope of ~€1.2 bn
 - Help EU manufacturers, notably SMEs, adapt to global competitive pressures
 - by increasing the technological base of EU manufacturing
- R&D in production technologies, materials and ICT:
 - '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' Budget

- Draft indicative budget envelopes:

(M€)	ICT theme in FP7	NMP in FP7
2010	35	60
2011	210	340
2012		
2013		
Total	645	



'Energy-Efficient Buildings'

- Combined envelope of ~€1 bn to promote
 - green technologies
 - the development of energy-efficient systems and materials
 - in new and renovated buildings
- ICT R&D part
 - Monitoring and control of energy consumption
 - Advanced lighting systems
 - Smarter and optimised interconnections with the power grids



'Energy-Efficient Buildings' Budget

- Draft indicative budget envelopes:

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



'Green Cars'

- Combined R&D envelope of ~€1 bn
 - to achieve a breakthrough in the use of renewable and non-polluting energy sources, safety and traffic fluidity
- R&D in ICT
 - ICT for Fully Electric Vehicles
 - Battery management and power supply
 - Control mechanisms
 - Interconnections with the transport and power infrastructures



'Green Cars' Budget

- Draft indicative budget envelopes:

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



PPP on Future Internet

- Work in progress
- Focus would be on (tbc)
 - Future Internet-based service platforms
 - Enabling Europe to seize the opportunities brought
 - new internet access devices and systems, wireless, mobile, internet of things
 - Web technologies enabling aggregation, composition of services etc..
 - Evolution of network architectures?..



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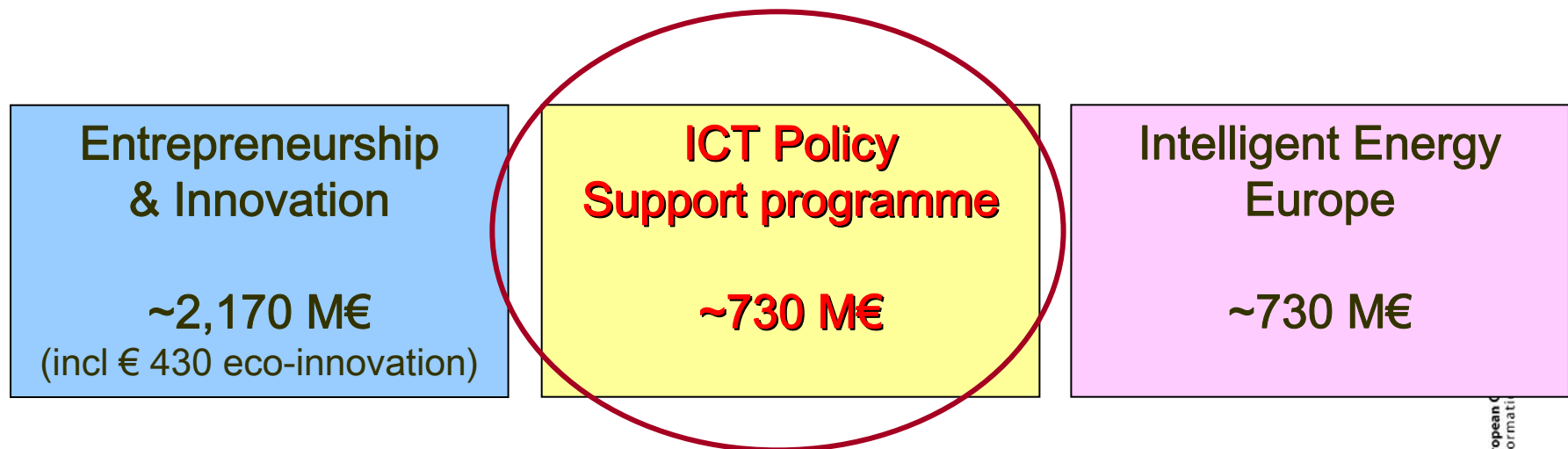
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Competitiveness & Innovation Programme (CIP)

The CIP:

- a (new) programme to boost growth and jobs in Europe
- budget ~3.6B€ (2007-2013)
- Three pillars (specific programmes)



CIP: Council/Parliament Co-decision



ICT in the CIP: What is it?

- Support to uptake of ICT innovations
 - A direct policy support programme
- Focus on areas of public interest
 - Energy efficiency, health and ageing, cultural heritage and digital libraries, mobility, smart cities, government/administration
- Support large scale pilots
 - e.g. wide validations of prototype services, demonstrations of interoperability ...
 - Users in the lead



ICT PSP indicative budget profile

ICTPSP	2007	2008	2009	2010	2011	2012	2013	Total
	57.4	~52	~105	~112	~120	~135	~149	~730

not including contributions from EEA and other countries participating in ICT PSP

Support to the development of digital content fully integrated PSP from 2009

Yearly Work Programmes: Approach & Structure

WP focused on a set of themes

- For each theme, an ultimate socio-economic goal is defined
- Themes are addressed through a set of objectives
 - To be achieved through community contribution
- An objective is supported with
 - Pilot (s) A or B
 - + Best Practice Networks (only for the theme of Digital Libraries)
 - Thematic Network (s)
 - Through Calls for proposals
 - Awareness, benchmarking, conferences, Studies,
 - Through Calls for tenders or grants



ICT PSP WP 2010: Focus on 6 Themes

ICT PSP call4

Theme 1 : ICT for energy efficiency and smart mobility	19 M€
Theme 2 : Digital Libraries	30 M€
Theme 3 : ICT for health and inclusion	14 M€
Theme 4 : Open innovation for future internet-enabled services in "smart" cities	15 M€
Theme 5 : ICT for improved public services	13 M€
Theme 6 : Multilingual Web	16 M€
Total	107 M€



ICT PSP: where do we stand?

