Revisiting the objectives of ICT for governance and policy modelling
and future visions

9 May 2012

eGovPoliNet
The Policy Community

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Agenda

1. Purpose of the exercise

2. EU2020, Digital Agenda for Europe

3. eGovernment Action Plan 2015

4. Horizon 2020

5. Mapping projects and gaps

6. Brainstorming recommendations

Purpose of the exercise

Overall theme: ICT for governance and policy modelling:

…public sector, services, cross-border services….

1. What should be the agenda for the next 5-10 years?

    …in light of EU2020, DAE and H2020

    …need longer term plan

2. What are the building blocks to get there?

3. Some building blocks may already be fully in place, or started but not yet strong enough

    …thus, review first 2 calls (2009 and 2011), in order to know what's been achieved so far

4. What are the building blocks which need to be started from scratch?

5. What should be in the last FP7 call (July 2012) for 2013 to start going in right direction?

Europe 2020 Strategy (2010)

Broad vision of Europe's social market economy to 2020

to emerge from the crisis stronger

- **Smart growth***: education, innovation & digital society*

- **Sustainable growth***: resource efficient, green & competitive economy*

- **Inclusive growth***: high employment with socio-economic & territorial cohesion, new skills & jobs plus action against poverty*

Seven flagships:

1. Innovation Union
2. Youth on the move
3. **Digital Agenda Europe**
4. Resource efficient Europe
5. Industrial policy for the globalisation era
6. Agenda for new skills and jobs
7. European platform against poverty

EUROPE 2020
A European strategy for smart, sustainable and inclusive growth

Digital Agenda Europe (2010)

DAE sets out to define the key enabling role that the use of ICT will have to play if Europe wants to succeed in its three growth areas by 2020

Eight Action Areas:

1. A vibrant digital single market

2. Interoperability and standards

3. Trust and security

4. Fast and ultra fast internet access

5. Research and Innovation

6. Enhancing digital literacy, skills and inclusion

7. ICT-enabled benefits for EU society

8. International aspects of the Digital Agenda

Malmö eGovernment Ministerial Declaration 2009

Joint Vision and Policy Priorities for Action Plan 2011-2015

Political priorities:

- empowering citizens and businesses

- mobility in the Single Market

- efficiency and effectiveness

- appropriate key enablers and legal and technical pre-conditions

se2009.eu

Teaming up for the eUnion

5th Ministerial eGovernment
Conference, Malmö 2009

DA going local Citadel Statement (2010)

DAE going local

- very little on local/regional in DAE

- but "if the DA doesn't go local then it fails" (Workshop June 2011)

Citadel Statement: making Malmö real

"Nearly one year on the Malmö Declaration is still not being translated down to the on-the-ground local level. Smaller communities are especially finding it difficult to implement innovation ICT projects…..why is this?....need practical solutions to combat barriers at local level"

Horizon 2020

The EU Framework Programme for Research and Innovation

- 2014-2020

- €80 billion budget

Three Key Priorities

1. Excellent science

2. Industrial leadership

   …including in ICT

3. Societal challenges

   …health, food security, energy, transport, climate action & resource efficiency, plus inclusive, innovation & secure societies

Mapping projects & gaps (1)

2009: Quoting objectives in call 7, priority 5.6 – ICT solutions for … work programme of call 7 in FP 7):

- development of advanced ICT tools for policy modeling, … development of new governance models and collaborati…
- innovative ICT solutions (including open source solutions…) following:
  - Modeling new policy initiatives taking into accou…
  - Performing societal simulations to forecast poten… measures.
  - Development of tools that identify emerging soc… environment using innovative approaches such a… reflexivity.
  - Modeling and validating the next generation of p… systems, particularly taking into account the nee…
- advancing research in simulation and visualization techn… mixed reality technologies while building on Web2.0/We… and dynamics methodology techniques.
- Resulting tools should exploit the vast reserves of Europ… knowledge resources and should build on lessons learnt … including those at urban or regional scale.
- Examples of fields of application should address areas w… public consultations has been recognized as valuable. St… administrations and policy institutes are expected to pla…

2011: Quoting objectives in call 4, priority 7.3 ICT for Governance and Policy Modelling (see work programme of call 4 in FP 7):

a) Governance and Participation Toolbox
- Advanced tools embodying structural, organizational and new governance models to
  - empower and engage all types of societal groups and communities,
  - enable them to utilize mass cooperation platforms and
  - allow governments to incorporate their input while safeguarding against misuse.
- Tools enabling the creation, learning, sharing and tracking of group knowledge that cuts across language and cultural interpretation.
- Tools facilitating transparency and tracking of inputs to the policy making process
- Toolbox must include security, identity and access controls to ensure privacy and, where appropriate, the delineation of constituency domains according to the specific needs of government applications.

