



Future Networks Research in FP7 and H2020

RIPE 64 – 19/04/2012
Ljubljana

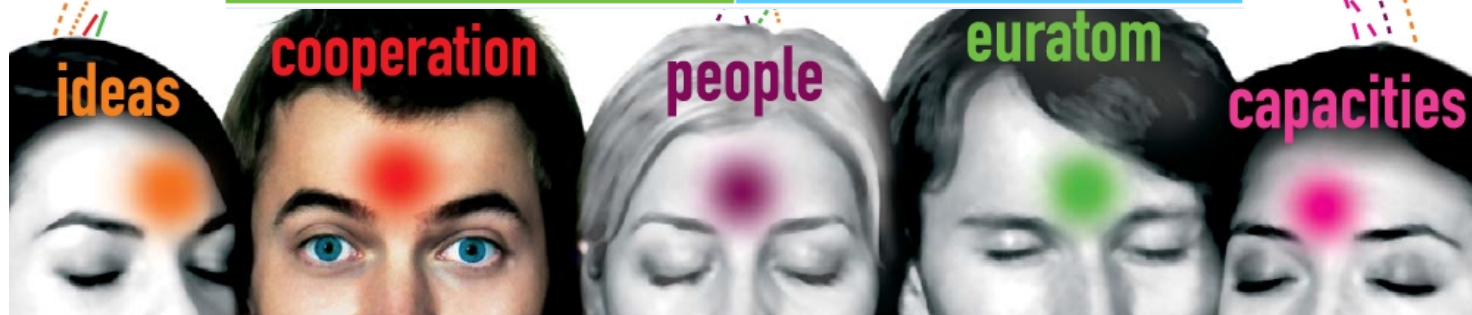
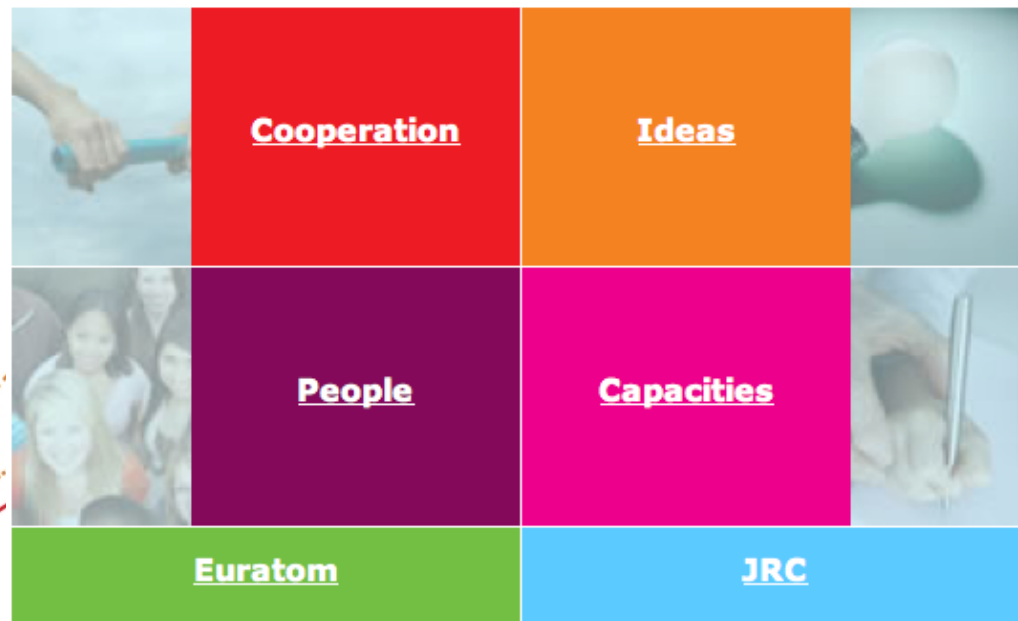
Rüdiger Martin

Unit 'Future Networks'
European Commission – Information Society and Media

EU Research Framework Programme 7 (2007-13)

Total Funding: 50,5 B€

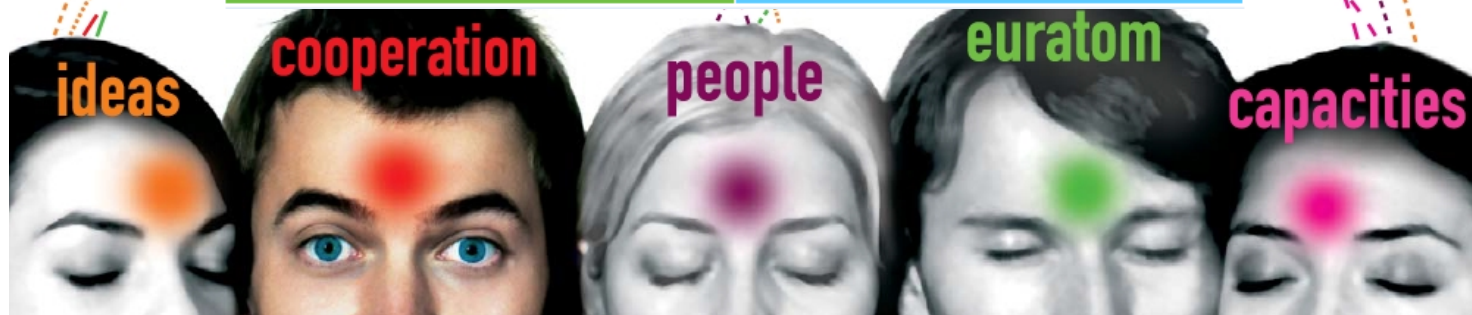
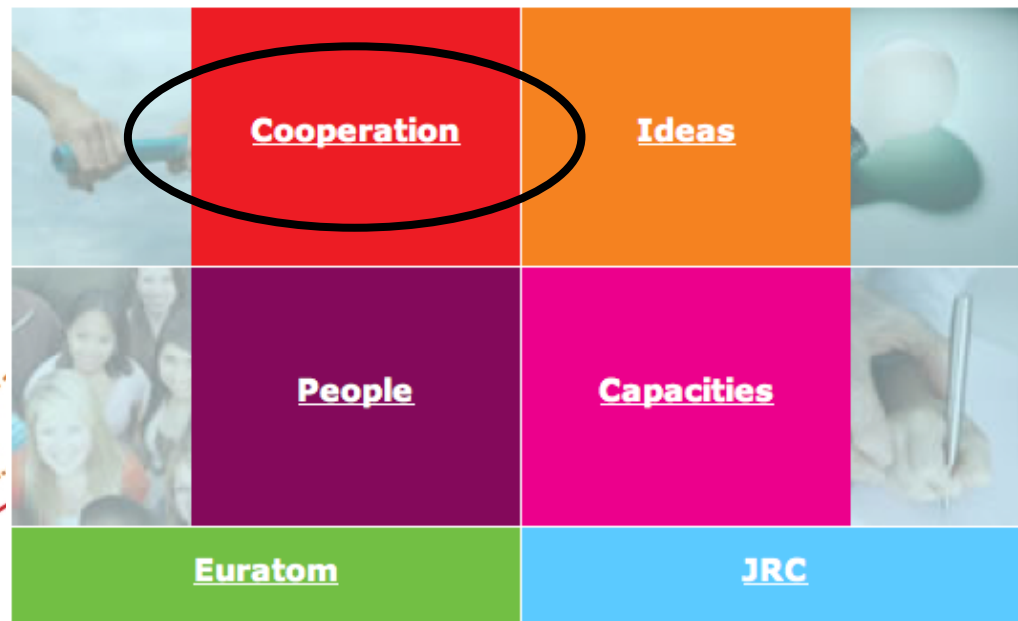
Specific Programmes