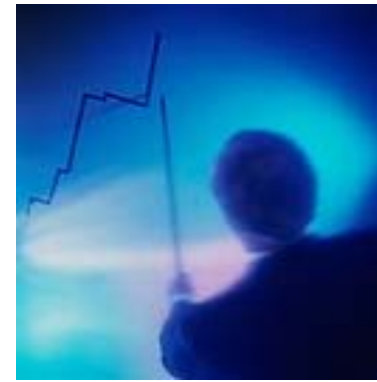
3 main calls up to now (1)



> 80% in pilot and best practices actions



< 10% in Networking actions



~ 10 % in Call for tenders studies, survey, conf...

Based on WP2007, 2008 and 2009 (for ~200 M€)



ICT PSP in 2009

- WP 2009-Call3 and 3bis: ~107 M€ funding for call for proposals
 - Call3 for 99.5 M€ + 8 M€ for other measures
 - 44 proposals under negotiation, 159 proposals received
 - 1 Large scale pilot for patient health services, 2 extensions (eProc. And eID)
 - 26 other Pilots in eGov, eInclusion, ICT for Energy Efficiency, Digital Libraries, Multilingual web, Security, RFID, and Living labs
 - 4 BPN (supporting Europeana), 3 TN
 - Call3bis, +7 M€ for eParticipation
 - 5 proposals for Pilots under negotiation, 28 proposals received



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Beyond 2013: A strategy for ICT research and innovation: "raising the game"

- Issued in March 2009
- Council conclusions in Dec. 09
- Proposes a strategy for ICT R&I for the EU
 - Community level and MSs
- Objective:
 - Enable the EU to shape ICT developments and make the best use of the technology
- Addresses two main issues:
 - Fragmentation of policies, of investments and markets
 - Underinvestment in ICT R&D and in the uptake of ICT



A comprehensive approach

- Actions to address both supply and demand
 - address Europe's socio-economic challenges
 - open new markets with new players
- Closer articulation of EU and MS actions
 - shared by the different stakeholders
 - implemented in variable configurations at different levels
 - EU-level actions must continue to build on, leverage and add value to national and regional initiatives
- The policy should cover the range of activities
 - from R&D and stimulation of technology uptake to procurement and deployment of solutions
 - 'Knowledge Triangle' (research, innovation, education)



Strengthen investments

- Public investments:
 - Grants: FP7 reaching 1.7 B€/year in 2013 (+42% in two years) + **MS to match this increase**
 - Pre-commercial procurements: Cion to raise awareness and provide incentives + MS to engage more
 - Structural Funds: MS to use more often notably for ICT R&D facilities
- Attract private investments:
 - Public-Private Partnerships: Cion to examine other candidates for JTIs and Joint Research Programmes
 - VC/BA/loans: Cion to set up platforms for dialogues, support awareness-raising of EU technologies
 - More focused cluster policies, MSs
 - Reinforce support to innovative SMEs; MSs+Cion
- Monitor and benchmark: Cion to observe ICT R&D investments



Strengthen collaboration, concentrate & specialise resources

- Shared strategies and policies
 - Cion and MSs to strengthen dialogue between stakeholder groups,
 - National ICT Research Directors Forum, ICT Advisory Group (ISTAG), ICT ETPs, other policy areas, e.g. i2010 ad hoc groups (health,..)
- Pooling of resources
 - Cion to examine other candidates for JTIs & Joint Research Progs.
- ICT R&D infrastructures & knowledge-based innovation clusters
 - MS to strengthen collaboration in planning, implementing and sharing infrastructures/clusters
 - Cion to support shared ICT R&D infrastructures in FP8
- EIT KICs: Cion proposes ICT as a priority area
- Qualified skills in ICT R&D: Cion support to 'New Skills for New Jobs' and e-Skills initiatives



Open up new markets for innovation

- ICT R&D&I policy must help drive forward other policies:
 - MS to promote tighter collaboration between users/buyers and producers/suppliers of ICT innovations;
 - MS to define & implement public demand for ICT innovation together;
 - Cion to support experience sharing
- Interoperability and standards:
 - Cion to revise ICT standardisation process + to reinforce pan-European pilots in CIP;
 - MS to support and participate in CIP pilots + to complement by actions at local level + to use the Structural Funds more to roll-out innovative ICT applications
- More favourable conditions for business developments: single market measures, regulation, public procurements etc.



Support projects cutting across the innovation chain

- Cion proposes to support a set of 'single-heading' focused European-scale projects that cut across the innovation cycle
 - Incl. grants to R&D, pre-commercial procurement and support to innovation and deployment
 - Addressing specific mid-term societal goals, with intense users/producers, local/regional/national/European collaborations
 - Example modern pan-European service infrastructures: Innovative ICT solutions for sustainable healthcare, for energy-efficiency, and for an electronic identity management infrastructure
 - Test and validate cases using existing instruments; later: full implementation under MAFF 2013+
 - E.g. personalised health systems, energy efficiency, eID,



More Information

Thank you!!

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



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