b) Policy Modeling, Simulation and Visualization
- Real-time opinion visualization and simulation solutions based on modeling, simulation, visualization and mixed reality technologies, data and opinion mining, filtering and aggregation.
- Novel instruments which allow consideration of options based on the simulated behaviour and wishes of individuals, groups or communities (at local, regional and national levels) to understand the possible outcomes of government proposals, decisions and legislation.
- Tools and techniques help to understand, model, simulate and validate the next generation of public services as complex service systems in the environment of social networking and collaborative society, including the needs of the younger generation.
- Advanced tools and technologies to perform societal simulations integrating all possible variables, parameters, interferences, scenarios necessary to forecast potential outcomes and impacts of proposed policy measures.
- Tools should exploit the vast reserves of Europe's public sector collective data and knowledge resources which are also developing dynamically. Underlying functions to be integrated include translation, process modeling, data mining, pattern recognition and visualization as well as other gaming-based simulation, forecasting and back-casting as well as goal-based optimization techniques.
- Solutions to take into account, but not be limited to, state of the art techniques on dynamics methodology to analyse and model complex systems, cooperative vs. competitive systems, and "cloud" computing applications resources for large scale data analysis.

Expected Impact
- Improved empowerment and engagement of individuals, groups and communities in policy making processes. Increased trust of the citizens through transparency and feedback of their contributions.
- More efficient collection of feedback to continuously improve governance. Improved prediction of impacts of policy measures, with increased contribution and involvement of individuals and communities, and based on intelligent and optimised use of vast public sector knowledge resources.
- Strengthened competitive position of European industry in the fields of cooperation platforms, optimization, simulation, and visualization tools.

Mapping projects & gaps (2)

Objectives				2009	2001	2009 +spaces	2009 Cockpit	2009 Impact	2009 OCOPOMO	2009 Padgets	2009 UbiPol	2009 WeGov	2011 CRISIS	2011 FUPOL	2011 ePolicy	2011 Live+Gov	2011 MOSIPS	2011 NOMAD	2011 UniteEurope	2011 urbanAPI
Objectives	Gover-nance	(new) governance models	Empower stakeholder groups			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
			Mass collaboration platforms			✓	✓		✓	✓	✓									
			Collaborative solving of complex societal problems			✓				✓										
		Tools to support governance models	tools for stakeholders and government for data & knowledge (creation (cross-borders), multi-lingual, multi-culture sharing, learning, tracking)			✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
			tools to support transparency, tracking of inputs to policy modelling			✓	✓	✓	✓	✓	✓			✓	✓		✓	✓		
			Tools for security, identity, access to ensure privacy, delineation of constituency domains			✓					✓					✓				
	Policy modelling, visualisation and simulation	1) Opinion	mining, mapping, simulation, aggregation, visualisation			✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
		2) simulation/modelling of policy options / new policy options	instruments (methods, tools, theories) for impact on groups, options, behaviour (micro-level)			✓		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
			tools for overall societal simulations of outcomes (macro-level)			✓			✓	✓			✓		✓			✓		
		3) tools and models for	Social networking			✓	✓			✓	✓	✓								
			Collaborative society				✓													

Mapping projects & gaps (3)

		2009	2001	2009							2011							
				+spaces	Cockpit	Impact	OCOPOMO	Padgets	UbiPol	WeGov	CRISIS	FUPOL	ePolicy	Live+Gov	MOSIPS	NOMAD	UniteEurope	urbanAPI
3) tools and models for public services as complex systems	Social networking			✓	✓			✓	✓	✓								
	Collaborative society				✓													
	youth														✓			
4) tools for exploiting public sector data and knowledge	Translation														✓	✓		
	Modelling			✓		✓	✓		✓		✓	✓	✓		✓	✓	✓	✓
	Mining			✓	✓			✓	✓	✓	✓	✓			✓	✓	✓	✓
	Gaming										✓		✓					
5) modelling complex systems	Dynamics										✓							
	Large scale data analysis			✓				✓	✓	✓	✓	✓						
	Cloud											✓						
	Cooperative vs. competitive																	
6) identifying emerging societal trends	Input from 1 and 4 (2009)																	
	Using 5 from 2009 as instrument										✓							
7) merging (1) opinions and (4) data & knowledge and using (5) instruments	advanced simulation and visualisation techniques and tools			✓		✓	✓	✓		✓	✓	✓	✓		✓			
8) stakeholders	policy institutes, public administrations,			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9) application fields involving public consultations	examples of fields of application, where public consultation of citizens has been perceived as valuable			✓	✓			✓		✓	✓	✓	✓		✓	✓	✓	✓

Mapping projects & gaps (4)

