

Future Internet: Towards deployment and innovation



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Information Society and Media

The Future: The Commission's proposals for the 2014-2020 Multiannual Financial Framework

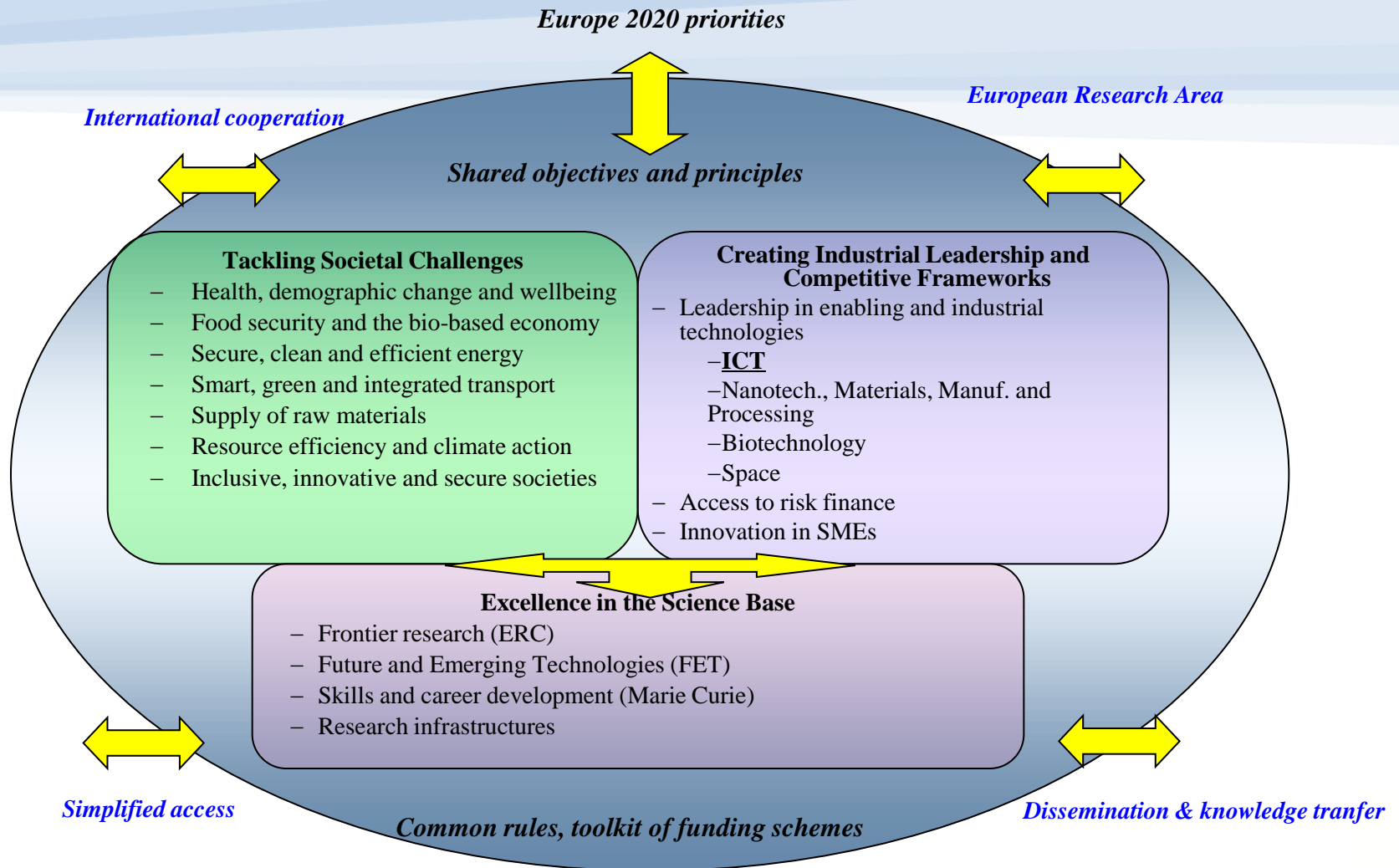
Put forward by the Commission end of June

Main ICT Opportunities

Common Agricultural Policy	€372 billion	36%
Cohesion Policy	€336 billion	33%
+ Connecting Europe Facility	€40 billion	4%
Research and Innovation	€80 billion	8%
Education and youth	€15 billion	2%
Migration and internal security	€8 billion	1%
External Action	€70 billion	7%
Administration	€63 billion	6%

