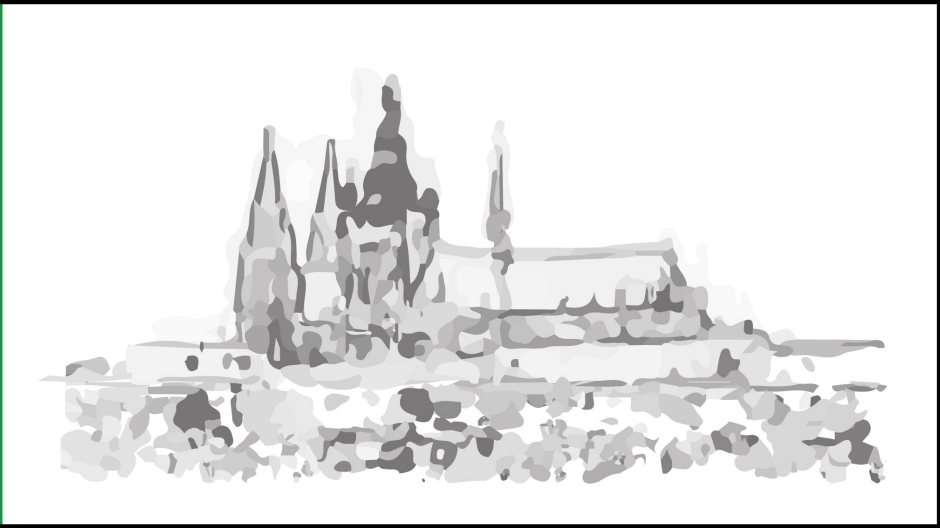
Digital Governance: From local data to European policies

conference proceedings

Irina Zálišová, Iva S. Walterová,
Radek Bejdák (eds.)

2013 ONE Conference



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Editors
Irina Zálišová, Iva S. Walterová, Radek Bejdák, EPMA , Prague (CZ)

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Supervisors' statements

Alan R. Shark, DPA
Executive Director/CEO of the Public Technology Institute (PTI), Assistant Professor at Rutgers University's School of Public Affairs and Administration (US)

One can only be impressed to see the inherent commonalities in each of the abstracts. There can be no question that Western democracies are struggling to find better ways to strengthen the relationship between citizen and state. These abstracts demonstrate the key role ICT can play in fostering greater citizen engagement, transparency social participation, as well as sustainability. Cutting across all these abstracts, we see recognition of the need for regional approaches and solutions. Clearly, ICT is playing and will continue to play a significant role in creating smarter cities. Where citizens are treated as active partners as opposed to merely being viewed as consumers. The new local digital agenda poses some great challenges and also some great rewards and opportunities. Having read all these abstracts I am greatly encouraged by the depth, innovation, and commitment to moving the agenda forward.

Sylvia Archmann, MA
Senior Lecturer, EIPA - European Institute for Public Administrations, Maastricht (NL)

The submitted abstracts present the topics which are subject of ongoing discussions and research at the regional, national and European level such as smart cities, innovation, e-participation, sustainable development, e-government. In general, the abstracts have depicted the issue of using ICT in creating collaborative regional energy concepts, an e-participation platform facilitating regional planning and urban development, studies about the level of the regional development of ICT structures and the local Digital Agenda concepts. The abstracts have highlighted the examples of exploiting new technologies in order to facilitate the creation of the innovative cities, where citizens are the active partners in creating the local policy.

PhDr. Eva Kašparová Ph.D.
Senior Lecturer, Faculty of Business Administration, University of Economics in Prague (CZ)

Submitted abstracts show great interest in the effective management of the information society and in particular on the development of Digital Governance. For a very rewarding I consider the spectrum of views, opinions, ideas and experiences in the process of digitalisation and its impact, opportunities and perspectives in the field of regional policy. Abstracts also point to a variety of questions that employ those who are on the production, distribution and use of digital agenda involved in and concerned with policy in this area. Digital agenda and strategic planning, Digital Governance in the field of regional policies presents important challenges and a lot of potential benefits in the future. All abstracts and the holding of this conference at all is, in itself, the great contribution, in my opinion, to the development and sharing of knowledge and exchange experience in this field.

Thematic Introduction

Openness, Innovation and Networking against crisis

Irina Zálišová, EPMA Co-founder and Director/ ONE Conference Director. She has been engaged with European-wide project-based cooperation of regions as an expert on socio-technological issues for more than 20 years, recognised by the European Commission. Irina was also the co-organiser of 5 annual Eastern European eGovernment Days in Prague.

Facing economic difficulties and turbulent developments in Europe, regions must re-estimate their own capacity to plan, assess and manage investments in all fields, especially in the field of ICT, which represents a crucial aspect and a pre-condition for better exploiting the innovative potentials of regions.

In the middle of March 2013, Neelie Kroes, Vice-President of the European Commission responsible for the Digital Agenda, has confirmed, that „*EU budget will continue to support innovation and research. Horizon 2020 offers a bigger-than-ever boost for our economy. And ICT will be playing a full part*."[1]

In time of crisis, necessity is forcing us to change traditional approaches and pushes innovation forward. Innovation can be a "secret weapon" against crisis, if we manage to accept the crisis-driven change: to foresee a new innovation trajectory, to suggest a different way of looking at things, to create a new innovation space. But is creativity something we can learn through experience? Do we have enough capacity to demonstrate, that creativity can very much be understood through experiential learning, learning-by-doing and sharing approaches? On the other hand, a major opportunity for the crisis-stricken Europe lies in data-driven economy and ICT-based services.[2] A wide range of data and ICT-driven development indicators are produced and available across EU countries either from statistics or through special surveys, creating substantial knowledge bases especially at national levels.

Launched in March 2010, the EU 2020 strategy for jobs and smart, sustainable and inclusive growth, which has to prepare the EU economy for the next decade, includes five EU headline targets currently measured by *eight headline indicators.*[3] In order to reach those ambitious targets, Europe has identified new engines to boost growth and jobs, addressed by seven flagship initiatives with Digital Agenda Europe being one of them. The Commission is also putting effort into leading the way in eGovernment services, setting examples for national governments to follow. By producing yearly reviews of the various socio-economic performance indicators, the EU can use the power of comparison to encourage national governments to act. It can also utilise the various tools at the Commission's disposal, such as running FP7 and forthcoming programme HORIZON 2020[4] to achieve the Digital Agenda and support the development of the information economy in Europe. Delivery of the actions listed in the Digital Agenda policy programme is assessed on a regular basis and reflected in the Digital Agenda Scoreboard available on-line. The data call for new thinking on governance, while policymakers face a number of obstacles, falling to predict future development and adequately respond to societal challenges

1 Neelie Kroes, Openness, Opportunity and Innovation: capitalising on the digital revolution, http://europa.eu/rapid/press-release_SPEECH-13-244_en.htm

2 Services linked to information and communication technologies have consistently been growing by 5% to 10% in 2012, according to the OECD Internet Economy Outlook, published last October, http://www.oecd.org/internet/ieoutlook.htm

3 The Digital Agenda for Europe (COM (2010), 19 May 2010, http://ec.europa.eu/digital-agenda/

4 See more at http://ec.europa.eu/research/horizon2020/index_en.cfm

However, existing overwhelming amounts of data are not used properly unless linked to decision-making processes. At the regional level the situation is even worse, because of the lack of local data, differences in methodologies used for measurement and varieties in local contents.

The ONE project consortium, www.oneproject.eu, co-financed by the INTERREG IVC programme, is aware of existing barriers stating, that:

- New governance models are required. Innovation policies are not always managed by appropriate governance mechanism, which is slow and bureaucratic.
- At regional level, different stakeholders, such as managing authorities, research centres and ICT implementing bodies are mostly dealing with innovation policy in an isolated way.
- Research bodies are usually assessing innovation strategies or policies targeting specific territorial problems, but knowledge resulting from these assessments is not properly transferred to policy making and to implementation.

The partners from the ONE project have therefore started an open discussion about possible steps and ways of improvement, using experiences with regional ICT observatories. Such observatories may play a significant role, providing effective evaluation matrix for estimation of current development of ICT in a region, and also enabling decision-makers to predict future developments and respond to societal challenges. The new approach needs to combine: Knowledge Base, Public Intelligence, and Common Sense. Willing to create input into the exchange of experiences and to support the transfer of good practices into the Structural Funds mainstream programmes, the consortium is investigating the existing practices step-by-step:

- Master Indicator Management: ICT Observatory results (CSI Piemonte)
- Living Labs methodology and the use of Web 2.0 applications (MDDA Manchester City Council)
- Data collection and management (MFG)
- ICT Regional Organizational Model (Insiel)
- Regional ICT Observatory Policies (La fonderie)

There are also some brave examples of the developing regional analytics (including online visualisation) for support of decision-making in the Vysocina Region, which will be further evaluated.[5]

There are plenty of key topics, related to the main objectives of the ONE project, influencing digital governance today. Actually, it is the whole rocky journey from gathering of local data, to aggregating them, to creating comparable indicators; it includes using metadata and analytical tools, managing the data processing and visualisation, creating data sets for decision-making and in the end helping to shape local, regional and European policies. Furthermore, participation of citizens creates a difference in service provision; and the information market development requires fair conditions for the re-use of PSI. Issues of open/linked data and big data appear as the new demands of today. We need to share our knowledge to be able to understand and face all these changes.

5 Some of those cases will be presented next year at the ONE Conference 2014 in Brussels

Big Data - Open Data, and the Opportunity for Better Decisions in Government

Alan R. Shark, DPA, Executive Director/CEO of the Public Technology Institute (PTI), Assistant Professor at Rutgers University's School of Public Affairs and Administration (US)

When one considers that e-government has only been around since the 90's and with the first true fully functional and integrated smart phone appearing in 2007 much has evolved. As citizens increasingly view ICT as more commonplace in all its applications, governments throughout the world have seized the opportunity to utilize the Internet platform as a critical conduit providing increased efficiencies and services and in many cases providing greater information and opportunities for citizen engagement as never before. In many instances public administrators sensing an erosion of public trust, have sought to provide a greater sense of meaningful transparency. It may surprise some, if not many, that the movement towards more open government and transparency has come about more from public administrators than the public at large who largely remain sceptical. Open government and transparency is a radical paradigm shift from power through owning and withholding information to today's power through information sharing and collaboration.

This essay's main goal is to serve as an informal report of what is happening in the United States regarding the use of information, how it is being shared, and the underlying principals behind the current movement. Before one can begin to explain the "what", "where", and "how", of what is occurring with data and information sharing, we must acknowledge the "why". As explained above governments throughout the world are experimenting with new open government initiatives that range in various degrees of true openness to that of limited openness. What is common to all such efforts is a genuine desire to build public support and hopefully greater trust.

As citizens continue to enjoy the convenience and efficiencies of e-government it has become apparent that we are surrounded by information and data that until recently was first processed and then discarded as easily as paper trash. The initial function of data was to fill a specific goal such as data entry or processing of data into static reports and databases. In the business environment they have learned to effectively mine data that helps them better understand the customer in terms of demographics, consumer preferences, usage, and creating stronger brand loyalty and relationships. Governments recognizing the importance of data beyond routine business processes are beginning to wake up to the idea of using data that they themselves actually collect for similar purposes. Open government and transparency initiatives are noble goals, however, more local governments are taking the next logical step and that is to do a better job of measuring performance and reporting results. Of course any meaningful performance measurement program is only as good as the data it is built upon.

In the 20-century we migrated from an industrial economy to an information economy that spills well into the 21st Century. Information is exploding everywhere and for those who found themselves buried in piles of paper are now besieged by tons of information and data. It has been said that 90% of the world's data has been generated since 2010, and everyday, we create 2.5 quintillion bytes of data. We are just now beginning to fathom the challenges of information and data growth. According to Cisco, the Internet will be four times as large in four years and those worldwide devices and connections will grow to nearly 19 billion, thus doubling from 2011 to 2016. By 2016, global Internet protocol (IP) traffic is forecast to grow

to be 1.3 zettabytes. It should be pointed out here that a zettabyte is equal to a sextillion bytes or a trillion gigabytes. Moreover, by 2016, 1.2 million video minutes which is the equivalent of 833 days or over two years – would travel the Internet every second of every day. These numbers are difficult to explain, let alone imagine. We are simply surrounded by data, and some refer to it as unstructured or "big data". Data is now considered a valued resource as we now have the tools to exploit it and use it. In the case of government it means making better decisions based on solid information and data.

In the US many local and state governments of all sizes have begun to offer applications (referred to simply apps) that a citizen can use via a mobile device. We know that most social media applications come with built-in metrics that provide businesses and governments alike basic data on usage. The Public Technology Institute surveyed its local government members in 2011to assess how they were using this valuable and free information. The response was surprising. Over 87% of the responders stated that they were not taking advantage of the built-in social media metrics. When asked why, there were three main reasons, (1) Workers didn't feel they had the time; (2) They claimed to have lacked the training; and, (3) No senior manager ever asked for it.

Today we find much discussion around "big data" and "open data". Open data and big data are closely related an often used interchangeably but are different. Open data is information that is shared or made available in an open way, and shared way. Governments have posted both raw data and data (information) that is presented in an abbreviated way - perhaps with charts or graphs or simply a summarizing narrative. Big data by comparison is data that is captured through some form of business (or government) practice. Big data is usually generated through the collection of information. In government this could be in the form of tax collection information, census data, social media interaction, or call response data as a few examples.

Big data is becoming a new discipline requiring specialized analytical skills. There are four major reasons for its growth, they are:

1. The sheer volume of information;
2. The variety of information; and
3. The velocity of information (which is the speed at which data becomes available and can be analyzed).
4. Social media automatically generates big data

Whether government data is "open" or "big", public administrators and researchers can use it alike to:

1. Allow for better decisions.
2. Stimulate innovation.
3. Foster greater collaboration.
4. Promote predictive analytics.
5. Conserve financial resources.
6. Become more effective, efficient, and equitable government service delivery.

In the US, the City of Chicago was the first city to hire a "chief data officer" in 2012, followed by Philadelphia then San Francisco. The trend continues as numerous other cities and

counties are beginning to hire skilled workers who have the capacity to analyze and interpret data. Early efforts reveal an eagerness to get the information out to the public – more so than the more challenging task of using data to make better decisions. When asked why the initial emphasis toward making data available to the public is they believe that the public, through its sheer numbers, has a better chance at developing new applications based on the data. In other words the early leaders in the field see themselves as data enablers where they view the promise of providing raw data in the hope of attracting innovation and collaboration from a pool of the willing. While open to the public the true target seems to be non-governmental bodies, private enterprise –especially start-up companies, and public interest groups including the media.

There is general acknowledgment that utilizing data for making better and more informed decisions is still very much a goal that will take a bit longer to master. Given the current trend of what many refer to as the consumerization of technology, there are many programs available to the public that can take complicated data sets and can "mashup" the data by taking two completely different data sets and combining them into a meaningful outcome. There are also some powerful and user-friendly programs that can take data and make them visually meaningful. One example is Zoomdata (www.zoomdata.com). Zoomdata is free to individuals and boasts that it allows one to connect to internal and external data sources, combine, merge, and crunch data streams, visualize the results in real-time, and provide instant access to your colleagues. Zoomdata is but one of many services that provide individuals and companies with robust tools that enable users to make better sense of data both visually and comparatively.

The Federal government, under President Obama, has focused on improving performance and moving towards a more open government. Anyone wanting to learn more can simply click on www.data.gov as a starting point. Data.gov has developed an open source product called the Open Government Platform (OGPL). OGPL is a joint product from India and the United States that was developed to promote transparency and greater citizen engagement by making more government data, documents, tools, and processes publically available. The plan is to make useful machine-readable formats thus allowing developers, analysts, media and academia to develop new applications and insights that will help give citizens more information for better decisions.

Today data is readily available on Data.gov and includes both data and tools such as:

- 373,029 raw and geospatial datasets
- 1,209 data tools
- 137 mobile apps

There are 39 Open Data sites in the U.S., 30 U.S Cities and Counties, and 40 Countries. In addition to the 40 Countries, international cooperation and coordination extends to the European Union, OECD, The United Nations and the World Bank.

Only with good data can we expect to have good performance measurement systems. Here to one can turn to another popular website, www.performance.gov. Again this is part of President's Obama's commitment to investing in what works and fixing or cutting what does not. There are eight areas of focus, which are:

1. Performance Improvement
2. Acquisition
3. Financial Management
4. Human Resources
5. Technology
6. Open Government
7. Sustainability
8. Customer Service

How well these new platforms are accepted and adopted remains to be seen. It is clear that the movement towards more open government, big data, and open data are here to stay and are being adopted in one form or another by governments throughout the world. As our societies become increasingly interconnected so to is the growing opportunity to share and collaborate.

One of the greater challenges will not be coming from technology, for technology is nothing more than a growing suite of ever-powerful tools. The human factor remains the biggest challenge in that it is often difficult to change long-held beliefs and organizational cultures. There is also a generational gap where many younger employees entering the government workplace are bringing with them a naturally acquired talent for tinkering with data and informational systems. They are quick learner and adapter and have their own set of expectation as to what can be done that often is at odds with more senior administrators who continue to try and stay up on current trends and technologies.

While not perfect, we can learn much from the U.S. experience to date that illustrates how very important it is to have the political and resource support from the top. To be clear, the European Union has an excellent initiative of its own, and there are many groups that have formed with similar goals that come under the flags of open government, smart government, and most recently smart cities. In July 2012 the City of Barcelona hosted an organizing meeting to test whether it would make sense to create an organization and protocol modeled somewhat after the Internet Protocol Society along with the Internet Protocol. In Barcelona, the focus was creating a City Protocol Society along with a City Protocol. It is still too early to tell if this organization will be able to live up to its promise, but it is a n excellent example of the honest desire to reach out and work with other like-minded cities, universities, companies, and thought leaders organized around a common desire and goals to share and collaborate over a set of agreed upon metrics or data sets.

There are many smart city initiatives that have formed in recent years and all of these efforts involve smart data and technology. After all no mayor wants to be known for leading a "dumb city"! Every major company such as IBM, Siemens, Cisco, Microsoft, and more have their own smart or intelligent city initiatives.

Smart cities and smart decisions will all depend on having smart and accurate information. The tools and organizations appear to be in place that has the capacity to open a new era of cooperation. It will be interesting to see how well we are able to navigate this new and exciting frontier. Evidence-based decisions can lead to more insightful programs and services. The sheer weight of meaningful data can and should help drive better decisions and replace what has often been looked upon as anecdotal, dogmatic, ideological, or perhaps overly political. Decision making in the public administration realm has a great opportunity to evolve into a new era of rational decision making and at the same time have stronger public support if not understanding.

Data, tools and approaches to evidence based governance

The use of open and user data in policy-making and experimentation: a meta analysis

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Biographical Details: *Jeremy specialises in information society and knowledge economy with recent work on electronic and open government, regional development and open/social innovation. Customers include UN, OECD and WB. Recent EC assignments include Information Society in EU rural development and regional policies, eGovernment 2020 Vision Study and planning H2020 Research on ICT-driven Public Sector Innovation.*

Structured Abstract

Purpose & Scope: To obtain an overview of how open and user data, as well as open participation approaches, impact the policy-experiment and -making processes and with which results.

Design/methodology/approach: Structured analysis of examples from Europe and North America which have fully or partially demonstrated either a business or social case (or both) for public policy and decision making using open and user data, as well as social media.

Results/findings: Initial results show two main dimensions. First, a time scale dimension with shorter-term quick win examples where business cases were formulated and which have demonstrated or claimed concrete efficiency savings through encouraging users to shift to cheaper channels and increasing staff productivity. This is complemented by longer-term, social case preventative and development examples that are successfully addressing 'hard-to-reach' key target groups as well as enabling such groups to change their behaviour and to participate in shaping their own futures. Second a policy experiment and impact dimension, which shows, at one end, how local communities and actors successfully use open data and open participation to improve their quality of life and economic prospects, and at the other end how governments can experiment to improve macro policy-making and results.

Conclusions: The best examples show that there is great potential for using open and user data and open participation to improve successful policy-making, but that much more joined up research is needed to understand what works and what does not. The role of national and European policies must be to enable and encourage experimentation and innovation and themselves to use such approaches in collaboration with appropriate actors.

Keywords: *Open data, user data, open participation, business case, social case, policy making, policy experimentation.*

1 INTRODUCTION

The purpose of this short paper is to obtain an overview of how open and user data, as well as open participation approaches, impact both operational and policy processes in government. A structured analysis of examples from the UK and USA is undertaken which have fully or partially demonstrated either a business or social case (or both) for public policy and decision making using open and user data as well as social media. Social and mobile media are increasingly being seen as wide ranging tools with the potential to integrate across back-offices, across front-offices, and to link back- to front-offices. There are now burgeoning examples where governments are looking for the business case in using social and mobile media to engage citizens and thereby cut costs and become more efficient on the one hand, whilst also offering better user services and interaction on the other. In today's financially constrained environment, most governments are reluctant to invest increasingly scarce money, time and effort in social and mobile media unless such benefits can be clearly anticipated and achieved.

Although social and mobile media are just part of the mix needed to realise these benefits, they can be, as this paper attempts to show, key enablers and drivers of them. Social and mobile media provide an architecture of participation which enable users not only to be passive consumers of content and services but also active contributors and designers in their own right. Indeed, the experience presented in this paper shows this is happening mainly at local and regional level which means that these levels of government are, and are likely to remain, e-participation leaders. This new approach to e-participation can be a seamless part of a government's broader policy of openness, transparency and collaboration. It needs to be continuously woven into a user's experience of the public sector, built into the fabric of all aspects of the way in which he or she interacts with the authority. It should become a natural and fundamental way in which the government conducts all its business, whether in what is traditionally termed either the back- or front-office so that this distinction becomes misleading – all is now 'front-office' in the sense all can now become open and visible.

The paper examines a number of current and recent examples which have partially or fully demonstrated a business case justifying the deployment of social and mobile media for engagement and policy making. They fall into two main types across the public sector and across the spectrum of service delivery: short-term quick wins and longer development wins.

2 SHORT-TERM QUICK-WIN BENEFITS

2.1 'Love Clean Streets', Lewisham, UK

The objectives of the Love Clean Streets initiative , from January 2010 to January 2012 in the London Borough of Lewisham, are to become a social-networking hub for London and help deliver an environment worthy of a world class city for the 2012 Olympics and beyond; empower residents, council staff, partners and politicians to engage in their local environment by uploading photos and other information via smart phones or other devices; provide a robust way for local authorities to process the information and deal with it, while easily keeping the public informed of progress; and to link with and share existing data through a public API. Investment in the initiative has been about £180,000 [1], compared with benefits recorded of [1]:

1 Interview with London Borough of Lewisham representative, 16 November 2011.

- 87% reduction in time taken to process a case
- 70% reduction in report handling costs (telephone handling per case costs on average £5.10, compared to £4.10 for web forum and smart mobile with photo £1.50)
- 21% reduction in environmental casework
- 30% increase in resident satisfaction
- more than fourfold decrease of land at unacceptable standard
- 73% reduction in graffiti and graffiti removal time reduced from average of 2.78 days to less than 0.5 days
- fly-tip removal time reduced from average of 2.5 days to less than 1.0 day
- elimination in staff overtime to collect missing rubbish bins from £300,000 in 2006 to £0 today
- savings of £17,500 by replacing physical inspection with mobile application
- increased trade waste income of £20,000.

These and other cost savings and benefits are the result of three factors. First, significant channel shifts to relatively cheap mobile and social media away from telephone, post and physical reporting. Second, increased staff productivity as information is sent direct to maintenance teams who determine their own best work processes, schedules and targeting rather being coordinated at the town hall. Third, the behaviour and awareness of residents has also changed as they see their input acted upon swiftly and effectively. The case is now being replicated more widely.

Figure 1

2.2 San Francisco Twitter 311 Service, USA

"More than 50 SF agencies and officials use Twitter for citizen engagement and empowerment and government marketing, not including political accounts."[2] For example, the former Mayor had 1.3 million followers. In an effort to improve the '311 service' (i.e. non-emergency telephone information and complaint service) and simultaneously lower costs, the City of

2 http://sf.govfresh.com/best-in-sf-government-social-media accessed 11 April 2012.

San Francisco launched 'SF 311' on Twitter in June 2009. This allows residents to access 311 services online in addition to by telephone, and is now the dominant channel for this service.[3]

Twitter 311 offers a number of quick win advantages over the phone service which benefit both City officials and residents. For example, fewer 311 staff members are able to respond to more requests than they previously could by phone alone. When residents submit requests through Twitter, they can also attach pictures of problems they need addressed, clarifying why the issue requires resolution. After a Twitter request has been made, 311 staff can easily provide follow-up, allowing residents to track resolution of the problem.

Twitter and Twitter 311 have together now become an important tool for interaction between the City and residents. Much more than simply registering complaints, Twitter is now used for receiving and commenting on suggestions and helping to build a vibrant citizen community.

A new phase benefiting the longer-term started in early in 2012 by using the data generated as empirical evidence for service and policy development across all City functions. Indeed, since 2008 the data collected with local information covers 855,906 cases, derived from both Twitter 311 and telephone 311 services.[4] Experiments are now being made to feed these data into the decision-making process complementing the traditional outreach methods, like town hall meetings.

2.3 San Francisco open city data, USA

"In 2011 the term „hackathon" became common and many cities all over the world opened datasets for developers to build applications around."[5] In 2011, San Francisco got over 200 apps for free, about 10% of which were useful in filling the gap in what the City could do itself. In most cases no money prizes are awarded, and this seems to be unique amongst global cities. Instead the City helps to turn winners into celebrities and to promote them, for example by assisting them to pitch to Twitter, Facebook, or other investors, or helping to match them with suitable partners or customers. Having the City as an ally and trusted supporter is preferable to most entrepreneurs in San Francisco than some money in the bank.

However the 'hackathon' approach has been criticised as being solutions looking for a problem most of which are never implemented. So in February 2012 the City launched 'Hackathon 2.0' which starts with specific problems looking for a solution, and involves not just coders but also designers and companies, civic groups, etc., which need a specific problem to be solved as soon as possible. This is known as an 'unhackathon': "Calling all designers, software engineers, business strategists and other clever problem solvers who love big challenges….join the City of San Francisco, California College of the Arts and Mix & Stir Studio for 24 hours of intensive fun while inventing design-driven technology solutions to real world problems. We provide the challenges and interesting data; you collaborate with other smart creative people to find the solutions."[6]

Indeed, within a few months in 2012, several mobile and web app solutions were generated to solve San Francisco's taxi coordination problems which had dogged the city for years.

3 Interviews with Shannon Spanhake, Deputy Chief Innovation Officer, City of San Francisco, and Adriel Hampton, community and social media activist, 20 April 2012.
4 https://data.sfgov.org accessed 30 April 2012.
5 http://shannoninsf.blogspot.com/ accessed 30 April 2012.
6 http://mixandstirstudio.com/unhack/ accessed 30 April 2012.

This was done through mixing public and private data and building social media communities amongst residents and taxi companies. Virtual community platforms and physical forums were used provided by local entrepreneurs for negotiating partnership and organisational issues around taxi routes, fares and jurisdictional issues. The mix of actors included the City hackers, designers, artists, taxi companies, and drivers. This has already saved the City authorities and taxi companies "considerable money as well as providing a much better service for residents and visitors."[7]

3 LONGER-TERM PREVENTATIVE AND DEVELOPMENT BENEFITS

3.1 'Why let drink decide' and 'Moment of doubt' campaigns, UK

In 2009 research showed that whilst the number of young people drinking alcohol in the UK had previously fallen this was no longer happening, and the amount being consumed by those who were still drinking had risen. As part of the UK's Department for Children, Schools and Families Youth Alcohol Action Plan (launched in June 2008) and the Department of Transport's Moment of Doubt Action Plan (launched in 2007), a communications campaign was launched aimed at parents, and particularly young people themselves, focusing on drink driving. The traditional campaign tactics that build public outrage and admonishment were found to become meaningless and ineffective, as were the traditional channels of mainstream media. The new campaign instead focused on persuading the target audience that drink driving could have immediate negative consequences for them personally and used a mixed social media strategy. This consisted of 4 main portals (parents, teens, children and stakeholders), 1 Facebook App, 1 Bluetooth game, 4 children's games, 5 videos with the respected expert/media medic, and 6 display adverts.[8] The total cost was £205,000. [2]

The main outcome of the campaign for young people was a measurable rise in perception from 58% to 75% that drink driving was dangerous and that they would be caught by the police. The number of people breathalysed rose by 6.4%, while the number testing positive fell by 19.5%. The number of deaths and serious injuries caused by drink driving fell for the first time in six years, from 560 to 410 over just one year.[3]

Figure 3

7 Interviews with Shannon Spanhake, Deputy Chief Innovation Officer, City of San Francisco, and Adriel Hampton, community and social media activist, 20 April 2012.

8 An example YouTube vide "Binge Drinking - Your Night. Your Choice" on: http://www.youtube.com/watch?v=Ik3eFuvUmNU&NR=1&feature=fvwp accessed 30 April 2012.

3.2 'Talk to FRANK – Pablo the Drug Mule Dog', Health Department, UK

FRANK is a national drug education service jointly established by the Departments of Health and the Home Office in 2003. The aim is to reduce the use of both legal and illegal drugs by providing „targeted" and „accurate information on drugs and alcohol", particularly to school pupils. [4] It is advertised and promoted through television, radio and, particularly to reach young people, via Facebook and YouTube. As part of FRANK, in December 2008 the Pablo campaign launched via TV and using social media to communicate the social, health and environmental damage cocaine can cause – "there's a darker side to coke". Pablo is a dead dog that has been used to smuggle cocaine into the country. Motivated by his unfortunate fate, he's on a quest to find out what's the big deal with coke. The key objective of this campaign is to communicate the harms of cocaine use and prevent first time use. The business objective of this social media project was to extend the existing Pablo campaign to Facebook and YouTube to build relevance and trust amongst 15-21 year olds and create a conversation with young people about the harms of cocaine.