				2009	2001	+spaces	Cockpit	Impact	OCOPOMO	Padgets	UbiPol	WeGov	CRISIS	FUPOL	ePolicy	Live+Gov	MOSIPS	NOMAD	UniteEurope	urbanAPI
Impacts	1)	empowering & engaging stakeholders in policy making	empowering & engaging stakeholders in policy making			✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓
			Increasing trust			✓	✓	✓	✓	✓	✓			✓				✓	✓	
			All stakeholders			✓	✓		✓	✓	✓									
	2)	more efficient collection of feedback for governance	public sector governance			✓	✓	✓	✓	✓	✓		✓			✓		✓	✓	✓
			using data & knowledge			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓
			Using stakeholder input			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
	3)	strengthening competitive position of European industry	instruments as cooperation platforms			✓	✓	✓	✓	✓	✓		✓				✓		✓	✓
			instruments for optimisation, visualisation and simulation							✓			✓					✓	✓	
Instruments	Theories		explaining phenomena						✓						✓				✓	
	Methods		procedural aspects and guidelines				✓		✓				✓	✓	✓				✓	✓	✓
	ICT		Tools incl. HW, SW, solutions			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			technologies and languages				✓					✓			✓	✓	✓		✓	
			Devices/channels				✓	✓	✓	✓	✓	✓		✓		✓	✓	✓		✓	✓
	Models		Meta models			✓			✓			✓	✓		✓			✓	✓	✓
			Domain models			✓			✓			✓	✓		✓				✓	✓
	Domains / sectors		Health, education, transportation, energy, financial markets, care …			✓			✓				✓	✓	✓		✓	✓	✓	✓

Mapping projects & gaps (5)

	2009	2001	2009							2011							
			+spaces	Cockpit	Impact	OCOPOMO	Padgets	UbiPol	WeGov	CRISIS	FUPOL	ePolicy	Live+Gov	MOSIPS	NOMAD	UniteEurope	urbanAPI
Academia				3	3	5			4								
Public sector				3		2											
SMEs					2	3			1								
Large Industry				5	1				1								
International Organisations																	
Citizens																	
Civil society groups									1								

Brainstorming recommendations

Provisional gaps identified:

- Collaborative solving of complex societal problems
- Tools for security, identity, access to ensure privacy, delineation of constituency domains
- Collaborative society
- Youth
- Translation
- Gaming
- Dynamics
- Cloud
- Cooperative vs. competitive
- Input from 1 (opinion) and 4 (tools for exploiting public sector data & knowledge) from 2009
- Using 5 from 2009 as instrument

Other (extremely tentative) ideas:

- Bring together macro and micro simulation
- Cross-domain/sector transfer
- Scaling national-regional-local
- Social media/discussion feeding to policy
- Crowdsourcing for domain concepts/tools
- Impact of policy modeling on final decisions
- Digital / non-digital interface
- Capacity /skill of policy operators / makers
- Semantic web searching / analysis, tagging (Web 3.0)
- IoT, open data: sources, quality, accountability, etc.
- Not modeling only policy but also service modeling
- Accompanying research and rolling out Large Scale Pilots (cross-border), supporting success or not (technology and legal change on organizational change)
- Social media business case, etc. – just an extra channel or a necessary service
- Smart cities
- Etc.

