Information Day
5th Call of ICT Theme in FP7
Objective 1.3 "Internet of Things & Enterprise Environments"

Gérald SANTUCCI,
Head of Unit, DG INFSO.D4, European Commission

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Where do we stand?

- **Behind us**
  - 3 main Calls for proposals in 2007-08
  - 2.1 B€ of EU funding, around 500 projects launched (out of ~3000 proposals received)
  - Launch of the first Calls of two Joint Technology Initiatives (JTI) and Ambient Assisted Living Joint Programme (AAL)
- **Ahead of us**
  - WP 2009-10, 1.9 B€ funding
  - + JTIs >680 M€ funding
  - +AAL around 100 M€ funding

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FP7 – ICT Proposers' Day

Budapest
22 January 2009

Was an opportunity to obtain information

- Challenges and objectives of the Work Programme
- Instruments, contracts, rules for participation
- Commission officials present to provide guidance

+ Networking

- Meet researchers with similar or complementary research interests
- Form project consortia
- Objective 1.3:
  - 200 participants (room full) strolling unceasingly from 9am to 6pm
  - Participants concerned by shift of focus from Call 1 to Call 5
  - Participation of Alain Jaume, Cristina Martinez, Peter Friess

http://ec.europa.eu/information_society/events/budapest_2009

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Call 5: Open 31 Jul 2009, Close **3 Nov 2009**; 722 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

Call for Proposals

- The 'call text' will be published on the CORDIS website: http://*cordis.europa.eu*
  - References to the work programme topics against which proposals are invited, indicative call budgets, available funding schemes, deadlines for submission, and links to the Electronic Proposal Submission Service (EPSS)
- This web site provides access to all the necessary information, in particular, one or more guides for applicants
  - Submission process
  - Assistance and information, i.e. National Contact Points, EC's FP7 Enquiry Service

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Funding schemes

- Collaborative Projects (CP)
  - Small or medium scale focused research actions ("STREP")
  - Large Scale Integrating Projects ("IP")
  - ~ 90% of 2009/10 budget
- Networks of Excellence (NoE)
  - ~ 4 % of 2009/10 budget
- Coordination and Support Actions (CSA)
  - Coordinating or networking actions ("CA")
  - Support Actions ("SSA")
  - ~ 6% of 2009/10 budget

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Positioning of the Programme

- Projects launched in 2009-10 to have impact in 2015-2020
  - "time-to-market" = 5 years or more
- By then, global ICT/knowledge infrastructure – related technologies – market structures – value chains – business models: all will have significantly changed
- Research challenges:
  - Encourage firms to explore more innovative options than they would otherwise pursue
  - Focus on higher-risk ICT collaborative research in a medium to long-term agenda

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Approach: Challenges, objectives, outcomes, impact

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

- ✓ **Continuity**
  - of structure
- ✓ **Adaptations**
  - of challenges and objectives
  - also through different weights between priorities