EU Research Framework Programme 7 (2007-13)

Total Funding: 50,5 B€

Specific Programmes



EU Research Framework Programme 7 (2007-13)

Basic Project Facts (I)

Who can participate?

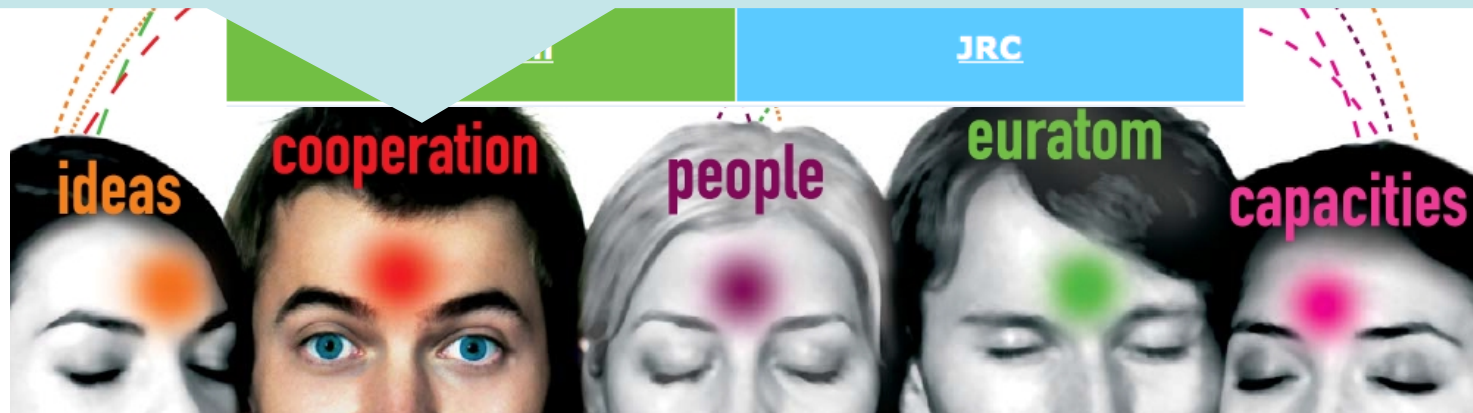
Any undertaking, university or research centre or other legal entity, whether established in a Member State (MS) or Associated Country (AC) or third country

Spec

Prog

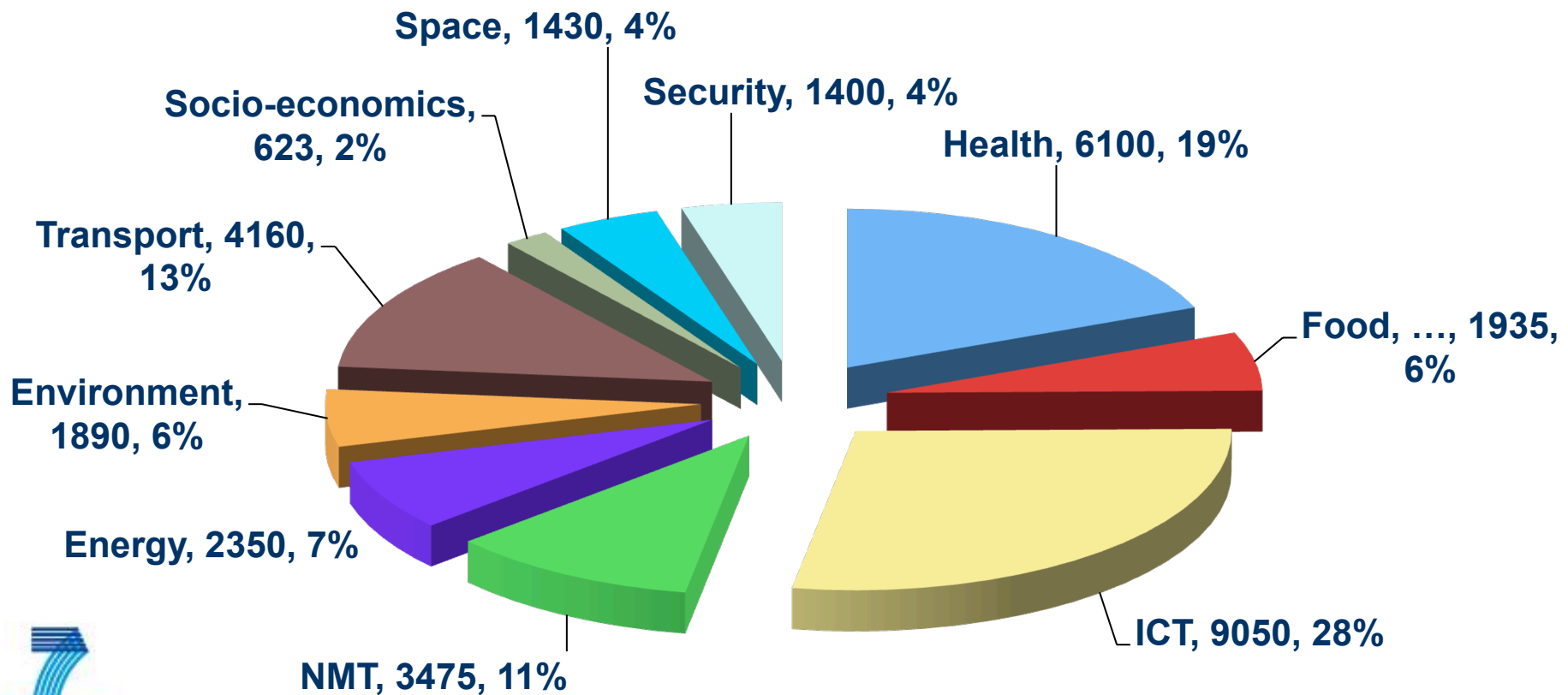
Minimum consortia

Three independent legal entities from three different EU Member States or Associated countries



FP7 Cooperation Programme: 32,413 M€

10 Themes



FP7 Cooperation Programme: 32,413 M€

Basic Project Facts (II)

Who can get funding?