1) A vibrant digital single market

- Products, services

- Content, IPR

- Cross border

- Trust and confidence

Reasons for not buying online (% of individuals that have not ordered online during last year), 2009
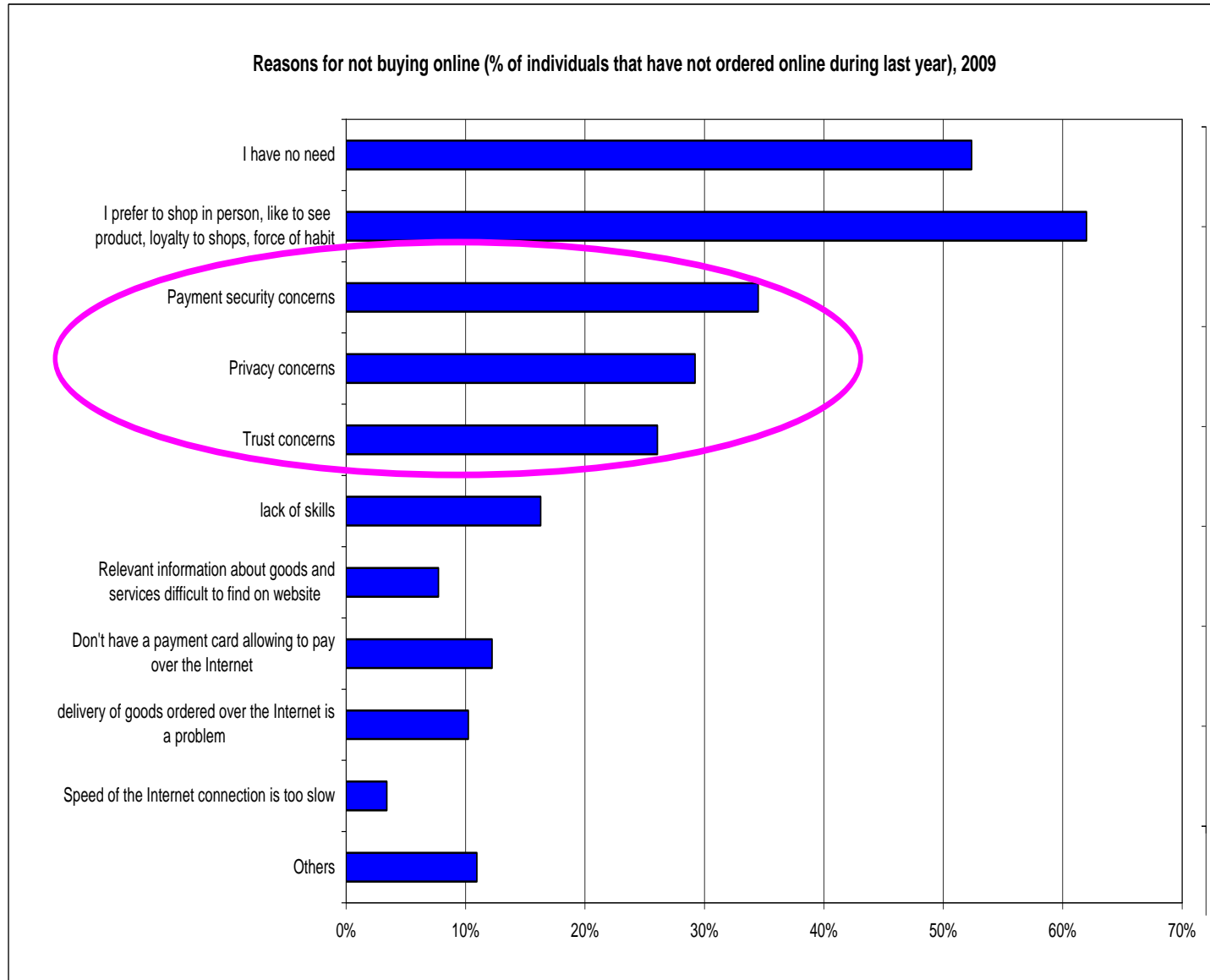
2) Interoperability and standards

- Technical, semantic, organisational, legal, etc. interoperability

- (Open) standards

- EIF for cross-border services: adopted in Dec 2010, to be applied in all MS by 2013

- Cross-border and Single Market: on-going large Scale Pilots (STORK, PEPPOL, epSOS, SPOCS and e-CODEX)

Percentage of countries having a national 'key enablers' policy and underlying elements in place (Source: NSA questionnaire 2007 and 2009))

National policy area	2007	2009	Difference
General	92%	90%	– 2%
eIDM	n/a	100%	n/a
eDocument	57%	73%	+ 16%
Open standards	71%	93%	+ 22%
Interoperability	78%	100%	+ 22%
Open source	53%	78%	+ 25%
eSignature	n/a	96%	n/a

3) Trust and security

- 'Big brother' & 'cyber wild-west'?