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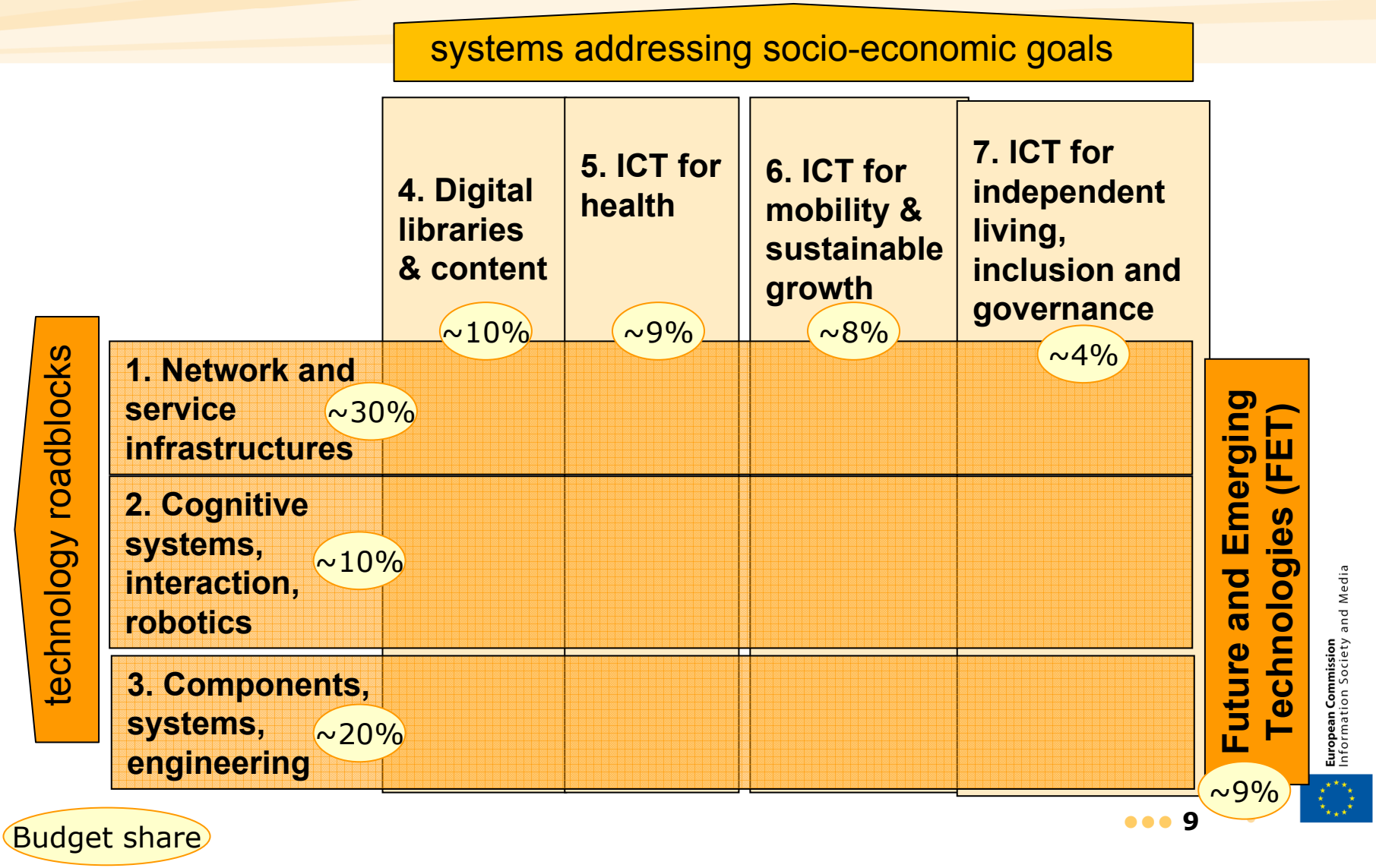
ICT in FP7: 7 Challenges + FET



