Towards Intelligent Platforms *EU R&D& Innovation perspective*

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Digital Agenda for Europe & Innovation Union Some important issues for R&D&I on Networks at the HORIZON 2020

Support to Infrastructures and Poles of Innovation

- eInfrastructures, Cloud Computing, Virtual/regional Clusters (Labs, European Institute for Innovation & Technologies);
- Large Open Test-bed facilities needed
- > Involvement of Member States in large scale experiments
- Development and testing of innovative and interoperable solutions in general interest areas (smart cities, regions...) and for grand societal challenges
- Use R&D&I to support open standards and platforms
- 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.... »
- Medium to long term balance, Pooling resources, Impact driven, More systematic coupling R&D with Innovation
- X-sector partnership
- Novel Web services, new actors (games, social network, creative industries...)



Main trends affecting research and innovation in the communications networks area

Societal drivers:

Urbanisation Smart cities Mobility Information availability Social networks Privacy Security Energy efficiency Demographic trends Healthcare Education

...



Research & Technology drivers:

Capacity/Efficiency Service/Content centricity Virtualisation & "Cloudification" Cognition Context awareness Manageability Self-organisation Self-optimisation Cross-layer optimisation Flexibility Smart environments, Sensors M2M

....





An Internet-enabled service economy and creative society





Public Safety

Street Light Management





VoD



CCTV

Monitoring



Smart travel



Management

Control



Education



Fleet Management





KIOSK

Care

Health





SControl ORK



Parking Control



Smart Grid







Facilities

Control











Media – Over The Top services (superposition of layers)

Trend: Smart environments enabled by networked sensors

Sensor information enablement Common sensor and aggregation and collection of data actuator information directory services infrastructure across data brokering and service composition cities information federation provides secure and privacy and integrity protection reliable access to sensor access policy enforcement and actuator information accounting and revenue,.... services for multiple players, and so that Wind information can be efficiently shared across Temperature "verticals", this provides Humidity application enablement Light Seismograph Crowd, community **3D Internet** Noise family Gas Utilities Things Information Service Facilities sense Internet SEVENTH FRAMEWORK

The Network of the Future: Internet architecture designed for broadband fixed and mobile access

Future Internet Technologies Converged and Optical Networks Optical Switching Application S<mark>er</mark>ver High Speed **Broadband** Gateway Access **Public Internet** + SEX **Operator A** Personal Ad-Hoc Space Mesh Relay **Optical T**ransmission Cellular **Object and** and beyond Application Operator B Sensor Server **Networks Broadcast** Radio Access and Spectrum Use SEVENTH FRAMEWOR

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

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

SEVENTH FRAMEWORK PROGRAMME

ICT Opportunities

1.05% of EU GNI in commitments = € 1025 billion

over 7 years (2011 prices)



Connecting Europe Facility – 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 transactions 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:
 - Trans-European backbone connection for public administrations
 - Cross-border eGov services
 - Access to Public Sector Information and multilingual services
 - Safety and Security
 - Intelligent energy networks and services











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Intelligent Platforms: the road to <u>smart</u> innovation

- i) Europe can build on its telecommunications and "applications/services" strengths and take a leading role in ICT-enabled smart growth;
- ii) Research with strong innovation orientation: need to address longer-term... and shorter term delivery of results;
- iii) Interoperability/standards as important as ever;
- iv) Need for critical mass; involvement of new players Convergence beyond ICT boundaries;
- **v**) User driven open innovation, large scale test-beds;
- vi) Next year will be key to define with the stakeholders the new plans for innovation and infrastructures to be carried out under H 2020 and "The Connecting Europe Facility"



Thank you for your attention

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