- Network security

- Cyber security, cyber crime

- ENISA – European Network Information Security Agency

- Computer Emergency Response Team (CERTs)
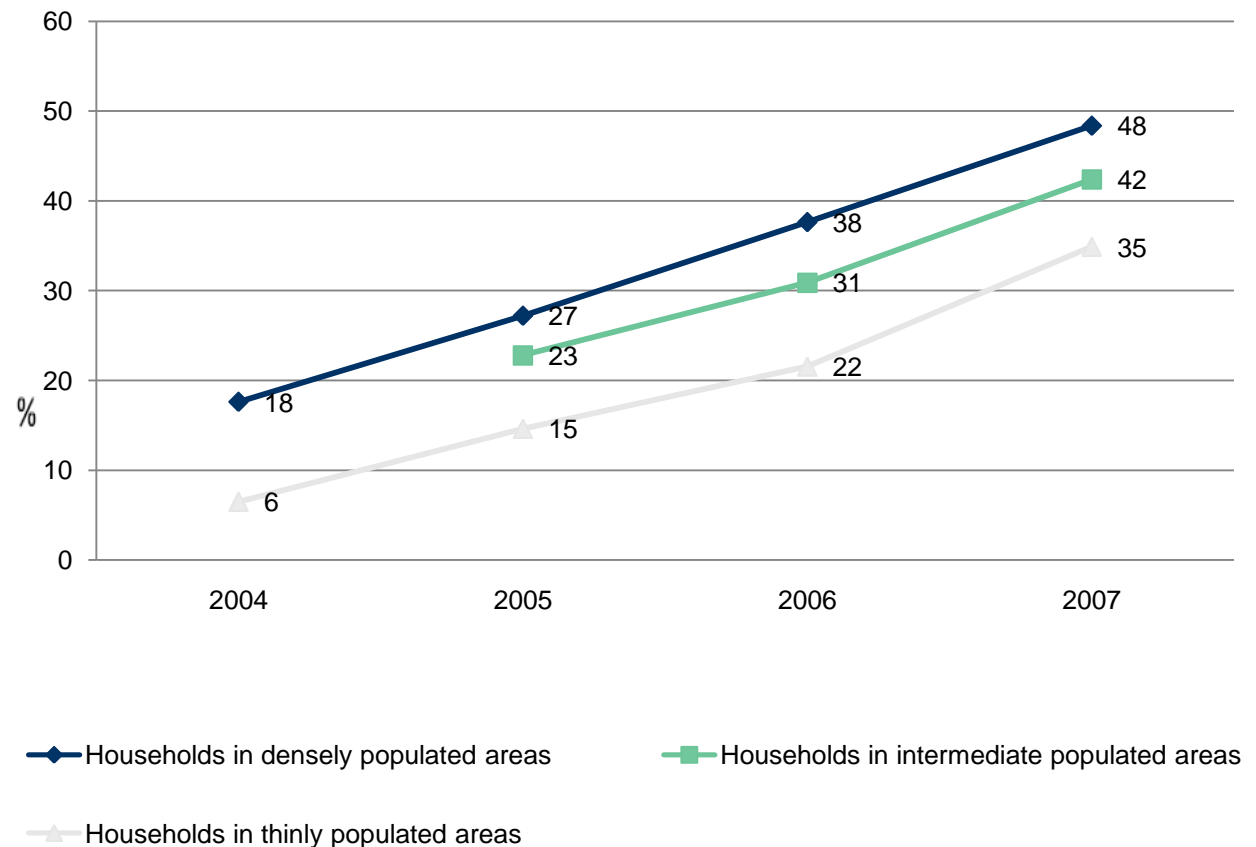
- Possible European Cybercrime Centre

Online crime complaints and dollar loss in the US

Legend: Complaints Received ■ Dollar Loss ◆
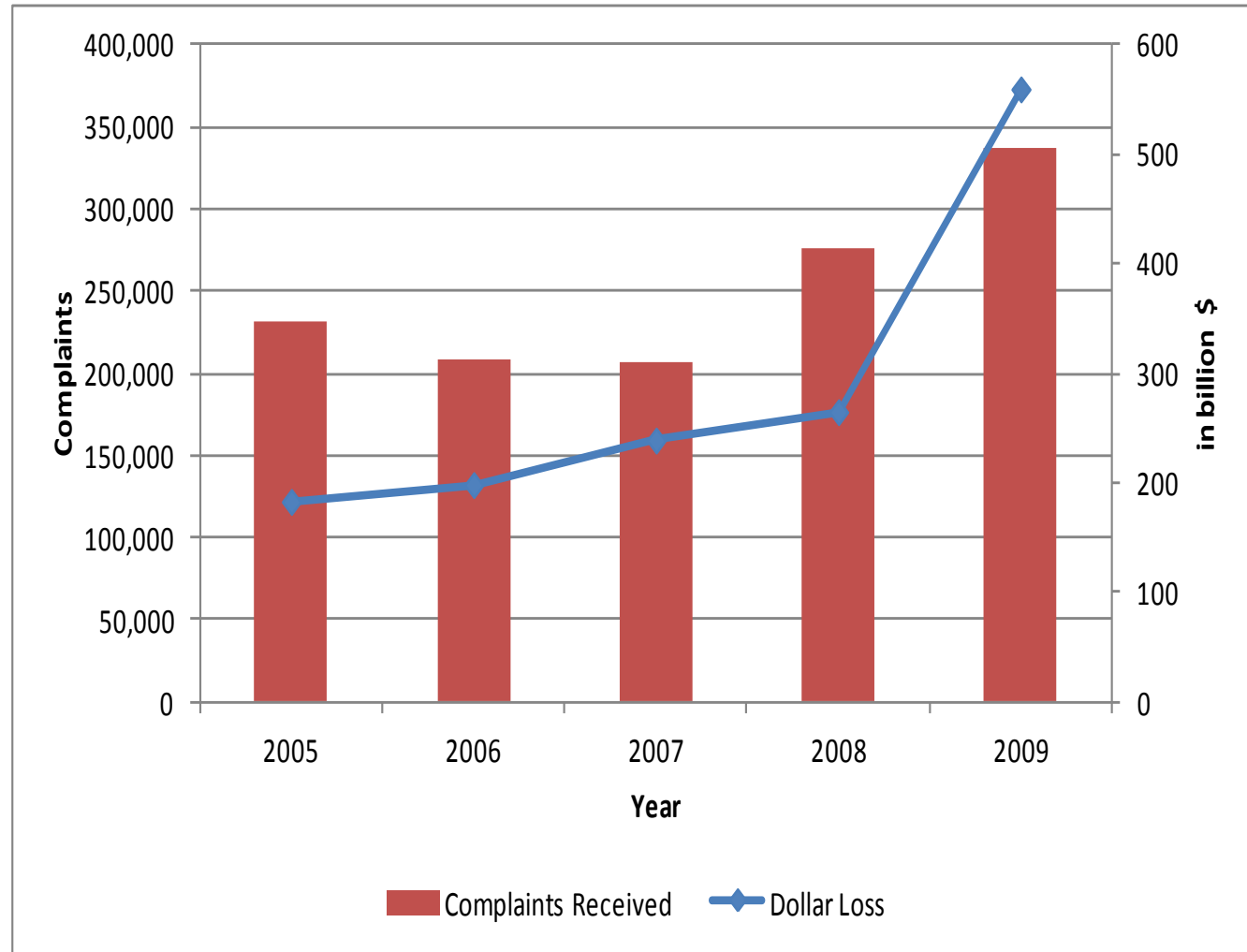
4) Fast and ultra fast internet access