- Legal entities from Member States (MS) and Associated Countries (AC) or created under Community law (and the JRC)
- International European interest organisations
- Legal entities established in international cooperation partner countries (ICPC-INCO)

but

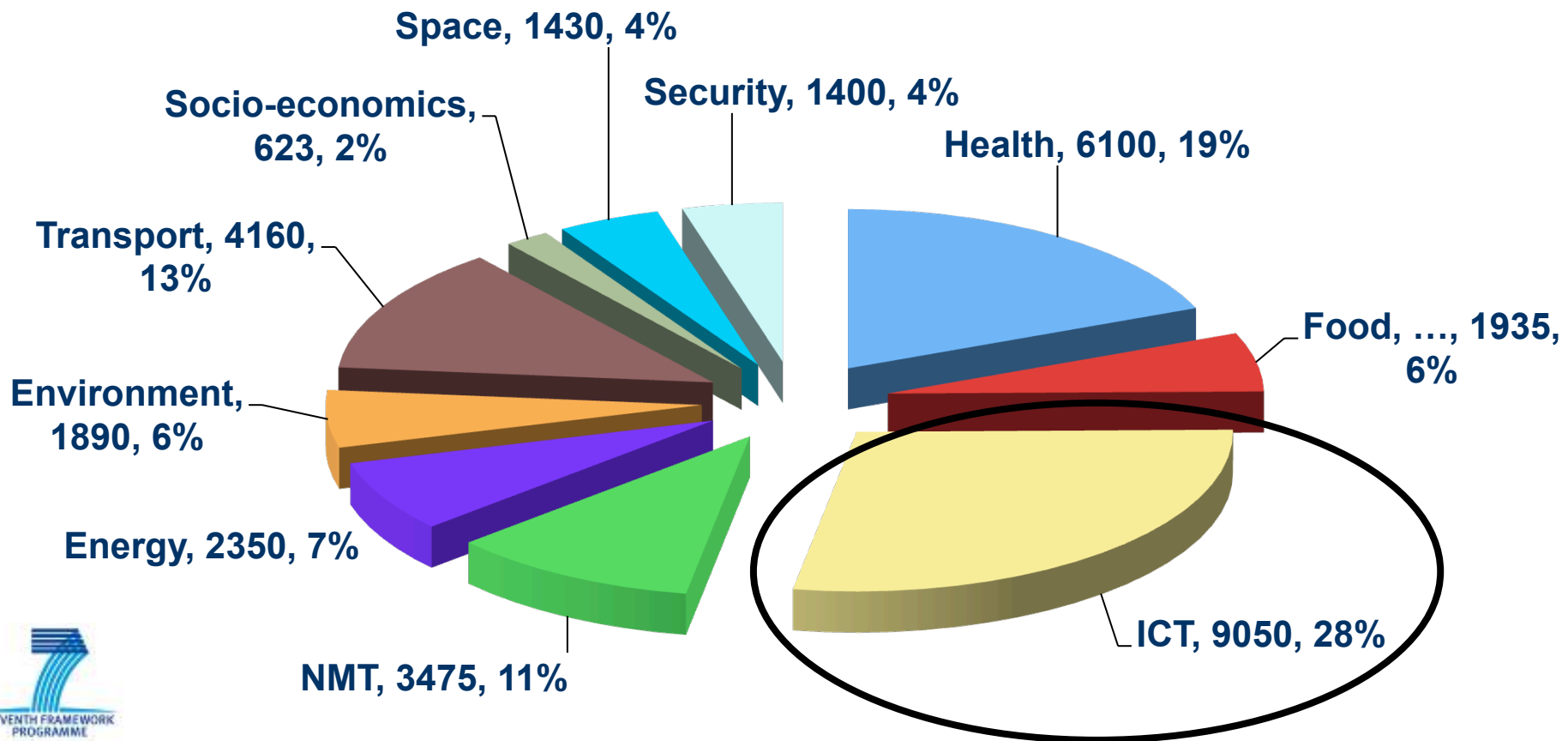
- International organisations and
- Legal entities established in 3rd countries other than ICPC-INCO only exceptionally if provided for in SP or WP or essential for carrying out action; or if provision for funding is provided for in a bilateral agreement between Community and that country