**1.05% of EU GNI in commitments = € 1025 billion
over 7 years (2011 prices)**

Horizon 2020 Architecture



Pervasive presence of ICT

Future Internet likely part of the Competitiveness block

Research and Innovation

The race towards innovation, implies increased focus on:

- Infrastructure deployment;**
- Service and applications deployment;**
- Standardisation (reform package)**
- A new approach towards financial instruments;**
- More integrated policies:**
 - ❖ **Research combined with innovation – Horizon 2020**
 - ❖ **CEF adoption on 19 October**
 - ❖ **Regional and Cohesion Funds, adoption of package on 6 Oct.**

A New instrument: Connecting Europe Facility (CEF)

- ❑ Announced in the MFF proposal
- ❑ Connecting Europe Facility to promote the completion of
 - "transport core network"
 - "energy priority corridors"
 - and key digital infrastructure (networks and services)
- ❑ To combine market-based instruments and EU direct support to optimise financing impact

Envisaged budget for the MFF proposal 2014-2020

- Energy EUR 9.1 billion
- Transport EUR 21.7 billion euro [10 billion]
- ICT EUR 9.2 billion

CEF proposal: EUR 40 + 10 billion

Investing in digital infrastructure

Case for EU investment

Broadband networks

1. Current level of investment is not sufficient to ensure growth

2. No agreement on investment between incumbents and competitors, high cost of capital and high perceived risks

3. No business case in rural and (in most) suburban areas

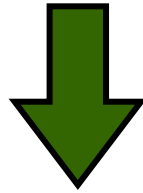
4. Core layers of digital services will not be financed by MS or private operators

5. Interoperability, standards and cross-border problems for digital services

Digital Services

CEF – digital infrastructures

- ❑ focused public intervention to stimulate private investment where the market case is weak, and
- ❑ development of common architectures for digital services



- ❑ support increasingly mobile citizens,
- ❑ reduce transaction costs for enterprises, in particular SMEs in search of growth opportunities beyond their home markets
- ❑ enable the emergence of the digital single market,
- ❑ stimulate growth of cross-border services

Evolving Cohesion Policy

- ❑ 2000-2006: Conditions limited to compliance with EU legislation
- ❑ 2007-2013: Earmarking of Lisbon Strategy expenditure
- ❑ 2014-2020: Investment policy: aligned with Europe 2020
 - focus on results
 - thematic concentration
 - incentives and conditionality









Increased Focus of Cohesion Funds

Thematic Objectives in line with the Europe 2020 Strategy, Investments in:

- research & innovation
- information and communication technologies (ICT)
- competitiveness of Small and Medium-sized Enterprises (SMEs)
- shift towards a low-carbon economy
- climate change adaptation & risk prevention and management
- environmental protection & resource efficiency
- sustainable transport & removing bottlenecks in key network infrastructures
- employment & supporting labour mobility
- social inclusion & combating poverty
- education, skills & lifelong learning
- institutional capacity building & efficient public administrations

➔ Smart Specialisation Strategies

The Future Internet PPP...

Project Key	
	FINEST
	OUTSMART
	Instant Mobility
	SmartAgriFood
	SAFECITY
	ENVIROFI
	FI-CONTENT
	FI-WARE



FI-PPP Pilot sites/regions for technology deployment trials of the running projects

...our early contribution towards an integrated approach

The Future Internet PPP

Regional/Local reach to be further expanded in the next phases through:

- ❑ Provision and maintenance of a stable network and service infrastructure accessible for large scale R&D trials;
- ❑ Execution of large scale R&D trials populated with a variety of applications proving the usefulness of the technology in (local/regional) usage context;
- ❑ Prove openness through services composition across use cases as the bases for a new dimension application. (“multi use case” applications)
- ❑ Involve SME’s at large as developers and providers of services and applications;
- ❑ Make regional and local actors true partners of the technological and business validation of the Platform.