- Aim: universal BB coverage

- Deployment of NGA networks

- Open and neutral Internet

- Spectrum policy

- Both public and private funding

- Full use of SF and ERDF funding

Households using broadband by population density (EU25

	2004	2005	2006	2007
Households in densely populated areas	18	27	38	48
Households in intermediate populated areas		23	31	42
Households in thinly populated areas	6	15	22	35

Legend:
- Households in densely populated areas
- Households in intermediate populated areas
- Households in thinly populated areas

5) Research and Innovation

- ICT sector directly responsible for 5% EU GDP, but contributes up to 50% of productivity growth

- Europe's R&I lagging other global regions

- "Threat to entire European manufacturing and service sectors"

- R&I for Single Market

- Industry-led open innovation
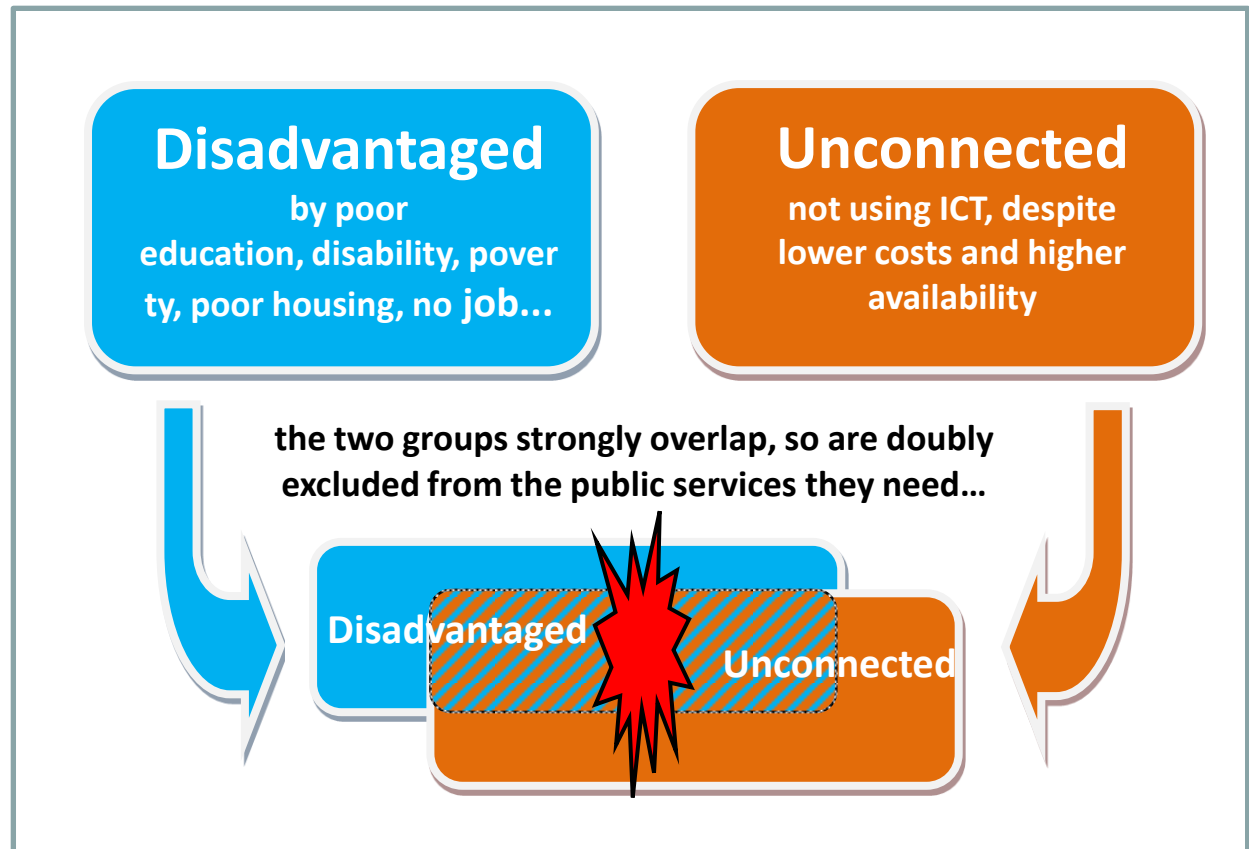
- Need to coordinate and pool regional/ MS/EU R&I