Key performance indicators on Facebook include over 197,000 fans (putting it in the top 1% of fan pages), page viewed more than 500,000 times, over 25,000 interactions (posts, comments, etc.), more than 250 questions through the application and many more directly on the page, and Pablo's YouTube videos received over 137,000 views.[9]

The total cost is £148,000. The campaign had viral success with 73,000 fans coming directly from media whilst 124,000 were organic. Indeed, the use of Pablo in the anti-drug campaign has been met with praise in the media and in the public eye, particularly for the large impact made without glamorising the drug trade. James Donaghy, writing for The Guardian said that „The Drug Mule Dog advert for the government's FRANK drugs helpline is a special kind of brilliant" and noted that „In a Home Office survey of [teenage audiences], 83% thought the FRANK adverts were very or fairly effective...surely some kind of miracle."[10]

3.3 Text4Baby', Center for Disease Control, USA

The Center for Disease Control in the USA has partnered with a number of non-profit and government organizations to provide information to expectant and new mothers about how to take care of themselves and the baby while pregnant and during the first year of the baby's life. Realizing that the women most at risk usually came from a disadvantaged background and thus have limited access to the internet, while at the same time usually have access to mobile pho ne, the CDC devised a program where relevant information was sent once a week to women who signed up by texting Text4Baby.[11]

A recent study showed "very high satisfaction with the service, increase in users' health knowledge, improved interaction with healthcare providers, improved adherence to appointments and immunizations, and increased access to health resources." [5]

The study consisted of interviews with 38 text4baby users and a survey of 122 text4baby users, all in San Diego County. Participants rated text4baby as an 8.5 out of 10 overall, and indicated that:

9 An example YouTube vide "Talk to frank advert - Pablo the drugs mule dog" on: http://www.youtube.com/watch?v=4LnA-xCz5U8 accessed 30 April 2012.

10 Donaghy, James (10 January 2009). "The Hard Sell: Pablo the drug mule dog". The Guardian (London). Retrieved 20 May 2010.

11 http://text4baby.org accessed 30 April 2012.

- 81% have an annual household income under $40,000
- 65% are either uninsured or enrolled in California's Medicaid program
- 63% said the service helped them remember an appointment or immunization that they or their child needed
- 75% said they learned a medical warning sign they didn't know previously
- 71% talked to their doctor about a topic they read on a text4baby message
- 39% called a service or phone number they received from a text4baby message (this rose to 53% among individuals without health insurance).

4 LESSONS AND CONCLUSIONS

Summary lessons and conclusions from these and other examples are as follows [12]:. [6]

4.1 Short-term, quick-win benefits

Most examples demonstrating or claiming short-term quick wins do so for both the public sector and for users. These include the following:

- Shifting channels, i.e. reducing the use of, or closing, more expensive traditional channels and replacing these with the use of social and mobile media. There is some concern by public authorities that needing to run both new media channels and traditional channels at the same time, where the latter are not closed down, will increase costs, and this danger is real. However, most examples presented have solved this problem by shifting customers sufficiently rapidly to cheaper new media and in large enough numbers so that overall costs are lower. The mobile smart phone channel can also be used to help achieve channel savings as well as better services, as exemplified by the 'Love clean streets' case.
- Increasing staff productivity, for example the number of cases successfully handled in a given time or for a given resource. This is both due to the lower transaction costs of social and mobile media, but also to reductions in customer contact time because the quality of service delivered in a given time unit is improved as staff know customers and their (often individual and specific) needs much better through social media engagement. Back-office processes are improved as this customer knowledge increases, leading to improved segmentation and targeting using social media. The challenge, which many governments have not yet solved, is that social media engagement might lead to more extensive (i.e. time consuming) and expensive contact. The examples presented here, however, show that the goal of the majority of customers is to save time rather than use the service more. Customer satisfaction in these examples is derived from a convenient, quick, efficient as well as highly effective, service.

4.2 Longer-term, preventative and developmental benefits

Most of the examples demonstrating or claiming longer-term preventative and development examples do so for both the public sector and for users. These include the following:

12 Contact the author for further examples and follow-up research.

- The main focus in most of these examples is typically described as preventive, pre-emptive or early intervention, i.e. removing, or circumscribing problems highly likely to arise in the medium to longer-term which would otherwise impose large costs on the public sector, apart from depriving customers of personal benefits. The examples are thus seen mainly as long-term programmes, or as contributions to such programmes. They do impose some (but typically not large) up-front costs, but the confident expectation, which is already being achieved in some cases, is that they will later achieve much larger savings. The general aim is to circumvent or ameliorate future problems using social and mobile media (as well as other instruments) through smart or intelligent intervention.
- There are other additional challenges in these examples. First, although many savings are made through back-office organisational and process changes, the main focus is on changing user behaviour. [7-10] Social and mobile media are, by nature, interactive tools in which the user's inputs, activity and behaviour are just as important – perhaps more important – than those of the public sector. The public sector has less control over user behaviour than over its own, so this increases the risk. Second, savings and other business benefits might not directly accrue to the public sector department or agency which made the initial investment, but instead could benefit other entities. Silo thinking and working in the public sector might resist such initiatives, so a more holistic, whole-of-government approach is required.

However, most of those responsible for the examples presented claim that large savings and other benefits, if not yet seen, will be realised as part of a longer term strategy, and that it would be short-sighted for any public sector entity not to invest in these now, even given the current climate of very strained public finances. Indeed, the consensus is that such a strategy should be an essential part of addressing the current economic problems.

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Designing a New Model for ICT-enabled services from the "Outside In" – focused on people and place

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Structured Abstract

Purpose & Scope:
Transformation is in the air: and the need is very evident. Public Administration must lead in charting the way there. Information and Technology both play a vital and game-changing role. What then are the new roles? What should the areas of focus be? Where are the good examples? What is clear is that in the new model, there is a need for greater collaboration across sectors; greater involvement of society; and better leadership. What progress is Europe making at local and pan-EU levels? What steps are needed to accelerate matters?

Conclusions:
Conclusions will be made, also in reference to the latest European eGovernment Benchmark survey.

Keywords: *Transformation, ICT-enabled services, eGov benchmark*

Knowledge evidence for progressive policy making

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Structured Abstract

Purpose & Scope:
In the policy discourse the notion of evidence is a key ingredient for supporting sound policymaking. The topic has stimulated a lot of debate in the recent years. But studies have also shown that policy evidence is by no means a simple collection of facts, no matter how effective and scientifically based they can be. Policy relevant evidence in fact involves several dimensions, pertaining to both the observers and those who are observed as well as to their interactions; it raises issues of data reliability, pertinence and access; it includes value judgments by the involved actors; it has to pass the filters of the dominant scientific paradigms and comply with goal setting activity; finally, it cannot abstract from the specific circumstances in which a certain evidence building process takes place.
The paper argues that: a) variety in knowledge perspectives is an important asset for enhancing policy making; b) ICT methods and web-based communication have an essential role for leveraging that asset as they help developing new socio-technical systems.

Design/methodology/approach:
Building upon the results of the research activities carried out by the Piedmont ICT Observatory (PICTO) since 2005.

Results/findings:
Emphasizing the importance of better connecting scientific and stakeholders views of policy problems.

Conclusions:
Taking advantage of the different knowledge is both a requirement and a spur for policy making to evolve.

Keywords: *knowledge perspectives, cognitive mediators, socio-technical systems, progressive policy making.*

1 INTRODUCTION

In the policy discourse the notion of evidence is a key ingredient for supporting sound policymaking. The topic has stimulated a lot of debate in the recent years and has been addressed likewise in documents by the European Commission [1]. Studies have also shown however that policy evidence is by no means a simple collection of facts, no matter how effective and scientifically based they can be. Policy relevant evidence in fact involves several dimensions, pertaining to both the observers and those who are observed as well as to their interactions; it raises issues of data reliability, pertinence and access; it includes value judgments by the involved actors; it has to pass the filters of the dominant scientific paradigms and comply with goal setting activity; finally, it cannot abstract from the specific circumstances in which a certain evidence building process takes place.

This paper is a contribution to sharpen the issues. It builds upon the experience gained in participating to the activities of the Piedmont ICT Observatory, which in monitoring the penetration of ICT in the regional system has been confronted with several of the above questions.

In particular, two main arguments are put forward: a) that variety in knowledge perspectives is an important asset for enhancing policy making; b) that ICT methods and web-based communication have an essential role for leveraging that asset: they help developing socially aware new socio-technical systems which turn out to be indispensable for living in an interconnected world.

Of course no claim is made to provide any definitive answers or dreamlike recipe. Rather, the paper simply purports to contribute to a reflection, which is badly needed in order to nurture a new mind-set for action [2].

In the following discussion proceeds as follows. Section 2 briefly recalls a scheme of the observational perspectives used in PICTO studies to study the relationships between ICT and the changes in the regional activity system. Section 3 argues that, because of ICT pervasiveness, learning to get knowledge evidence is an important endeavour for progressive policy making. In this regard two main aspects are mentioned: devising a strategy for knowledge building and encroaching it in policy practices.

Some final remarks and suggestions for future research are mentioned in section 4.

2 ICT AS AN INNOVATION KERNEL

2.1 The PICTO experience

A significant by-product of PICTO activities over the past five years has been the opportunity to nurture a reflection about the new facets of the regional activity systems, as these were progressively shaped or transformed by an increasing ICT presence. A number of interpretations of the change processes resulting from the consolidation of ICT-supported relationships among citizens, firms and local authorities were put forward. Notwithstanding the lack of a common framework of reference, they shared a same understanding about the evidence that data, information, knowledge associated with ICT networks have a main responsibility in the transformation processes. In particular, two main perspectives underpinned those interpretations.

The first, which for the sake of the present discussion is called substantial, is meant to address the main sources of changes for a regional activity system and notably: i) the processes associated with an increasingly open and globalised economy which opens up novel exchange possibilities for regional and national areas, and ii) the dynamics of local territorial systems (the regions and cities) whose human, economic, environmental and spatial resources are a fundamental asset for their development. According to this perspective, ICT and Internet are a means to leverage, on a global exchequer, the potential of the regional system and reinforce its competitiveness.

The second perspective, which we label complexity inspired, views the regional activity system as a socially desirable socioeconomic configuration which would be established by ICT empowered agents in order to cope with the risks of economic downswing and the need to enhance European integration. In this regard ICT and Internet are but a means for supporting agents' decision-making process, i.e. for learning how to carry out new action courses also by engaging in cooperative socio-technical networks.

Of course the two perspectives are not antagonist. Most widely accredited in the economic debate, the former deals with the socioeconomic characteristics for ICT-related growth and underpin to a large extent, also the more recent debate about the regional smart specialisation and place-based development, [3-4].

The latter perspective is more recent and can be endorsed to the interest in social complexity and the acknowledgement of the increasing importance of reflexivity both as an essential pre-condition in agents' learning and as an upper overlay involved into the societal dynamics [5-6].

It acknowledges the need to take into account (to anticipate) the societal impacts likely to be produced by ICT usages and to evaluate (anticipate) their outcomes.

Actually, this perspective reflects the latest evolution of sociological thought, which maintains that social systems are autopoietic and namely that they have the ability to reproduce both their material and non material (functional and communicative) constitutive parts, [7]. An associated property is self-referentiality, and specifically the capability of the system to have knowledge of itself and of its functioning.

This means not only that the self- knowledge accrued by the different actors (individuals, firms, local authorities) in turn affect both the system structure and modus operandi, but it also implies that, feedback loops exist between parts of observed (external) reality on the one hand, and models and theories about these parts of reality on the other hand. To a large extent, both individuals and collectives produce their own world, [8].

2.2 Designing a scheme of analysis

ICT are not just a multi purpose technology: they entail information and the ability to devise and exploit the functionalities enabled by the technology. To make the notion explicit a core-concept is put forward which interprets ICT as an innovation kernel, an elementary unit for establishing the new functionality attributes, which characterize the activity system in knowledge, based society [9 -10]. It is made by up of three interlinked elements:

- information and Communication Technologies (ICT) which consist of the set of artefacts brought into existence by the technological progress (computers, telecommunication networks, cellular phones and the hybrids resulting from the convergences of the former);
- information, broadly understood here as the whole continuum of data, information and knowledge which can be conveyed and created by means of ICT, i.e. the information related activities deemed to affect the value-chain (performance) of a transaction, the timeliness of an action, the range of possible choice alternative, the commitment to an action course;
- functionality, here defined as the operations making it possible the realization of activities (and of their working within an organization), which is supported and/or enabled by the coupling of ICT and Information.

Whereas the availability of ICT is a necessary condition for the innovation kernel to develop, agents, as represented by individuals, organizations and institutions as well as the spatial environment are the essential means through which innovation potentials are shaped and deployed in a certain area. In this respect, both agents' ability to take advantages of ICT and the characteristics of the recipient social, cultural and territorial environment, are fundamental in ICT diffusion. They form essential ingredients of today socio technical systems. The links between interacting individuals, supposed to act not as blind avatars but as aware and cognitive agents, and the range of ICT expected outcomes at community and societal levels raise challenging research issues on both a theoretical and operational ground.

Although the notion of innovation kernel is probably no more than a metaphorically rich expression, it reveals holon type features which make it possible to cast different views on the relationships between ICT usage, and regional activity system.

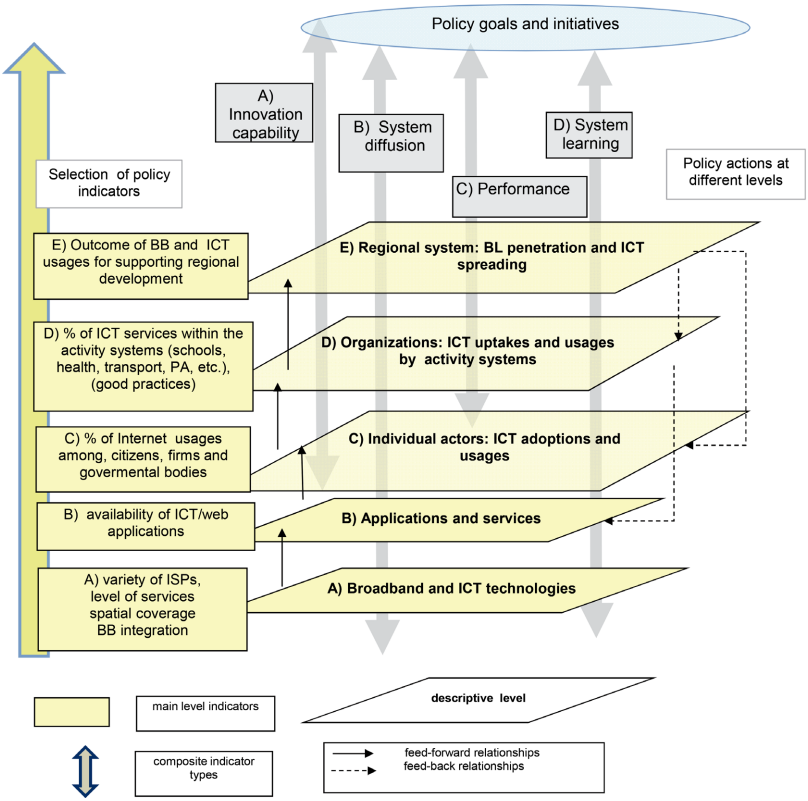
To investigate these relationships, two main approaches have been retained in PICTO works, Figure 1.

The first is aimed at observing the properties of the innovation kernel, as this would manifest itself at different descriptive levels according to which the relationships between ICT and organizations can be analysed. These levels mentioned in Fig.1 also correspond to the domains where data are collected and main descriptive indicators computed (see all the PICTO reports related to the ICT penetration among citizens, firms and local authorities).

The second approach attempts to grasp some effects of the working of the innovation kernel as individuals and organizations appropriate it. It posits that the development of the innovation kernel goes along with the progressive establishment of an information-wired-environment (i.e. a novel socio-technical system), which creates the conditions for its further development [11 -12].

Whereas, for a human organization (a regional system, a local area) technological progress may at certain times be regarded as exogenous, information endowments and expected level of functionalities are not. These are rooted in the socioeconomic conditions existing in an organization (area) as well as in the agents' willingness to experiment new ICT services. As a result of the new socio-technical infrastructure and usage patterns, it is then likely that upgraded service functionalities for health, education, and employment access would ensue and enhance the viability of the organization (area).

Figure 1: A scheme for the analysis of the relationships between ICT usages and an a human activity (regional) system



Actually, this approach builds upon the above-mentioned substantial and complexity based perspectives and suggests a number of (possible) observation windows, making it possible to probe into the outcome of the working of the innovation kernel.

These are indicated in Fig. 1 as innovation capability, system diffusion, performance and systemic learning. As shown in the scheme they cut across the descriptive levels of the innovation kernel's properties. Conceptually, their representative indicators can be derived either from a combination of those associated with the different descriptive levels, or from additional data related to other facets of the human activity system.

A stylised account of the profile of these observation windows is suggested in Table 1 with some examples of possible categories of measurement indicators, distinguished for the different components of the innovation kernel [11].

An application of this framework for the Piedmont region has also been experimented in some PICTO studies carried out at Ires, over the last five years [13].

Table 1 Overview of the observation windows for probing into the relationships between ICT usages (the innovation kernel) and human activity system (*)

	The ICT component	The information component	The functionality component
Innovation capability	**ICT as a factor of economic growth**	**The intangible of ICT (the knowledge building blocks)**	**The forms of innovation**
	ICT firms and import-exports; ICT diffusion by NACE sectors	Education levels, training courses	Patents by products; increasing productivity levels
Diffusion	**ICT networks**	**Transferable information**	**Usage diversifications**
	Broadband access; relationships between universities, firms and local governments	ICT take-up by agents, competence formation	ICT usages by activities and type of actors
Performance-based	**ICT supported communication networks**	**Adaptation and learning**	**Usage selections and activity changes**
	Users of collaborative tools	Online and offline activities by agent types	Best practices and explorative procedures
System learning	**Networks of ICT enabled users (humans and artefacts)**	**Knowledge awareness**	**Agents' sustainability oriented strategies and policies**
	Socio-technical networks of decision support systems	Internet benefits by firms, households and local government	Mobilizing agents' engagement in viable action spaces

(*) Main goals of investigation domains are indicated in bold characters.

3 KNOWLEDGE CHALLENGES AND SOME POLICY IMPLICATIONS

The previous discussion contended that: a) ICT-based individual usages and social practises are a means for enhancing system reflexivity; and that b) by leveraging a data to knowledge continuum they make up an essential component for the establishment of new socio-technical system, [14].

Nurturing (ICT) innovation kernels and establishing socio-technical systems raise challenging research and policy issues as it is realized that some of their properties, and notably openness, learning and resilience, allow them to better cope with environmental complexity, innovative behaviour, new technology, and organizational

As far governmental organizations are concerned, in particular, some studies recommend, see [15], ICT usage should extend from disseminating information to establishing relationships between inside and outside government, thus making the linking between government and governance more effective in improving the viability of communities and society.

This acknowledgement calls for better knowledge evidence and as some scholars put it for performance information [16]. Their production however is not simply a matter of devising better technical and or methodological instruments. There are in fact a number of aspects, which defy conventional approaches as:

- The problems addressed have an inherently global nature and entail political and value-based issues, such as in the case of climate changes and energy, see [17];
- Policy activities involve many actors who have diverse world views and use information differently as they look at problems through their own 'lenses' [16], [18];
- Relationships among different public departments and across different institutional levels have complex arrangements, which convey a diversity of lived experience. This complexity in fact is a main source of what characterizes the wickedness of a majority of policy problems, [19].

These remarks point out that an extension is needed in the explanation framework conventionally applied in scientific investigation, which includes the following main components claims' definition, evidence gathering and reasoning (linking claims and data). They call for a broader perspective, to be put under the large umbrella of complexity science [20 - 22]: a) that can leverage, across diverse disciplines, a data-information-knowledge that is pertinent to the object of investigation in relation to the purposes of action; b) that gives an emphasis on the construction of knowledge, thus paying attention at the underlying assumptions through which disciplines construct knowledge; c) that provides an understanding of the organization of knowledge in situated contexts; d) that makes it possible to integrate the knower in the process of inquiry.

In this respect two suggestions are made.

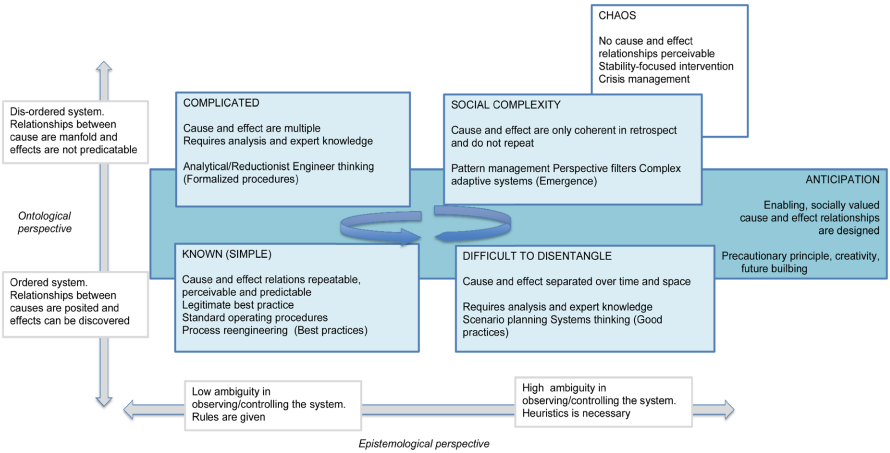
The first is the opportunity to have better insights into the kind of knowledge problems a certain policy issue is confronted with [23]. In this regard, building upon the existing literature, [24], the scheme in Fig. 2 is recalled. It reminds us that when searching for knowledge evidence in order to address a policy problem both the ontological and epistemological perspectives are involved. Paying attention at their joint articulation, in fact, enhances stakeholders' awareness in devising the data-information-knowledge strategy, which, in a certain context and policy stage, is likely to be more successful, i.e. whether and how it can increase mutual understanding and shared objectives among the different stakeholders.

The second suggestion relates to the fact that understanding success factors (or avoiding risk of failure) for complex policy design and implementation may need to address the conditions under which knowledge evidence is produced and why.

Whereas, the issue of knowing in practice is a longstanding topic of interests in the scientific debate and organizational studies, see, for example [23], [25 - 27], in the public sector it is not.

Spurred lately by the uncertainties of an economy in turmoil, civil servants and decision makers in government organizations are barely beginning to be aware of the practical relevance of having a knowledge building strategy in their everyday activities. Indeed, as they are increasingly confronted with the need to couple their own (internal) view of a problem, with the many other (external) views, the role of ICT-based cognitive mediation artefacts (models), in situated context, is going to be increasingly important [18], [27-28].

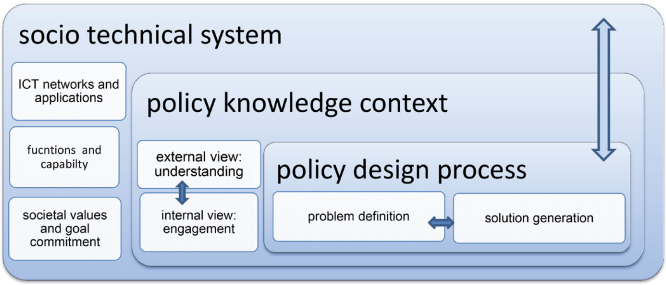
Figure 2: Searching for a knowledge building strategy



In fact, applications of complexity science create a motivating environment where learning to develop such a strategy for knowledge building [29-30]. They provide insights into how the different knowledge contributions can be related to each other in searching for a solution to a policy problem. They also expose how the various stakeholders may leverage the results of their inter-linking, and help to tackle those wicked problems which are responsible of the fragmentation observed in many policy situations.

In the process, both understanding, by means of ICT-based models, and engagement, through the working of (ICT) innovation kernels, are entailed and allow stakeholders to share a common approach to policy design and accomplishment [14]. As stakeholders' learning is improved and knowledge spillover likely to be generated in the whole activity system, opportunities can be created for overcoming fragmentation across government departments and establishing more effective policy organizational patterns. For the socio technical system as a whole, this would mean to be capable to more timely and effectively appropriate of the ICT progress, and close the gaps between social needs (what communities want) and technical performance (what technology does) [31], Fig.3.

Figure 3: Leveraging complexity in policy activity: connecting designs process, knowledge context and the socio technical system (*)



(*) See ASSYST Newsletter, Complexity and Policy, Number 21, August 2011 | www.assystcomplexity.eu | www.cssociety.org

4 CONCLUDING REMARKS

To take up the Europe 2020 challenges for a smart, sustainable and inclusive growth, the troubles and fragmentation policymaking encounters in most European countries should be contrasted.

Insofar as we acknowledge humans' intrinsic willingness to cooperate and the unique infrastructural capability provided by ICT, the building of knowledge evidence has a pivotal role for dealing with those difficulties.

Empowering stakeholders to improve knowledge evidence, building a shared understanding of the societal questions to be addressed, developing ways to harness the problems at hand, and contributing to a cultural shift from a risk-averse towards a collective learning culture, are therefore a main endeavour for progressive policy making.

More specifically, as suggested by PICTO research some topics are likely to deserve priority attention, [28]:

a. Extension of policy perspectives, by leveraging complexity thinking, should be primarily aimed at favouring inter-organizational linkages, among the different government offices, at the different institutional levels. As ICT are transversal to all government departments and policy domains, they can no longer be considered as plugged in factors to be dealt with in isolation. The fact that their usage forms hybrid complex socio technical policy bundles requiring cooperation by the different government departments should be reiterated and the arguments for handling them by means of a trans-disciplinary approach popularized;
b. Gaining insights into the significance of the ICT data-information-knowledge continuum is a main endeavour to be pursued for empowering government actors. In particular, the functions cognitive mediation artefact can play in appropriating existing data and in supporting routinely vs. not routinely tasks (such as those motivated by unforeseen citizen needs or emergency situations) need to be further investigated;
c. Finally, the experience gained by government actors in carrying out ICT-supported (complexity based) own policy activities should be shared. Exploiting knowledge flows stemming, from interpreted information, such as good practices and stories about implemented policy initiatives can accelerate empowering processes by policymakers and help avoiding pitfalls.

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Simulation Tool for Improving Regional Budget

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Structured Abstract

Purpose & Scope:
The main task of Lithuanian Information Society Development Programme 2011–2019 is to pay attention to information society as an open, educated and constantly learning society whose members use the ICTs effectively in all areas of activities. Each educated inhabitant should asset the structure of municipality budget and should understand relations between funds and indicators. It is very important to have a possibility to access regional open data and to ensure the harmonious development of all functional areas, given the budget funds. The main purpose is to design simulation tool for improving regional budget planning.

Design/methodology/approach:
Model of simulation was designed.

Results/findings:
In this paper the development and maintenance of regional road network is considered as an example of modelling. Choosing economical ways of ensuring road quality indices for given period is shown.

Conclusions:
Simulation tool helps users to improve knowledge and skills in the field of distributions regional funds.

Keywords: *Simulation, budget planning, data, road, database.*

1 INTRODUCTION

The Lithuanian Information Society Development Programme 2011–2019 defines information society as an open, educated and constantly learning society whose members use the ICT effectively in all areas of activities. Thus each educated inhabitant should be able to assess the structure of municipality budget and should understand relations between funds and indicators. It is very important to have a possibility to access regional open data and to ensure the harmonious development of all functional areas, given the budget funds [2,4,5,9]. Historical review of planning of regional development planning is described in [9,14]. Budget planning it is difficult task [1,13]. To solve this problem it is necessary to find objective criteria describing development of various areas. In order to make plans, some data has to be stored [11]. An example could be analysis to sectors as health and education systems. It is necessary to detect level of development of each field.

The main purpose of the paper is to design simulation tool for improving regional budget planning. In this paper the development and maintenance of regional road network is considered as an example of modelling. Choosing economical ways of ensuring road quality indices for given period is shown. Simulation tool helps users to improve knowledge and skills in the field of distributions regional funds.

2 FORMULATION OF SIMULATION TOOL FOR REGIONAL BUDGET

Success and usefulness of using simulations depends not only on formal model of simulation, but also simplicity of design, pedagogical possibilities, additional courses to explain learner the main idea of simulation.

Analysis of references [3] allows us to distinguish set of indicators related to regional growing:

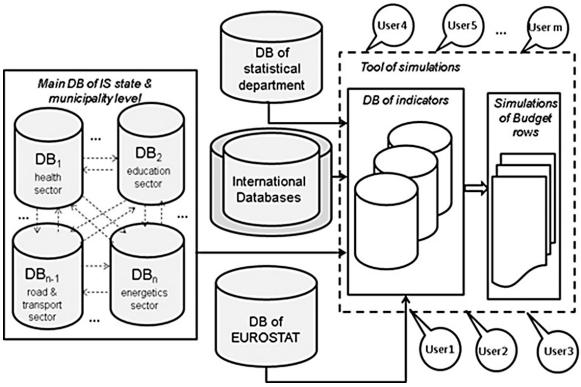
- Indicators related with International influence;
- Macroeconomics state indicators;
- Micro-territorial indicators;
- Micro-behaviour;
- Qualitative indicators.

Each educational simulation should have two types of variables:

- Dataset of values which fields are managed by organisers of simulation;
- Dataset of values which fields are managed by participants of simulation.

Analysis of references [4] shows continuously increasing level of integration of all indicators needed to evaluate economic factors of municipality. Organizers have to select necessary set of data for running simulation (for defining value of each budget row). Common schema of selecting data for simulation municipality budget is presented in Figure 1. The biggest part of data comes from different databases of municipality information system. It is necessary to evaluate summarised data from health, education sector, culture, road & transport, energetics and others sectors. Processes of globalisation force us to pay attention to factors related with international level. So, it is necessary to use data from global databases as EUROSTAT, WHO DB etc.

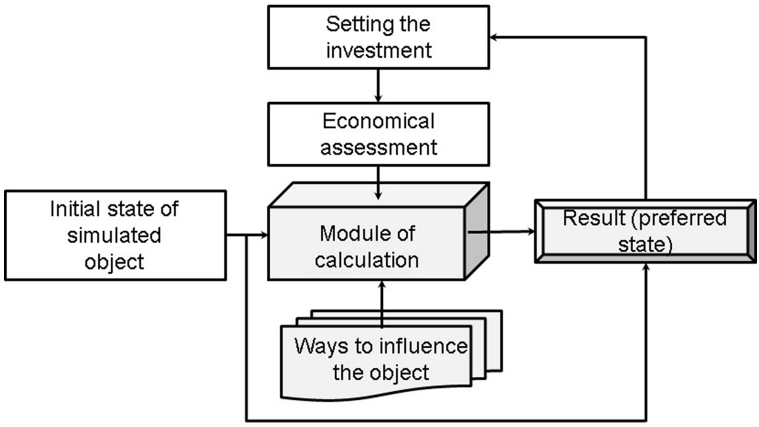
Figure 1: Common schema of selecting data for simulation municipality budget



Different types of users could be encouraged to participate in running simulation. Participating in simulation different groups of users helps government to develop citizenship.