NMT, 3475, 11%

ICT, 9050, 28%

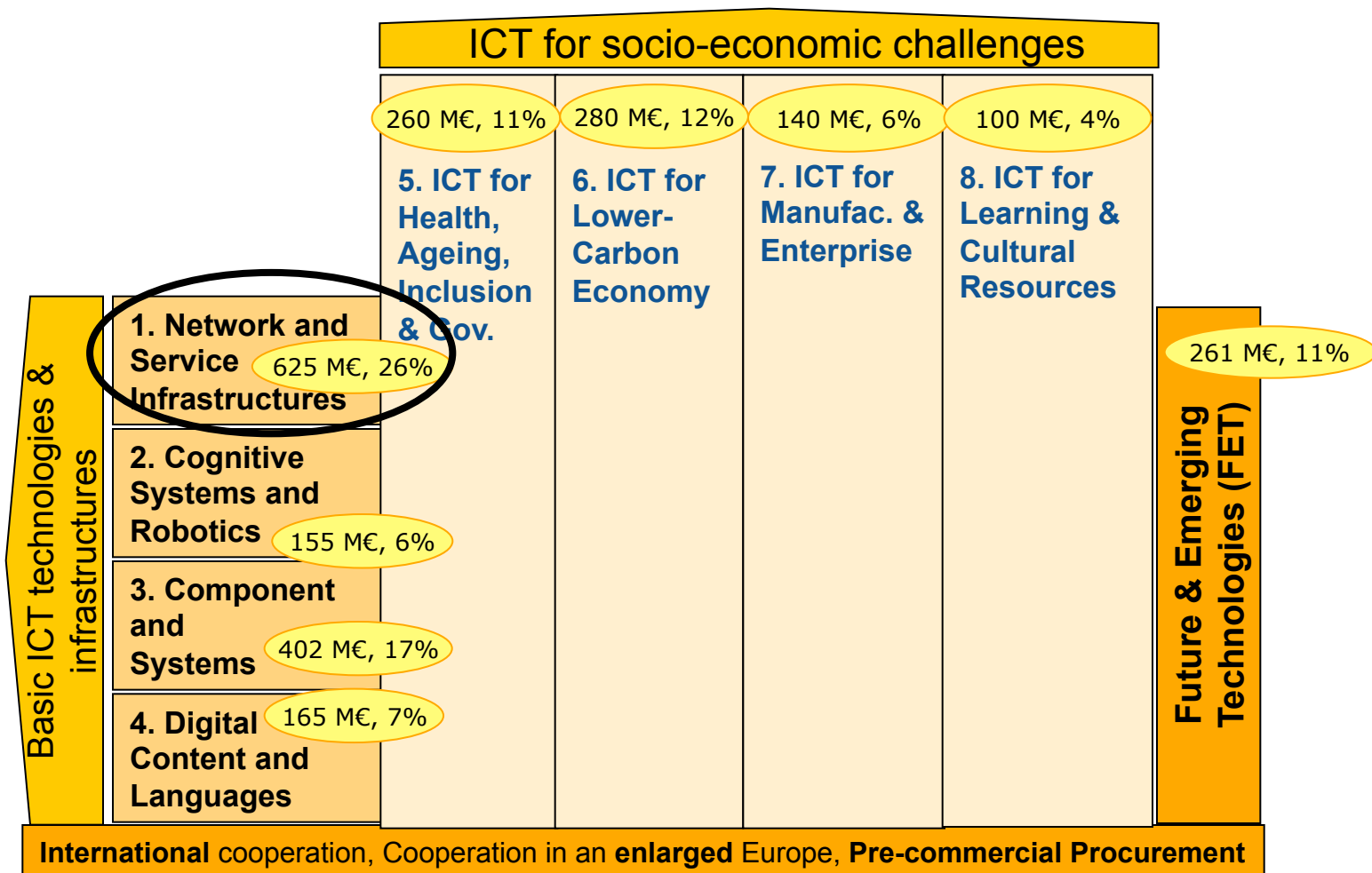
FP7 Cooperation Programme: 32,413 M€

10 Themes

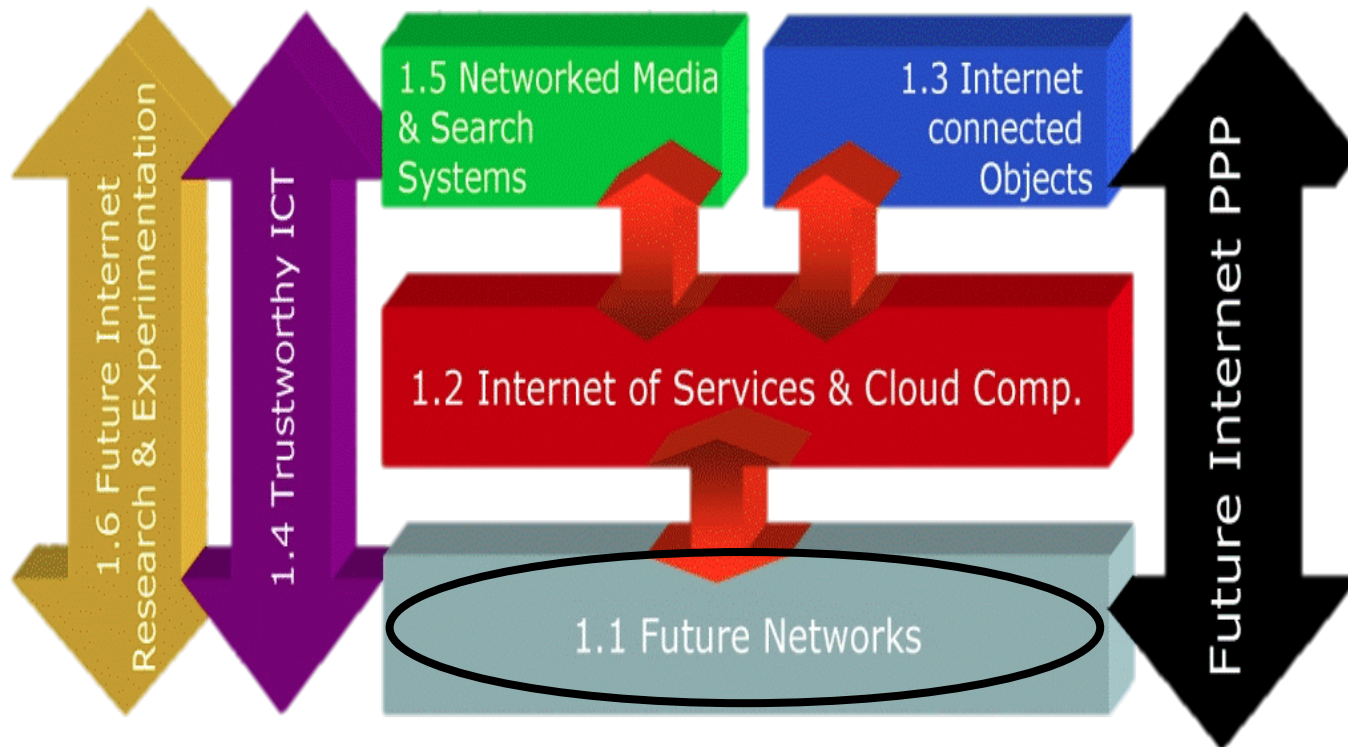


2 years budgets
2011/12

FP7/ICT Programme Structure

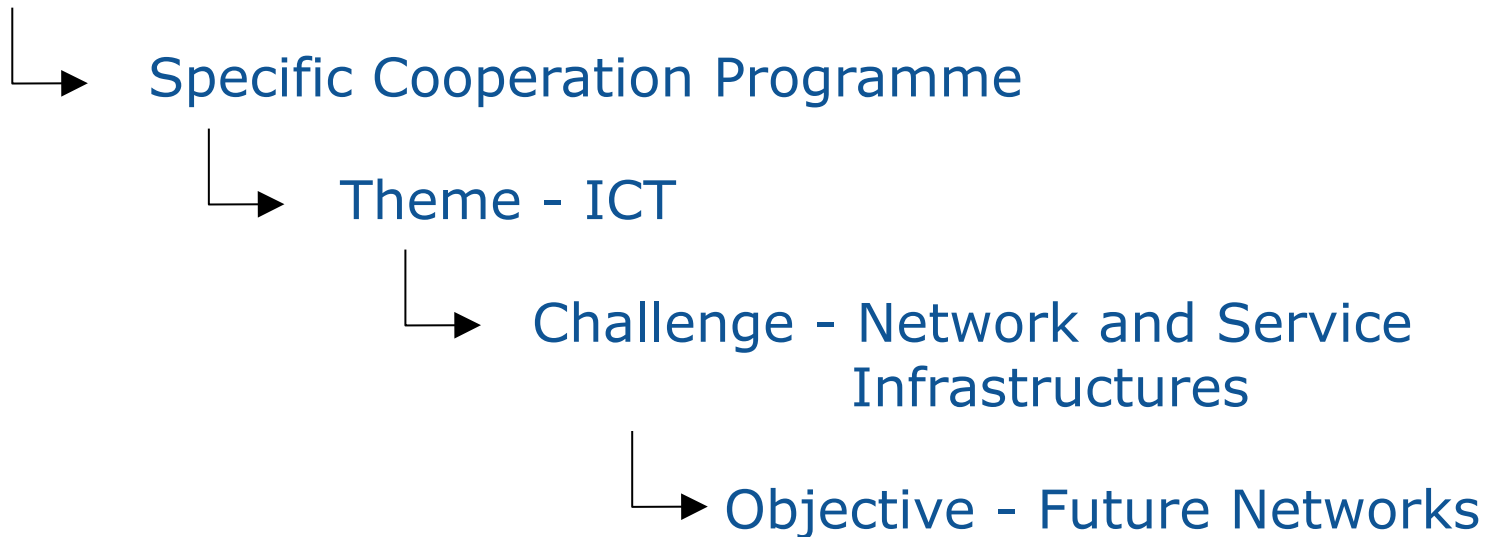


Challenge 1: Pervasive and Trustworthy Network and Service Infrastructures



[In short]

EU Research Framework Programme 7 (2007-13)



Which Networks for our Future?