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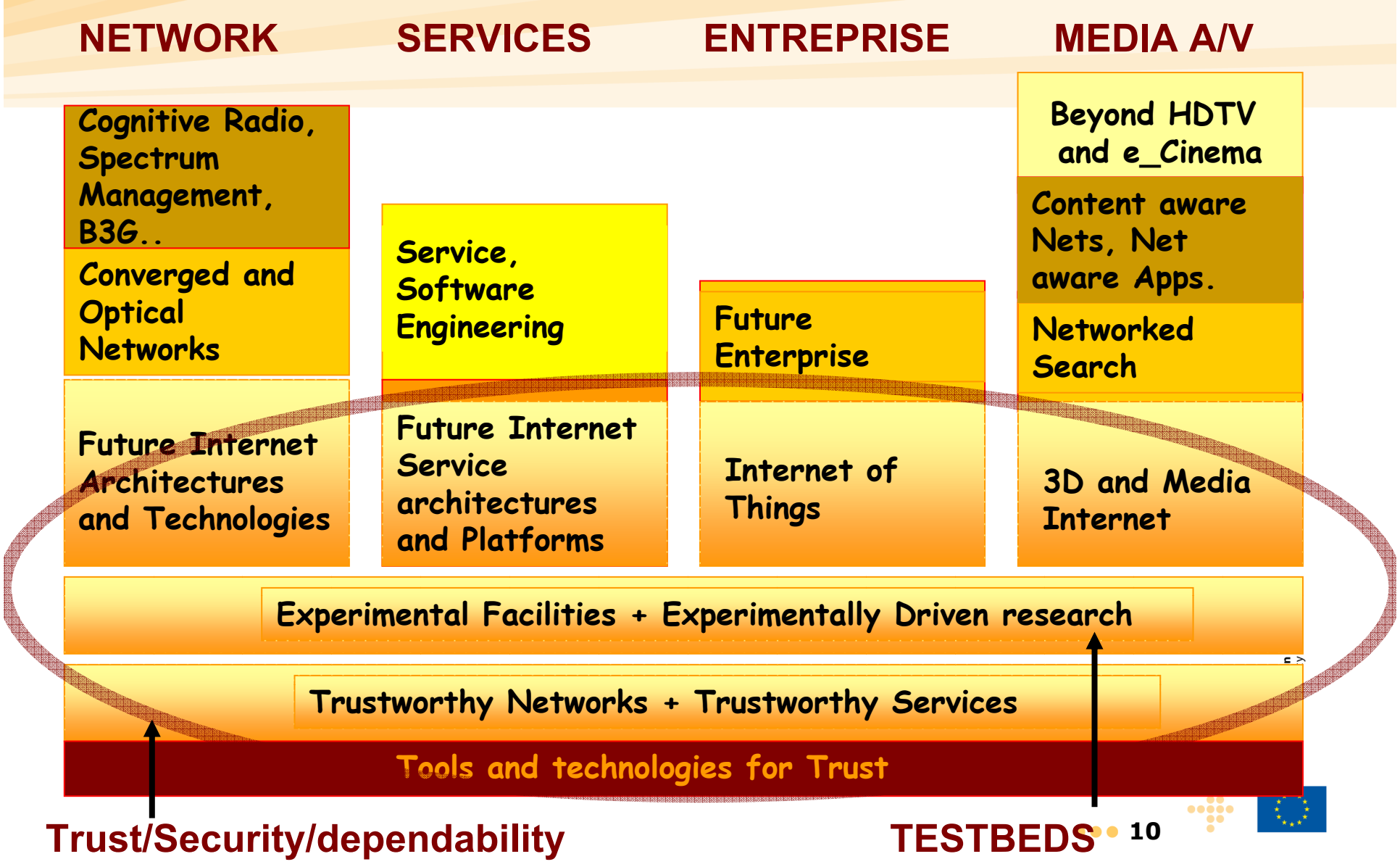
Challenge 1: "Future Internet" as Federating Theme



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 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
- 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

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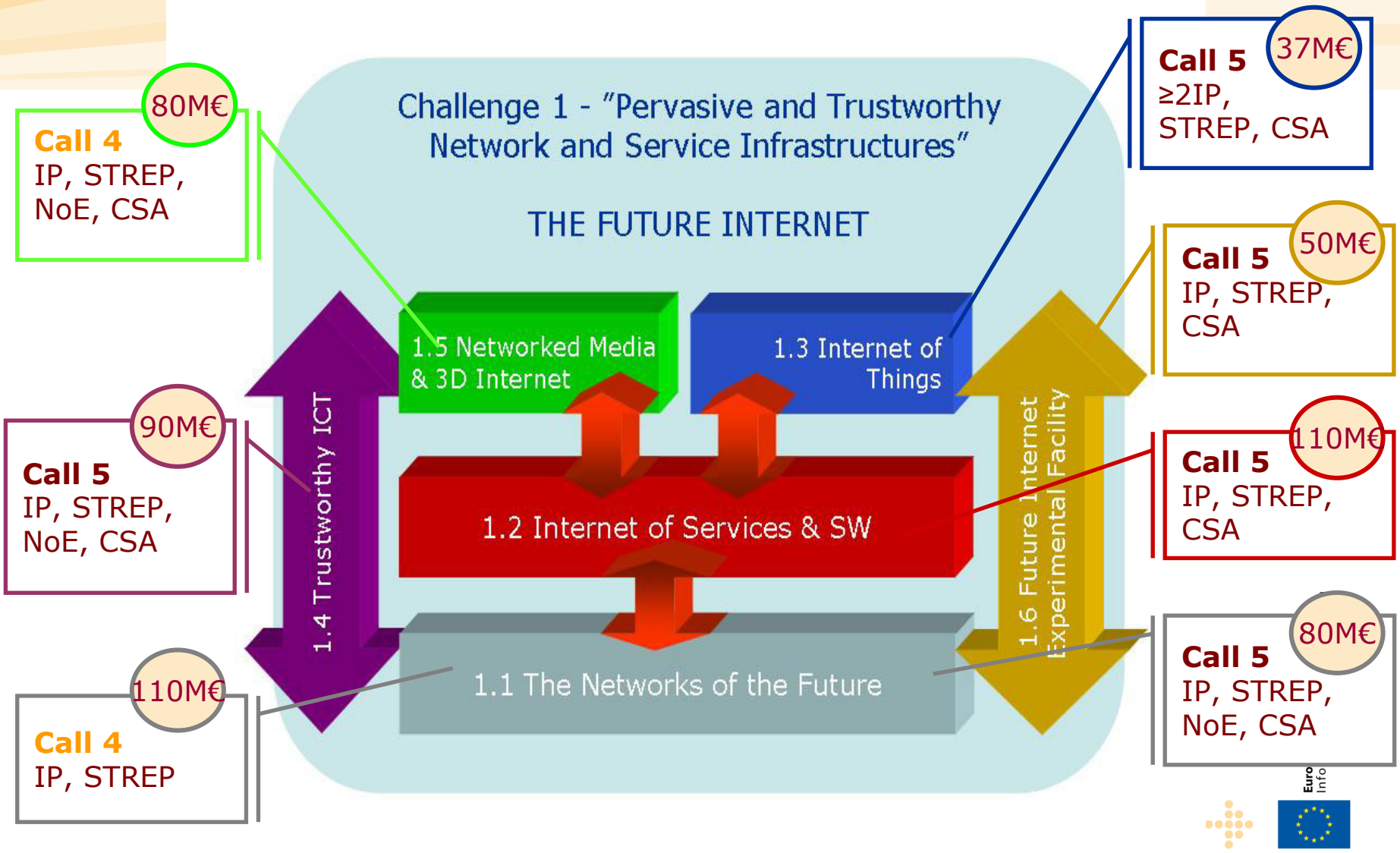
Challenge 1: Objectives