Each participant of simulation should find the best result for harmonic regional development by changing priorities of indicators. On other hand users are asked to seek the best quality of life evaluated existing constrains (limited sum of funds and etc.). The common schema of management quality of life is showed in Figure 2.

Figure 2: Schema of management of quality life



Depending on the level of the players, two possibilities arise. In one case the players can influence the state of the object by specific measures. However, for demonstration purposes, the specific choices could be made by software as well. In such case the players would influence the state of the object indirectly, by choosing the investment level.

There are many ways that influence the simulated object (health, education, road quality and etc.). Examples of ways for health sector could be buying a tool for diagnosis of diseases, building hospital, closing hospital and etc. Each way has its costs and could be evaluated by indicator of usefulness.

Formalized model of simulation might require to fill the table of size 3×n, with 3 rows and n columns (each column for possible measure). That is illustrated by table 1.

Table 1 An example of measures and indicators

Name of characteristic	Choices					
	1	2	…	i	…	n
Set of ways for improving selected sector {Mi}	M1	M2	…	Mi	…	Mn
Set of indicator of usefulness {ki}	k1	k2	…	ki	…	kn
Set of costs {Ci}	C1	C2	…	Ci	…	Cn

Approximate estimates of the indicators could be provided by the subject matter experts. The estimates are not constant, but such variations can be ignored in the model meant for educational purposes only.

The game would show the student the importance of distributing the finite resources efficiently.

3 CASE OF ROAD MAINTENANCE MANAGEMENT

The level of regional development depends on infrastructure of that region. Quality of roads impacts development of other sectors of region. It influences regional development. For example the best indicator of roads quality among 142 countries is France's, Singapore's (6.5) [15]. Quality of Lithuanian roads is given the index of 5.2 (32 place among 142 countries) [15]. However, Lithuanian Global Competitiveness index gets 45th place. Thus, it would seem that, to achieve a balanced development, roads should be less of a priority. Likewise, in the game the main task is to find the road quality that would correspond to the development of other areas. The level of evenness is the main indicator which shows quality of roads network. Summarising everything it is clear that roads management politics should be based on economical evaluation.

To use the state's (or regional) funds dedicated for road maintenance effectively, road maintenance management system (RMMS) is used [6,7]. It allows organization of road maintenance in the way that would minimize the expenses of society consisting of maintenance expenses (sum of road maintenance works and material expenses) and user expenses (for fuel, accidents, car repair etc.).

The problem of road maintenance is considered to be a strategic task of the state, as it requires lots of budget funds. The roads are classified into several groups by importance with more attention given to the roads of higher importance. Road quality influences the losses of the road users, time passed in travel and road accident rate. Because of that it is important to assure enough funds for road maintenance and their efficient use. It is important to have ways to manage the situation.

The initial data in this case consists of road network data, road pavement parameters (for example evenness), data concerning traffic intensity, which can be taken from real databases of roads of national importance or of municipal roads, and of data concerning quality improvement measures and technologies that are used at the moment.

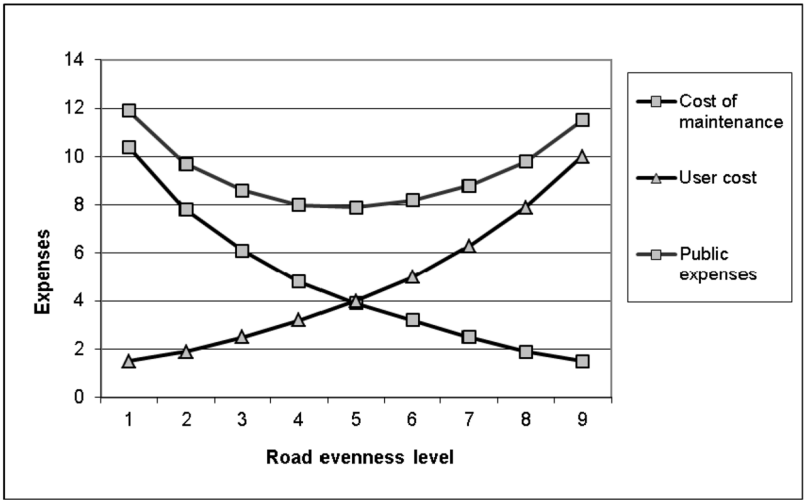
Traffic intensity growth model could be used to forecast road traffic intensity. It is based on growth of GDP. It is expected that with increase of GDP the number of cars belonging to the public increases and the quality of the roads improves. That means that the traffic intensity also increases.

The societal road-related expenses consist of road maintainer expenses and road user expenses. Road maintainer expenses include the expenses made to maintain, repair and build the roads. In case of national roads the funds from the national budget are used.

Roads maintenance, user and public expenses depending on pavement evenness are shown in the figure 3.

The objective is to find the road quality that minimizes the total societal expenses.

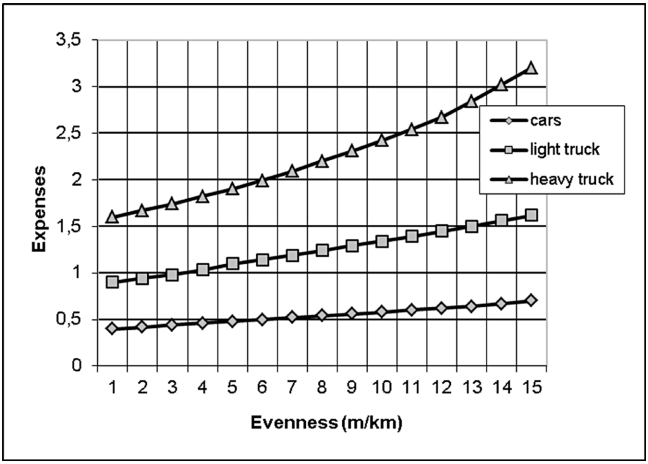
Figure 3: Dependences between public expenses and road evenness level



Traffic accident rate is indicator of roads which is strongly related with road evenness. The higher quality of the evenness decrease probability of the accidents [8].

Expenses of user depend not only on road pavement evenness but also on type of car [12]. Heavy trucks end up costing more than light truck or car. It is shown in figure 4.

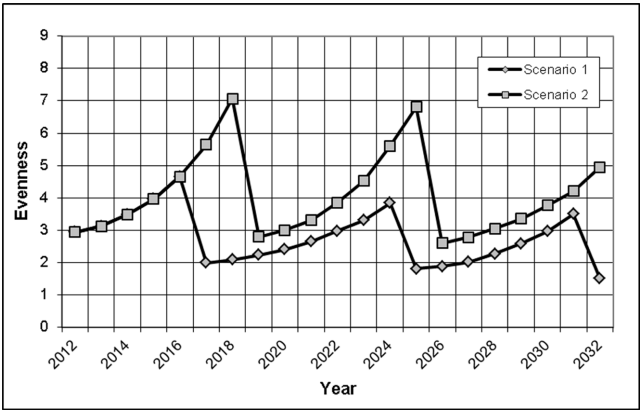
Figure 4: Dependency of user cost on road pavement evenness



Another important point that doesn't make it possible to just find the investment level by comparison of different lines in the budget is the tendency to have long-term planning in road maintenance. The desired level of evenness can only be achieved by applying some works for several years. The more complex the works, the higher impact to the evenness and the higher the cost. The works improve the evenness that later starts to worsen (the process is described by a special pavement disintegration model). Thus a maintenance scenario (15-20 year) is made for each road section. The maintenance scenario is important, since it decides the maintenance expenses and the changes of evenness.

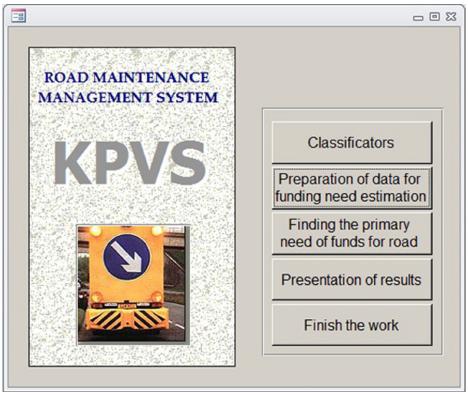
Two different scenarios are presented in figure 5. Scenario 1 is better comparing with scenario 2, as in the first case road repairs were done earlier and expenses were less than second case. As it can be seen, performing the works later are going to cost more than repeating them more often.

Figure 5: Results of two scenarios for planning road quality for 20 year



MS Access was used for designing described simulation. The switchboard of simulation is presented in the figure 6

Figure 6: The main window of simulation (Road maintenance management system; the interface has been translated into English)



The described simulation system can be used to teach both road workers and students of road specialties. The tasks are formulated by the teacher. Many variants of tasks are possible with the main being:

- initial introduction to the system, analysis and evaluation of its components;
- finding the optimal levels of maintenance and necessary funding for the whole road network, or a part of it;
- finding the levels of maintenance with the suboptimal funding;
- finding the optimal solution in extreme situations.

Both individual and group study can be used. If several groups are solving the same problem in parallel, their results have to be compared to find the winner. The teacher has to do this, taking into account originality of decisions and results. The main criterion is economical – minimal expenses of the society. The willingness to be the winner induces the willingness to solve the problems.

An important parameter of any game is the set of player-controlled parameters. In the game of road pavement management it's the type of road repair, the time of road repair, technologies used and the funds invested. The main modules and rules used include the road pavement deterioration model, influence of different types of them to the road quality, their costs, dependency of road user and road maintainer expenses on the road quality etc.

4 CONCLUSION

Presented simulation tool helps user to improve knowledge and skills in the field of distribution regional funds. Using simulation in universities study programs help students to improve practice experience in real situations on case decision making solving task of distribution funds in public sector. Using simulation by communities (for example NGO) allow people to understand dependencies among factors. It helps government to increase good citizenship.

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Using of GIS for the integration and visualization of local data for some Ukrainian problems

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Structured Abstract

Purpose & Scope:
Specificity of many large Ukrainian companies is the lack of integration of local data and the lack of a single point of access to data. This happened historically in the development of companies. Different manufacturers have supplied various local systems, such as accounting, billing, database and other during many years. All of these systems have worked and work independently of each other. They accumulate information, supported by the manufacturer, are updated and developed. But in the present conditions for effective strategic management of the company as a whole, managers need to analyze the various segments of information. These segments are in different systems. For the situation analysis must be removed the necessary data from each system, "bring them to a common denominator" and be able to display them in a convenient way. The reduction to "common denominator" is not an easy task, because billing system based on the address database, sales departments are objects that have no address, for example, subway stations, and network services work with links, switches and other objects that have only geographical coordinates X, Y.

Design/methodology/approach:
Intelligence Systems GEO Ltd. has decided the problem of "lifting" the local data to the corporate in several telecom companies and banks. The problem is solved by using modern technologies based on open Microsoft SharePoint 10 as a single point of access and GIS as an integration basis.

Results/findings:
After implementation of the integration process top managers had the opportunity to analyze data from different systems, using reports, tables, graphs and thematic maps.

Conclusions:
Use of recent GIS for "lifting" the local data to the corporate level was reasonable and promising. Also some common difficulties had found in solving the problems on lifting and integration the data and in digital governance. The considering of presumable solutions of such problems in eGovernance as for Ukraine as for EU polices is proposed.

Keywords: *integration, local data, Ukrainian experience*

1 INTRODUCTION

In modern society, it is impossible to carry out quality research in the strategic planning of regional policy and investment attractiveness of regions without the consolidation of information from all available sources. Consolidation and integration of the data allows more efficient use of public resources, reduce costs and increase the influence of politics. Such consolidation should be done on the base of a single universal basis. The use of geographical information systems as a general framework for data fusion is very comfortable.

In this paper, we describe some experience solving consolidation of information at the level of Ukraine. Here are some suggestions for the development of integration processes that can be used on European and trans-regional levels.

Many Ukrainian companies historically have a situation when the company, has many local automation systems (AS), which operate independently of each other.

If a company is a not large and has small number of automated systems, then there is no problem in planning the strategic development of the organization and analysis of existing activities. If the company is large, then the problems of integration and consolidation are very acute. The same situation occurs when different departments of the company are merging, or if you want to consolidate data from various sources.

For example, the many of telecommunications companies have an automated system such as, billing, marketing, development networks, operating systems, and others. Often these systems are situated into different territorial regions and even not interact with each other, within the same company.

Even more difficult task is the consolidation of data for organizations that work with distributed technological objects, such as municipal water utilities or gaz. These companies must to deal with the old plumbing networks, sewer systems, automation systems, carrying out repair and maintenance work on the one hand, and control for billing for services to the population and enterprises or timeliness of payment, and other processes from on the other hand. For each of these tasks, was created a specialized automated system. Each system contains full information about own objects, relationships and characteristics of the work, but has no connection with other automated systems.

2 FEATURES OF DATA STORAGE

For effective management of the company as a whole, managers need to obtain a variety of information from different systems with the ability to display it in a one “system of coordinates.” In other words, needs to perform some integration work to bring the information from each system to the “common denominator” and “raise” the information in corporate level. This is not an easy task, since each system has its own data structure and the rules of access to the data. Most of companies has a link of own addresses with the addresses space of the settlement in which it works. But there are other spatial type of objects that are not tied to the address. This complicates the task of data analysing, data consolidation, query building and visualization of result of query. The examples of different types of geographic “links” of data:

- Link to the addresses
- Link to the infrastructure without addresses (metro station, auto service stations, etc.)
- Geo-referenced (process facilities, transmission lines, water mains, sewers and other facilities)

3 DEVELOPMENT GIS OF ENTERPRISE

"Intelligence Systems GEO" Ltd., has great experience in creating enterprise GIS for the customer as a strong foundation that can be used for integrate and consolidate data. To consolidate data of corporation with a spatially distributed structure, "Intelligence Systems GEO" Ltd. is used corporate geographic information system (GIS) based on geoplatform. Creating a corporate GIS based on geoplatform solves problems consolidation and "raising" data in the corporate level.

In general, the geoplatform consists from corporate geocoded address database (CGADB), from thematic layers of specialized data, from single cartographical space, from means of conducting of databases, from the standard data access through Web services and portal applications for data visualization.

Physically GIS is located on the following servers:

- Database (corporate database server)
- Map Server (single mapping space)
- Portal Server (geoportal, single point of access to corporate data) implemented on a standard integration platform Microsoft SharePoint 10.
- Application server (web services to interact with automated systems)

This architecture allows us to solve the problem of consolidation of data, execute queries to retrieve data from a variety of automated systems, visualize query results in the form of documents, tables, graphs and thematic maps from a single point of access - geoportal. The corporate geocoded address database is the core of corporative GIS. Each master-system works to according their own rules and supported the system manufacturer.

To obtain the necessary information for enterprise-level from each of the automated system it was developed Web services that interact with the data of the master system and CGADB. The purpose of work of these Web services is transmission the 'additional' the attribute data from the master system in the standard protocol. A feature of such kind of interaction is not interference in the functioning of each master system or a group of master systems that interact with each other. In this implementation, the data in the master system are automatically updated, saved and checked to according with internal regulations, and a single access point (geoportal) receives only actual information.

1. The task of consolidating corporate data is solved by the following algorithm:
2. Development of Web services of interaction CGADB and master system
3. Create in structure of CGADB thematic layers that display the data of master-system
4. Make the initial registration in the CGADB data of master-system
5. Transmit actual attribute data on request of the geoportal.

After creating corporative GIS the problem arises of "painless" implementation of GIS in the existing corporate infrastructure without interruption of work of master-systems.

4 IMPLEMENTATION OF CORPORATE GIS IN TELECOM COMPANIES

The first step in implementation corporate GIS in telecom companies is a step in the synchronization of address data of master systems and address data of CGADB. Corporate geocoded address database contains addresses that are associated with the map, contains registered thematic layers of different master systems and contains the means of access to targeted and thematic data via web services.

In structures of address and thematic layers that was created in CGADB performed initial loading data of master systems and performed geographical link - "geocoding". For geocoded data and not geocoded data in CGADB generated and assigned a unique GUID and this GUID is returned in the master system using the web service. At this stage the registration is complete and the corporate system has access to the data of master system. Registration procedure is similar for each master system.

All further work with the address space and thematic data is performed through CGADB using GUID.

After performing of these integration works, GIS is able to obtain the actual data from any master system on demand and GIS can build reports using consolidated data any number of master systems in the form of documents, tables, graphs and thematic maps. GIS can display data from different master systems that are associated with one spatial object and show this object and data on the map. For example, for any street, GIS can show the number of users, number of pay for services for a certain period of time, the money spent on repairs and modernization of the network downtime due to faults and more.

5 CONCLUSION

Ukrainian experience of use GIS for "lifting" the local data to the corporate level was reasonable and promising. Ukrainian experience using GIS for "lifting" local data at the corporate level was reasonable and promising. The technology for solving problems of consolidation of heterogeneous data should be used in e-governance and research.

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Regional data collection and analysis in the Czech Republic

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Structured Abstract

Purpose & Scope:
The capacity to plan, assess and manage investments in one of the strategic fields of innovation - ICT is a crucial activity at regional level. Several regions already put in place mechanisms devoted to better planning of ICT strategies. In 2004 Piedmont region set up an ICT observatory as the instrument to plan and measure specific needs and impacts of ICT. Development of similar ICT observatories is one of the goals of the ONE project.

Design/methodology/approach:
One of the core functions of an ICT observatory is to collect and monitor indicators in order to process these data to prepare forecasts. The presentation describes first results of the research on approach of Czech regions to statistical data collection and its further use.

Conclusions:
The research should provide State of Art description, which will be used for comparative analysis of the Czech environment with other European regions and as a basis for ICT observatory implementation plan; this will provide diverse guidelines to interested Czech regions, tailored to local conditions.

Keywords: *ICT Observatory, data collection, regional planning*

Regional Statistics for Regional Offices and other Regional institutions

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Structured Abstract

Purpose & Scope:
Cooperation between Statistical Office and key users on regional level, ways of data providing, cooperation in creation of strategic documents of different regional levels – NUTS2, NUTS3, micro-regions, big cities.

Design/methodology/approach:
Data delivery:
- Housing and Population Census – detail data on the most detail regional units
- Demographic statistics and other statistical information on municipalities
- Economic statistics (sample surveys)

Analyses provided by regional statistical offices:
- Demographic, Social and Economic Development of the region
- Sustainable Development, Human resources, Status of Rural Areas
- Housing and Population Census 2011 (will be published in September 2013)

Results/findings:
- Usefulness of cooperation on Programs of Regional Development designing for years 2014-2020
- Spatial Analytical Data
- Materials for different conceptions (i.e. transport plans, educational systems, seniors care system etc.)
- materials for local governments, regional offices

Conclusions:
Agreements on Cooperation between Czech Statistical Offices and Regional Offices exist
CZSO tries to offer modern ways of data exchange:
- for Regional Offices Data Warehouses
- for GIS systems
- current data for analyses at www

Keywords: *regional statistics, regional analyses*

Data & Tools for improving regional policies

Citizens' Services in Nordic-Baltic programme

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Structured Abstract

Purpose & Scope:
To present the Nordic-Baltic programme called Citizens´ Services.

Design/methodology/approach:
This is a regional RTD-programme with a unique financing of collaboration projects by a Common Pot and funded by VINNOVA, RANNIS, Iceland, and Ministry of Economic Affairs and Communications in Estonia plus NordForsk . The programme is managed by a Steering Committee and VINNOVA is acting Programme Secretariat. There have been 2 Call for proposals and there have been 11 projects selected. In every project there are representatives from Public Administration, research and businesses in addition to one representative from each three countries.

Results/findings:
It has been reported that the cooperation between all three countries has been moore successful than expected. There are good in results in new Public e-services.

Conclusions:
Regional collaboration can be very successful when you bring together expertise from different countries. Although there are cultural differences the countries have the same citizens' demand for developing Public digital services.

Keywords: *Nordic-Baltic collaboration, user-centric, e-services, research, innovation, eGovernment*

Smart Government & Big datas: Opportunities in a Cloud Computing World

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Structured Abstract

Purpose & Scope:
Smart Government has like its predecessor e-GOV a lot of different definitions. "Smart Government" is similar to the eGov 2.0 concept meaning that a true Smart Government is using the power of ICT in order to further engage its citizens; improve economically and efficiently the services provided and is transparent and responsive.

Design/methodology/approach:
Today, Big Data does not mean just using large data/lots of data. It means that, we have arrived at a state where we have learned how to use those data which combines data from human and computer sensors efficiently notably via Cloud computing.

Results/findings:
True "Smart Governments" are using Open data/ Big Data to improve, facilitate and organize the life of the citizens, businesses and organizations in their community.

Conclusions:
The presentation will describe the opportunities and challenges of the Smart Government & Big data link as well as concrete examples

Keywords: *Smart Government, Big Data, Citizen life*

Information society basic platform for the sustainable development of islands

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Structured Abstract

Purpose & Scope:
Croatian islands of the Central Adriatic – proposed application lab for implementing EU-policies supporting sustainable development. They include environment protection, low-carbon economy goals, investments in the renewable energy, and sustainable tourism with yearlong season. For all of them information society with the NGA broadband investments provide the fundamental platform.

Design/methodology/approach:
Active implementation and promotion of the EU policies supporting sustainable development on the Island of Pašman, especially through solar energy investments. As a member of the ARLEM, I often prepare presentations on renewable energies and sustainable tourism. As the host of e-islander club e-collaboration project, I strongly support the commitment of Zadar County to spearhead the transformation of our archipelago from a marginal to a digital territory.

Conclusions:
An opportunity to organise the Zadar archipelago as a European e-application lab providing a basic platform for sustainable development. This is to be done through networking with experienced project partners holding good practices and through the use of the EU structural & regional development co-financing.

Keywords: *Zadar archipelago, information society, sustainable development, e-lab, EU networking*

The creation of innovative public organisations

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Structured Abstract

Purpose & Scope:
How can an innovative culture in the Swedish public sector be encouraged? This paper attempts to identify factors of relevance for enhancing services innovation based on an action learning approach.

Design/methodology/approach:
The approach was to work with a high degree of participation from innovative public organisations willing to share experiences. The approach, "Action Innovation", builds upon a long tradition of participative research. The consultants/researchers acted as "set advisors" guiding the teams in the fieldwork and conducting the analysis.

Results/findings:
To support innovation, a clear and well known strategy, the creation of "creative clashes" and emphasis on willingness to change, is needed. Action Innovation proves to be a successful methodology for the study and exchange of experiences between public organisations that may be of quite varied character.

Conclusions:
There are no quick fixes or "one-size-fits-all" to facilitate innovation in the public sector. Instead organisations must – from their unique mission – work with different measures to create an organisation with strong leadership and a high degree of participation from all employees.

Keywords: *innovation, public sector, participation, action innovation*

1 INTRODUCTION

There is currently a growing emphasis and political attention in Sweden on innovation and innovativeness in the public sector. How can an innovative culture in public organisations be encouraged? This paper attempts to identify factors of relevance for enhancing services innovation based on an action learning approach.

There are several factors contributing to the increased interest in innovation: globalization and global societal challenges increase the need for innovation and innovative solutions. Sweden is also facing a major demographic challenge with less people in the work force in relation to young and old people. Further, the public sector is becoming increasingly customer centric, where citizens are placing higher demands on quality and service. Finally, the public sector needs to continue being an attractive employer. Offering creative and innovative work places can support this.

VINNOVA, the Swedish Governmental Agency for Innovation Systems, has identified innovation capacity in the public sector as a strategic area. During the autumn of 2012, Governo AB was commissioned by VINNOVA to conduct a study [1]. Its overall aim was to improve knowledge of how innovation is created in order to promote innovation in the public sector and thereby in Sweden as a whole. The study served as a follow-up to a study conducted in 2011, focusing on service innovation in the public sector. [2] During the barely 12 months between the two studies, we can witness an increased understanding and insight into the importance of innovative work and a high level of activity in many parts of the public sector.

The study focuses on how innovative work can be organised. It discusses how public organisations are working in order to:

- Create a clear direction and strategy for innovative work.
- Improve the conditions for promoting creative ideas.
- Prioritise and promote a portfolio of ideas.
- Implement, disseminate and evaluate ideas and innovations.

2 ACTION INNOVATION – LEARNING IN TEAMS

A combination of methods was used in the study, all together based on a high degree of involvement from representatives of various public organisations. In total, seven organisations, in teams of 3-4 persons, participated. The organisations represented different parts of the Swedish public sector: large and small organisations; local municipalities, national agencies and publicly owned company; as well as different parts of the welfare system as education and healthcare. The participating organisations were: a public school in Årsta Stockholm [3]; The Swedish Social Insurance Agency "Försäkringskassan" [4]; The Swedish Companies Registration Office "Bolagsverket" [5]; the Municipality of Landskrona [6]; the coalition of Welfare in Nacka Municipality [7]; The City District of Rosengård, Malmoe [8]; and TioHundra AB, (providing healthcare in Norrtälje Municipality) [9]. The participating organisations were all good examples of milieus which have been innovative over time and have several actual, tangible examples of innovation. The selection was based on expertise from different platforms (for example the academy, the National Council for Innovation and Quality in the Public Sector, the eGovernment Delegation and the Swedish Association of Local Authorities and Regions).

The "Action Innovation" approach is based on participation and interaction between theory and practice, with organisations collaborating closely to construct knowledge of methods and tools for stimulating innovative work in the public sector. That, in turn, is based on the concept of Action Learning which Revans described as a success factor for learning and progress. He noted the importance of each individual sharing experience, and communally reflecting to learn [10]. The concept of Action Innovation aimed to have teams from different parts of the public sector to study each other. The purpose was to build knowledge of methods and tools to stimulate the innovation capacity in close co-operation.

3 WHAT CAN WE LEARN FROM INNOVATIVE ORGANIZATIONS?

3.1 Many inspiring examples, but no quick fix or one-size-fits-all solution

Innovative work is taking place in many parts of the public sector. Ideas are being born and developed into innovations which are then implemented and disseminated. There are many inspiring examples in different parts of the public sector, including the organisations participating in the study (although they do not always label their activity "innovative work").

We have identified a number of similarities between the organisations' innovative work. The results indicate that there are important experiences and lessons to be learned from organisations that have driven innovative work over a longer period of time. However, the common factors or conditions in the organisations have been created in a variety of ways. Hence, we can conclude that there is not one simple recipe on how to run innovative work. Instead, there is a plethora of methods, tools and ways of working to strengthen innovativeness. All organisations exhibit unique characteristics affecting their innovative work, linked to such things as the organisation's mission and its challenges and problems; in other words the motivations as to why we should innovate. This means that the models which work in one organisation will not necessarily work in another. Instead, each organisation must shape its innovative work by starting with its own mission and its own situation.

Even though increased attention is placed on innovation in public organisations, it is important to underline that the concept of innovation is still relatively immature in the public sector. There is still a great demand for knowledge on how to drive innovative work.

3.2 Committed employees implement well-grounded strategies

All participating organisations are united in having a common thrust for their innovative work. A key starting point is a clear insight as to why they need to develop/improve. There is a general understanding in the organisations of the need to work in new ways and why it is no longer enough to "do as we've always done" with only minor changes. Today, more radical measures are required. All the organisations have strong leaders with a clear mandate for change; they are breaking down strategies into targets at various levels and creating a broad acceptance for the strategy and overall direction. The organisations' basic assignment is largely embodied in the day-to-day work: "why are we here and for whom?" and "how can I help us fulfil our goals?" We have identified numerous examples of work being done to create high levels of participation and support; some creating structures and others touching on the more cultural aspects. Some organisations have been working to clarify expectations of both managers and staff, some have been working on leadership development and still others have clear processes for breaking down the overall strategies into goals.

The importance of a comprehensive strategy for driving innovative work cannot be underestimated. Without a clear direction and a well-grounded understanding of the importance of changing and being changed, it is difficult to create a sense of importance and participation. In this regard, the leadership plays a crucial part in identifying the common thread, emphasising the part all staff members play in reaching goals and objectives as well as creating endorsement and participation in the organisation. There is a need for continuous development of working methods to develop, establish and implement strategies. There is no simple recipe, but rather various methods which may need to be used over time. In that sense, mobility between organisations and cultures may be valuable in order to add new competences and new attitudes.

3.3 Creative ideas are created in partnership with others

There are numerous valuable examples of how organisations are working together to advance creative ideas. A common success factor seems to involve the capacity to bring in new perspectives to the organisation as well as giving enthusiasts a mandate to propose and advance ideas. This is where leadership has a crucial role in fostering a suitably creative climate. The methods employed to produce new perspectives, enthusiasts and a creative leadership differ significantly between the participating organisations. Some have worked strategically to recruit different competencies than those normally found in their organisations, some have formalised their partnership with external actors such as researchers or companies, and still others have involved users and customers. All participating organisations have had a clear citizen or customer focus, although some have been more active than others in involving these. We have also identified a number of different incentive models which have rewarded organisations, individuals and teams for particularly good performance. As in the previous study, no one has highlighted time or resources as the principal challenge – instead the main challenges are more related to leadership and teamwork!

There are important factors relating to how organisations are working to produce creative ideas. There is clearly some hesitancy about an overly top-down or linear approach to the way creativity and ideas are generated; a doubt that ideas can be forced out or "packaged" into overly controlled processes. At the same time, it is understood that a structure is required if staff and organisations are to be innovative; a structure which supports the organisation's strategy and direction. There is often an aim to "capture new perspectives" but there also need to be forms and structures to allow for this. For those teams or organisations able to identify problems and test solutions with researchers or other external actors, this has been an asset in the innovative work. If a creative environment is to come about, there need to be – apart from general interest and will of staff – involvement and support from the top level leadership and a formalised partnership. A leadership which promotes good examples, offers support when there is failure and is willing to test new things is a strong success factor. The leadership, in its "training role" can be grown, gaining increased knowledge about methods and tools relating to, say, the development of ideas and in regard to working strategically to bring in new perspectives. Concerning incentive models, these are not particularly easy to design, especially not those with financial incentives. Successful incentives for both staff and managers are most probably rewards in the form of awareness, pride and feedback.

3.4 Prioritising ideas – a luxury problem?

There are various ways of prioritising the ideas generated in public organisations. The prioritisation and portfolio models we found amongst the participating organisations did not appear to focus on prioritising ideas or innovations so much as projects. Largely, these models are used for major projects and in larger organisations. It has not been entirely clear in all the organisations why such tools are required for ideas in innovative work. Is there really a need to use or introduce such models? Do we have that many ideas of sufficient value to warrant it? Currently, to prioritise between development ideas, an assessment is made on the basis of operational goals. Explicit tools are found only in one of the participating organisations; in the others, prioritisation forms a natural part of the leadership group's work.