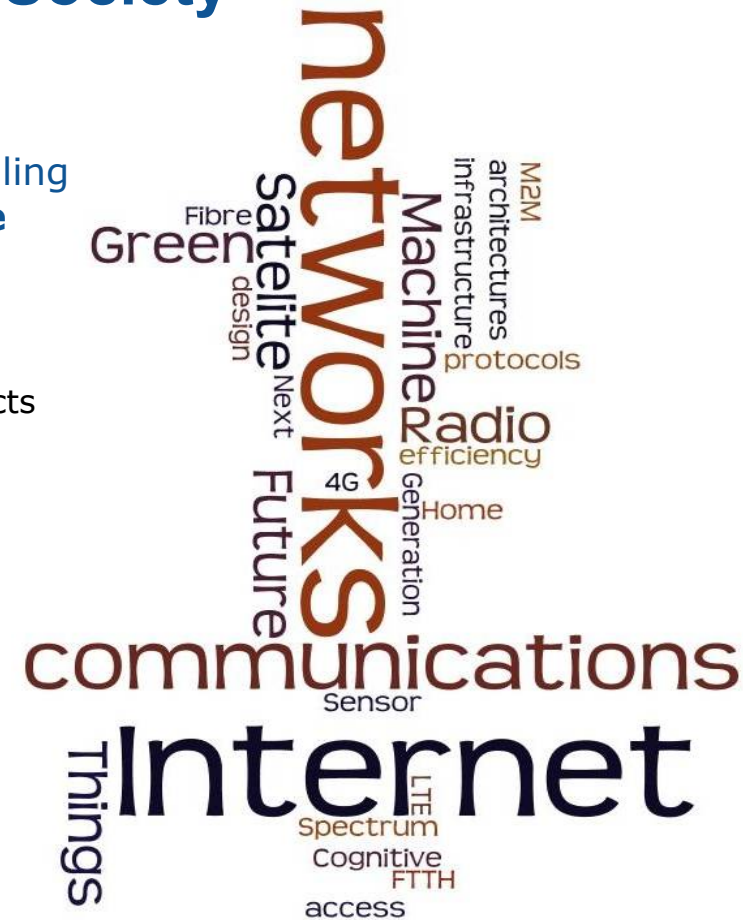
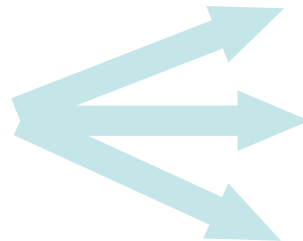
Connecting the Digital Society

Future Networks Research

for the ubiquitous **ultrafast Internet of the future** enabling every European to have a **broadband connection to the digital society (Digital Agenda)**

Currently 3 clusters of projects

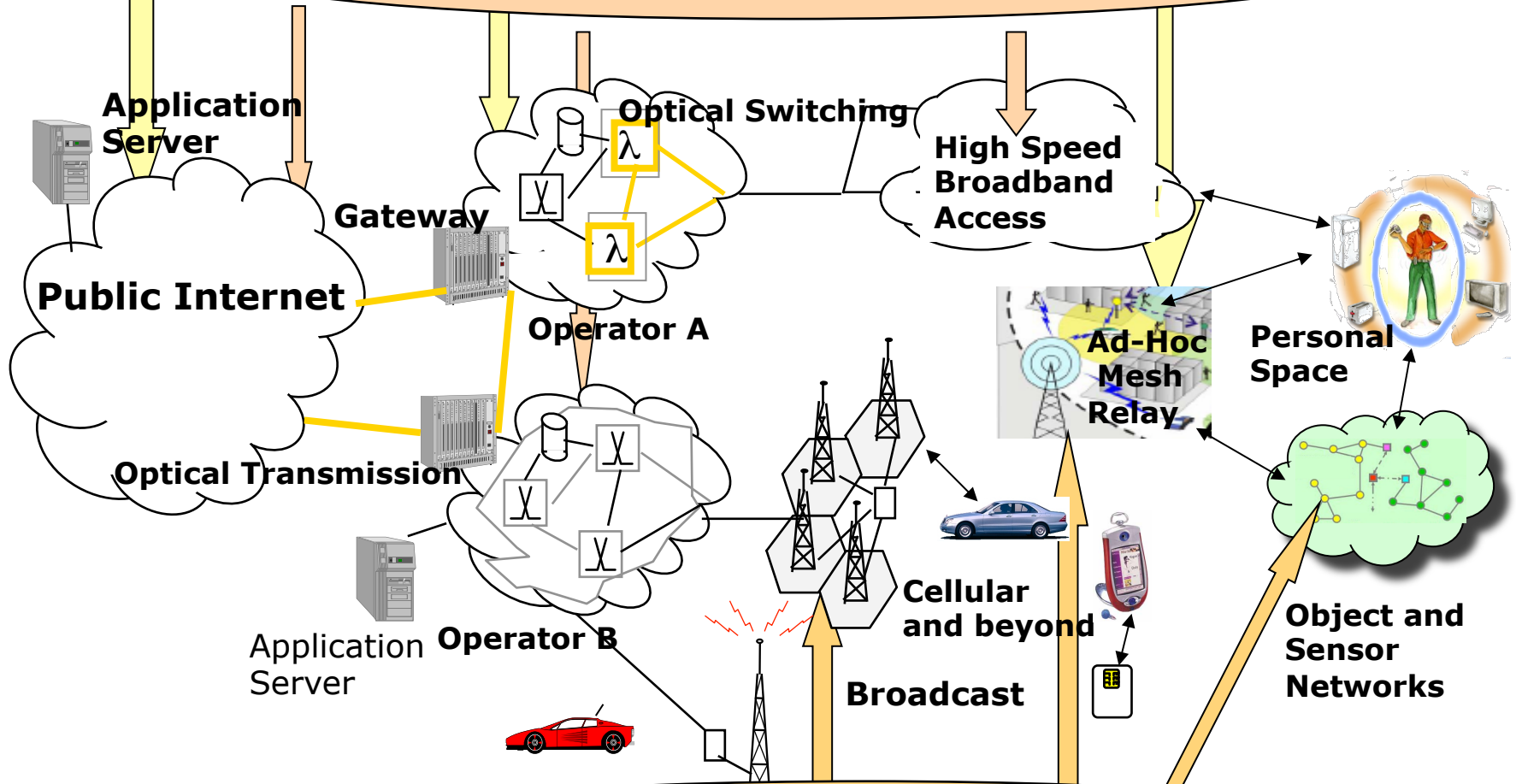
Future Networks





Future Internet Technologies

Converged and Optical Networks



Future Internet Technologies

SAIL
TRILOGY
CHANGE
PURSUIT
FLAVIA
UNIVERSELF
AUTOI
CHIANTI
MOBITHIN
MOMENT
SOCRATES
MEDIEVAL
4WARD
SPARC
ECONET
EPIFSANS
SMOOTH-IT
MOBILEWEB2.0
EX-FI
PSIRP
EURO-NF
FIGARO
ETICS
TREND
ULOOOP
SESERV
ceFIMS