A Case in Point: Smart Cities

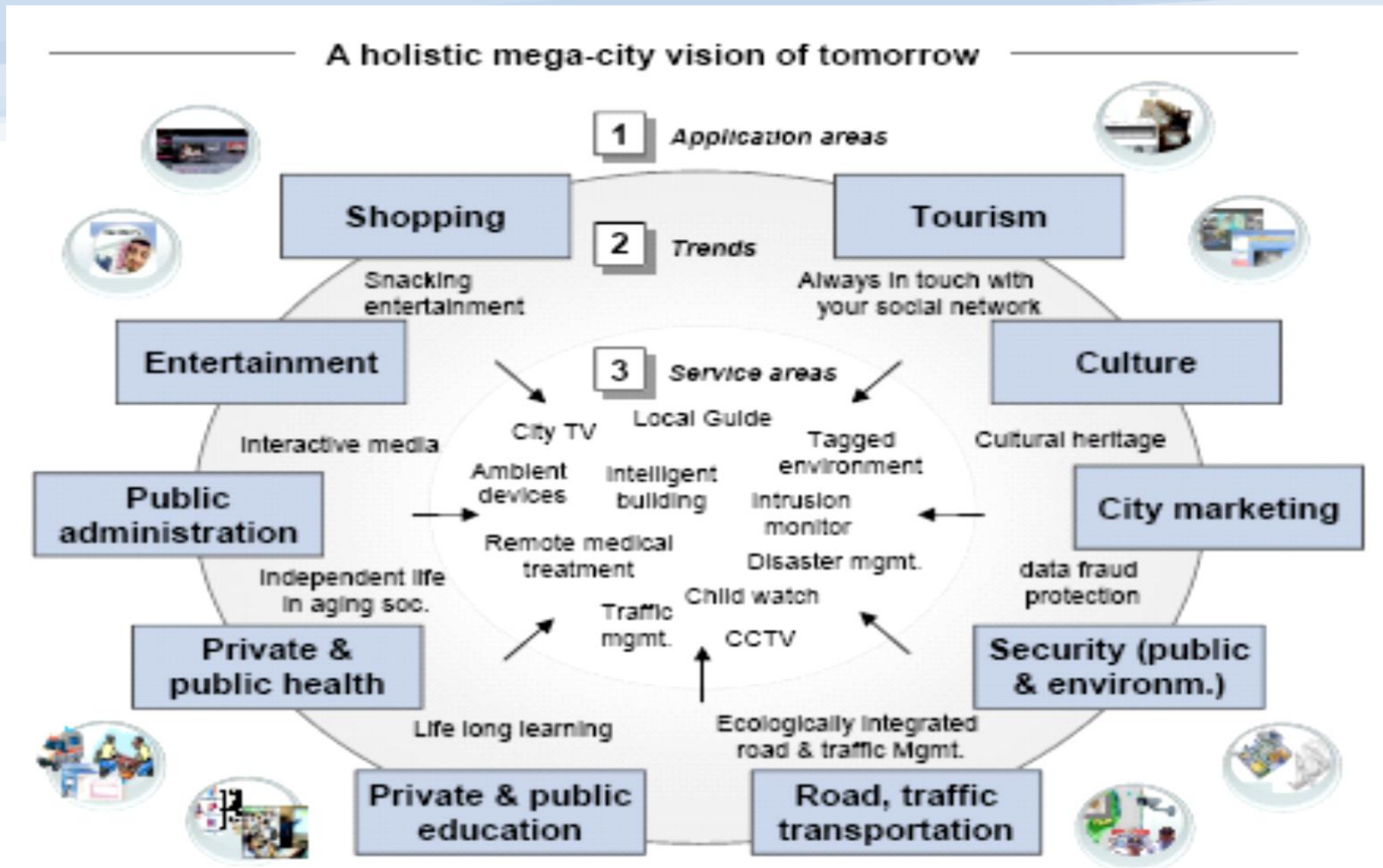
Future Internet and regional focus

The Smart City of tomorrow, the typical crossroad of:

- ❑ Policy objective, sustainability and efficiency, energy savings:
 - In Europe ~80% of the population lives in cities
 - ~75% of CO₂ is produced in cities
 - ~75% of energy is consumed in cities

- ❑ Advanced applications serving citizen needs;
- ❑ Internet services and intelligent infrastructures;
- ❑ Citizen engagement and participation to local life;
- ❑ jobs and quality of life
- ❑ ...and probably many more.

What is a Smart City?