We draw the conclusion that translating a portfolio concept often used in industry, to the public sector is not without its problems. Those models which evaluate risk and benefit are often based on quantitative methods and a financial perspective; this is not comprehensive enough for the public sector. Moreover, it is difficult to make assessments regarding innovation projects, since both initiatives and results are often uncertain and the time perspective is seldom long. A parallel may be drawn with the long-term investment plans which many are working with. We believe at the same time that there is a need to structure processes of how ideas are collected, evaluated and prioritised. It is also important to clarify where responsibility for such processes lies within the organisation. Otherwise, there is a risk that good ideas will be lost, that chance will become a determining factor or that the benefits will not be as great as anticipated. However, such models can most likely be fairly simple. The central factor is to increase awareness throughout the organisation of evaluation and prioritisation.

3.5 From idea to innovation – take small steps!

There are major similarities in regard to the organisations' work to progress from idea to implementation. In carrying out work for change there is, first and foremost, a will to be a learning organisation. Secondly, there is a clear ambition that all staff should participate and be involved in the work for change. However, the organisations generally choose to invest first in the enthusiasts - those who really want to participate. By taking small steps, and then scale up, different advantages or benefits of the change can be communicated and it becomes simpler to "sell" the change to more people in the organisation; even those who are more change-averse. It is also important to highlight how the change (new work methods, new ways of organise work, new solutions) results in the overall goals and that there is a common thread.

There are a number of challenges to disseminating innovation both within and outside individual organisations. One important lesson is how leaders and staff can be assisted by the strategy and direction of the work for change and innovation, plus the importance of highlighting benefits and a common thread. Why should we change? To clarify the argument as to why a change should be large-scale, one can look outside the individual organisation. By showing how the customer or research – or some other neutral, external party – looks at problems and solutions, a pressure for change is created within the organisation which becomes harder to resist. Such external pressure for change is an important driver for leaders to disseminate good examples within and outside their organisations.

3.6 Action Innovation – building knowledge and commitment

Action Innovation shows that, despite their differences, different sections of the public sector have much to learn from each other. The assumption that differences in the sector are so great that it would be more useful for similar organisations to study and learn from each other is shown as untrue by the study. There are major benefits to being reviewed by other types of organisations and, in many respects, the similarities indicate how innovation is run. By learning more about how other organisations work and share their own experiences, the participants reflect on their own organisations' work, success factors and areas for improvement.

4 CONCLUSION

There are many factors contributing to creating innovative public organisations and as we emphasised above: there are no simple catch-all recipes. However, we see that there are five important building blocks in order to enhance innovativeness (see figure 1).

First, to create an innovative context and innovation process, there is a need for a clear understanding of the organisations main challenges – why shall we be innovative? What problem shall we solve? This understanding needs to be common and accepted at all levels of the organisation, not only leaders or decision makers.

Second, from this challenge-driven understanding, a strategy needs to be formed to point out the direction – where are we heading? This strategy will give the change leadership extra boost and create more legitimacy to the process. The strategy is also vital to support the creative culture in the organisation, from political leaders, to civil servants.

Third, creativity and innovation are not created in isolation. Instead new perspectives are constantly demanded. Our study gives examples of innovative organisations that have structured co-operation with entities outside of the organisation; with universities and researchers, with companies and with customers and citizens. Creativity demands creative clashes and mixes of different perspectives. Creativity is neither a central source bound to some individuals exclusively, it is not simply a matter of some types of organisations and individuals being creative and driving innovations whilst others do not. On the contrary, individuals and organisations can develop and train their innovative capacity.

Fourth, organisations need a fair balance between structure and chaos. Creativity does not come from a chaotic, non-organised milieu, rather creativity demands some structure. The balance is vital – however not easy to accomplish and will vary between organisations: too much structure risk to repress the enthusiasts, as well as too much chaos risk that great ideas does not be taken care of.

Lastly, the fifth important building block to create an innovative organisation is that knowledge of change management should increase in public sector, both to be able to stimulate innovations, and to be able to adapt innovations. The innovative leadership must be strengthened in different perspectives; this might involve training efforts, creating forums for sharing experience and knowledge with other (types of) organisations. The innovative leadership also includes raising the political leadership - by such means as training efforts to raise awareness and knowledge of the importance of innovative work in all types of public activities.

By increasing knowledge of what drives innovation and how this work can be supported, more opportunities can be exploited resulting in more innovative public organisations.

Figure 1: From enthusiast-driven innovations to innovative organisations

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Citadel-on-the-Move: Creating a European Open Data Innovation Ecosystem

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Susie Ruston is a founding partner at 21c. With over twelve years experience in the creation and delivery of e-government projects, Susie has had a leading role in multiple award winning EU initiatives. Susie is currently overseeing policy and standards requirements for Citadel on the Move.

Structured Abstract

Purpose:
Citadel on the Move delivers on key objectives of Malmo and the Citadel Statement by empowering citizens to use open government data to create 'smart' mobile applications that can be shared across European cities.

Design/methodology/approach:
Citadel advances this goal through the creation of an Open Data Commons (ODC), a focal point for knowledge exchange and collaborative working. The ODC features guidelines for public administrations on how best to open data in accessible, easy to use formats and mobile application templates that make it easier for citizens to transform data into new service innovations.

Results/findings:
At the project outset, the Citadel team believed challenges to success lay in technology and standards. However, the team quickly learned that challenges actually lie within the realm of stakeholder engagement and governance.

Conclusions:
Through the ODC, Citadel advances nothing less than the digital materialisation of European integration by facilitating innovative citizen-created services for a truly cross border market.

Keywords: *Open Data, Open Innovation, Mobile, Innovation, Local Government*

1 INTRODUCTION

On November 18, 2009, EU Ministers signed the Malmö Ministerial Declaration outlining a forward-looking eGovernment vision to be achieved by 2015. A key platform of the Malmo Declaration was to empower businesses and citizens through 1) eGovernment services designed around users' needs, 2) better access to information and 3) active citizen involvement in policy making. At the same time, Malmo also aimed to facilitate mobility in the single market.[1]

Despite numerous policy documents and 'how to' manuals on local eGovernment, over three year on, the 'Malmö Vision' is still not being translated down to the local level where citizens have the greatest day to day contact with government. Smaller communities in particular are finding it difficult to implement innovative ICT projects that engage citizens and drive innovation.

On December 14, 2010 Geert Bourgeois, Vice-Minister-President of the Flemish Government and Flemish Minister for Administrative Affairs, Local and Provincial Government, announced the launch of the Citadel Statement – a pan-European declaration that outlines the key things local government really needs to deliver on the vision set forth in the Malmo Declaration. The Citadel Statement gathered input from 64 organisations – including every major local government association in Europe – representing over 200 cities across five continents. Following an extensive online consultation, the Citadel Statement called upon EU and national decision makers to provide tangible support for local eGovernment in three key areas:

1. Common Architecture, Shared Services and Standards
2. Open Data, Transparency and Personal Rights
3. Citizen Participation and Involvement

Citadel on the Move is a 3 year CIP-PSP Smart City project co-funded by the European Commission that is intentionally designed to advance the objectives of the Citadel Statement by uniting Europe's leading local government organizations with Living Lab experts, ICT specialists and researchers and expert SMEs in a common effort to harness the power of 'Open Data' and User-Driven Innovation Systems to develop new service innovations that can be shared by citizens across Europe.

2 OPPORTUNITY AND CHALLENGE

Nowadays, mobile devices, especially smart phones, are widely used across Europe, and hold the key to ensuring e-inclusion of every European citizen. They provide the European citizens on the move with access to data, and the resulting potential to access any service, anywhere. At the same time, Social Media and the Open Data Movement are rapidly joining

1 The key 'Malmö' objectives that EU Member States have pledged to achieve in the next five years are:

- To empower businesses and citizens through 1) eGovernment services designed around users' needs, 2) better access to information and 3) active citizen involvement in the policy making process;
- To facilitate mobility in the single market by providing seamless eGovernment services for setting up business, studying, working, residing and retiring in Europe;
- To enhance the effectiveness and efficiency of government services by reducing the administrative burden, improving the organisational processes of administrations and using ICT to improve energy efficiency in public administrations.

together to unleash the tremendous innovation potential of citizens to build the type of mobile services they want and need.

Three major gaps must be still filled to realise the full potential of these trends: 1) **TECHNOLOGY**: there is a need for standard mobile applications that citizens will ultimately be able to access easily and use anywhere, 2) **INNOVATION**: there is a need to create a specific link between co-creation methodologies, the Open Data movement and the Mobile world to create a user driven innovation ecosystem and 3) **OPEN DATA**: there is a need for clear guidelines on how best to open data in accessible and easy to use formats – or, in other words, *to move beyond 'open data' towards 'open access.'*

3 THE CITADEL ON THE MOVE APPROACH

Citadel on the Move aims to make it easier for citizens and application developers alike from across Europe to use Open Data to create the type of innovative mobile applications that they want and need. At present, Open Government Data is often difficult to access and use by even the developer community, let alone the average citizen. Citadel on the Move aims to fulfil this need by 1) promoting guidelines to make it easier for local government to release data in useable, interoperable formats and 2) creating templates that make it easier for citizens to create mobile applications that can be potentially used and shared across Europe.

Solution development for Citadel on the Move entails the following key steps:

Part I: DATA

1. Identify open access data publication i.e. data that is accessible to the non-developer world and in full compliance with data protection and privacy directives (See B3.4 and WP3).
2. Raise awareness of existing standards which support the broadest interoperability, and advises cities to follow clear pragmatic steps to ensure they publish open data in a way which is 'friendly' to interoperability middleware.
3. Promote these standards via the open innovation ecosystem: existing open data networks, Living Labs, city administrators and public policy makers across Europe.[2]

Part II: TECHNOLOGY

1. Agree most appropriate technology to facilitate development of mobile applications that are interoperable and can potentially be used anywhere.
2. In-house development of template mobile applications for use of open access data resources in two target areas: tourism and transportation areas.
3. Release templates to the open innovation ecosystem for feedback, improvements, beta applications.

2 For example: 1) The working Group on Open Knowledge in Developement http://wiki.okfn.org/wg/development 2) European Network of Living Labs, 3) The Global City Dialogue network and the 3) Linked Organisation of Local Authority ICT Societies.

Part III: INNOVATION

- Closed User Group: Up-skilling and inclusion of 'citizen developers' on use of the templates - via Living Lab methodology - in four partner cities –Ghent, Manchester, Issy-les-Molineaux and Athens.
- Open User Group: Open call by all partners for the developer, Living Lab and nascent 'citizen developer' communities to access and use open data and mobile templates to help foster the creation of citizen and SME generated applications and services.
- Proof of Concept: Promote the rapid uptake of the open innovation ecosystem/common space and resulting innovations (templates, applications) across Europe through collaboration with partner city organisations, the Living Lab Community, the 'Smart City Working Group,' and other innovation networks.

4 PRELIMINARY FINDINGS

Citadel on the Move has just completed the first year of a three year project. During year one, the project has found the following:

Data:

- Standards for Open Data are relevant but cannot be defined top-down as they result from social adoption and technology convergence processes.
- Standards tend to define a path towards a coherent vision.
- A limited set of standards is starting to emerge within the Open Data realm around the Web of Data.

Technology:

- Building apps for mobile devices poses considerable development challenges as apps must be customised for specific devices.
- The development of HTML5, which is non-propriety and open source, simplifies the complexity associated with so many different mobile operating systems and offers a new opportunity for creating mobile applications that can be used on any platform.
- Citadel uses HTML5 to create simple template mobile apps that can be used with standardised open data.

Innovation ecosystem:

- Citadel has identified the creation of a common space in the public domain as key to uptake of Open Data.
- Citadel has created an Open Data Commons to facilitate the publishing of accessible data sets and serve as an on-going collection of shared tools and resources.
- The Citadel Open Data Commons is based on a partnership of the data and development communities and promote the emergence of standards and sharing standards of practice.

5 CONCLUSIONS

The goal of **Citadel on the Move** is to demonstrate that it is possible to combine Open Data Mobile Application tools to create 'smart,' innovative citizen-generated services that can be used in differing European Cities.

At the outset of the project, the Citadel team believed that the key challenges to success lay in technology and standards. During the first year, the team quickly learned that the key challenges actually lie within the realm of stakeholder engagement and governance.

To unleash the true potential of Open Data and Mobile Applications, local government cannot simply rely on ICT tools and trends alone. Instead, public administrations must do part of the work themselves by not only opening data in accessible formats but also proactively helping citizens to use this data to create new public service oriented applications.

Although doing so may sound easy, many local governments simply do not know where to even start let alone how to progress on this journey. **Citadel on the Move** hopes to address this need by using a newly created Open Data Commons, or open innovation ecosystem, to serve as a focal point for knowledge exchange around best practice standards and collaborative working around the development of mobile applications that can be shared and used anywhere.

Through the Open Data Commons, **Citadel on the Move** ultimately seeks to advance nothing less than digital materialisation of European integration by facilitating the development of innovative citizen-created services for a truly cross border market.

Open Government Performance Measurement in Russia

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Structured Abstract

Purpose & Scope:
Performance measurement is an important element of Open Government development. The paper presents some results of the research made on request of Leningrad region Administration in order to elaborate a set of KPIs for the Regional Open Government development programme.

Design/methodology/approach:
The research methodology based on a comparative analysis of the best and Russian experience in identifying of open government development projects critical factors and key performance indicators to be controlled.

Results/findings:
The main result is the well-balanced system of performance and progress indicators for the regional open government development programme, created on the basis of coherent generalizations of studied best practices and requirements of the national regulatory framework.

Conclusions:
The implementation of obtained results should contribute to the achievement of established social goals, but they are relatively complex and contrary to the prevailing administrative practice in Russia and, therefore, their implementation will encounter resistance and require considerable effort

Keywords: *Open Government, monitoring. Measurement, KPI.*

Using digital observation to evaluate E-skills

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Structured Abstract

Purpose & Scope:
In March 2012, the city of Copenhagen hosted the European e-skills week. As part of the conclusions drawn in the final declaration, it is stated that in less than five years e-skills will be necessary in 90% of the jobs offered on the market. Therefore, we have to consider e-skills as the heart of many of our development policies. A lack of skill can draw exclusion or cause a lack of competitiveness.

Design/methodology/approach:
For the 2013 edition of the digital observatory, the Region Rhône-Alpes aims to estimate the most finely possible the e-skills level of households, SMES, local administration, digital professionals and youth. This estimation will be based on quantitative works and qualitative studies (focus groups)

Results/findings:
Results will be available for Spring 2013.

Conclusions:
We hope to bind our results with existing public policies, notably a „digital pass“ aimed to help people in digital exclusion to start developing e-skills

Keywords: *e-skills, digital, observation, evaluation and exclusion*

1 INTRODUCTION

A recent OECD study stated that ICT technologies spread so quickly that by 2015, 90% of jobs will require at least a basic level of digital skills. The French education state department estimates that by 2015 ICT will generate half a million of jobs [1].

Knowing that almost 30% of the total European population has never used Internet and therefore do not have access to these jobs, we share the idea, as a local public administration, that it is part of our mission to give the opportunity to job holders to access these new jobs.

After approaching e-skills and setting a few research directions, we will present our evaluation tool and what conclusions it has left us.

2 HOW ARE APPROACHED E-SKILLS IN THE EUROPEAN UNION

2.1 Eight key competences for lifelong learning

Through the European Parliament recommendation n°2006/962/EC [2], and the council of 18 December 2006, European Union, listed key competences for lifelong learning. They are essential for personal development, social inclusion, active citizenship and employment. These key competences are:

1. **Communication in the mother tongue,**
2. **Communication in foreign language**, (ability to express oneself in one or more foreign language, combined to the understanding of intercultural dialogue)
3. **Mathematical competence and basic competences in science and technology**. (ability to develop and apply mathematical thinking in order to solve problems in everyday situations)
4. **Digital competence** (ability to use ICT technologies in a confident way)
5. **Learning to learn** (related to the ability to pursue and organize one's own learning),
6. **Social and civic competences**. (Ability to develop competences to participate in an effective and constructive way in social and working life.)
7. **Sense of initiative and entrepreneurship** (ability to turn ideas into action)
8. **Cultural awareness and expression**, (ability to appreciate the importance of the creative expression of ideas, experiences and emotions in a range of media).

As a conclusion this recommendation insists on the interdependence and combination of these key competences. Roughly, the important is not to develop a competence but to know how to use it and to combine it with another one.

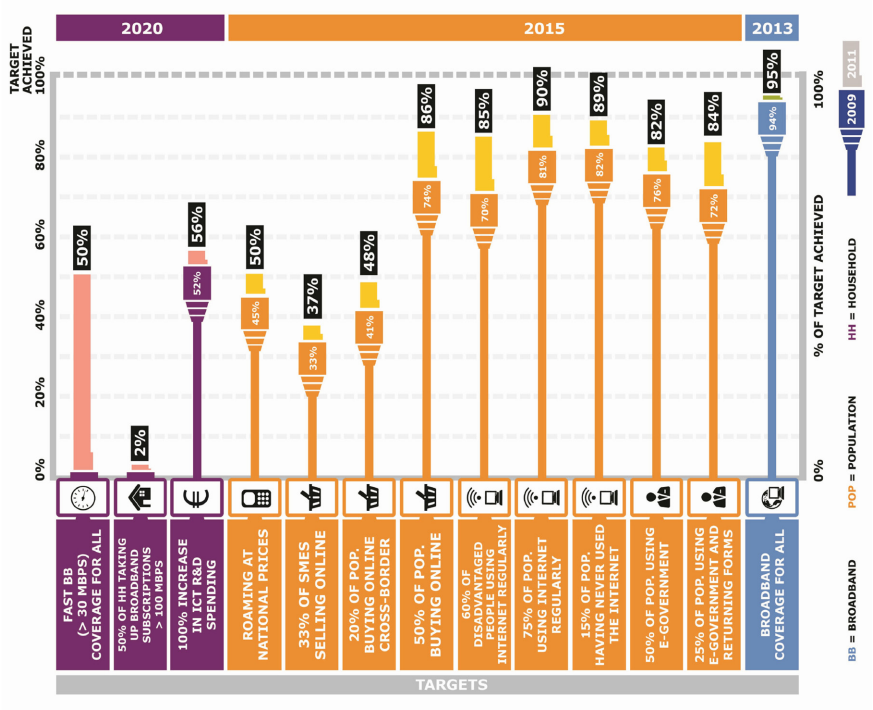
2.2 E-skills in the Digital Agenda

Following the Lisbon Strategy, European Union adopted on the 17th of June 2010 a new strategy called "Europe 2020" [3]. One of the key initiatives in this strategy is the Digital Agenda which concerns directly EU's strategy to develop ICT.

As part of the forecasted actions, two of them connect to our current preoccupation:

- EU pitched throughout 2012, events all over Europe on this theme. One of the key conferences took place in Copenhagen in March 2012 and led to the Copenhagen Declaration [4]. It states that EU economies have to liberate the potential of e-skills to fuel growth and jobs. Therefore we have to focus on ICT investments, address youth unemployment, commit to life-long education etc. These conclusions are detailed in the e-skills manifesto [5].
- The Digital Agenda scoreboard is an evaluation tool. It offers a large database of targets, illustrations and analysis on all the politic areas covered by EU strategy.

Figure 1: Digital Scoreboard for EU



Source: Digital Agenda Scoreboard (http://tinyurl.com/al7yzjf)

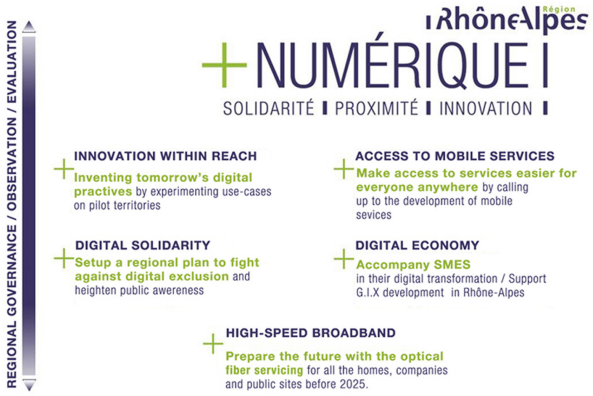
This scoreboard offers the opportunity to compare ICT development in different countries. Data is available in open-data, allowing re-interpretation. It focuses on different indicators such as e-government or e-commerce.

3 HOW DO WE APPROACH E-SKILLS AT THE RHÔNE-ALPES RÉGION

3.1 Rhône-Alpes Numérique : a new strategy

In March 2012, the Rhône-Alpes region voted a new strategy for the digital development of its territory called Rhone-Alpes Numerique [6]. It is declined in six key actions as described in the figure below.

Figure 2: Rhone-Alpes Numérique basic key actions



Source: Region Rhône-Alpes

Each key action (KA) aims to address specific domains of the digital society:

With key action n°1, called “Innovation within reach”, we will develop a robot for college students. This robot will act as an avatar for any student who is, due to a temporary long term sickness, not able to attend class.

1. With key action n°2, called “Digital Solidarity”, we will fight exclusion by setting up a digital pass (see below).
2. With key action n°3, called “Access to Mobile Services”, we will work on liberating public data and providing a public store to share data and applications.
3. With key action n°4, called “Digital Economy”, we will help local SME’s use new digital tools to develop their business.
4. With key action n°5, called “high speed broadband”, we will support public initiative to deploy very high speed Internet access for all.

All these key actions are administrated by a political committee who assumes this strategy’s regional governance. They are also fed by a digital observatory.

3.2 Focus on "the baromètre" and on key action number 2 : "Digital Solidarity"

3.2.1 Our observation tool

Since 2008, Rhone-Alpes holds an observatory of the digital society. Through four editions, we have explored the equipment and use of digital technologies of households, SMES, local administration and tourism professionals. [7]

To fulfill this observation we use two main approaches. A quantitative approach based on large scale surveys and a qualitative approach based on focus groups.

Figure 3: Cover pages of different baromètre edition

Source: Region Rhône-Alpes

3.2.2 A few facts about key action number 2

According to the final report of the Fourgous mission (published in 2010), only 53 % of the French population who is computer equipped (this represents 74% of total population), feel themselves digitally competent. This means that less than 40 % of the French population estimates themselves at ease with one of the eight key competences for life long learning.

To upper this rate, Rhône-Alpes will propose a digital pass. This pass addresses every citizen and will be deployed in two phases. In 2013, phase one will concentrated itself on individual approaches. A regional check will allow the benefice of ten hours of formation to evaluate one's e-skills. In 2014, phase two will concentrate itself on collective approaches. It will benefit social mediation professional who lead territorial projects in which e-skills are necessary.

4 E-SKILLS THROUGH DIGITAL OBSERVATION

4.1 Approaching e-skills with quantitative indicators

Our first approach was to evaluate equipment and practices. We focused on households, SME's and local administration. Our hypothesis is that through these quantitative indicators we will be able to approach globally these population's e-skills.

4.1.1 Approaching e-skills by equipments

In our 2012 campaign we focused on e-skills for households. We formulated the following hypothesis: "Forecasting that some digital practices are supported by digital skills, we supposed that these practices are linked to the number of digital equipments and their variety".

We combined profile information, type of equipment (digital, computer and mobile) and mobile phone practices in the typology shown beneath

Figure 4: Household digital typology (extract)

Source: Region Rhône-Alpes

Figure 5: Household digital typology

French Typology (and proportion of the total population)	English Translation	Characterization
Les Grands Explorateurs (20%)	Big Explorers (20%)	Youngsters and high-level workers who have five or more digital equipment and have intense mobile practices
Les Apprentis Voyageurs (30%)	Apprentice Travelers (30%)	Middle age people, mostly women. Employees or middle level workers who are have from 3 to 5 digital equipments and start developing new practices on mobile
Les Randonneurs Vigilants (30%)	Watchful walkers (30%)	Middle age people, mostly men, employees or intermediate executive who have from 3 to 5 digital equipments and use the old mobile services (SMS)
Les Révoltés du Numériques (30%)	Digital revolted (30%)	Retired people men or women who where forced to use digital equipments. They only use mobile phones for calling
Les Bienheureux Sédentaires (10%)	Happy home-bodies (10%)	Retired people mostly women who are equipped in any kind.

Source: Region Rhône-Alpes

This classification shows that the more people are equipped, the higher intense practice they have. A link between practices and equipment exists but it does not qualify the practice and the satisfaction granted to the user. A more detailed analysis is needed.

4.1.2 Approaching e-skills by Internet practices

To approach e-skills by Internet practices, we focused on different quantitative indicators who characterize digital practices. We measured if a person had this practice and if they practiced it often. These indicators were:

- Use of Internet to seek for information
- Use of Internet to send an e-mail
- Use of Internet to participate in forums
- Use of Internet to create one's own blogging site
- Use Internet for Voice on IP services

To estimate Internet practices level we scored each response item. The more frequent an answer was given the more points it gets. Practice level is referred as the sum of all points. Consequently, a person with a high score is a person who has numerous Internet Practices and who practices them frequently. We drew the following conclusions:

- Women have lower Internet practice level than men
- The highly aged a person is, the lower his Internet practice level is
- High level workers have higher level practices

These conclusions seem logical and need to be explored.

4.1.3 Approaching e-skills by direct questions

In the 2013 campaign, we focused on household, local administrations, SMEs and youth. Each survey of our quantitative approach held up to 20 questions designed to evaluate e-skills put at stake.

For example, we polled youngsters with problems they encountered, how they reacted. We also polled how they qualified information they found on the Internet.

Figure 6: Example of questions asked in the youngster's poll

Question	Terms of answer
What is an operating system?	Question with an open answer that is recoded afterwards.
What is free software?	Closed answer
In all of the following situations regarding new software installation, which one is the closest to yours?	Closed answer
Do you have an antivirus? Who installed it?	Closed answer
In your opinion, how does Google earn money?	Question with an open answer that is recoded afterwards.

Source: Region Rhône-Alpes

Today our surveys have just ended and analysis is ongoing. We can evaluate e-skills put at stake in different situations. But, this quantitative approach leaves binary answers (yes or no). The metric is still incomplete and we need a more precise and qualitative idea of our population's e-skills level.

4.2 Approaching E-skills qualitative indicators

4.2.1 A more qualitative approach - E-skills for empowerment

E-skills can also be addressed as the ability to use on an efficient and standalone basis ICT items. Dutch searchers established a skills classification. This work was later completed by several authors [8]. They distinguish e-skills through three levels:

Instrumental skills are relative to the ICT tool manipulation. (Hardware and Software, how to act facing a bug…)

- Structural skills are relative to the way we interpret digital contents. We use them to understand and choose. They are necessary to use hypertext links, search engines, and so on.
- Strategic skills are used to search information on an active way. They allow the use of digital skills in our own living environment to make decisions and to act on our personal or professional environment.

As a conclusion, this research established a link between these e-skills. : Instrumental skills are required in the construction of structural skills who support strategic skills.

4.2.2 Impact of this approach on the digital pass

While programming the contents of the digital pass, we used a classification proposed by ARSENIC [9]. They analyzed the most common e-skills certification in France. To pass these certifications, the user needs to justify his ability to achieve requested actions. They compared these actions and projected them on a digital skill scale related to the approach described above.

Based on this analysis, we decided to focus our individual digital pass on evaluating our potential user's actual e-skills and eventual needs.

4.2.3 The qualitative approach in "the barometre"

To complete our quantitative approach, we put together a series of focus group. Based on an exploratory technique used for collecting information, focus groups consists in recruiting a number of participants concerned by the subject to be treated and regroup them by homogeneous groups of 6 to 10 participants.

Our aim (for focuses 1 to 5) is to qualify links between e-skills and employability.

Figure 7: Lists of focus groups and objective

Focus Groups n°	Profile of the participants	Objective of the focus group
1	SMES responsible for human resources (ICT sector excluded)	Evaluate SME'S needs in digital skills for their activity or development
3	SMES responsible for human resources only in the ICT sector	Evaluate SME'S needs in digital skills for their activity or development
2	Small offices director	Evaluate SOHO's needs in digital skills for their activity or development
3	Persons in training or in retraining who included digital skills in their personal project	Evaluate how they intend to use digital skills in their project
4	Young job seekers who graduate from high school	Evaluate how they intend to use digital skills in their project
5	Youngsters in apprenticeship	Evaluate how they intend to use digital skills in their project
6	Youngsters (16-25) in general	Evaluate if e-skills influence their criteria choice while consuming digital technology.

Source: Region Rhône-Alpes

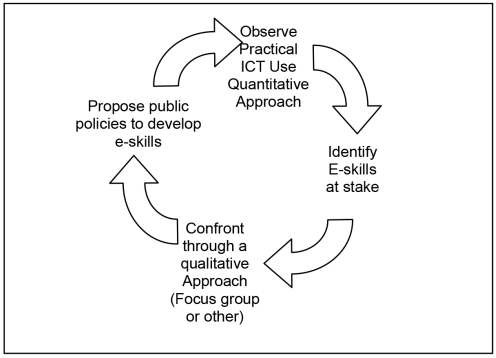
5 CONCLUSION

Although our work is at this moment not completely done (more likely by May 2013) we figured out a few facts:

- Evaluate e-skills through a quantitative approach is not easy. Unconsciousness of what is at stake leads the surveyed people to misinterpret questions.
- Observe practical use is a good entry enough. For example ask questions about free software and its use can lead to an evaluation of our population's knowledge regarding free software.
- On a qualitative approach the more homogenic the population is, the easiest it is to observe e-skill development

The figure below resumes our method:

Figure 8: How to approach e-skills through digital observation



Source: Region Rhône-Alpes

We adopted this approach for the digital pass and for our actions towards the youngsters. In this case, a specific study was conducted by an association [10]. It helped us determine digital practices. We analyzed these results and identify different e-skills necessary in these practices. We built this year's polls concerning youngsters after this analysis.

Hopefully this method will help us develop public actions aimed to improve Rhone-Alpes citizen's e-skills and digital appropriation.

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FUPOL: A novel approach to policy modeling, data extraction and simulation

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Giannis Chrysostomou is the Chief Technology Officer of InterFusion Services and has solid experience in technology integration, testing and deployment of e-Government solutions across EU member states.

Structured Abstract

Purpose:
The paper describes the first results of the Future Policy Modelling Project FUPOL (www.fupol.eu), a four year Integrated Program (IP) running under objective 5.6. ICT solutions for governance and policy modelling of the FP7 program.