Total ICT R&D spending in billion € (2007)
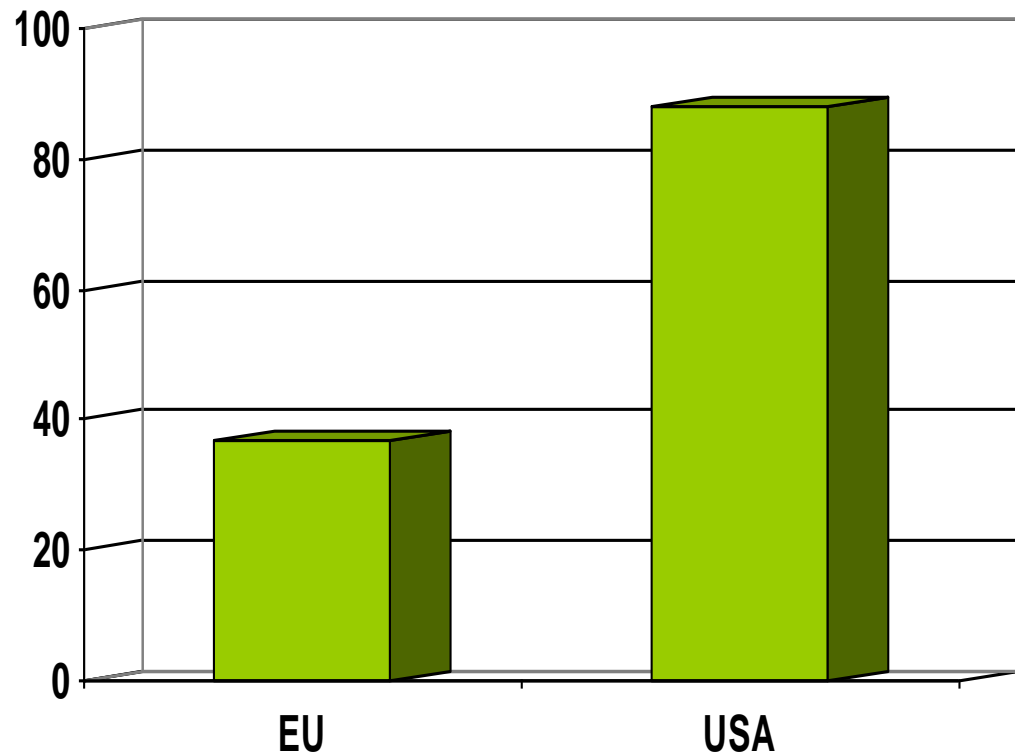
6) Enhancing digital literacy, skills and inclusion