Source: DETECON Consulting

Research and development relevant to smart cities (examples)

- Future Internet PPP (FP7) - aims to develop a better Internet infrastructure to:
 - Supporting smarter services in areas such as:
 - Health
 - Transport
 - Environment
 - Energy
 - Test those services in a city context

ICT Challenge 6, Calls now open:

□ *ICT for a low carbon economy:*

- ⊙ Smart energy grids,
- ⊙ ICT for efficient water resources management,
- ⊙ energy-positive neighbourhoods*,
- ⊙ cooperative systems for energy efficiency and sustainable mobility



Innovation relevant to smart cities (examples)

- ❑ Open Innovation for Future Internet-enabled services in cities (CIP):
 - Foster use of new innovation platforms in diverse areas:
 - eParticipation
 - Tourism
 - Social interaction
 - Public sector services based on open data
 - Deploy new Internet-based services in cities

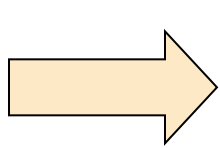
- ❑ Smart Connected Electro-Mobility
 - Pilot projects to test urban and inter-urban ICT services that facilitate and enhance the user experience of electrical vehicles
 - Contribute to a pre-deployment and wider uptake of smart connected electro-mobility



ICT and city management

A holistic approach

- Increasing energy efficiency as a key objective
- Systemic approach: across sectors –energy, transport, buildings, waste, water - and considering various trends
- Leverage policy actions (broadband, open data..)
- Include social, environmental, structural dimensions
- Identify common barriers/challenges
- How to engage citizens



- Need to consider all of above
- ICT is a key enabler in this process and can help in decision-making and implementation

What's next?

- Understand the needs of regional/local actors
- Move from testing innovative ideas to piloting realistic solutions that will help us deliver in the 2020 timeframe
- Take a comprehensive and integrated approach; break down silos between domains such as buildings, transport, energy networks and ICT
- Ensure that solutions are actually taken up by key stakeholders, including citizens

➔ **Smart cities are a perfect framework:**

- To put the Future Internet Technologies "in context"
- To take advantage of the new EU policy approach, with tighter integration between Research, innovation, regional deployment

Innovation and Standards

EU 2020, Digital Agenda, Innovation Union, Standardisation reform

- ❑ Economy based on knowledge and innovation
- ❑ Linking standardisation to research and leveraging it as a tool for innovation.

« Remaining barriers for entrepreneurs to bring "ideas to market" must be removed: ...smarter and more ambitious regulation and targets, faster setting of interoperable standards.... »

Key Milestone: the standardisation reform package

Adopted by the Commission on 1st June 2011

It includes:

- Political **communication with a strategic vision** on standardisation [COM(2011) 311 final]
- Proposal for a **Regulation** [COM(2011) 315 final]
- Impact assessment
- Dedicated chapter on ICT and research

Regulation under Inter-institutional review

Reform: ICT and R&D Focus

ICT and Interoperability

PUBLIC PROCUREMENT: referencing of ICT standards

INTEROPERABILITY: increased use of selected ICT standards in EU policies to ensure it

MULTI-STAKEHOLDER PLATFORM: the EC will create it to implement the standardisation policy in the ICT field

NATIONAL COMMITMENT: increased use of ICT standards in national public procurement for ICT

INTEGRATION: the ESO's will have to integrate ICT standards into the European standardisation system

Research

*“ESO's, Member States and other standardisation bodies are expected to **improve** awareness and education about standardisation and **potential links with research projects.**”*



ICT Standards and R&D Today

Focus of ICT standardisation activities

- Standards supporting policy objectives
 - ❑ eHealth, mobility, environment...
- Standards supporting regulation (mainly ECS)
 - ❑ Open access and fair usage condition, competition, consumer protection, coherence spectrum/equipment regulations
- Standards in the International context
 - ❑ Global standards for ICT, addressing standards as TBT.

Current ICT Research work supports mainly

- Technical expertise for standards needed in specific policy domains
- Standards for Competitiveness (generic)

International co-operation with dedicated 3rd countries

Framing the ICT standardisation priorities

Policy Domain

cloud computing [DAE pillar 5]	eHealth [DAE 77]
Where FIA can help: FIArch; Network access stds;	
IoT [DAE pillars 3,5]	IT security [DAE pillar 3]

**R&D&I
Domain**

future networks
future internet
.....

Conclusions

Beyond research (regional) innovation and deployment is key;

Reflected in integrated approach in MFF and Horizon 2020;

Smart cities are an ideal « playground » to test, develop and deploy the Internet of the Future in regional/local context;

Standards have a key role to play in diffusion of innovation. Better integration of research with standardisation will underpin this.