Design/methodology/approach:
Conceptually the FUPOL approach is aiming at supporting the policy lifecycle from agenda setting to policy implementation and evaluation by a set of innovative IT components.

Results/findings:
The results achieved so far demonstrate that it is feasible to support the policy design and implementation process with a set of a fully integrated technologies based on social media, simulation, advanced visualisation and collaborative platforms.

Conclusions:
The FUPOL project will provide a completely new approach to traditional politics which will change the way politicians communicate with citizens and enterprises and take decisions.

Keywords: *Policy Modelling, E-Participation, Social Media, Policy Simulation, E-Governance*

1 INTRODUCTION

The objective of FUPOL is to introduce a new governance model to support the openness of the policy design and implementation lifecycle supported by innovative IT solutions.

The results are expected to enhance the capabilities of the constituents and policy makers to reduce uncertainties and take better decisions. The solution envisaged covers uncertainties related to the potential impact of policy measures and to the related to the reaction of the citizens.

The transparency of the policy design process is enabled by multichannel social computing, policy topic sensing and extraction, multilingual semantic analysis, dynamic agent based simulation, cloud computing, Idea Management System (IMS) and GIS presentation technologies. Those elements integrated with classic e-participation, will form a system to facilitate e-governance.

Typical policy modelling problems are characterized by complexity and dynamics. Because of the complexity, it is often difficult to solve such problems mathematically. One of the most prospective approaches in simulation is the agent-based simulation approach. The project aims to apply this model to policy making.

The new governance model builds on new technologies as well as existing know-how and open government data available to create better policies and decisions based on the citizens' expectations.

The approach being developed seeks the active involvement of all stakeholders including policy makers, civil servants, citizens and companies in the policy making process.

The FUPOL consortium (www.fupol.eu) has elaborated a comprehensive plan to further advance the research and development in simulation, urban policy process modelling, text analysis, visualization and integration of those technologies.

The project, with a budget of 9,1 M€ is an Integrated Program (IP) under objective 5.6. in the 7th call FP7 programme. The project duration is four years (October 2011 – October 2015). The FUPOL consortium consists of 17 partners from Europe and China, including research partners, IT-industry, local governments and political cluster organizations.

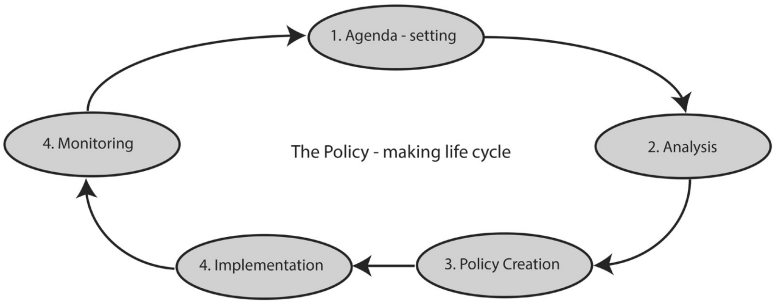
These are the key expected specific deliverables and outcomes of FUPOL:

- A new governance model to engage all stakeholders in the policy design lifecycle.
- A cloud computing based ICT solution for scale take-up and acceptance.
- Multilingual training and accompanying material
- A comprehensive urban policy knowledge database
- Piloting and evaluation of FUPOL in Europe (Croatia, Cyprus, UK) and China
- Large scale dissemination of results through clusters of European cities

2 KEY PILLARS OF FUPOL POLICY MODELING

The FUPOL Policy Process depicted in Figure 1 is based on the policy life cycle model of Prof. Ann Macintosh [1,2].

Figure 1: Policy Lifecycle Model



Source: (Macintosh, 2002), (Macintosh, 2004)

Each of the policy lifecycle stages is described below:

1. Agenda setting: establishing the need for a policy or a change in policy and defining what the problem to be addressed is.
2. Analysis: defining the challenges and opportunities associated with an agenda item more clearly in order to produce a draft policy document.
3. Creating the policy: ensuring a good workable policy document. This involves a variety of mechanisms which can include: formal consultation, risk analysis, undertaking pilot studies, and designing the implementation plan.
4. Implementing the policy: this can involve the development of legislation, regulation, guidance, and a delivery plan.
5. Monitoring the policy: this can involve evaluation and review of the policy in action, research evidence and views of users. Here there is the possibility to loop back to stage one.

3 FUPOL TECHNOLOGY FEATURES AND ADVANTAGES

FUPOL aims to provide a multitude of tools that aim to augment the overall Policy Lifecycle Process, this article wishes to showcase ten of those and their corresponding relationship with each stage, namely:

- Data Integration and Storage – relates to Stages 1, 2, 3, 4 & 5
- Unified Integrated User Interface – relates to Stages 1, 2, 3, 4 & 5
- Policy Indicator Dashboard – relates to Stages 1 & 5
- Social Network Aggregation and Single Window Display – relates to Stages 1, 2 & 3
- Hot Topic Sensing (HTS) – relates to Stages 1 & 3
- Community Feedback Platform – relates to Stages 2 & 3
- Visualization of Statistical Data – relates to Stages 1, 2 & 5
- Visual Social Data Analysis – relates to Stages 1, 2 & 3
- FUPOL Knowledge Database and Visualization – relates to Stages 1 & 2
- Visually-enhanced Fuzzy Cognitive Maps – relates to Stage 2

3.1 Data Integration and Storage

The FUPOL system acts as a central repository of data which is created by integrating data from disparate, distributed in-homogenous sources, namely: (a) Statistical data from EUROSTAT and other government sources; (b) Social Media Data; and (c) Semantic data from various sources.

The central repository integrate data from multiple source systems ensures data consistency across all steps of the policy lifecycle. It provides a single common data model for all data of interest regardless of the data's source Data generated in one policy lifecycle process are used for the next step. It also supports the improvement of data quality, by providing consistent codes and descriptions, flagging or even fixing bad data.

3.2 Unified Integrated User Interface

In user interface integration, two applications are integrated so that a user can carry out an operation that involves two different applications – without having to take into account that he or she is actually running two applications. The FUPOL Unified Integrated User Interface has two major benefits: (a) "unified look and feel" and (b) single sign on to all applications. This simplifies the use of the system and improves security through a centralized authentication.

3.3 Policy Indicator Dashboard

The policy indicator dashboard visualizes various indicators and flags them if they are below / above thresholds or certain conditions are fulfilled. The dashboard is intended as a tool for decision makers and advisors to set context and perspective when evaluating the current state of policy domains in the city. The policy indicator dashboard is an efficient management tool to monitor policies.

3.4 Social Network Aggregation and Single Window Display

Social network aggregation is the process of collecting content from multiple services such as Facebook, Twitter, Blogspot or the FUPOL opinion map and pulling them together into a single location. This also includes the same channel with different accounts (e.g. facebook pages). Sources are those from the city itself, but also other relevant sources such as citizen initiatives for example. The postings are displayed "single window", which means postings from various sources are displayed on the same screen. The most valuable sources are Blogs, because they typically contain more specific political discussion. This feature is a prerequisite for "Hot Topic Sensing" and it has a value on its own. It saves a lot of time, which is typically required to log into all the different sources and read the postings. A multichannel "single window display" enables civil servants, politicians but also companies to better grasp the public opinion (even if it has to be analysed manually).

3.5 Hot Topic Sensing (HTS)

Hot Topic Sensing is a web and social network analytics tool that analyses data from social networks, newspapers, forums, blogs, etc. and identify relevant topics. The purpose of the HTS is to help with the identification of community needs through Machine Learning and NLP (Natural Language Processing) algorithms. Postings from various social media

are analysed and "Hot" topics are extracted. This tool enables quick identification of issues, which are not yet on the public-policy agenda. It allows a better recognition of citizen needs. Moreover the ICT based method is much quicker than manual methods.

3.6 Community Feedback Platform

The Community Feedback Platform is inspired by crowdsourcing platforms and is designed to enhance cognitive processes in a similar manner as traditional Idea Management Systems (IMS). The purpose of the system is to facilitate the idea analysis and selection processes that feature:

- Campaign creation focused in a desired topic;
- Ideation process initiation: communities write ideas comment and vote on them;
- Selection of promising ideas and ranking from different point of views; and
- Allowing best promising ideas to be implemented.

Though similar to a classical IMS, the FUPOL Community Feedback Platform is augmented with novel features that extend its functionality beyond what is normally associated with an IMS, like: (a) a view on the collected space of citizens expression from different sources of information (blogs, social media, forums); (b) providing the capability to enrich the space by different means such as commenting/voting as a facilitator and (c) Analytics toolkit (i.e. computing: trends, topics, sentiments)

The Community Feedback Platform enhances the capabilities of Social Network Aggregation and Single Window Display with additional features such as (a) Commenting/voting as a facilitator; and by providing an analytics toolkit (i.e. computing: trends, topics, sentiments). It means greater productivity and efficiency of staff analysing citizen feedback and needs. By using the Community Feedback Platform they are also in a better position to recognize citizen needs through the advanced analytical tools.

3.7 Visualisation of Statistical Data

This refers to the visualization of statistical data, trends and relations. This can be performed by focusing on:

a) Time-series of one or more variables;

b) Location based variables (which need to be visualized on a map);

c) A combination of both.

The various methods support users to select the variables really influencing the main indicator used to measure the intended impact of a certain policies. Currently this is done manually; visualization means a cost reduction, because it enables stakeholders to evaluate data quicker leading to resource rationalisation, greater productivity and efficiency. Moreover the automatic selection transfers some "embedded" knowledge to the users, which he may not have.

3.8 Visual Social Data Analysis

The method of choice to analyse social networks and identify opinion leaders is Social network analysis (SNA), which measures and maps the relationships and flows between people, groups, organizations and other connected information/knowledge entities. The nodes in the network are the people and groups while the links show relationships or flows between the nodes. The visualization provides a quick understanding of such networks. Specifically the identification of opinion leaders is important. An opinion leader is an active media user, who interprets the meaning of media messages or content for lower-end media users. Typically the opinion leader is held in high esteem by those who accept his or her opinions. There are two types of opinion leadership: monomorphic and polymorphic [3]. Monomorphic refers to a single domain in which the person is accepted as a leader. Polymorphic refers to more than one domain. Typically opinion leaders have more influence than media, because they are seen as experts, trustworthy and non-purposive. Social media have strengthened the role of opinion leaders, because they provide a cost-effective platform for opinion leaders to communicate. In all stages of the policy lifecycle process it is important to know the structure of the social network related to a policy issue and identify opinion leaders, follow them and eventually also contact them directly (peer-influencing strategy). Decision makers can identify the relevant opinion leaders for a specific topic and approach them directly.

3.9 FUPOL Knowledge Database and Visualization

The FUPOL Knowledge Database and Visualization tool will consist of a repository of best practices, guidelines, models and laws and it will be using SemaSearch, a search engine to explore existing semantic data sources by an intuitive and interactive graphical user-interface, which is powered by SemaVis. This choice will enable the user to search for knowledge in different data sources and combine them in a meaningful visualized way.

3.10 Visually-enhanced Fuzzy Cognitive Maps

In general, fuzzy cognitive maps (FCMs) represent directed weight graphs that represent the causal relationships between concepts and produce inference patterns (the final states of the system after convergence). FCMs graphically represent the beliefs and perceptions a person holds about a specific question or system and is created during interviews. A factor or node in the network stands for a key-factor of the system [4]. The directed links show the causal relations between factors. The relations between the elements can be used to compute the “strength of impact” of these elements.

The major advantage of fuzzy cognitive maps is that they can handle incomplete or conflicting information. It is quite suitable to represent political systems and support related decisions, because frequently important information may be missing, be unreliable or be vague or conflicting. Hence FCMs are a suitable tool to support complex policy decisions. FUPOL aims to develop visually-enhanced Fuzzy Cognitive Maps that can be used to visually show complex relationships to stakeholders and decision-makers and enrich the understanding procedure that this entails.

4 TECHNOLOGY INTEGRATION

The technological integration approach developed by the FUPOL consortium seeks the active involvement of all stakeholders in the urban policy making process, including policy makers, civil servants, citizens and companies. The integration of the individual FUPOL tools will be guided by different formal scenarios in the pilot cities, through simulations and scenario-based testing and validation.

5 CONCLUSION

This paper briefly described ongoing research and development of ten FUPOL tools that correspond to the five stages of the Policy Lifecycle Model developed by Macintosh. A short description of each FUPOL tool was outlined focusing on the main technological features and the potential benefits from their usage were presented.

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Legal aspects of digital governance

Use of electronic ID in Europe, 2012 online survey results

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Structured Abstract

Purpose & Scope:
As part of the Thematic Network SSEDIC (an European Commission funded CIP project) we try to collect users feedback what concerns use and adoption of electronic identity credentials and eSignature as well as opinions on Internet privacy, security and concerned regulations.

Design/methodology/approach:
Last quarter of 2010 an online survey among 1000 Internet users in EU27 and abroad was launched. The entitled paper reflects the results of this survey.

Results/findings:
The survey produced valuable insights regarding the different types of eID credentials used by a wider public when proving the electronic identity on the Internet (including the frequency of their use, the way the credentials were obtained, and reasons for not using some types of eID credentials), cross-border online use of eID, users opinions on the necessity and goals of eID regulation at European as well as national level, on the eID federation and privacy issues, and secured exchange of sensitive documents via Internet.

Conclusions:
The findings of this year SSEDIC surveys were consistent with last years expert survey conclusions.

Keywords: *electronic identity user survey, Internet security, privacy and regulation.*

1 INTRODUCTION

SSEDIC (Scoping the Single European Digital Identity Community), a thematic network funded under the European Commissions CIP PSP program [1], conducted an online survey on the use of electronic identity (eID) in 2012. The fundamental goal of the survey was to collect the information on the use of electronic identity by the European general public and its opinions on eID regulation, use, and privacy issues.

The Year 2 eID Adoption Survey is a continuation of the Year 1 eID Adoption Survey conducted by SSEDIC in November 2011. Compared to the 2011 survey, which was aimed at eID experts [2], the 2012 iteration of the survey was modified in order to make the survey comprehensive for non-experts and to reach for a wider public. At the same time, the approach and structure of the survey as well as the user profile was kept which allows the comparison of the results up to a certain level. The survey was published online in four language versions (English, French, Spanish, and German).

This document summarizes the major findings of the survey. The full text of the survey report is available at the SSEDIC website [3].

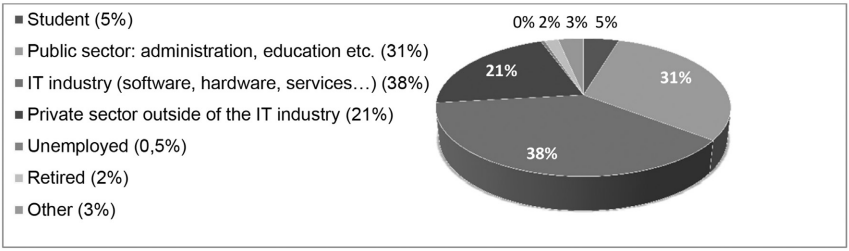
2 SAMPLE COMPOSITION

Respondents were targeted via different networks in IT, consultancy, public sector, university sector etc. The survey was distributed via social networks (including SSEDIC LinkedIn group) and via networks and mailing lists of the SSEDIC partners and associate partners. Several projects` and organisations` newsletters invited to participate in the survey (e.g. SSEDIC, STORK, EEMA, PIMN) as well. The survey was also promoted at the European Commission DG Connect website.

SSEDIC distribution efforts and mass mailing to thousands of e-mail addresses resulted in 1000 respondents completing the whole survey between October and December 2012. Thanks to the successful mass-mailing campaigns of Spanish SSEDIC partners distributing the survey, 383 respondents were Spanish residents. To prevent their overrepresentation for the analysis of the answers, the weight of Spanish residents` responses was reduced from 4 to 1 (from 383 to 96 respondents). Therefore a theoretical sample of 713 Internet users (N=713) was defined for the analysis of the survey.

The majority of 85% respondents are EU residents, are male (72%) and received higher education (90%). Compared to the 2011 expert survey, the 2012 survey attracted more women and slightly more respondents with lower education. More than half of the respondents were aged between 35 and 54 years. The group of participants younger then 34 years was slightly larger then the one of 55+. The professional background of respondents was various. Some domains of expertise (like IT industry - hardware, software, and services) were stronger represented in the sample.

Figure 1: Field of professional activity (N=713)



3 INTERNET USE PROFILE

The respondents were profiled according to the frequency of their Internet access, devices used, and the motivation for Internet use.

3.1 Internet access frequency and devices used

Vast majority of respondents use the Internet every day or almost every day, either at work (94%) or at home (83%).

More than 55% of participants use their laptop or tablet PC to access the Internet "on the road" on daily or weekly basis. More interestingly, almost 75% of respondent do the same thing using their smartphone (62% on daily basis). The significant uptake of smartphones compared to "mobile" laptops and tablet PCs is quite obvious.

3.2 Internet use motivation

The respondents were asked about the purposes they use the Internet and frequency of use for each of these purposes.

95% use the Internet on daily basis for professional purposes such as checking e-mail or searching information. Social networks are visited by almost 60% of users on daily or weekly basis (34% daily). Approximately the same amount of respondents, with only a little lower frequency, uses the Internet regularly to administer their bank account via the Internet banking. Most of the people do that on weekly rather than on daily basis.

Half of the respondents use the Internet daily or weekly to watch online videos or TV, listen to online music or radio streaming, download movies or music etc.

Active participation at discussions and blogs, posting opinions at news websites, Twitter etc. and making for phone or webcam video calls is the daily or weekly activity for 30% of respondents.

Almost 60% of respondents access the Internet to do their online shopping at least once a month. Quite surprisingly, only 5% of respondents do not purchase goods or services online at all. The use of online auction sites as eBay is considerably lower.

4 FINDINGS

The findings of the survey are summarized according to the research topics: use of electronic identity, opinions on eID regulation and policy, use of E-Signature, privacy issues, eID Federation, and secure electronic document exchange.

4.1 Use of Electronic Identity

In this part of the survey, the participants were asked what types of online credentials they use to identify themselves on the Internet and the frequency of use of these credentials.

The results show that the **most frequently used** credentials are the traditional and relatively weak **user ID/password** based credentials mostly obtained to create an email account, to become a member of a social network or to purchase goods or services online. Users seem prefer to have a username indicating their real name rather than the anonymous one when using social networks and email.

Username/password credential connected to a **card** (e.g. bank payment card or smart card used for public transportation) with the personal information verified by a 3rd party is also very common as it is used by 76% of respondents.

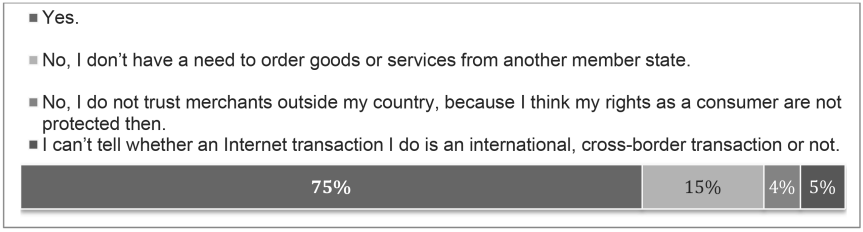
Hardware devices (including code-generating tokens, SIM card mobile devices, and card readers with PIN verification) are usually obtained for **eBanking**.

An interesting finding is the one-year progress in the use of **SIMcard/Mobile related eID's**. Compared to the 2011 the expert survey, three times more respondents indicated to use these credentials on daily basis in 2012.

Respondents rarely use more **sophisticated identification methods** based on PKI, hardware devices, and biometrics. The use of PKI infrastructures (allowing to sign documents electronically with eSignature) is mostly connected to the official government issued eIDs.

Surprisingly large majority of users **buy goods or services online from other countries** (75%) and make online **money transfers** to other EU member state via online banking, PayPal etc. (51%)

Figure 2: Online cross-border purchasing of goods and services (N=696)



The **most frequent reasons for not possessing or hardly using** listed **eID** credentials are no need to use these tools, doubts about their security, and lack of trust in the issuers.

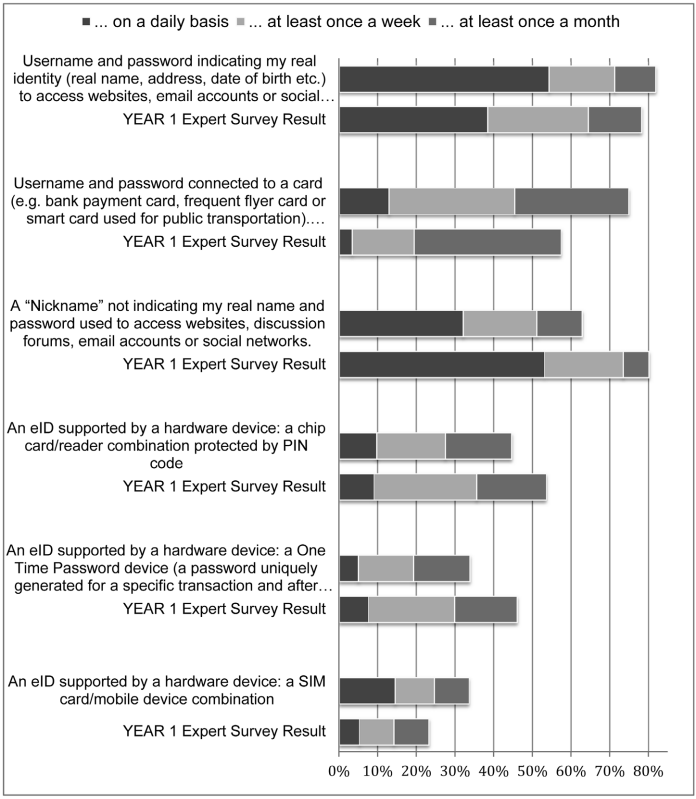
4.1.1 Comparison with 2011 Expert survey results

The frequency of use of the credentials is similar. However, several differences can be found. The eID **experts prefers anonymous username**, by 17 percentage points (pp), when accessing websites and social networks rather then the username indicating their real identity (which is the preference for wider public according to the 2012 results).

The eID experts also use more frequently, by approx. 10pp the **more sophisticated identification methods** such as a card in combination with card reader and PIN protection and eID in combination with one-time password generated by a token.

On the other hand, username and password connected to a card (smart cards) was indicated to be used more frequently by almost 20pp in the 2012 survey. Also the eID combined with SIM card mobile device is used more frequently (by 10 pp) by respondents of the 2012 survey. For more details on the comparison, see the following figure.

Figure 3: Credentials used on the Internet – comparison with 2011 expert survey (N=713)



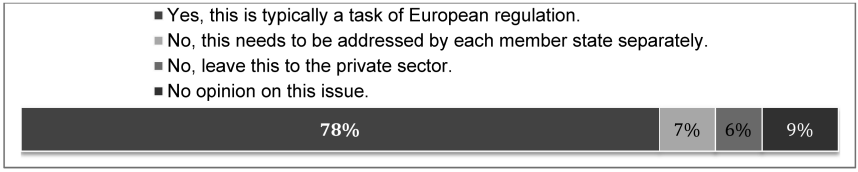
4.2 Opinions on eID Regulation and Policy

In this survey section, SSEDIC investigated the respondents' opinion on issues related to eID regulation. To explore the respondents' personal view, we presented them several statements and explicitly asked them to provide their personal opinions.

The respondents clearly expressed the **importance of public sector involvement** in the eID regulation. 78% of respondents think that establishing a minimum level of eID quality requirements in order to ensure all eIDs are accepted by public authorities in all member states is a task to be done by the EU.

Figure 4: Need for EU eID regulation (N=694)

"*Should European regulation fix a minimum level of quality requirements for electronic identities in order to ensure that all electronic identities will be accepted by public authorities in all other member states?*"

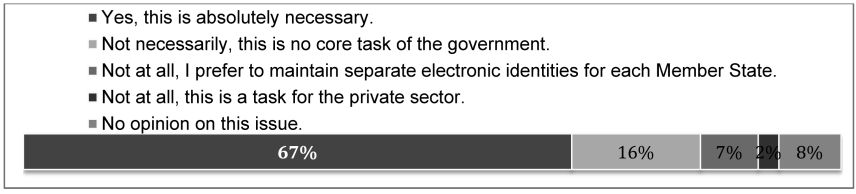


The respondents expect positive impacts of new eID regulation resulting in wider eID use. They think that EU should adopt **common** security **standards** and minimum requirements for eID.

Majority of respondents think that it is absolutely necessary to have eIDs that can be used to **access eGovernment services in other member states**.

Figure 5: Need for cross-border e-Gov eID (N=686)

"*Should the governments of all EU member states ensure that their citizens have access to trustworthy electronic identities, that can be used cross-border, i.e. to access online eGOVERNMENT services in other EU countries?*"



According to the open question suggestions, the respondents think that education & **awareness campaigns** about eID use benefits and risks are needed. Electronic identity also should be **free of charge**.

The 2011 expert survey brought similar results with even **higher support (87%) for the eID legal framework on the EU level** and clear statement that digital identities should be interoperable across borders. Consistently with the 2012 findings, the experts stress the importance of public sector involvement to stimulate the use of eID both in the public and private sector.

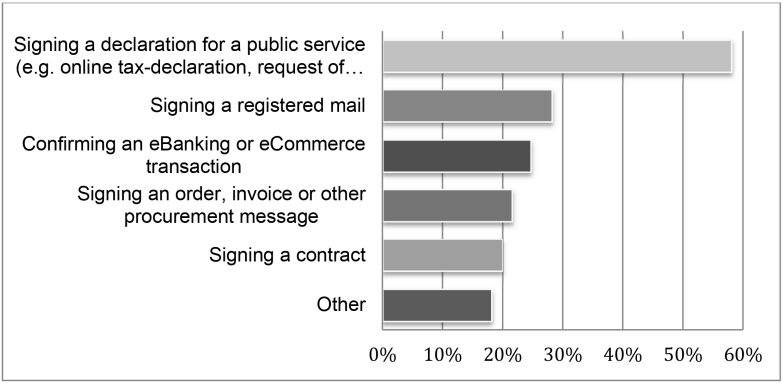
4.3 E-Signature

In this section, the respondents were asked about their possession of an e-signature, whether the signature is qualified, for what purposes they use it and what tools do they use to sign documents electronically.

Only half of the respondents **possess an** Electronic signature and 74% of these e-signatures are so called "qualified", i.e. officially recognized as valuable.

As far as the purposes of the e-signature possession are concerned, its usage seems to be quite limited mostly to signing declarations for **public services** (58% of respondents).

Figure 6: Use of e-Signature



The technology predominantly used by the eSignature holders is smartcard based (44% sign digital documents with a signature key stored on a smartcard).

All these findings on eSignature use are again similar to the 2011 expert survey.

4.4 Privacy and Anonymous Authentication

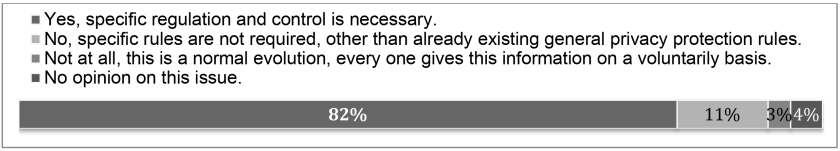
The survey further investigated the respondents' opinions on privacy protection and use of their data.

Respondents are well **aware of privacy** concerns of the Internet and eID use and would like to see **specific privacy protection rules** in the future.

They think that consumers should be aware of what happens with their data. Respondents expressed their concerns about the **use of personal data by private companies** and social media. For example, they would like to prevent the user data to be bought and sold freely or have a possibility to refuse the "data mining".

The clear majority of 82% respondents think that a specific regulation and control of companies holding a significant amount of identity information is necessary.

Figure 7: Need for specific privacy rules for companies holding significant identity information (N=696)



In addition, most of the respondents think that, in certain circumstances, there should be a legally protected explicit **right to online anonymity** ensuring that no one can be identified in an online transaction. The anonymity shall be lifted only under certain circumstances such as criminal acts.

In the open question, several respondents suggested that **anonymous authentication** solutions shall be implemented. Internet users should be able to decide if they will use an e-service anonymously while still being an authentic or appropriate participant.

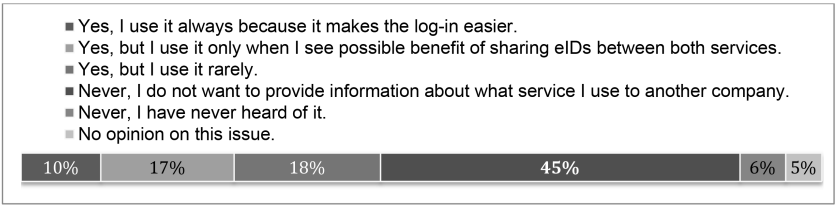
4.5 eID Federation

This section of survey addressed the respondents' opinions on issues such as eID federation and eID use across multiple sectors.

The users lack the eID interoperability. EU and governments should ensure the **acceptance of a single European eID** in all EU member states for both public (eGovernment) and private (eBanking) services.

45% of respondents are **reluctant to use the eID federation** since they are not willing to provide information about the service used to another party unless necessary. Only 45% of survey participants use eID federation. Quite surprisingly, only 10% replied that they use eID federation because it makes a login easier.

Figure 8: eID federation use (N=700)



However, the majority of the respondents **expect future positive effects** of the use of private sector's payments and eIDs for other services, including e-government services (e.g. using bank credentials for non-banking services such as tax declarations or online shopping).

They **support the eID federation** in case they can foresee future positive effects and user scenarios that would make their **online transactions easier** and more transparent. Nevertheless, they are not willing to provide more information about themselves to a 3rd party then necessary.

These conclusions are in line with the recommendations of experts in the 2011 survey.

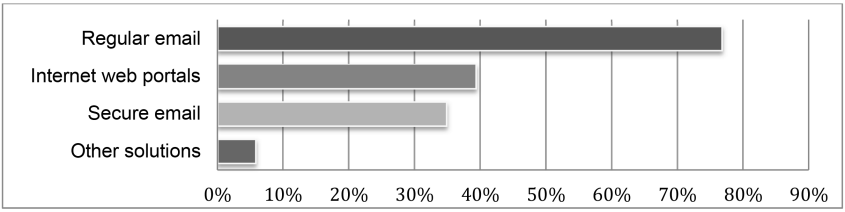
4.6 Secure Electronic Document Exchange

In this section, we investigated the types of documents that are exchanged securely, communication solutions used, and problems encountered. Only financial managers and professionals responsible for invoicing and payments who electronically exchange sensitive documents as part of their professional activities were questioned in this section of the survey.