- Aim: empowerment, cohesion

- New skills, new jobs

- 150 m (30%) Europeans never used Internet

- Different skills:
  - ICT practitioner
  - eBusiness
  - ICT professional

- Disadvantaged groups: elderly, youth, ethnic/cultural, disabled – 48% never used Internet
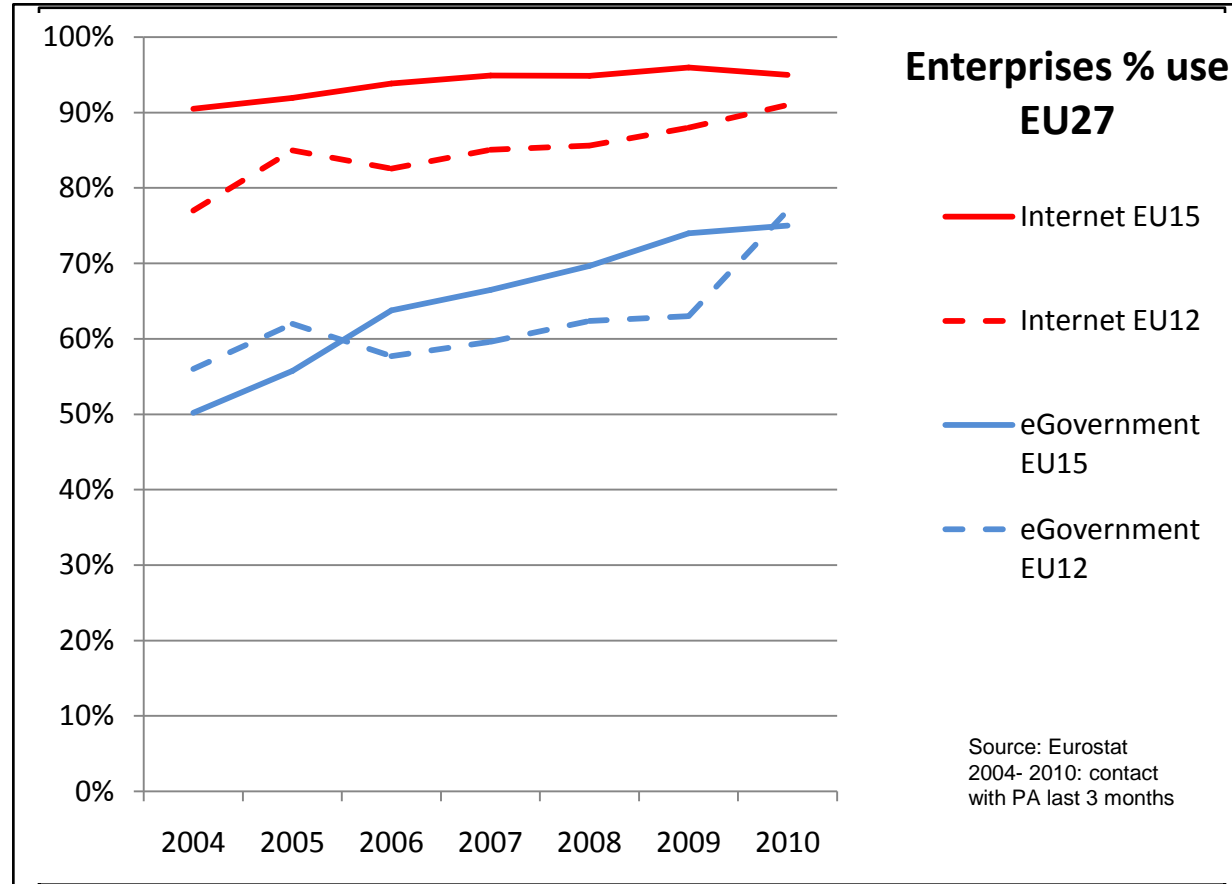
- Target: "every European digital by 2015"

How the disadvantaged and the unconnected overlap

Disadvantaged
by poor education, disability, poverty, poor housing, no job...

Unconnected
not using ICT, despite lower costs and higher availability

the two groups strongly overlap, so are doubly excluded from the public services they need...

Disadvantaged

Unconnected

7) ICT-enabled benefits for EU society

- Smart use of ICT for societal challenges
  - Climate change and energy
  - Ageing society
  - Youth unemployment
  - Health and care
  - Life style problems
  - Cultural diversity

- eGovernment, incl. Cross-border (Malmö, Action Plan)

- eCommission 2011-2015

- eProcurement
  - could save 5% of total GDP, but only 5% potential used
  - can be used to drive policy

- Intelligent transport

Not so business eGovernment usage

Enterprises % use EU27

—— Internet EU15

– – – Internet EU12

—— eGovernment EU15

– – – eGovernment EU12

Source: Eurostat
2004- 2010: contact
with PA last 3 months

8) International aspects of the Digital Agenda

- Europe competes and cooperates

- International competitiveness

- International trade

- Is losing ground in many areas (e.g. eGovernment) but still leads in others

- Cooperation needed on Internet governance, cyber security

- NEW: Open Govern-ment Partnership (so far onæy Norway and UK from Europe)

- WHY NOT: Open City Partnership ??

UN eGovernment online services		
2008	Rank	2010
Denmark	1	Republic of Korea
Sweden	2	United States
United States	3	Canada
Norway	4	United Kingdom
France	5	Spain
Republic of Korea	5	Australia
Netherlands	7	Norway
Canada	8	Bahrain
Australia	9	Colombia
Japan	10	Singapore

Open Government Partnership