557 M€
(~30%)



Challenge 1: Target Outcomes (I)

1.1 The Network of the Future

(IP, STREP)

- Call 4 - 80M€

Spectrum-efficient radio access to Future Networks

Converged infrastructures in support of Future Networks

- Optical networks
- Converged service capability

- Call 5 - 110M€

"Future Internet" Architectures and Network Technologies

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

1.2 Internet of Services, Software and Virtualisation

110M€

(IP, STREP)

- Call 5 -

Service Architectures and Platforms for the "Future Internet"

Innovative Service / Software Engineering

Coordination and support actions (CSA)

1.3 Internet of Things and Enterprise environments

37M€

(≥2 IP, STREP)

- Call 5 -

Architectures and technologies for an "Internet of Things"

Future-Internet based enterprise systems

International cooperation and coordination (CSA)

Challenge 1: Target Outcomes (II)

90M€

1.4 Trustworthy ICT
- Call 5 -

"Trustworthy Network Infrastructures" (IP)

"Trustworthy Service Infrastructures" (IP)

Technology and Tools for Trustworthy ICT (STREP)

Networking, Coordination and Support (NoE, CSA)

80M€

1.5 Networked Media and 3D Internet
- Call 4 -

Content aware networks and network aware applications (IP/STREP/NoE)

"3D Media Internet" (IP/STREP/NoE)

Networked search and retrieval (IP/STREP)

Immersive media experiences beyond HDTV and e-Cinema (IP/STREP/NoE)

Support measures (CSA)

50M€

1.6 "Future Internet" experimental facility and experimentally-driven research
- Call 5 -

Building the Experimental Facility and stimulating its use (IP)

- **FIRE Components**: operational prototype facility
- **FIRE Users**: open calls; results of mutual interest

Experimentally-driven Research (STREP)

Coordination actions (CSA)