The electronic exchange of sensitive documents between business partners is rather common practice among the survey respondents. Sensitive documents most frequently exchanged with business partners via the Internet are invoices (77%), followed by contracts and purchase orders (both 66%) and B2B payment notices (49%).

Regular email is the most used communication tool to exchange sensitive electronic documents.

Figure 9: Technical solutions used for sensitive documents exchange (N=116)



There are still **many problems** and security issues in the field of electronic documents exchange. 49% of respondents have encountered some problems. The most common trouble was

related to spam and spam filtering, followed by poor traceability, unclear status of transaction, and problems with sender identification.

Respondents stated that they **would increase** their sensitive online communication if they had **a secure electronic address** linked to their company eID. The **future potential** for the take-up of eID and e-signature was identified in this domain.

5 CONCLUSION

The SSEDIC consulted 1000 respondents residing mostly in the European countries in its 2012 eID adoption survey. Unlike the 2011 eID expert survey, the 2012 survey was designed to reach for a wider public.

The survey produced valuable insights regarding the different types of **eID credentials used** by a wider public when proving the electronic identity on the Internet (including the frequency of their use, the way the credentials were obtained, and reasons for not using some types of eID credentials), **cross-border online** use of eID, **users opinions** on the necessity and goals of **eID regulation** at European as well as national level, on the **eID federation** and **privacy issues**, and secured **exchange of sensitive documents** via Internet.

The survey revealed that the **most frequently used** are the traditional and relatively weak **user ID/password** based credentials mostly obtained to create an email account or to become a member of a social network. Username/password credential connected to a **card** (e.g. bank payment card or smart card used for public transportation) is also very common as it is used by 76% of respondents. The daily use of **SIM card**/Mobile related eID was indicated to be **three times higher** then registered one year ago.

Surprisingly large majority of users **buy goods or services online from other countries** (75%) and make online **money transfers** to other EU member state via online banking, PayPal etc. (51%).

Only half of the respondents possess an **electronic signature**. **A regular email** is the most used communication tool to exchange sensitive electronic documents.

The respondents stressed the importance of **public sector involvement in eID regulation**. They indicated that the EU regulation is needed and expect positive impacts of new eID regulation resulting in wider eID use. Governments should ensure the acceptance of eID in other MS as well as both for public (eGovernment) and private (eBanking) services.

The respondents are well aware of **privacy concerns** of Internet and eID use. They stressed the need for specific privacy protection rules in the future.

The respondents are **reluctant** to use the **eID federation**, as they are not willing to provide information about the service used to another company (3rd party) unless it is necessary

The **findings of both SSEDIC surveys were consistent** and opinions of a general public confirmed the experts' recommendations of 2011 survey.

REFERENCES

[1] SSEDIC is the EU project funded under the ICT PSP Call 4. Within SSEDIC, more than 60 eID related organisations work together to prepare the agenda for a Single European Digital Identity Community as envisaged by the Digital Agenda in its Key Action 16.

[2] The SSEDIC 2011 expert survey was conducted to learn about the attitudes of eID experts towards electronic identity and the related security, privacy and usability aspects in the context of both their professional and private activities. The experts were also asked about their opinions regarding a European framework for eID-based services. This survey is to be considered as the first step in a longer term monitoring process. Year 1 survey report is available at the SSEDIC website: http://www.eidssedic.eu/images/stories/pdf/SSEDIC%20D2.3.1%20eID%20Adoption%20Survey%20Y1%20v1.1.pdf

[3] http://www.eid-ssedic.eu/index.php?option=com_content&view=article&id=104&Itemid=100101

Legal regulations in the information society

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Structured Abstract

Purpose & Scope:
The aim of the paper is to present and evaluate legal solutions to developing services of the information society.

Design/methodology/approach:
The research has been provided by using the empirical methodology. The author would present the analyses of the legal system of the EU.

Results/findings:
The technological progress has become an incentive to a discussion about future of the law in the information society. Creation of the information society is one of the EU basic aims matching such targets as the economic growth, employment increase and common defence policy. In accordance with plans included in political, social and economic strategy (Lisbon Strategy and Europe 2020) the information society is to lead to construction of modern economy based on knowledge and social cohesion. In the economy based on knowledge competitiveness depends on investment into the human capital. With respect to these assumptions pressure has been placed on introducing modern online services .
Taking into consideration the EU regulation the Polish legislator has passed legal acts that should ensure harmonisation of the legal solutions with directive 2000/31/EC on some legal aspects of services of the information society, particularly e-commerce in the internal market (the e-commerce directive) as well as has incorporated these solutions into new technologies and manners of distant communication. In this framework an act of online services has been enacted. It is one of the statutes in the Polish legal system that create legal grounds for the information society. The paper will also take into consideration the latest amendments to the act of online services made by the act of 25 March 2011 on an amendment to the act of radio and television.
The Polish legislator did not, however, include in the statute an extensive presentation of legal problems connected with challenges posed by new technologies. In accordance with the legislator's opinion the act of online services did not cover an issue of an electronic exchange of representations. This assumption was developed by an act on amending the act – Civil Code and some other acts. Regulations concerning among others electronic submission of representations, e-offers or a form of a juridical act have been introduced into the Civil Code. The acts mentioned have influenced a possibility of using electronic communication media in the Commercial Code.

Conclusions:
Advantages of enlarging a range of applying the electronic media in the Commercial Code are organisational entitlements, decrease in costs incurred on notifications and circulating information about a general meeting of shareholders or documentation about company division at the same time on the whole territory of the European Union.

Keywords: *information society, e-commerce, electronic media, commercial law*

1. INTORODUCTION

The aim of this paper is to present and evaluate legal solutions in the range of development of the information society services as a technological progress has become an incentive to initiate a discussion about future of law in the information society. Creation of the information society is currently one of the basic objectives of the European Union equal to achievement of the economic growth, employment increase and common defence policy.

According to the plans contained in the political, social and economic strategy (Lisbon Strategy and Europe 2020) the information society is to lead to construction of the modern economy based on knowledge and social cohesion. In the economy based on knowledge, competitiveness depends on investment into human resources. [5] At the same time it must be emphasised that creation of the single digital market is one of the leading initiatives of Strategy "Europe 2020".[1] [6]

2. THE FUTURE OF LAW IN THE INFORMATION SOCIETY

Thinking over the future of law in the information society it must be noticed that modern communication techniques based on an electronic transfer and data recording change the foundation of the law whose basis are personal contacts and a written form of carried out actions. [6] Determining technical issues or economic functions of the Internet constitutes a main challenge for the law.

In 2010 the European Commission initiated a discussion about the future of the legal regulations of the Internet in the European Union and development of the information society, taking particularly into consideration electronic commerce. The development of the electronic commerce law in the European Union is "a necessary element of the hybrid law system of the cyberspace. Aspiring for clarity and uniformity of legal norms concerning e-commerce in the internal market must provide simultaneously coherence of these norms with developed international law instruments. It must also take into consideration characteristics of the Internet, ethical principles accepted by the Internet-users and technical standardization." [7]

To ensure coherence between the legal regulation and standardization in the field of the information and telecommunications technology (ICT) the European Commission rendered a decision on 28 November 2011 establishing a multilateral platform to normalize ICT composed of not only member states but also of organisations representing industry, small and medium-sized undertakings and interested social communities, standardization entities, professional, branch or commercial associations.[2] Considerations on a character and a range of a legal regulation resulted in creation of a concept of the regulation of the electronic commerce.

1 COM (2010) 245 the final version.
2 O.J. 2011, C 349/4.

In the documents mentioned it is emphasized that there is a necessity of an analysis of *acquis communautaire*, taking especially into account directive 2000/31/EC on the electronic commerce concerning protection of a consumer as a recipient of services.[3] The basic objective of the directive is to ensure a free flow of the information services among the member states. This act also systematizes and regulates issues concerning principles of rendering services of the information society, disclosure of commercial information, concluding contracts online and liability of intermediaries in rendering such services. In relation to these assumptions an emphasis has been placed on introducing modern services provided online.

3. HARMONISATION OF THE EUROPEAN UNION REGULATIONS IN THE POLISH LEGAL SYSTEM

Taking into consideration the EU regulation the Polish legislator has enacted law acts which are to ensure both harmonisation of the law solutions with directive 200/31/EC on some legal aspects of services of the information society, particularly of the e-commerce in the framework of the internal market (the directive on the electronic commerce) and has implemented these solutions into technologies and methods of distant communication. In this framework an act of electronic services was enacted. It is one of the acts in the Polish law system which creates legal grounds for performance of the information society. (p.298) [11] However, the legislator did not comprehensively present the law problems related to challenges posed by new technologies.

In conformity with the legislator's will an issue of the exchanging of declarations of intent is not discussed in the act on rendering electronic services. This assumption was carried out by an act on an amendment to the act – civil code and some other acts. Regulations concerning among others submission of declarations of intent electronically, electronic offers or forms of the law action were introduced into the civil code. The indicated acts influenced a possibility of using means of the electronic communication in the commercial code.

An advantage resulting from using the electronic means on the grounds of the commercial code concerns organisational entitlements, decrease in costs incurred on notifications and on transferring notices of general meetings of shareholders or information about a split of companies at the same time across the European Union.

In Poland, at the beginning of the electronic commerce development, a resolution of two basic law problems had significant meaning.[4] Firstly, to what extent should taxes be controlled and imposed as well as customs duties imposed on goods traded internationally and connected with the electronic commerce. Secondly, how to resolve a problem of an optimal model of an e-signature? It must be raised that the e-signature is equal to a handmade signature and regulations in this area are applied to and shape mutual relations among participants of the legal order, including also courts and organs of public administration and some other participants of legal transactions.

In legal concepts related to the electronic commerce regulation it is possible to separate a broader presentation which indicates that the electronic commerce is a chain of the economic activity. This activity is carried out online, using the Internet from a moment of concluding a

3 Directive 200/31CE of the European Parliament and the Council of 8 June 2000 on some legal aspects of the information society services, particularly the electronic commerce in the framework of the internal market (the directive on the electronic commerce) (O.J. 2000n L 178/1).

4 Act on rendering electronic services of 18 July 2002 , O.J. 144, p.1204 as amended.

transaction, through its performance both online and traditionally using means of transport, till the moment of paying dues including customs duties and taxes. The basic principle applied to taxing the electronic commerce is a principle of "no new taxes" and the principle that "electronic transactions are treated as services." (p.309-315) [4]

The narrower presentation assumes that the electronic commerce is only a chain of the business activity which is connected with performing the activity only using the electronic networks, including the Internet from the moment of submitting an offer and concluding an agreement till its performance and making payment for goods or services provided online. Such a presentation excludes customs control and customs payments.

The presented concepts are compatible with the European Union customs law and have contributed to introducing simplifications into customs proceedings connected with international trade of goods. It consists in the increasingly common submitting of customs declarations electronically and in development of the system of the electronic information about customs law and procedures placed by the customs administration on the Internet.

Spreading the electronic commerce requires the upgrading of consumers' protection, particularly in the range of a possibility of obtaining adequate and transparent information. In the EU law the issue of concluding agreements online is regulated in the directive of the European Parliament and of the Council no 97/7EC of 20 May 1997 on the protection of consumers in respect of distance contracts[5] whose principles were partly included in provisions of the act of 2 March 2000 on protection of some consumers' rights and on liability for damage caused by a dangerous product[6] and in the act of 18 July 2002 on services rendered electronically.[7] It must be noticed that the electronic commerce is carried on using instruments which are indeed effective, economical and efficient, however they are difficult to be determined normatively. Unfortunately, legislators do not keep up with changes and revolutionary transformations in the field of using various electronic instruments.

It is also worth mentioning that threats concerning protection of consumers in the electronic commerce and using electronic information media in commercial transactions caused a necessity to penalize some behaviour. The Polish criminal code refers to: crimes against protection of information (hacking, sniffing, illegal interference and destruction of information in an electronic form etc.); to crimes against assets (theft and e-fencing); to crimes against public safety and to crimes against credibility of documents (forgery of information on electronic media). Legal solutions contained in the criminal code require currently changes because they do not fully regulate potential crimes that consumers in the digital reality are faced.

4. THE ELECTRONIC COMMERCE IN THE EUROPEAN UNION DOCUMENTS

The issues of the electronic commerce are characterised by exceptional high dynamics of changes also in the range of new legal phenomena. In the European Union documents[8] it has

5 Official Journal EC L 144 p.19 as amended.

6 Official Journal no 22 pos. 271 as amended.

7 Official Journal No 144,1204 as amended .

8 Communication of the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on cross-border consumer commercial commerce in the EU (COM (2009) 557 final version; The Green Paper on review of the community achievements in consumers' rights (Official Journal EU 2007 C 061/1); Communication of the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Digital Agenda for Europe" of

been emphasised that it is necessary to analyse the directive on electronic commerce because of protection of a consumer as a services provider of the information society services. It has also been underlined that a legislative initiative is required for the issue of excluding liability of providers rendering services of the Internet search engines and of introducing a procedure of "notice and take down" related to it.

Proposals contained in the report cited have been answered by a Communication of the Commission to the European Parliament and the Council, the European Economic and Social Committee and the Committee of the Regions of 27 October 2010 "Towards the Single Market Act"[9] in which further development of the electronic legal transactions was indicated.

Common digitisation is the fact, irrespectively of disputes over definitions of new social phenomena, investigations into cultural and economic changes. It is difficult to resist an impression that these changes are too slowly followed by normative changes. In the digital space it is difficult for country governments to take decisive steps in the exercise of the state's ruling activities. The Internet space is global, is not hindered by geographical frontiers and functions without a geopolitical arrangement. The lack of frontiers means paralysis of the traditional understanding of law, where the state authority enforces the established norms within the borders of a state. Complete decentralization means creation of a special multijurisdictional system, in which theoretically courts of all states have jurisdiction (p.23). [2] In practice it means that no court can exercise it effectively.

Both lawyers and legislators shun the life on the Internet. Because the Internet is the space which is only creation of the mind supported form the outside by the products of technology. For everything that of its nature has a tangible, physical form after introducing into the digital world becomes a code or a sequence of codes. Digital recordings may be introduced into a system within a few seconds, make considerable changes in recording already introduced or remove them from the system (p.5). [8] And although the digital world does not offer stability of the structure and physical proof of its existence as the real world, a significant part of manifestations of the social and economic life has given in to digitisation, digitising and convergence.

The concept of digitisation mainly accompanies changes on the media market. Radio and television stations systematically expand their activities into the space of the Internet recognising in it a means of increasing competitiveness of the enterprise. Digitisation means using digital technology to broadcast radio and television programmes.[10] It allows taking into consideration consumers' expectations in the range of modifying services towards increased interactivity (for example television on demand), the upgrading of the quality of a picture, sound and also increasing a possibility of using independent services , such as banking services, e-commerce, electronic mailing, distant learning, access to public administration (p.21). [1]

A relative concept is digitising which means giving a digital form to data in writing and printing, contained on magnetic or other media.[11] Digitising is peculiar conversion of information on paper into data in a form of a code applied in a given technology. For the needs of modern communities this concept is too narrow. It is necessary to expand above concepts by

26 August 2010, COM(2010), 245 final version.

9 COM (2010) 608 final version.

10 By enacting the act of 25 March 2011 on amendment to the act on national broadcasting and to some other acts there was a change made to the act on rendering electronic services, O.J.85, pos.459)

11 Internet dictionary of the Polish PWN, www.sjp.pwn.pl.

every operation of encoding on a computer. It is mainly about creation of data, which originally obtain a digital form by every manifestation of human activity which in any way influences a change of the cyberspace environment.

Indicating the contents of the concept of digitisation and digitising it is impossible not to mention a phenomenon of convergence. It means mutual merging of some mechanisms and phenomena which causes that they become similar. In the world of technology convergence has led to blurring boundaries between a traditional way of rendering services and its digital counterpart. There arises a lot of questions and many legal problems as for example: is using a computer programme to connect with a land phone a service rendered by a telephone operator or by an Internet provider? Services once reserved only by operators of certain technical devices now may be provided in a different way.

5. CONCLUSIONS

Concluding agreements by distant communication means, taking particularly into consideration agreements made over the Internet, arises a question connected with conflict of laws. The cyberspace is still a non-defined category with respect to matter and space. There are discussions among politicians, sociologists and theorists of law about the status of the digital world.

Recognising specificity of relations initiated in the network theorists of law suggest introducing a special *lex mercatoria* as the law proper for disputes on the grounds of the electronic commerce broadly understood. This proposal is justified by a reflexion about a situation of the modern business communities whose activity concentrates on making new commercial contacts on the Internet. What is inconvenient for their activity is the fact that agreements made online and liability relations arising out of them "are located", at least in a procedure of concluding a contract over the Internet (p. 32). [9] A question arises under which law system effects of non-performance or breach of a contract concluded as a result of sending electronic impulses into the cyberspace will be evaluated, irrespectively of performing the agreement by sending in response different impulses or rendering a service in the real world.

According to ideas of a part of the doctrine, to resolve disputes resulting from concluding and performing contracts in the cyberspace, it is necessary to create the Internet private international law. The country law systems are not adjusted to resolve at the same time legal, technical and business problems. Such a requirement is dictated by a nature of liability relations in the cyberspace. There are also no judges competent in the range of new commercial technologies and no procedures distant from present formalism and lengthiness (p.32). [3]

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Public digital service for e-procurement

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Structured Abstract

Purpose& Scope:
The main goal of the article is to present the idea of e-procurement in the public procurement system. The author would analyse the rules of application of e-procurement in the EC-law. The public digital services examples would be also described.

Design/methodology/approach:
The research has been provided by using the empirical methodology. The analyses of the legal system and case law will be presented and discussed.

Results/findings:
One of the main goals to achieve by the Europe 2020 provisions is to simplify the public procurement system. E-procurement main results are increasing of transparency, protection of competition and money savings. Thus, the Member States of the EU should introduce the effective measures to achieve the objective.

Conclusions:
E-procurement is an effective measure to assure the best value of money and increasing of the transparency in public procurement award procedure.

Keywords: *e-procurement, public procurement, effectiveness in public spendings, best value for money, transparency of the award procedure, simplification and money-saving by e-procurement system*

1. INTORODUCTION

Public procurement are contracts for pecuniary interest concluded between public purchaser and private entrepreneur having as their object realization of public works, services and supplies. Public authorities (called further also contracting authorities) which are the decision-making bodies in terms of public spending are obliged to apply public procurement procedure above the specific thresholds adopted in each Member State of the European Union.[1] Moreover, it is worth mentioning that public procurement system is of a dual nature. Under-the-threshold tenders are regulated by national legal system[2] and over-the-threshold procurement shall be conducted according the EU law.[3]

The background of the legal regulation of the public spending is connected with the presumption that public authorities which are decision-making bodies in terms of public expenditures are not owners of the financial means. In that context also results of their decisions do not affect their private budget. Thus, the rules regulating award procedure guarantee implementation of main aims of public procurement system, which are: the best value for money, competitiveness and efficiency of public spending.

Public procurement contracts are financed from the public funds so it shall be stated that also structure funds of the EU shall be spend in consideration of public procurement rules. The total value of EU's public procurement market amount to 2.407 bn Euro. The total value of public procurement market in Poland exceeded 144,1 bn zloty in 2011 (in 2009 – 126,7 bn zloty, 2010 – 167 bn zloty).

Public contracts could be awarded according to the special procedures, regulated in the public procurement legal acts. Contracting authority may award contracts by open tender, restricted tender, negotiated procedure with a notice, competitive dialogue, negotiated procedure without a notice. In some countries under-the-threshold contracts are regulated by specific national legal solutions which are in general compliant with EU law.

These contracts can be awarded in the procedures which were adopted only in the domestic legal system (for example in Poland: single-source procurement procedure, request-for-quote procedure or electronic bidding procedure).

1 Public Procurement Law in Poland shall be adopted above the threshold of 14.000 Euro.

2 Act of 29 January 2004 – Public Procurement Law (Dz.U. of 2004 No.19 item 177 with amendments)

3 The EU law legal framework on public procurement constitute legal acts with the greatest importance of Public Sector Directive 2004/18/EC (Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supplies contracts and public service contracts, O.J. 134, p. 114-240 and Utilities Directive 2004/17/EC (Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procedures of entities operating in the water, energy, transport and postal services sectors, O.J. 134/1.
The thresholds are regulated in both directives on public procurement, but they were several times amended due to the Government Procurement Agreement (GPA). The thresholds are recalculated by the Commission every two years and the calculation shall be based on the average daily value of the Euro, expressed in Special Drawing Rights (SDRs) Actual value of the threshold is following: 130 000 Euro for public supply and service contracts awarded by central government authorities; 200 000 Euro for public supply and services contracts awarded by contracting authorities which are not central government authorities; covering certain products in the field of defence awarded by the central government authorities, certain services in the fields of the R&D, telecommunications, hotels and catering, transport by rail and waterway, provisions of personnel, vocational training, investigation and security, certain legal and social services, certain sanitary, recreational, cultural and sporting services; 400 000 Euro for supplies and services in the utilities sector; 5 000 000 Euro in the case of works contracts for both classic and utilities sectors.

The development of the information society in the EU has influenced also public procurement procedures. Originally adopted in the EU legal system and some EU countries (e.g. Scandinavian countries), the electronic procurement extended to the all EU countries. Nowadays, the electronic communications and technologies are increasing used by contracting authorities. They are applied in the whole procurement cycle – in the planning stage, in the selection of the contractors and in the contract performance and administration (p. 1157) [1,2].

E-procurement refers to the use of electronic communications and transactions processing by public institutions and other public organisations when buying supplies or services or tendering public works. According to the estimations the value of potential savings from the e-procurement could exceed 100 bn Euro per year.

The definition of electronic public procurement refers to the tenders which are executed by the electronic means and refer to the electronic submission of the offer, application of the electronic signature, and electronic documentation of the procedure. The article refers to the electronic procurement regulated by public procurement regulations, even the auction could be also regulated by civil law procedures in e.g. contracts between entrepreneurs or purchasing the immobilities.

Electronic means help public authorities to achieve key procurement objectives such as best value for money, efficiency, transparency and accountability. They are used both to improve traditional procurement methods as well as in the new fully electronic procedures.

As a tool for improvement of traditional procedure, the e-procurement is aimed to save the transaction costs and speed up the exchange of the documents. The most important example of application of electronic mean is dissemination of the information about the tender to all providers. In the e-procurement the time can be saved by speedier communication and easier access to the information for all interested suppliers.

Use of electronic means can also limit the corruption because of the reduced personal contract between public bodies and providers [5].

However, full use of electronic means may be hampered by a number of considerations which include lack of technical knowledge (both purchaser and provider) and resistance to change, lack of technical standardisation or inadequate legal regulations for electronic commerce (p. 1158) [2].

In general the promotion of the electronic communication was expressed in Lisbon Strategy, which was intended to make Europe "the most competitive and dynamic knowledge based economy in the world".[4] Aiming increment of that priority there were adopted two important directives – the Directive on electronic commerce[5], which removes some general obstacles to the electronic commerce (for example by imposing the recognition of contracts concluded electronically in all Member States) and the Electronic Signature Directive[6], which creates the European framework for electronic signatures

In this respect, the 2004 procurement directives include provisions that aim to facilitate and promote the use of the electronic means. The Commission especially stressed "the importance of the information society" as one of the main priorities of the adopted legal framework. The rules expressly provide for use of electronic means and techniques, including the use of

4 Lisbon European Council, Presidency Conclusions, March 23-24 (Council 2000).

5 Directive 2000/31/EC of the European Parliament and of the Council of June 8, 2000 On Certain Legal Aspects of Information Society Services, in Particular Electronic Commerce, in the Internal Market, [2000] O.J. L178/1.

6 Directive 1999/93/EC of the European Parliament and of the Council of December 13, 1999 on a Community framework for electronic signatures, [2000] O.J. L13/12.

electronic auctions and a new form of procurement agreement called dynamic purchasing system. Secondly, the directives adapt the existing rules to electronic purchasing, by reducing time-limits to take account of the speed of the electronic communication.

At present, one of the main goals to achieve by the Europe 2020 provisions, the EU's strategy to deliver smart sustainable and inclusive growth, is to simplify the public procurement system.[7] The Digital Agenda for Europe is first of the seven flagship initiatives under Europe 2020 and contains 101 actions, grouped in seven priorities areas.[8] The Digital Agenda has been reviewed recently and identifies 7 priority areas were the development of e-procurement could also play an important role enabling public sector innovation and reforming the framework conditions for the internet economy.[9]

The idea of the development of the e-procurement was expressed in the recent communication of the Commission called "Strategy for e-procurement".[10] The strategy presents the strategic importance of e-procurement and sets main actions for the support the transition towards full e-procurement in the EU by the mid-2016.

The idea of promotion of e-procurement was recently additionally supported by the Commission of the European Union in the form of initiative "E-procurement Golden Book of Good Practice". The authors of the Golden Book identified 20-30 e-procurement platforms, analysed 28 platforms in 18 countries and presented their findings and best practices. There were conducted the survey of 936 users of the platform from 25 different countries (most of them were small and medium sized enterprises). According to the survey the platforms are not aligned with the users' expectations because the valued functionality is not well implemented by the platform (e.g. Interface, search results) as well as implemented functionality is not valued by users e.g. security. The main problems highlighted in the survey are following: lack of use of standard specification (80% of respondents), requiring for economic operators to provide country-specific information (64 % of respondents), no single point to access for notices (63% of respondents) and the technical problem that the tenders are not stored encrypted (23% of respondents). The Golden Book describes 24 good practices which help in implementation or improvement of the e-procurement platforms. The most important practices are: improvement of small and medium-sized enterprises accessibility, measurement of legal certainty and confidence, facilitation of cross-border bidding, improvement of transparency and accountability, improvement of usability and efficiency, facilitation of change management. The analyzed best practices include for example:

- platforms use standard specifications to structure their data and to promote interoperability (Practice No 24),
- platforms clearly indicate all costs related to the use of the platform (Practice No 21),
- platforms keep tenders encrypted until the opening sessions (Practice No 18),
- economic operators can register on the platform without having to provide country-specific information (Practice No 5).[11]

7 Communication from the Commission Europe 2020. "A strategy for smart, substainable and inclusive growth", COM (2010) 2020 final.

8 Communication from the Commission of 26 August 2010 "A Digital Agenda for Europe", COM (2010) 0245 final

9 Communication from the Commission of 18 December 2012 "A Digital Agenda for Europe – Driving European growth digitally", COM (2012) 784 final. It enumerated following 7 key areas: 1. Create a new and stable broadband regulatory environment, 2. New public digital service infrastructure throught Connecting Europe Facility loans 3. Launch Grand Coalition on Digital Skills and Jobs 4. Propose EU cyber-security strategy and Directive 5. Update EU's copyright framework 6. Accelerate cloud computing through public sector buying power 7. Launch new electronic industrial strategy – an "Airbus of Chips".

10 Communication from the Commission of 20 April 2012 A strategy for e-procurement, COM (2012) 179 final

11 Golden Book of E-procurement Good Practice (draft), MARKT/2011/097/C4/OP LOT2.

Finally, it shall be noted that e-procurement is implemented to the domestic legal systems in the varied forms. According to the Polish Public Procurement Law e-procurement is applied in two public procurement procedures: electronic bidding (PL: licytacja elektroniczna) and dynamic purchasing system. It is also used in the choosing of the winner so called award of the contract in the form of the electronic auction (PL: aukcja elektroniczna). As it is stated than e-procurement generates the saving on the level of 20-30% of the total value of the contract (p.3). [6]

2. ELECTRONIC AUCTION

The electronic auction is regulated in the EU law by the provisions of the both directives and in general creates the environment to conduct the public procurement procedure by the electronic means.[12] The electronic auction is defined as "a repetitive process involving an electronic device for the presentation of the new prices, revised downwards, and/or new values concerning certain elements of tenders, which is held after an initial full evaluation of tenders, enabling them to be ranked using automatic evaluation methods". Only the analysis of the definition of the electronic auction can lead to the confusion and misunderstanding, the same refers to the further regulations which seem to be unclear with a wide scope for interpretation. [3,4]

In Polish legal system electronic auction is not a separate procedure but it is a form of a selection of the best tender. The electronic auction is regulated in the articles 91a-91c of Law of Public Procurement. The wording of the act formulates the provision that when the procedure is conducted by open tendering, restricted tendering or negotiated procedure with notice, the contracting authority, after evaluation of tenders, shall hold an electronic auction to select the best tender. However, it is applied only when such an electronic auction was provided in the contract notice and if at least three non-rejactable tenders have been submitted. The electronic auction shall not be applied in the case of contracts for artistic or scientific activity.

It shall be noted that the criteria for tender evaluation (award criteria) in an electronic auction shall be only provided for in the specification of essential terms of contract. The award criteria shall also make possible the automatic evaluation of the tender without any interference of the contracting authority. It is also important that award criteria shall be indicated among the criteria based on which the tenders were evaluated prior to commencing the electronic auction. In Polish legal system electronic auction shall be one-stage procedure.

The procedure of the electronic auction starts by invitation by electronic means all the economic operators who have submitted non-rejectable tenders to participate in an electronic auction. In the invitation the contracting authority shall inform entrepreneurs about:

1. ranking places and scores of their tenders,
2. minimal values of the bid increments in the electronic auction,
3. date of the opening of the electronic auction,
4. the manner for evaluation of tenders in the electronic auction.

12 Definition of an electronic auction is regulated by the Art 1(7) Public Sector Directive and Art. 1 (6) Utilities Directive; further provisions regulated by Public Sector Directive Art. 1 (13), Art. 42 and Art. 71, Utilities Sector Drective Art.1 (12), Art. 48, Art. 64.

The opening date of the electronic auction may not be shorter than 2 working days from the date of dispatching the invitation. The tender evaluation method should include the re-calculation of the bid increments into tender evaluation scores taking into account the score received prior to the opening of the electronic auction.

During an electronic auction, economic operators use a form posted on the website for the entering the necessary data through a direct connection with the website to make successive, more advantageous bid increments which are subject to automatic evaluation and classification. Bid increments, under the restriction of nullity, must have a secure electronic signature verifiable using a valid qualified certificate. During the electronic auction, the contracting authority shall provide each of the economic operators on an ongoing basis with information about the ranking place of its respective tender and its score as well as of the score of the best tender. Until the electronic auction is closed, no information shall be disclosed that can make it possible to identify the economic operators. The tender of an economic operator ceases to be binding insofar as it has made a better tender during the electronic auction. The period in which the tender must be maintained shall not be interrupted.

