



# Open Innovation for Future Internet-enabled Services in "Smart" Cities

CIP ICT-PSP Info Day  
March 2010

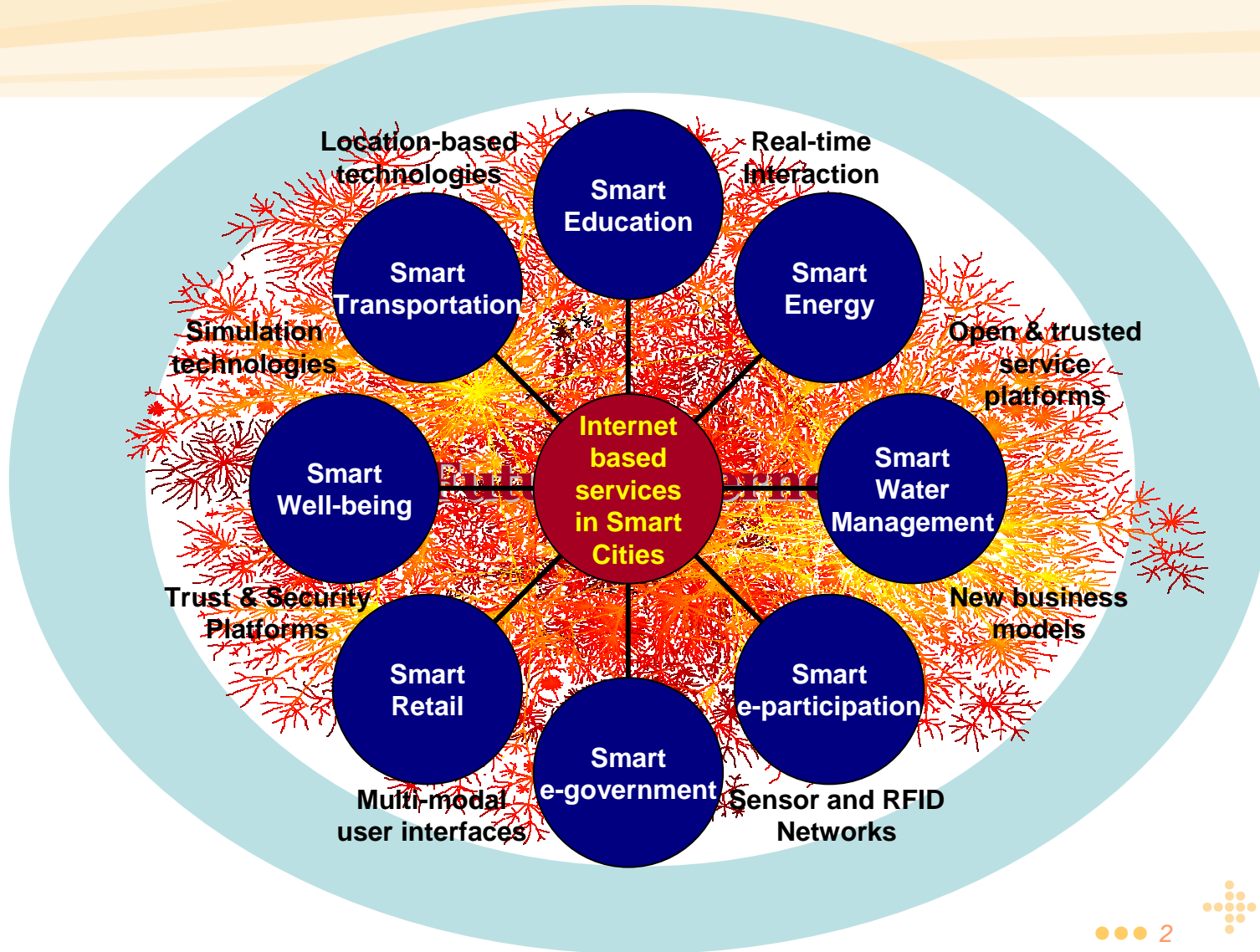
*Jean-Pierre Euzen*  
*Head of Sector, Living Labs*

*New Infrastructure Paradigms and Experimental Facilities*  
*Information Society and Media Directorate-General*  
*European Commission*

European Commission  
Information Society and Media



# Internet-enabled services: making the city "smarter"



# EU RTD & Innovation Programmes related to the Internet

- FP7 - Challenge 1: Medium to long term research on the Future Internet (technology driven)
- FP7 - Application Challenges: Medium to long term research innovatively using advanced ICT including Future Internet (application pull)
- Future Internet PPP: Short to medium term system level research combining application pull and technology push
- **CIP: Accelerating take-up of technologies which come out of the labs and are mature for innovation**