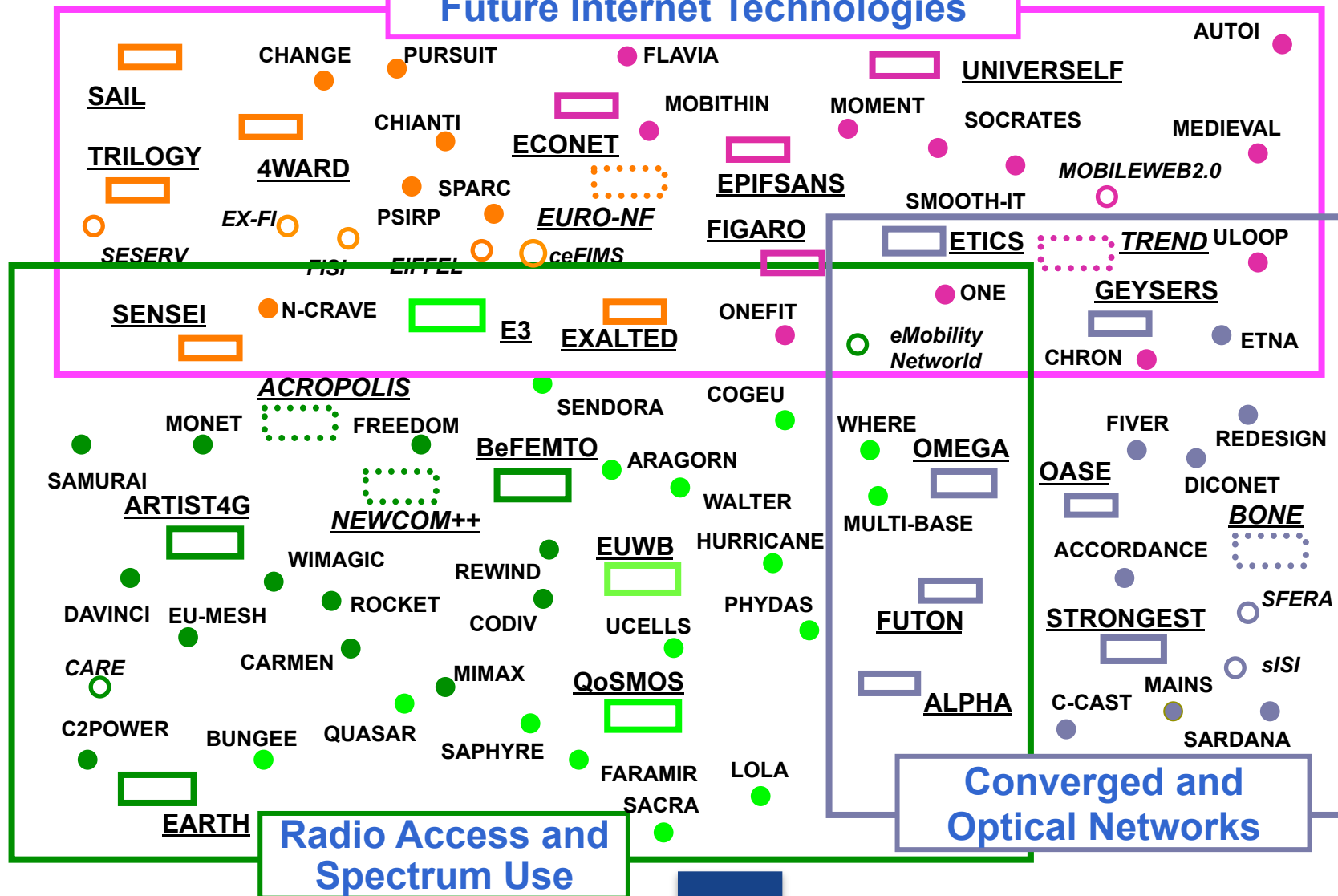
Call 1-5 Future Networks Project Portfolio & Clusters

ACROPOLIS
MONET
FREEDOM
SENDORA
COGEU
SAMURAI
ARTIST4G
NEWCOM++
WIMAGIC
ROCKET
REWIND
CODIV
EUWB
PHYDAS
DAVINCI
EU-MESH
CARE
C2POWER
BUNGEE
QUASAR
SAPHYRE
FARAMIR
SACRA
BeFEMTO
ARAGORN
WALTER
HURRICANE
WHERE
OMEGA
MULTI-BASE
FUTON
ALPHA
CHRON
FIVER
REDESIGN
DICONET
BONE
ACCORDANCE
STRONGEST
C-CAST
MAINS
SARDANA
SFERA
sISI