It shall be noted that following provisions regulate the electronic auction as an additional procedure for the existing traditional procedures as open, restrictive and negotiated procedures. The economic operators can change their bids by dicreasment the most cases. Moreover, in the case of lack of electronic auction in particular tender procedure, the whole procedure is still binding and it shall not be cancelled, as the written bids are still binding.

To sum up the remarks about electronic auction, an example of Polish electronic solution can be given to illustrate the practical application of legal provisions.

In 2012 on the E-procurement Platform run by Office of Public Procurement in Poland were organised 867 auctions. In the comparion with 2011 with the total number of 651 auctions, the number of the procedures increased 33%, and in the comparison with 2010 – 244%. The level of savings in the prices of the offers reached more than 228,5 million zloty in the comparison with traditional written offers. The highest level of savings was noted in the mining sector and reached about 15 million zloty. In the comparison with 2011 the level of savings in the electronic auctions reached the level of almost 121 mln zloty (in 2010 – 89 mln zloty).

3. DYNAMIC PURCHASING SYSTEM

The contracting authority may also set up a dynamic purchasing system and award the contracts under this system. The dynamic purchasing system is not a new award procedure but a new method of awarding the contracts in the form of pre-qualification system designed for the providers and aiming participation in the specific tender. It is regulated by the Articles 54 (7) of the Public Sector Directive and 56 (8) of the Utilities Directive as well as by the Articles 104 -109 of the Polish Public Procurement Law.

The dynamic purchasing system shall be set up for a period not longer than 4 years, however the system may be set up for a longer period of time for the reasons related to the object of contract and to the particular interests of the contracting authority. It is directly stressed, that the method may not be used to restrict competition. In the dynamic purchasing system the contracting authority shall dispatch declarations, requests, notices, invitations and other information by electronic means. Also all tenders, conducted under this system, must

be submitted by electronic means (in Poland additionally with a secure electronic signature verified by a valid qualified certificate). Beginning form the date of publication of the contract notice, the contracting authority shall make available on its website the specifications of the essential terms of contract and information about the dynamic purchasing system. In particular it shall be included the definition of the object of contract in the scope of dynamic purchasing system, the duration of the system, dates for awarding contracts and technical requirements for communication between public body and providers. In order to participate in the system, the contractors shall submit so called "indicative tenders" during the duration of the dynamic purchasing system. The entrepreneurs interested in particular tender shall submit the declaration of the compliance with the requirements to participate in the award procedure. The public body shall immediately inform the provider about its admission to participate in the system or about refusal to admit it to participate. The following measures constitute the pre-qualification method of all contractor interested in participation in the further particular tenders. In the next phase of commencing the particular procedure to award the contract under a dynamic purchasing system, the contracting authority shall post a simplified contract notice on its website. Then, the contracting authority shall commence a contract award procedure under the dynamic purchasing system by inviting all economic operators admitted to participate in the system to submit their tenders upon completing the evaluation of indicative tenders. All submitted tenders shall be evaluated solely on the basis of the criteria provided for the specification of the essential terms of contract.

4. ELECTRONIC BIDDING

In the Polish legal system were adopted some measures which are unknown in the European public procurement legal system. The electronic bidding is an additional award procedure characteristic for Polish law which can be conducted only for the under-the-threshold tenders. The provisions on that procedure are regulated in the articles 74-81 of Public Procurement Law.

Electronic bidding means contract award procedure in which using a form available on the website allowing to enter the necessary data on-line, economic operators shall submit successive more advantageous tenders (bid increments) subject to automatic classification. The notice informing about electronic bidding shall be published and the legal rules enumerate the insert of the notice. Afterwards, the public body shall fix the time limit for the submission of requests to participate in the electronic bidding and allow all entrepreneurs complying with the conditions for participation for the participation in the procedure. From the moment of opening till the closing of the electronic bidding all requests, declaration and other information shall be submitted by electronic means. Tenders submitted by particular economic operators shall be subject to automatic classification based on price. The contracting authority shall award the contract to the economic operator who offered the lowest price.

The Office of Public Procurement in Poland also adopted the special measures to promote electronic bidding by the application of free of charge E-Bidding Platform. In 2012 on the E-Bidding Platform were organised 359 electronic biddings. The savings reached the level of over 22,9 mln zloty. The highest level of savings was noted in the purchase and supply of paper with the savings on the level of 2.4 mln zloty.

5. CONCLUSIONS

E-procurement has the potential to bring significant efficiency in the public procurement market of the EU. It can help to improve the transparency and access to the procurement procedures especially to the small and medium sized enterprises and stimulate cross-border competition, innovation and growth in the Single Market. Electronic procurement can also achieve significant cost reduction by lowering the price that the public sector pays for supplies, services and public works but also by reducing the costs for economic operators. It shall be noted that an important advantage would be also reduction of the duration of procurement procedure.[13]

In the recent legislative package the Commission put forward the proposal of modernisation of the procurement system.[14] One of the objectives of these proposal is to achieve a full transition to e-procurement in the EU by the mid –2016 what means that all phases of the procurement from notification to payment shall be conducted electronically. The Commission's proposal encourages inter-operability between e-procurement systems and contains provisions designed to ensure that suppliers encounter no technical barriers when bidding on different systems.[15]

In December 2012 r. in Poland was adopted the Public Procurement Informatization Plan which was strongly influenced by E-procurement Strategy. The Plan constitutes the organisational and legal framework for fully electronic procurement procedure by an access to the special public teleinformatic procurement system which enables free of charge access. According to the Plan the invoice publication, access to the procurement documents, communication between contracting authority and entrepreneurs as well as offers and statements of contractors and award of the contract should be realized by teleinformatic system, special designed software and internet network.

Public Procurement Informatization Plan is addressed especially to the contractors and to the contracting authorities. The plan presumes the establishment of so called eProcurement system which will allow the free access for both national and foreign contractors from all EU Member States as well as from the other countries, which intend to offer their supplies, services and works on the Polish market.

Application of the eProcurement in the public procurement procedure shall stimulate the increment the economic and trade potential of the entrepreneurs. It will also allow:

- opening the public procurement market for the new contractors, especially small and medium sized entrepreneurs,
- increment of the competitiveness in the public procurement procedure by the fast access to the information about procurement procedure and full documentation,
- imitation of the costs generated in the traditional procurement procedure by decreasement of the personal and administrative expenditures, which are usually generated by preparation, execution and participation of the contractors,
- faster award of the best contract and possibility of concluding the contract between parties,

13 Communication from the Commission of 20 April 2012 A strategy for e-procurement, COM (2012) 179 final, p.3-4.

14 Proposal for a Directive of the European Parliament and of the Council on public procurement, COM (2011) 896 final; Proposal for a Directive of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal services sector COM (2011) 895 final

15 Communication from the Commission of 20 April 2012 A strategy for e-procurement, COM (2012) 179 final, p.6.

- increment of the transparency of the procedure,
- faster access to the procurement procedures which shall lead to the simplification of the public procurement.[16]

Concluding, it shall be noted that e-procurement could became an effective measure to assure the best value of money and increment of transparency in public procurement award procedure. However, the legal rules should be simplified and more flexible to allow easier access to the e-procurement for example strict requirement of presentation qualified electronic signature shall be abolished. It is also mentioned that e-procurement can create significant technical and technological problems in the implementation phase and will meet the challenge of compatibility with many different IT solutions. Thus, the software shall be available to external users on an open source basis.

The transition towards full e-procurement is above all economic and politic challenge, which could be overcome only by the strong commitment at highest political level so the e-Procurement would succeed only on the condition of the support from the party of all Member States of the EU, which are both contracting authorities and legislators.

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How to obtain public data and how to use them? Example of anonymous shares and public procurement in Czech Republic

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Structured Abstract

Purpose & Scope:
The aim of our paper is to identify whether there is a link between transparency of ownership of a company and its returns. Our focus are the winners of public tenders and we test if winners with anonymous ownership structure (bearer shares in paper form) have significantly higher revenues then their competitors with substantially more transparent form of ownership.

Design/methodology/approach:
For testing we use descriptive statistics including Mann-Whitney U test. We analyzed data that we scraped from the Information System of Public Procurement and semi-automatically cleansed.

Results/findings:
We identified that the non-transparent winners of public procurement have systemmically higher return on equity and return on investment than their competitors with more transparent form of ownership.

Conclusions:
Our findings suggest that the transparency of ownership matters when dealing with winners of public procurement. Our research thus supports the arguments for limiting the possibility of anonymous companies to participate in the public tenders.

Keywords: *Public procurement, anonymous bearer shares in paper form, transparency, return on equity*

Tackling the "Broadband Gap" in SEE Rural areas through PPP model

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Structured Abstract

Purpose & Scope:
General objective of the international project PPP4Broadband is to improve development of virtual accessibility through broadband development in SEE rural areas using PPP model.

Design/methodology/approach:
After identification of national frameworks of PPP and Broadband development partners will research 9 PPP models applicable in this field. The target groups of the project are actors in the field of development of virtual accessibility in excluded rural areas.

Results/findings:
The public actors will be encouraged to improve their knowledge and expertise in the field of broadband development, in usage of PPP models. National Centres of Excellence with role to provide knowledge, guidance (using developed PPP Models), standardization and experience will be established in each participating country. Whole concept of PP4Broadband project will be demonstrated by realization of 3 Investment preparation using PPP4Broadband models in 3 Regional testing areas.

Conclusions:
Developer solutions will be widely applicable and transferable across the SEE since they will reflect transnational experience and needs.

Keywords: *broadband, PPP (public private partnership), international, cooperation*

1 INTRODUCTION

South East Europe (SEE) area comprising non-EU MS, NMS and EU-15 MS is area with the biggest challenge in the matter of Broadband development to achieve i2010 or i2015 targets as it is seen from Digital Agenda Scoreboard 2011 for EU MS and from national reports available for some non-EU MS. Mainly Rural areas are affected by phenomenon of Broadband Gap where we can still identify alarming percentage of Inhabitants living fully excluded - with no Broadband coverage or with download rate below 256 kbps which is limit for classification as Broadband existence based on European Commission (EC). Aforementioned areas are affected by market failure as there is no interest of private providers to build infrastructure and public initiatives and activities substituting the private service are missing.

To solve those problems 16 partners from 9 countries across SEE territory joined force under the PPP4Broadband project focusing to develop transnational tools using PPP model for investment and operation of missing Broadband infrastructure.

PPP4Broadband project has been selected for financing in the 4th call of The South East Europe Transnational Cooperation Programme and is financed by European regional development fund (ERDF).

2 OBJECTIVES

The project with its focus on virtual accessibility development and enhancement follows the objectives of the programme "Improvement of the accessibility" concretely "Development of strategies to tackle the digital divide". The project directly addresses the virtual accessibility, more specifically broadband development under PPP scenarios which would enable the reduction of the need for physical travel and transportation to access services, information and thus enable the reduction of overall traffic volumes.

General objective of PPP4Broadband project is improvement the development of virtual accessibility through broadband development in SEE rural areas using PPP model. This solution is inspired by functional models with significant positive value of this model reducing the load of public investment which is most important limitation esp. in times of austerity measures. Project aim is to develop transnational tools, methodologies and guidelines targeting mainly public actors across SEE as PPP procurers, which is possible to achieve due to composition of partnership where representatives of EU-15, NMS and non-MS will bring their national expertise and frameworks to development of project outcomes, which will secure their usability across SEE.

3 METHODOLOGY

The project comes with a balanced mix of activities which are dedicated to the development of broadband in excluded rural areas under PPP scenario and to awareness raising and expertise improvement. To achieve these ultimate goals, the project will take several steps.

First, the national frameworks for PPP models will be explored since it is necessary to focus not only on what is best but to take into account what is possible and feasible as well. Thus, project partners will conduct mapping of national frameworks concerning the PPP legislation and initiatives for Information society development based on common templates and guidelines so that coherent and homogeneous outputs are gained in all involved regions.

Partners will then continue with research of PPP models for broadband development in three specific areas of interest based on used technology: fixed DSL broadband, other fixed broadband and mobile broadband. For each of these areas, a working group will be established not to split the focus. Following the research, 3 PPP4Broadband models for each specific type of broadband will be delivered comprising financial models and plans, cost-benefit analysis, impact analysis and overall PPP business model. Each working group will work out 3 models, thus, in sum 9 unique PPP models will be developed.

For popularization the PPP4Broadband models for the public administration sector, comprehensive Study and Guideline will be made available online and distributed in hardcopies to relevant public stakeholders. To support the overall effort of the project, Centres of Excellence (CoE) will be established in participating regions with the aim to provide the public actors with advisory, guidance and expertise on the broadband development under PPP models. The role of the centres will comprise also awareness raising activities, enhancing the expertise, development of common standards and delivery of Transnational action plan. The CoE will follow joint concept of operation and will create a network which will pertain after project closure. For further expertise and awareness raising, national trainings and a transnational one will be held focusing on the use of PPP models in broadband development and dissemination of the supportive tools developed within the project (CoEs and their services, Guideline, PPP procurement definition etc.). Key tool bringing developed services to end users (public actors) will be a web-based transnational portal - PPP4Broadband Centre of Excellence service.

To prove and to demonstrate the project concept, 3 realization teams will be set up to carry out the demonstration in the testing area. Within these demonstrations, 3 investments based on three selected PPP4Broadband models will be elaborated in the pre-defined testing regions and PPP procurement will be defined using the PPP4Braodband and CoE network services and finally, the PPP procurements will be launched in order to select the appropriate provider for the investment realization. To assure the best quality implementation, transnational monitoring and evaluation of the demonstration of the project concept in testing regions will be carried out together with study visits, which will provide the evaluators with a clear picture of the selected testing areas.

4 RESULTS/FINDINGS

Summary report about PPP & Broadband development frameworks at SEE level PPP4Braodband models researched - 9 unique models for three main types of broadband (3 models per each type - fixed DSL, other fixed and mobile broadband). Popularization of PPP4Broadband models among public administration users and dissemination of project Study & Guideline: Broadband development models using Private Public partnership in SEE. Centres of Excellence established and set into operation in all involved regions as a supportive tool for broadband development under PPP scenarios following joint concept for operation as part of PPP4Broadband Centres of Excellence Network. Transnational action plan ready for implementation after project closure. 18 national trainings + 1 transnational training targeting public bodies focused on use of PPP in Broadband development and the use of PPP4Broadband CoEs services. 3 investments prepared for the three testing regions drawing on three selected PPP models comprising financial models and plans, cost-benefit analysis, impact analysis and overall PPP business model. 3 PPP procurements in testing regions defined, prepared and launched drawing on the PPP4Broadband models and the network of CoE supportive services Continuous transnational monitoring and evaluation following common methodology developed within the project life.

5 IMPLICATION FOR RESEARCH/POLICY

The ultimate objectives of the project as well as the planned activities are highly relevant for the Community Cohesion Policy. The project brings several SEE regions together to join forces in addressing the common issue, thus, transnational experience is and will be further reflected in proposed solutions. The transnational character of the partnership allows for enhancing the cohesion of the SEE territory through development and implementation of common methodologies, concepts and activities and also through the joint cooperation, joint staffing and financing. Also the foreseen results, which will be made available, will thanks to their wide applicability and transferability contribute to the cohesion of the SEE territory.

The target groups of the project are actors in the field of development of virtual accessibility in excluded rural areas, namely regional/local public administrations, private providers of broadband, etc. These actors will be involved into the project by a mix of activities comprising dissemination, awareness raising and educational activities. The public actors will be encouraged to improve their knowledge and expertise in the field of broadband development, in usage of PPP models for broadband development and to help them to carry out the PPP procurement.

6 CONCLUSION

Developed solutions will be widely applicable and transferable across the SEE since they will reflect transnational experience and needs. Current EU initiatives will be reinforced by cross-fertilization actions, which will strengthen project´s transnational impact. At SEE level the project will strengthen the convergence and cohesion and will shift SEE closer to the information society.

Digital Governance from the perspective of Digital Future

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Structured Abstract

Purpose & Scope:
This paper would like to address critical problem of all eServices from the perspective of trustworthy long-term usage of electronic documents.

Design/methodology/approach:
Analyze different approaches in legislation methodology and usage of rules or standards on national and European level.

Results/findings:
There is a need and challenge of clear policies how to handle eServices and mainly electronic documents to guarantee Digital Continuity, Interoperability and Standardisation.

Conclusions:
The member states have to set up environment and processes for Digital Continuity. They have to assure that if anybody follows their "Directions" it minimizes the risk of wasting money and data lost. The opinion of the EU is that critical component of preservation infrastructure is the existence of a sufficient number of trusted organizations capable of storing, migrating, and providing access to digital collections. To create an overall climate of trust about the prospects of preserving digital information there is a need for a specific process of Audit and Certification.
There is not enough experience of long term preservation and mentioned regulations and procedures are the only way how to tell independently, that money has been spent well.

Keywords: *European Policies, Digital Governance, Digital Continuity, Digital Preservation, Interoperability and Standardisation, Knowledge management*

1 INTRODUCTION

One of the priorities of EU is the development of electronic services **eServices**.

Neelie Kroes Vice-President of the European Commission:

> „*The Digital Agenda is about helping online business to grow. And it's about an open Internet where innovation can continue to change our world.*"

> „*The Connecting Europe Facility is a big part of this - by promoting high-quality digital services like for cross-border public services.*" [1]

eServices cover whole range of services from eCommerce to eGovernment including eHealth, eJustice, … Most of such activities use or generate electronic documents. eServices brought to our tables millions of electronic documents for which there is no paper equivalent. If you would like to keep such documents for further usage in "good health" conditions, you have to take care of them. Such problem of long lasting trustworthy usage of digital data could be labelled as a "**Digital Continuity**".

We need to use such documents for a long time, therefore we have to store them properly. This rule is valid for any type material used to carry documents. You have to provide different care for document inscribed in stone, different for papyrus, different for paper and finally different for electronic one. Phenomenon of storing electronic documents is still quite new and therefore there are not yet enough experiences how to handle electronic documents with the purpose of staying well-preserved at least same time as the paper ones. If we talk about lifetime of electronic documents we come to quite different numbers. From 5-10 years in business environment to 50 or even 100 years in case of eHealth or eJustice documents. And such enormous numbers represent only active life of documents, but we have to prevent some documents for the future in archive, as well.

The question is how to arrange that electronic documents will be at our disposal at least the same time as the paper ones. Solving of this problem is not easy. This problem of long lasting trustworthy usage of digital data could be labelled as a "Digital Continuity". If we analyze the structure of digital data the largest volume represent electronic documents. Electronic documents have the largest yearly grow, as well.

Electronic documents are easy to use and have a lot of advantages compared with paper ones. This is possible due to usage of many modern information technologies. Such technologies made electronic documents even more secure than paper one. It is quite difficult during these days in sophisticated IT environment to destroy document completely and it is quite easy to trace whole life of electronic document, etc. On the other hand the usage of modern technologies brings a lot of other problems. Modern technologies do not stay too long; they are replaced by new ones. Such innovation cycle is from 5 to 10 years. We cannot imagine what technologies will be used to handle documents in the scope of 10 years and what about 50 years.

The goal of this paper is to show what we need to arrange that electronic documents will be at our disposal at least the same time as the paper ones. What legislation, regulations, standards, methodology and technologies we can use to satisfy our need: "Keeping digital resources accessible, understandable and easy to use"

2 CONCEPT OF DIGITAL CONTINUITY

Discussions about how to arrange "Digital Continuity" are quite serious. Digital Continuity has to deal with all the basic demands of long-term preservation:

- Authenticity
- Understandability
- Renderability
- Viability
- Integrity
- Identity
- Availability

How to solve it? There are two basic approaches that could be used these days.

First concept is to prolong the trustworthiness of digital object itself for ever. That means to use up-to-date technologies to keep electronic object and all its attributes valid. In this case such objects could be placed afterword in normal repositories available on the market. Such repositories are not responsible for "Digital Continuity", they store only objects on the basis what I stored I will get.

The second approach is to place such digital object during its active life (validity) into trustworthy repository. In that case you have to manage that you check the object and all its attributes (Ingest) before it is placed to the repository. The report about all the checks is generated and stored with the object. If all the checks are OK the object is placed to the repository. Such "Trustworthy repository" we can imagine like "Notary vault", which ensure, that stored documents will survive for ever. There is continuous care about stored objects. To fulfill such demand, the trusted repository will have to implement a lot of processes.

If anybody needs document stored in such repository, he will obtain a certified copy of originally stored document (new object). New issued object is generated with the usage of up to date technologies with 100% warranty for conformity to original object and there is direct link with original one.

3 METHODOLOGY AND REGULATIONS FOR DIGITAL CONTINUITY

Whole EU and member states themselves have to decide how they will solve problem of "Digital continuity" for already existing and future electronic documents. Solution of this problem is discussed on many levels: national legislation, information societies and even EU itself. EU already addressed number of attributes for such solutions. Like for instance EU directive 1999/93/ES regarding the usage of electronic signatures and related ETSI standards.

Last year, EU found out that there is no integrated frame how to handle trustworthy cross-border electronic communication. They came with the proposal of REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on electronic identification and trust services for electronic transactions in the internal market. In this regulation „Trust services" and usage of electronic documents are defined as one of main topics. Preservation of electronic documents is there as well.

(12) '**trust service**' means any electronic service consisting in the creation, verification, validation, handling and **preservation of** electronic signatures, electronic seals, electronic time stamps, **electronic documents**, electronic delivery services, website authentication, and electronic certificates, including certificates for electronic signature and for electronic seals; [2] It is clear, that the provider of „Trust Service" cannot declare them as „Trustworthy" by himself. There is an increasing need for evaluation of such „Trust Services".

In the Regulation is such demand fixed as well. Article 16 sets out the conditions for the supervision of qualified trust service providers and qualified trust services provided by them. It obliges qualified **trust service providers to be audited on a yearly basis by a recognized independent body** to confirm to the supervisory body that they fulfill the obligations laid down in the Regulation. [2] To be able to fulfill such conditions, some rules, norms and standards have to be issued.

Let us go back to our subject – long-term trustworthy preservation and talk about rules, norms and standards in this field. In the field of long-term trustworthy preservation European bodies are quite active and there are a couple of such materials available.

Regarding "Trustworthy" repositories there is already mentioned European Telecommunication and Standard Institute – ETSI issued Best Practices for secure long term document storage". This regulation is divided in two parts:

A) ETSI TS 101 533-1: Technical Specification

Information Preservation Systems Security
Part 1: Requirements for Implementing and Managing

B) ETSI TR 101 533-2: Technical Report

Information Preservation Systems Security
Part 2: Guidelines for Assessor [3]

As we can conclude from the titles, these regulations are concerned more with security than with processes how to handle such repositories.

Second portion of regulation rules how to handle "Trustworthy" repositories is contained in a couple of regulations prepared by ISO. These regulations have similar construction: First **ISO 16363** issued last year defines rules and processes how to handle trustworthy repositories to be ready for Audit and Certification according ISO 16363. Second one **ISO 16919** sets up requirements for bodies providing Audit and Certification. This ISO regulation is going to be published this year.

These two ISO regulations were prepared by workgroup called European Framework for Audit and Certification of Digital Repositories. This body also drafted three levels of certification of "Trustworthy" repositories.

4 SAMPLE TECHNOLOGY DESCRIPTION

There is another contribution of EU to problem of „Digital continuity". That is result of European Large Scale Project which are part of Digital Agenda of EU. There are five of them and their goal is to set some basic rules for electronic services in different area. For our subject of handling electronic documents is important SPOCS project.

SPOCS goal is to build basic stones to realize true cross- border interoperability. SPOCS defines couple of components like:

- eSignature
- eDocument
- eDelivery
- eSafe
- eServices & Syndication

The goal is to create common specifications, to make them public and freely available and to develop long term sustainability plans. For eDocuments the goal was to offer a multi-layered interoperability concept for crossborder exchange of electronic documents. Important approach for usage of electronic documents is by SPOCS defined as OCD - **Omnifarious Container-format for eDocuments**. This is a multi-layered container format, which is able to contain (wrap) any existing eDocument. An OCD is a logical structure which might be implemented through different technologies.

- OCD is divided into three logical layers:
- Payload layer - holds eDocuments….any format has to be expected as it has to accept the given documents issued by any the Member States
- Metadata layer - holds meta data of the document described by a common language; provides semantic interoperability
- Common Authentication layer - in addition to authentication elements (eSignatures) on the payload the whole container can be signed (visible signature)

OCD concept is ideal for storing such objects to Trustworthy repositories. But we can use the OCD concept even already in active lifetime of electronic documents. For instance in mentioned eHealth, eJustice etc. we are faced with aspects of "Digital Continuity" during active life of electronic documents. Everybody understands the case when IT applications in hospital are changed during years, but patient files has to stay. If hospital has new application, it has to migrate data from the old one. Migration sometimes is not easy and cost a lot. If both applications (old and new) are based on OCD concept, there is no migration neceseary. The same rule apply if you reorganize hospital and half of patients you passed to another hospital with different IT system or you need only to send patient file to some other hospital, even abroad.

5 CONCLUSION

This paper would like to address critical problems of using electronic documents within digital governance. The member states have to set up environment and processes for Digital Continuity. They have to assure that if anybody follows their "Directions" he minimize the risk of wasting money and data lost. The opinion of EU is that critical component of preservation infrastructure is the existence of a sufficient number of trusted organizations capable of storing, migrating, and providing access to digital collections. To create an overall climate of trust about the prospects of preserving digital information a process of Audit and Certification is needed.

There is not enough experience of long term preservation and mentioned regulations and procedures are the only way how to tell independently, that money has been spent well. We have to consider that Digital Continuity is a never ending process. Audit/certification provides information on which an organization can act to improve its performance and it has to be periodically repeated.

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Digital Agenda in EU regions

Regional DLA: innovative and value-added services to citizens

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Marta Pinto is an information manager. She holds a Master Degree in Information Science from the Faculdade de Engenharia da Universidade do Porto (Faculty of Engineering of University of Porto [FEUP]) where she developed expertise in the management of information systems. Currently collaborates with INESCTEC, gathering requirements of information systems and research on management of services for the development of electronic and digital inclusion.

Structured Abstract

Purpose & Scope:
The Digital Local Agenda (DLA) is a tool to develop and implement strategic processes to manage local and regional resources. It fosters cooperation and makes it possible to align strategies related to e-government solutions between municipalities and organizations within a region, as well as increase digital literacy, fight the digital divide, increase e-citizenship and provide effective e-government solutions to local authorities.

Design/methodology/approach:
The design, development and proper implementation of a Regional DLA is a structuring action offering high value services to citizens living in regions with lower technological and digital development.

Results/findings:
The Regional DLA is relevant when there aren't enough eGovernment services provided at a local level. In fact, these services are still very incipient in the national context as the visibility of the services being provided to the public is reduced, and the experience providing the services with the corresponding interoperability mechanisms is still scarce.

Conclusions:
Today the challenge is properly applying the Regional DLA methodology in each region. The aim is to provide a response to the enormous digital divide between the structure and eGov services provided by the central government and the corresponding local / regional government.

Keywords: *Regional DLA; eGOV; Electronic services*

1 INTRODUCTION

The Digital Local Agenda was first launched at the EISCO – European Information Society Conference as a response to the EU i2010 strategy. The i2010 strategy is a political framework designed for the information society and media which promotes the Information and Communication Technologies (ICT) and their benefits to economy, society and quality of life. The aim of the Digital Local Agenda was to implement a strategy to promote digital inclusion (e-Inclusion) in local administrations. Through the Cracow declaration, the strategy outlined 10 objectives to be implemented as part of the continuous development of e-Gov platforms. The objectives are: full access to online services, awareness and inclusion, security and privacy, e-Participation, e-Government, digital ecosystems and training centres, competitiveness and public-private partnerships, open source, training of civil servants, employment and gender and digital solidarity.

One of the relevant initiatives developed in the context of Digital Local Agenda was the CEMSDI project (Civil-servant Empowerment for Multi Media Service Delivery ICT-enabled), an inclusive project aimed at the empowerment of civil servants and other professionals, which are part of the supply chain of services provided to the citizen, in the territories where the levels of digital exclusion are higher. In this project, empowerment is seen as a tool to develop better processes for mediation between services provided by the municipalities/ regions and citizens.

The major outcome of the CEMSDI Project was to set the foundations and follow-up process for an integrated solution involving local/regional public administrations (as well as other public/private entities working in that area) to define, plan, execute and measure the effects of policies for e-Inclusion, e-Literacy, e-Participation and e-Government. To accomplish this objective a common methodology was developed (considering distinct European countries) and tested in several clusters of municipalities.

This solution, designated by Regional DLA (further referred as DLA), is similar to the Digital Agenda for Europe, and focuses on regions where the risks for digital exclusion are higher, as opposed to great urban centres, providing citizens in these regions with better value-added local government services.

This document is organized as follows: section 2 describes the context for the implementation of the Regional DLA; section 3 summarizes the methodology; section 4 provides an analysis of the major strengths, opportunities and threats. Finally, section 4 presents the most important conclusions.

2 CONTEXT

Social and digital exclusion are considered relevant problems that affect the quality of life of citizens and harm competitiveness. A high percentage of digitally excluded citizens already suffer from social exclusion, as they lack resources and skills that prevent them to keep up with technological evolution. Digital exclusion is higher in small municipalities, as compared to large municipalities where there is a reasonable degree of development in e-Government services. Higher population densities make investments in broadband infrastructures economically more viable. Consequently, as citizens in large municipalities have an easy access to the digital resources, they tend to develop higher levels of digital literacy. On the other hand, small municipalities have lower resources and budgets for technological investments and, moreover, low population densities make less economically viable to provide full broadband infrastructure coverage. Digital exclusion is also a consequence of proper or even lack of planning (or effective implementation) of regional integration policies: many of the services provided locally by municipalities are financed and developed by the organisations themselves, without a common and organised policy for coordination among the different local stakeholders.