**As ecosystems, smart cities are important catalysers for the Future Internet PPP and CIP**

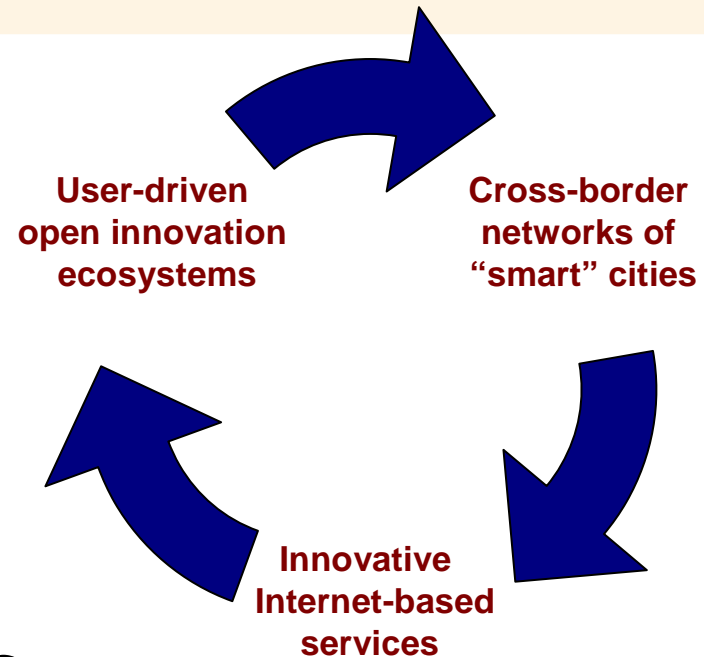
# Motivation for the EC to act under the CIP-PSP Programme

- **New and often “revolutionary” internet technologies are maturing**
  - Ready for a new wave of internet-based services
  - Transforming our way of life
- **Fragmented market of island solutions – a barrier for broad take-up**
  - Single solutions in individual cities
  - Pilots of limited scope
  - Fragmented groups of stakeholders
  - Need for open platforms for internet-based services
- **Innovation ecosystems can bridge**
  - Work well locally in cities or regions
  - High potential for exploiting synergies across borders



# Focus and Outcome: three major elements

- Total budget: 15 M€
- Several Pilots Type B
- Accelerating the uptake of innovative Internet-based technologies and services in cities
- Apply user-driven open innovation methodologies across networks of smart cities
- One of the pilots dedicated to innovative RFID technologies showing the benefits of Internet of Things type technologies in services of high societal value



# User-driven open innovation ecosystems

## Bridging the gap between Internet-based technologies and their take-up in new services

- Integral part of local ecosystems while being networked across borders
- Early user engagement in the innovation process
- Enabling PPPPs  
(Public Private Partnerships including People)



# Cross-border networks of smart cities

## Sharing best practices towards open platforms for new Internet-based services

- Smart living
- Green digital agenda
- Improved citizen involvement
- Open smart city platforms



# Innovative Internet-based Services

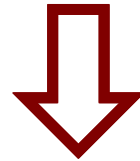
**Based on an appropriate combination of advanced Internet technologies**

- Mobile and location-based services
- Broadband and high-speed networks
- Internet of Things including sensor networks and RFID
- Advanced protocols and standards (e.g. IPv6)
- Security and privacy management systems
- Multimodal interfaces and 3D technologies
- Modelling and simulation
- . . .



## **Technologies – examples: Trust, Security and Privacy**

- **Global, ubiquitous Future  
Internet and Web of Services**
- **Internet of things, objects,  
virtual and tangible entities**



**Need for  
open and trustworthy platforms  
for services and applications  
for Smart Cities**



# Technologies – examples: Sensors, RFIDs, IoT

## Networked RFID tags and elements

Passive and active tags partially interconnected

Simple mobile devices

## Sensor Networks

Interconnected simple and multimodal sensors and actuators

Partially built-in intelligence

Complex mobile devices

## Internet of Things

Diverse identification technologies (sensors, biometrics, etc.)

Intelligent Objects

Distributed Intelligent Systems

Sophisticated devices, clothes and materials



# Conditions and characteristics

- Pilots should as far as possible build on
  - existing advanced city ecosystems and networks
  - existing services platforms in cities
  - existing or emerging initiatives
- Strong involvement of industrial stakeholders, in particular SMEs
- EU funding to be significantly complemented
- 3 – 5 cities per pilot
  - urban regions with city focus
  - satellite cities where appropriate
- Collaboration of all pilots under this objective in a joint working group
  - to exploit synergies
  - to disseminate experiences
  - to evaluate the “networked living lab approach”



# Expected Impact

- Stimulating a new wave of Internet-based services using innovative Internet technologies
- Wider uptake of innovation ecosystems in cities through sharing of experiences in “smart” city concepts
- Reinforcing the role of the user/citizen
- Improving capacities for SMEs



# References

- Future of the Internet: [ec.europa.eu/foi](http://ec.europa.eu/foi)
- Living Labs: [ec.europa.eu/livinglabs](http://ec.europa.eu/livinglabs)
- Riseptis Report (Trust & Security):  
<http://www.think-trust.eu/general/news-events/riseptis-report.html>
- RFIDs, Sensors, IoT:  
[http://ec.europa.eu/information\\_society/policy/rfid/index.html](http://ec.europa.eu/information_society/policy/rfid/index.html)
- Competitiveness and Innovation Programme:  
[ec.europa.eu/ict\\_psp](http://ec.europa.eu/ict_psp)
- ICT Programme <http://cordis.europa.eu/fp7/ict>