Radio Access and
Spectrum Use

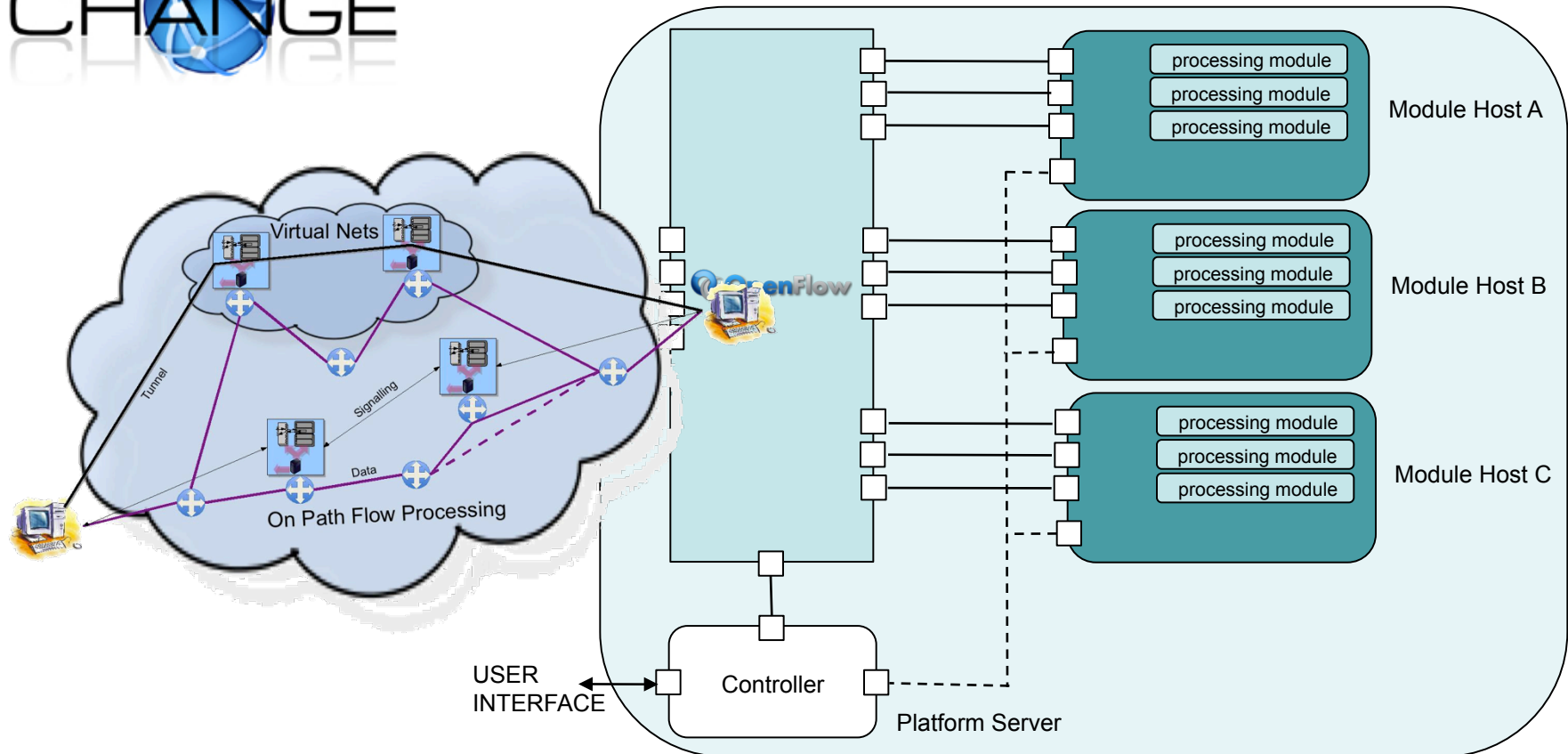
Converged and
Optical Networks

Future Internet Technologies





Project Example



Objective: To Enable Innovation in the Internet Architecture through Flexible Flow-Processing Extensions



Project Example

Start Date: *2010-10-01*

Duration: *36 months*

End Date: *2013-09-30*

Project Total Cost: *5.6 million Euro*

EC Contribution/Funding: *3.9 million Euro*

Webpage: [CHANGE \(http://www.change-project.eu\)](http://www.change-project.eu)



11 Partners:

Eurescom GmbH, Germany

NEC Europe Ltd, United Kingdom

Deutsche Telekom AG, Germany

University College London, United Kingdom

Lancaster University, United Kingdom

Université Catholique de Louvain, Belgium

Technische Universität Berlin, Germany

Universitea Plitehnica din Bucuresti, Romania

DreamLab Technologies AG, Switzerland

Nextworks, Italy

Università die Pisa, Italy

Novel Internet Architectures

Clean Slate/
Visionary Internet



Information-Centric Networks
Software Defined Networks (OpenFlow...)
Network of Objects and People
Virtualization
Content Distribution
Service-aware Networking
Cloud Networking
Network Coding
Delay-tolerant Networking
Design-for-Tussle
Mobile Cloud

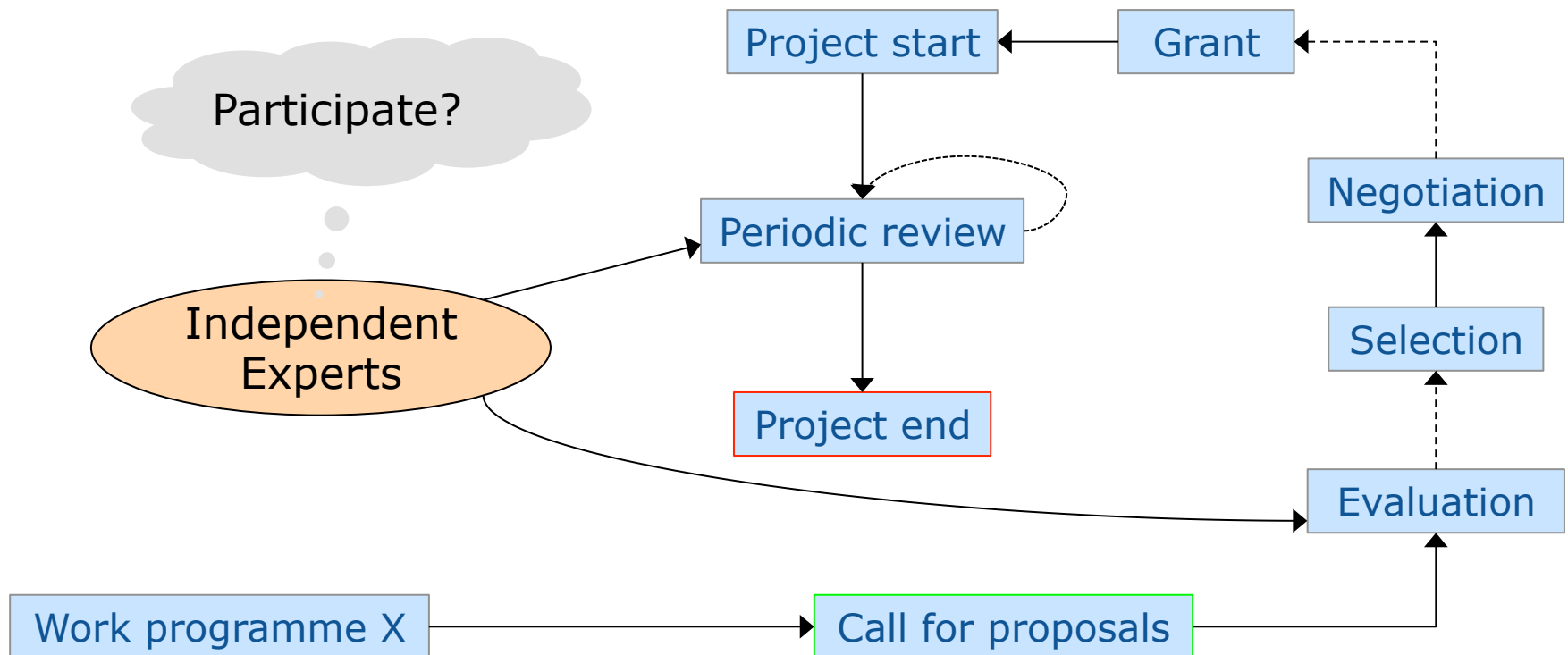
Evolutionary
Internet



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- **NETWORK MANAGEMENT and CONTROL:** measurements, QoE, self, autonomic
- **SOCIO-ECONOMICS OF THE INTERNET**
- **GREEN INTERNET**