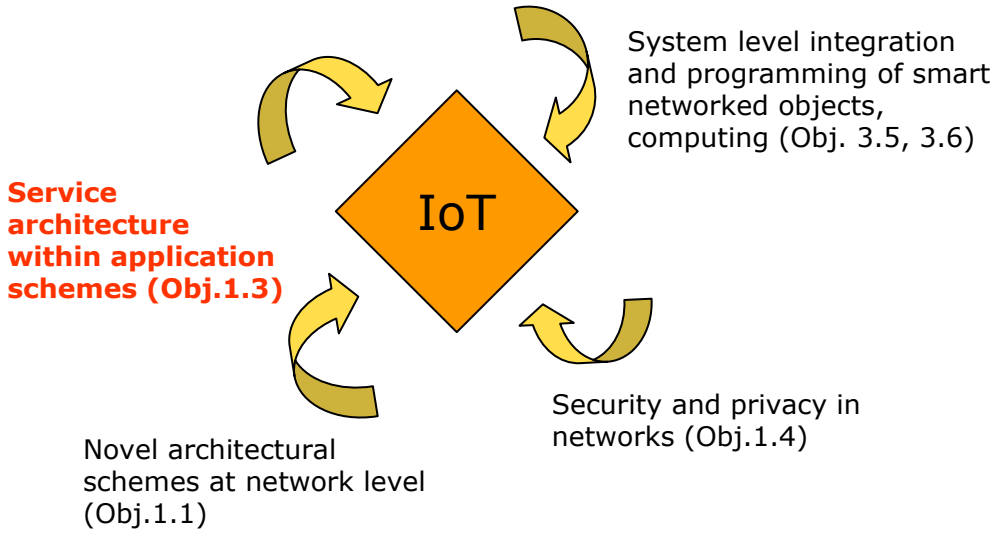
Addressing synergies throughout the Programme

Breakthroughs from crossovers and convergence of technologies and disciplines

Innovations from the use of ICT in demanding application contexts

Technology-led challenges: removing roadblocks and improving the capability of generic technology components, systems and infrastructures

Application-led challenges: new systems, products and services that provide step-changes in the capabilities of the resulting application solution



Example: Internet of Things

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Objective 1.3 “Internet of Things and Enterprise environments”

- **Target Outcomes**
  a) Architectures and technologies for an IOT
  b) Future Internet-based Enterprise Systems
  c) International cooperation and co-ordination
- **Expected Impact**
  - Enhanced competitiveness of European businesses
  - European leadership in the supply of integrated business solutions
- **Funding Schemes**
  - a) b) IP, STREP ; c) CSA

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The Shift from WP 2008-09 to WP 2009-2010

- **Target outcome a)**
  - This is not R&D on RFID!
    - RFID is today a topic for EU policy
      - Implementation of COM(2007) 96 final
      - Recommendation on privacy and data protection; standards mandate; thematic network & pilot projects; international cooperation,...
- **Target outcome b)**
  - This is not Enterprise Interoperability (EI)!
    - EI Cluster activities (2004-2008)
      - EI Research Roadmap (July 2006)
      - Value Proposition (January 2008)
    - New Cluster from January 2009
      - Future Internet Enterprise Systems (FInES)

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The Shift from WP 2008-09 to WP 2009-2010

- Target outcome a)
  - Architectural models within IoT application scenarios
    - From the initial assembly of existing interconnected components to a true meshed environment based on global, open and interoperable standards and on interfaces that are independent from the underlying transport infrastructures and the vertical applications
    - Case 1: enterprise applications that plan, manage and execute via the IoT complex and dynamic business processes, e.g. manufacturing, supply chain integrity, smart power metering, automotive, fleet management
    - Case 2: applications of general interest, e.g. health and/or ambient assisted living; public or personal services
  - Consideration of horizontal issues
    - Scalability; connectivity and addressing; heterogeneity; flexibility, interoperability and data security; privacy; reliability of data retention; environmental protection ("zero entropy devices")
    - Necessity to develop a European approach to standardisation and governance

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The Shift from WP 2008-09 to WP 2009-2010

- Target outcome b)
  - Software platforms supporting highly innovative networked businesses on top of the Internet of Services
  - At stake is a transformation of supply chains
    - New actors in the supply chain
      - Traditional players (chip producers component developers, system integrators, software vendors, etc.) + large users (retail/distribution, aeronautics, etc.), content industries,…
    - New business forms to enhance responsiveness, value-creativity, agility,… → the Future Enterprise is the Future Internet!
    - Development of an IoT ecosystem: networks, partnerships, complex interrelations, transformation of supply chains, blurring of traditional boundaries of firms and sectors
    - Interoperability is a core element of the IoT ecosystem
      - Not only interconnection (compatibility between H/W and S/W components) but also open standards that can be re-used by all actors within their own technical solutions
      - Towards a single interoperable language unifying the entire product lifecycle?

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More Information

- FP7: http://ec.europa.eu/fp7/ict
- RFID and the Internet of Things: http://ec.europa.eu/information_society/policy/rfid/index_en.htm
- FP6: http://cordis.europa.eu/ist

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