Project Lifecycle



Register as an expert: [Cordis database](https://cordis.europa.eu/emmfp7/index.cfm) (<https://cordis.europa.eu/emmfp7/index.cfm>)
Talk to us! (Send your reference number to us)

Project Lifecycle

Call 8 (01/2012):

- ...
- a) Wireless and mobile broadband systems
 - LTE-Advanced and post-LTE systems; ... new radio transmission paradigms and system designs ...
 - Enabling technologies for flexible spectrum usage ... cognitive radio ...
 - Novel radio network topologies ...
 - Integration of radio technologies with optical fibre networks
 - ...
 - b) High capacity end-to-end infrastructure technologies
 - c) Novel Internet architectures, management and operation frameworks
 - d) Flexible, resilient, broadband and integrated satellite communication

Participate

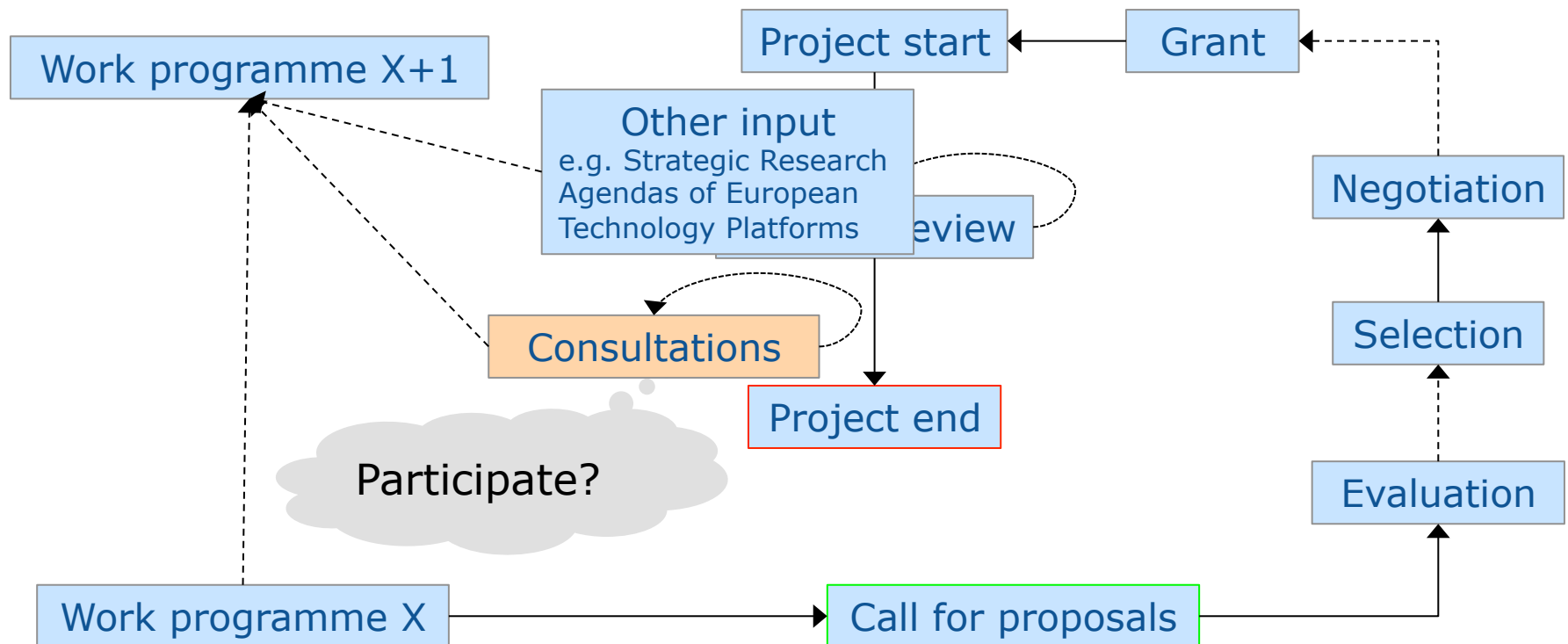
Independent
Experts

Work programme X

Call for proposals

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Talk to us! (Send your reference number to us)

Work programme cycle



Participate in current [Future Networks Web Consultation](http://ec.europa.eu/information_society/events/future_networks/concertation/horizon2020-stakeholder-consultation/index_en.htm)

(http://ec.europa.eu/information_society/events/future_networks/concertation/horizon2020-stakeholder-consultation/index_en.htm)!

Ongoing Future Networks Consultation

Barriers and challenges

- Filling the gap between demand and capacity
- Spectrum scarcity
- Co-existence of various wireless technologies and connections
- Adoption of cognitive radio systems
- Increasing complexity of network management and operations
- Conciliate security, trust and privacy constraints
- End-to-end QoS / QoE
- Dependability, robustness and resilience of networks
- Energy-efficiency in networks
- Inertia

Ongoing Future Networks Consultation

Technical evolutions

- Emergence of M2M communications
- Virtualization and integration of communication networks, storage and computing resources
- Proliferation of cloud concepts
- Convergence of 'macro' and 'micro' networking
- Emergence of content-centric networks
- 5G wireless systems
- Emergence of cognitive radio and dynamic spectrum allocation (as mature technologies)
- Development of Photonic Integration
- Evolution of terminals and tablets



Next steps

- From 30/11:** Parliament and Council negotiations on the basis of the Commission proposals
- Ongoing:** Parliament and Council negotiations on EU budget 2014-20 (including overall budget for Horizon 2020)
- Mid 2012:** Final calls under 7th Framework Programme for Research to bridge gap towards Horizon 2020
- By end 2013:** Adoption of legislative acts by Parliament and Council on Horizon 2020
- 1/1/2014:** **Horizon 2020 starts; launch of first Calls**

Thank you for your attention!

Do participate to our consultation on **network communications challenges** to be addressed in **HORIZON2020 research programme**

How?

- Web-based consultation

(http://ec.europa.eu/information_society/events/future_networks/concertation/horizon2020-stakeholder-consultation/index_en.htm)

- **Deadline: 15 May 2012**
- **Open Workshop: 29 June 2012**
in **Brussels**

the highest-quality/most relevant contributions will be invited to present & discuss their ideas for HORIZON2020 Future Networks Research

Keep in touch:

Future Networks Webpage

(<http://cordis.europa.eu/fp7/ict/future-networks>)

INFSO-FUTURE-NETWORKS@ec.europa.eu

Future Networks Newsflash



Conference & Exhibition

Future Network & MobileSummit 2012

Call for Papers

Berlin - Germany

www.FutureNetworkSummit.eu

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04 - 06 July 2012