An adequate Regional DLA implementation tries to overcome these problems by:

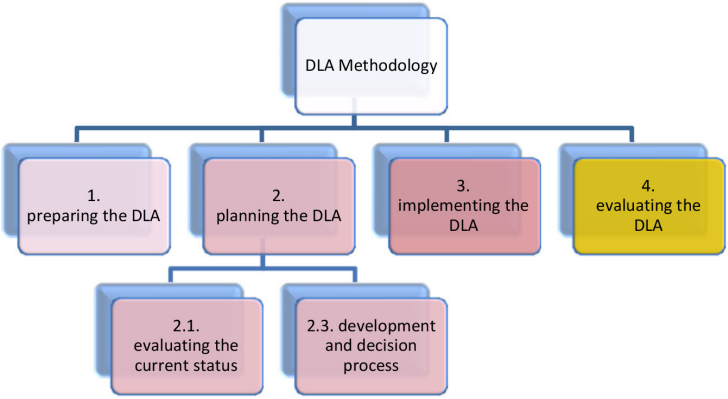
- increasing e-Participation of citizens in local decision-making;
- increasing levels of e-Inclusion, digital literacy and e-Empowerment for civil servants and for citizens facing digital exclusion;
- providing full broadband access and infrastructures for everyone;
- developing digital networks between local governments and the private sector that support e-Government and local development (ensuring secure transactions, interoperability, standard services);
- Enhancing municipal services in multi-channel environments, taking into account data quality, security and integrity aspects.

3 REGIONAL DLA METHODOLOGY

The DLA methodology, makes it possible to establish a common strategy and strong local networks with other public and private stakeholders (demand/using synergies) and allows for more structured decision-making. It also separates immediate tasks (that which is possible) and programmatic objectives (that which is desirable), the modernisation of organisations (staff training in ICT), better service provision (e-services) and new forms of dialogue with citizens, including the use of intermediaries to make the use of these services more effective in decision-making processes (e-participation) at a local level. In summary, the DLA is a process developing throughout the time that requires proper planning and a constant evolution on the part of the stakeholders. It is a political tool that can implement viable e-Gov strategies after identifying the citizen's real needs.

The current section summarizes the common DLA methodology (Figure 1). It encompasses all steps involving the preparation, planning, implementation and evaluation of the DLA at a regional level, to be applied to a municipality or cluster of municipalities.

Figure 1 - Regional DLA Methodology



3.1 DLA Preparation

This stage starts by identifying the municipalities and other public and private entities that need or that can benefit from the DLA intervention. The stakeholders participating in this stage are local/regional organisation capable and interested in contributing to the process, such as, elected representatives and representatives of local and regional public and private organizations. Next, the goal is to enhance common knowledge about the municipalities and about the region and to identify synergies between them and the relevance to the elaboration of the DLA. Finally the stakeholders should to agree on the Local Pact for the Information Society.

At the end, stakeholders should have a general vision on the key areas that are to be considered in the DLA strategy of modernisation of key public services. The success of this stage is assessed on indicators: political commitment, will to change, participation in the process. A strategic alignment for local authorities and other stakeholders is expected. Benefits from this alignment are: higher integration and standardisation of services provided to citizens; rationalisation of resources; higher probability for success implementing projects resulting from the DLA; and greater capacity to submit applications to regional, national and European structuring funding sources.

3.2 DLA Planning

Planning is divided into two stages: (a) the evaluation of the current status and (b) the development of the DLA. In the first, a detailed diagnosis of the current situation is performed with respect to: *e-Participation*; *e-Inclusion*; Digital communication networks; Secure digital infrastructures; *Municipal e-Services*; Rationalisation of resources. For each of these areas a SWOT analysis should also be performed.

The second stage consists in the definition of a vision (a statement describing the future state of the municipalities/cluster after the first round of the Regional DLA has been implemented), the definition of a set of strategic lines implementing the vision and their corresponding action plans. Stakeholders should use of the common knowledge, the diagnosis outputs and the set of goals defined to elaborate the Regional DLA. Goals should be grouped in strategic lines which should accommodate that:

- Local strategies are aligned with the Regional DLA strategy;
- Networking with other municipal/regional entities (such as hospitals, fire brigades, civil protection, social charities, health centres) is assured;
- There is an effective plan to disseminate new services, not only within organisations, but also to the citizens;
- A leader is appointed to each strategic line.

After it, is necessary to elaborate the corresponding action plans. For that, the best ideas should be listed/identified (through processes such as brainstorming, brain writing, affinity charts, etc.) and prioritized (based on criteria such as technical and financial feasibility, opportunity, social benefits, etc.). The definition of each project should take into consideration the project target (how many individuals does this target represents); the policy/strategy where the project fits; the problem it solves; the current way to solve the problem (if any) and why is it not satisfactory; the indicators which may demonstrate that the problem has been solved. Regarding project execution, in order to justify the most suitable development alternative, an assessment of the cost-benefit relation should be performed for each alternative, taking into consideration the return on investment, social return, time savings, financial resources, increase in the degree of satisfaction of citizens/human resources in the municipality, evaluation of organisational changes.

Finally the Regional DLA should be submitted for approval.

3.3 Regional DLA implementation

This stage is about project execution and management. Projects/action plans development outcomes and gains should be measured and supervised by the stakeholders or appointed people.

3.4 Regional DLA evaluation

The assessment of DLA should be performed for all projects, concerning: (a) the execution of the DLA (assessing the implementation, objectives and compliance with results); (b) the effects of the DLA in terms of gains (assessing the indicators defined for each project).

Only a continuous evaluation of the DLA makes it possible to assess the situation at any given time and to introduce changes that are necessary at a strategic level, in order to achieve goals more easily.

It is important to highlight that the DLA is not a static process for improvement and it must be reviewed periodically. Feedback from should be incorporated to enable continuous improvement.

4 REGIONAL DLA STRENGTHS, OPORTUNITIES AND THREATS

In this section we present the identified strengths, opportunities and threats that may result from a Regional DLA. Besides those previously mentioned, there are several other strengths associated to the Regional DLA, such as:

- Decisions are made in a structured way (differentiating immediate tasks, that which is possible, given the programmatic objectives, that which is desirable) and the region.
- It is possible to differentiate the issues and problems that can be solved by a single administration at a regional level.
- The needs are addressed in the regional plan so that it is possible to establish priorities with citizens and stakeholders involved.
- It allows comparative monitoring and benchmarking as part of a joint effort between the locations involved in the region, leading to homogeneous conditions in municipalities.
- It makes it possible to develop a more organised and sustainable resource (external or not) management process.

The main opportunities are:

- Rationalisation of resources: a well-planned regional DLA makes possible for stakeholders to rationalise resources. The idea of building clusters serves exactly that purpose. It is possible to outline the best way to share the resources required for a particular process.
- Consolidated structured decision-making. Decision-making is now made between different municipalities and stakeholders that share the same interests in a specific action plan.
- Empowerment of civil servants: training, empowering and developing the skills of civil servants allows these professionals to become more efficient and effective in the areas of e-Government. Civil servants can serve as mediators between e-Gov services and the citizens.
- Coordination between local/regional entities: this coordination allows organisations to increase intermediation with citizens, helping implement actions and to fight the lack of e-literacy.
- Promoting regional activities (with greater coverage and with more resources) to fight social exclusion. Local governments work together to fight the problems identified, such as social exclusion and consequent digital exclusion;
- Increasing citizen participation in public life. Citizens are invited to participate in the analysis and diagnosis of the services provided by the DLA. Citizens are informed on the state of development of the DLA and asked about the outcomes of the DLA.
- Providing public and general information to the citizens – with the participation of citizens in public life, and with their increased involvement in regional strategies to develop better e-services, it will be possible for them to have greater access to information and they will be aware of how they can benefit from the services available in their municipality. Another opportunity is to develop and provide electronic services according to the real needs of citizens.

The threats may have different nature, for example, they may come from the organisation itself, from the leadership team, from the implementation of the methodology, or even from the implementation and continuous improvement of the DLA. The following summarize threats grouped according to their nature.

- Organisational threats are those that arise from the organisations involved in developing and executing the DLA, such as, lack of political support from the elected representatives and lack of commitment from employees of the organisations involved. The first means that the elected representatives are involved from the early stages of developing the DLA, in the proper delegation of responsibilities, in the monitoring process, and in all activities within organisations demonstrating their political support. The later means that it is critical that all employees are motivated to participate actively in the construction of a regional DLA.
- Procedural threats. During the process, some errors may prove to be threats to the success of a Regional DLA, such as:
    - Poor selection or stakeholders will be a great obstacle to the entire development process. It is necessary to have a group of stakeholders that is really interested in and motivated to collaborate.
    - Lack of proper planning by all members involved;
    - Inability to communicate the objectives and benefits within the organisations.
    - The implementation of action plans is "freewheeling", which means that there is no control, measurement, feedback and corrective actions.
- External threats, such as The DLA not being acknowledged as a strategic planning process. If the DLA is not understood as a process that follows a predefined strategy, there may easily be mistakes that can jeopardize the good results of the project.

5 CONCLUSIONS

The DLA methodology presented here is a response to a real problem in many parts of Europe: the digital divide. This problem usually arises due to inequalities and reduced technology investments in these regions, and due to the lack of strategic planning (or actual implementation) for integration policies at a regional level. Presently, the challenge is to apply an integrated methodology for planning e-government in the regional public administration – the Regional DLA methodology. This methodology encompasses all steps, from preparing, planning, implementing and finally evaluating the results according to the objectives outlined initially, aiming to provide corrective measures and introduce continuous improvements.

The DLA is a regional instrument that meets the challenges of a region, allowing for a strategic alignment between private and public organisations and municipalities to turn ICTs into one of the supporting pillars of economic, social and public administration activities. The ultimate goal is to improve the living conditions of citizens and business competitiveness.

This approach presents several opportunities and advantages, such as a better use of resources, cost reduction, more structured decision-making, the empowerment of civil servants, joint actions between local/regional entities, increase citizen participation in public life, more public and general information available to the citizen.

It is considered that the greatest threats come directly from the organisation itself, for instance due to the lack of political support by the elected representatives and incorrect delegation of competences: considering that the application of the DLA methodology in a region results in a set of strategic guidelines, action plans and projects, it is essential to execute and control the projects and evaluate the results. For this purpose, it is essential to define a hierarchy to assign responsibilities for monitoring and evaluating the implementation. The elected representatives should be on top of this hierarchy providing political support. No less important is an effective – and comprehensive – communication on the implementation of the Regional DLA, not only within organisations but also to citizens.

The lack of commitment on the part of employees of the organisations involved, or even conducting strategic planning activities that subsequently do not lead to the implementation of action plans), is another threat. No less relevant are the procedural threats, arising from a poor execution of the DLA methodology. Other threats are the poor selection or insufficient stakeholders, the inability to communicate the objectives and benefits of applying the DLA within organisations, executing action plans in "freewheel", that is, without control, without measurement, feedback and corrective actions or incorporation of improvements. Finally, the external threats are all the variables that cannot be controlled, such as changes in legislation by the central government and the inability to develop a real comprehensive broadband infrastructure.

In respect of these problems, more recently, the solution was to establish an extensive collaboration between municipalities and, often, organise them into regional clusters. This means that municipalities are strategically aligned and resources are shared in the context of a DLA accepted by the municipalities of each cluster, without losing their autonomy.

The definition of a Digital Local Agenda is thus a practical instrument of digital and social inclusion in the regions that makes it possible to rationalise costs and take advantage of the knowledge in each organisation. Simultaneously, this instrument ensures a broad access to services across a region, thus strongly contributing to equality, prosperity and competitiveness in the regions.

Local digital agenda in Visegrad Four countries and new ICT strategy of the City of Prague

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Structured Abstract

Purpose:
To present outputs of the project/study LDA-V4 done in V4 countries (CZ, HU, PL, SK), co-ordinated by the Vysocina region and parters from all V4 countries including Prague. Within this framework analyze the strategic approach of the City of Prague.

Design/methodology/approach:
General analytic/methodical preparatory activities (EU and national strategies, programmes, state evaluation, organization, association of local and regional governments etc.). Benchmarking and use of available statistical data. Best practices (examples of best practice of chosen towns and regions of each V4 country). Wording of opportunities and recommendations. Providing exchange of experience and promotion.

Results/findings:
Observations and recommendations focused on ICT usage in the local and regional governments in several areas. The evaluation was focused on perception of the meaning of ICT in the context of other developing priorities and needs of the municipal governments, on the priority topics from the area of informatization, achieved success, problems to be solved, implementation of strategic planning, relation between the municipal governments and the state, cooperation on the international scale, mechanisms of financing ICT projects and other observations and comments.

Conclusions:
The strategic approach, cooperation in similar projects, analyses, benchmarking, experience sharing and good practice promotion is contributory to further measures in modernisation of public administration using ICT in regions, towns and municipalities in V4 countries and within the European framework.

Keywords: *Local digital agenda, Visegrad Four countries, strategy, statistical data, benchmarking, best practices*

Towards the Regional Smart Specialisation Strategy: the role of ICT: "The ICTs in the paths of innovation in the regional system"

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Structured Abstract

Purpose:
The presentation describes the role of ICTs in the defintion of the new smart specialisation strategy, in order to identify new innovation needs (Europe 2020) and better shape the intervention in the field of innovation R&D to structure the next regional Digital Agenda and support the Piedmont specilisation strategy.

Design/methodology/approach:
Following the Smart specilisation approach, a new perspective to design ICT interventions and the 2014-2020 Regional Digital Agenda has been applied

Results/findings:
ICT can play different roles in the S3 strategy, as key enabling technologies for economic specialisations under definition , an ex-ante condition necessary to launch a new innovation strategy and a government mission to improve efficient e-government services.

Conclusions:
The new approach is representing an opportunity to re-define a regional digital agenda linking a dedicated and targeted Structural Fund support, by focusing on policy support and investments on key priorities and ICT-related measures, getting stakeholders involved, encouraging innovation and experimentation.

Keywords: *Piedmont, innovation, broadband, digital agenda, e-government, smart specialisation strategy*

ICT infrastructures and social participation improvement in Piedmont

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Structured Abstract

Purpose:
The aim is to identify 'golden rules' for the creation and diffusion of broadband in order to accelerate the growth of the Internet services use.

Design/methodology/approach:
This paper, based on a recent research:" the "Regional ICT Infrastructures and the Development of High Intensity Knowledge Activity and Services", carried out in Piedmont, with survey, case studies and deep interviews will offer a critical table of data concerning the diffusion and quality of infrastructures and services

Results/findings:
According to the results of that research, the diffusion of NGNs represents a basic but not yet not sufficient - condition for social local development and participation. More important are the organization and aggregation patterns adopted by the several subjects.]

Conclusions:
The twenty Wi-Fi case studies analyzed may become laboratories in which new governance practices such as 'open government', the use of pervasive social networks, and the transmission of open data can be experimented.

Keywords: *Piedmont innovation, broadband, WI-Fi, social participation, cooperation, , e-government, e-governance*

1 INTRODUCTION

In this paper the results of a recent research" the "Regional ICT Infrastructures and the Development of High Intensity Knowledge Activity and Services" are described. The research, carried out in Piedmont, analyzes case studies and deep interviews aimed to identify better conditions for the creation and diffusion of broadband in order to accelerate the growth of the Internet services use.[1] According to the research results, the diffusion of technologies, such as broadband, NGNs, etc., represents a necessary – but not sufficient - condition for social local development. Much more important are the organization and aggregation patterns adopted by the several subjects operating in the mentioned territory. For this purpose, twenty Wi-Fi case studies have been analyzed. Wi-Fi technologies have undergone a substantial development in the region of Piedmont through the so called "Wi PIE" program, because they remedy the problems due to the infrastructural digital divide relative to diffusion, quality, extent of access, and digital inclusion. Furthermore, Wi-Fi structures can be considered laboratories in which it is easy to test new concrete practices of public-private cooperation and participation among institutions, economic and social actors .

2 RESEARCH DESIGN AND METHODOLOGY

2.1 Broadband penetration in Piedmont. An overview

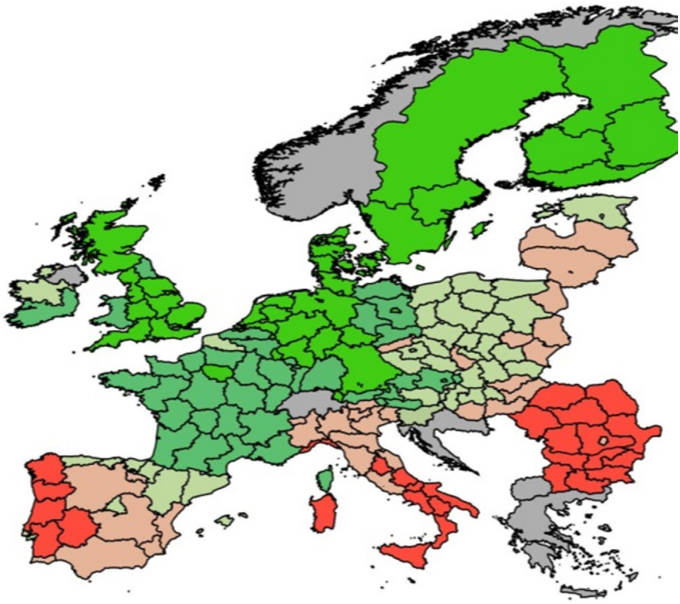
The general data on dissemination and use of ICT in Piedmont, mainly collected by the regional ICT Observatory[2] (PICTO in the following), depict a situation more positive in Piedmont than in the country as a whole. Nevertheless, the region has not improved its position with respect to the countries of northern Europe. One can argue that Piedmont is the 'watershed' between advanced regions like the Nordic countries – but also countries such as France and Germany - and the laggard ones of southern Europe. Fig.1

The real problem, which puts Piedmont below the European average, concerns the quality of connection [5]. Compared with 2009, in fact, the percentage of respondents to PICTO declaring themselves 'very satisfied' has decreased from 33% to 25%; conversely, those declaring themselves 'not very' or 'not at all' satisfied has increased from 16% to 18%. In turn, 15% of firms complain of a marked discrepancy between the quantity of nominal connection offered and the real amount.

1 The research in question is part of a three-year project (2010-2012) conducted in six Working Packages at the Dipartimento di Scienze Sociali of the University of Turin (now Dipartimento Culture Politica Società) and entitled Progetto E.R.I.CA. "The Institutional and Cultural Roots of Development in a Knowledge-Based Society. Enriching Regional Innovation Capabilities in the Service Economy". The project has been carried out with funding allocated by the Bando Scienze Umane e Sociali 2008 of the Piedmont Region. The Working Package 2 "Regional ICT Infrastructures and development of High Intensity Knowledge Actvity and Services (HIKAS)" is concerned with the research referred to here. The data have been collected using survey and qualitative techniques through (a) long interviews with around 60 respondents and key informants, the large majority of whom are entrepreneurs in the various sectors ICT and new technologies sectors, as well as manufacturing and services, but also local officials and heads of training and development initiatives (development poles, incubators, etc.), selected according to a matched sample in three of the seven Piedmontese provinces (Torino, Cuneo, Novara); (b) collection and analysis of case studies

2 Piedmont ICT Observatory. For further details look at http://www.osservatorioict.piemonte.it/en/

Figure 1 A digital profile of European Regions[3]



Source :Elaboration on Eurostat Regional Data on Information Society

In regard to the public administration, to be highlighted is that, despite broadband coverage of 90%, about 10% of municipalities have a digital strategy.

As regards schools, 72% have Internet access, though of poor quality.

Still stable at 85% coverage is broadband connection among firms, although there has been an increase in those using a 20 Mb connection.

The poor quality of broadband also prevents the public administration from satisfying the increasing public demand for interactive and transactive services. Apparent, in fact, is a wide gap in the population between the use of private services like homebanking and e-commerce (50%), and public ones (15%). Thanks to the new kinds of services delivery, also driven by the diffusion of mobile technologies activities performed online have increased. Moreover, there is growing demand in all age groups for information about specific territorial conditions that would be enhanced with georeferencing services [6].

Piedmont exhibits growth at three speeds – high for citizens, modest for the public administration, and stable for firms – which suggests the growing presence of citizens ready to make active use of ICTs and the territorial applications connected with them, table 1.

3 The map is drawn by considering a synthetic index calculated on the basis of four indicators available in Eurostat regional database: household with access to the Internet at home, household with Broadband access, individual using Internet regularly, individuals who ordered goods or services over the Internet for private use

Table 1 - ICT Diffusion and trend in Piedmont

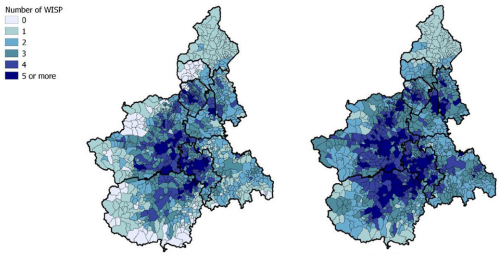
		20012	*2015*
DIFFUSION	**Municipalities**	100% fixed connection 2Mb	*100% at 10Mb*
		93% one Wi-Fi operator	*90% more operators*
		60% mobile UMTS	*LTE*
	Families	70% almost 2Mb	*100% at 10Mb*
		75% owns a PC	*100% different devices*
	Firms	85% 2Mb	*100% at 10Mb*
		85% are on the web	*all*
APPROPRIATION	**PA (Public Administration)**	85% informative services	*PA Collaboration*
		10% interactive services	*50%*
	Families	50% on-line buying+ banking	20% buying on line cross border
		15% services devices vs. PA	*50%*
	Firms	70% on-line purchasing + banking	*100%*
		10% on-line selling	*33%*
		45% devices vs. PA	*70%*

Source: Piedmont ICT Observatory, C. Inguaggiato

The poor quality of broadband and also a poor quality of administrative services restricts opportunities to disseminate and exploit the resources offered by digital convergence and the new Web 2.0 applications. We refer to the potential of the Social Web, user-generated content, and social networking and crowd sourcing systems for building forms of self-organization or social and professional organization, and developing new forms of participatory communication.

The values in the table above highlight the difference between technology diffusion and the adoption and active use of new technologies Our research based on case study analysis of Wi-Fi structures using a qualitative methodology including in-depth interviews with institutions, associations and research representatives and entrepreneurs, and an analysis of documents, websites, and local journals put in evidence that besides structural factors and socio-demographic variables, an active use is conditioned by factors connected with the opportunities for social interaction provided by the context in which citizens live. Wi-Fi structures closely embedded in local communities can fulfill the social and technological model that combines technological functionality with social relations [2].

Figure 2 Wireless Internet Services Provider in Piedmont Municipalities, 2011 2013



Source: WI-PIE project, http://www.wi-pie.org/cms/

In the last years many initiatives have been developed in Piedmont producing an effective reduction of digital divide through the diffusion of wireless broadband connection, fig.2.

The WI-FI cases analyzed in the provinces of Turin, Cuneo and Novara. concern :seven mountain communities, twelve municipalities (among whom three small hill towns), and one neighborhood network in a big city.

3 RESULT ANALYSIS AND DISCUSSION

Here are summarized the main results of research

1. Of particular interest in Piedmont is the key role played by public institutions as well as research institutions, university, technical high school and economic actors, firms o merchant association compared to that of citizens.

Unlike regions such as the North Est., or Lazio and Campania, in Piedmont , for example, is weak the presence of citizen community such as Ninux . This community aiming to achieve free wireless networks in Italy adheres to the Wireless Commons Manifesto in line with the philosophy of sharing open source technologies, fig.3.

Figure 3 Ninux nodes in Italy

Source : http://map.ninux.org/

This is probably due to legislative regional policies and to the program WIPIE that has considered W-Fi an important instrument for local development. Furthermore Piedmont has pioneering three important regional laws finalized, for example, to supporting the creation of free and open Wi-Fi access services, to building open data archives and to promoting the use of open source software in the public administration.[4]

Of the 20 case studies analyzed in our research two were promoted by research centres, seven by firms, two by technological high-school, two by Merchant's Association, seven by public institutions and administrator

4 Regione Piemonte, L.R. 26 March 2009, no. 9, Norme in materia di pluralismo informatico, sull'adozione e la diffusione del software libero e sulla portabilità dei documenti informatici nella pubblica amministrazione; L.R. 22 April 2011, no. 5, Interventi a sostegno della realizzazione di servizi di accesso Wi-Fi gratuiti e aperti; L.R. 23 December 2012, no. 24, Disposizioni in materia di pubblicazione tramite la rete internet e di riutilizzo dei documenti e dei dati pubblici dell'amministrazione regionale.

Since 2008, the Municipality of Novara, in collaboration with a high tech school the ITIS FAUSER (the main ISP in Novara), has provided citizens with free points of access to the civic fibre optics network via Wi-Fi.

Ascom (Merchant's association) of Bra (30.000 habitants) , in collaboration with the town administration, has undertaken one of the first municipal wireless projects in Italy: Bra-in.[5] This is a service which furnishes free Internet access around the clock, at a speed of 4Mbs, to the commercial, institutional and residential sectors in the Bra area. The installation work was contracted to a local company, which cooperated with other small firms in the area.

Even in Cuneo (50,000 inhabitants) Ascom has offered free mobile connectivity to residents and tourists in order to improve tourism and local marketing.[6]

Cooperation between Turin Polytechnic and the Municipality of Verrua Savoia (1473 habitants) made economically sustainable the construction of local Wi-Fi networks.

The Trampoline company – a small start-up by the Turin Polytechnic Incubator – has made available to public bodies and businesses in the Susa Valley a web portal based on open-source technology with which a business can be promoted directly on the smart phones of clients. The portal easy to navigate, inexpensive can be enriched by bars, hotels or public agencies with tourist and commercial information, value-added digital services, and services to citizens for marketing or e-commerce purposes. The project foresees the construction of a federated and participatory network supported by the Ascom of the province of Turin.

In the San Salvario neighbourhood of Turin, the Bandablu.it project, promoted by an ICT company, is intending to create a civic network using the Wi-Fi mesh technology mentioned above. The network's self-generating and self-managing configuration makes it possible to transform non-communicating networks into a single wireless infrastructure. The service is free for resident users and periodic ones like tourists, workers on transfer, and students. A paid-for service is available to professional users, retailers and private individuals requiring particular services, while investors, sponsor companies, and the public authorities use the service in exchange for contributions to the network's improvement.

2. Creation of Wi- Fi is giving rise to interesting forms of partnership and cooperation among social actors

In the case of Orco and Soana Valleys (VOS) the research centre CSP mediated among the public administration, firms, citizens, and businesses to create a wireless broadband network for economic development in eleven municipalities located in the valleys and offer connection to people and business.[7]

An example of cooperation between private business and institutions is provided by the O'wi-fi. project,[8] an open source wireless solution, on the basis of which four projects were completed in 2006 to reduce the digital divide in Valsessera, Valsesia, Alta Valle Susa and Alta Langa. In these areas, thanks to collaboration between the Alta Langa mountain community and the company furnishing the O'wi-fi wireless technology, the most extensive European

5 The choice of the acronym Bra-Internet (from the English word brain) highlights the initiative's cognitive, informatic and cultural nature. www.bra-in.net

6 www.ilporticone.com

7 http://wipie.csp.it/vos/

8 The case studies have also been presented during the workshop of the OSSERVATORIO ICT DEL PIEMONTE: Informazione e comunicazione di prossimità nella società globale: i Sistemi di Telematica Civica a base territoriale organized by Mariella Berra and Sylvie Ocelli, 7 February 2006.

region covered by broadband in a Wi-Fi mesh mode was created in 2007. The network covers 21 municipalities for a total of 8,000 citizens and a surface are of 21,000 square furnishing good connectivity services to the public administration, businesses, and citizens.

Of great interest is the project Free Italy Wi-Fi, promoted by Province of Rome. In order to diffuse capillary NGN's over the whole Italian territory making Internet connections available and less costly[9] Roma province has developed jointly with the Caspur university consortium an open source kit that enables the creation of public Wi-Fi networks . Today there are 2.114 hot spot and 41 federate net . In Piedmont, 12 neighbourhood of Turin , and the town of Rivoli, Ivrea , Alba, Bra e Fossano are part of this network. Bra and Alba and Fossano are also cooperating with closer little towns in order to extend connectivity and its related services.

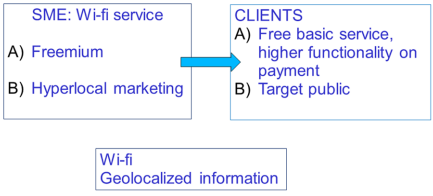
An other interesting experience was created in Italy by The Unidata company, supported by Wired Italia magazine, which had launched the Wi-Fi 150 campaign. Among the 150 municipalities involved, those in Piedmont are Grugliasco, Piossasco, Savigliano and Circoscrizione 2 of Turin,

3. The independence of ISP previously often managed by large phone companies, has give risen to a pluralistic market for supplying infrastructures and services, and for developing new hardware and software applications and innovative tools. For many ICT firms the construction of wifi networks provided an opportunity for a new business activity or a reconversion from an old one. The creation of this infrastructures is representing also an opportunity for firms and business located in the territory to produce and supply new high tech services and activities in communication and multimedia fields. According our analysis 30 SMEs are involved in the mentioned process .

4. These infrastructures can help to overcome the digital divide that affects non only objectively disadvantaged people, but those who do not see any utility in the Internet use. A thorough communication and effective citizens education for making them aware of the benefits of internet and dematerialization processes has been realized offering training to elderly population,or providing them with recycled notebooks or giving free access to local schools. For example in the above mentioned case of VOS, CSP researchers have organized meeting for six months in order to learn about users expectation and earn their thrust.

5. It concerns the role of reciprocity in addressing the forms of cooperation non only in offering training support but also in addressing the 'business models". In the case examined it goes from supplying free wi-fi services, aimed to bridge the digital divide, to hybrid forms of free and paid services according to the to freemium economic model[1].

Figure 4 Business Model



9 http://www.freeitaliawifi.it/drupal7

6. They are occasions to experiment innovative and less costly technologies to build an efficiently and effectively network infrastructure.

These are related to the use of open source software (e.g. WiFi mesh) and also of alternative sources of electricity supply. In the case of Cellarengo, an interesting example of public and private partnership, Wi Fi infrastructure represents the first experience in Europe using as fuel solar, windy energy and hydrogen.

7. They are an integral part of the technological infrastructures of the government to build civic or community networks providing government information and services and develop forms of e-governance. As for public administration, the experience gained so far indicates that achieving the goal of facilitating the participation of social economic actors, through the employment of these technologies, implies strong organizational and cultural innovation change both in its the management of the organization and use of communications [5].

3. CONCLUSIONS

The analysis of the case highlights the difficulty of creating a relationship of trust with users; citizens and also firms. Training, involvement in participatory activities, communication, information and an offer partially or totally free of services can be a way to establish a relationship of mutual trust and improve a social dialogue.

A further difficulty concerns the weak network of competent local firms in order to implement a process of technological transfer by the promoters to the local operators.

In order to overcome these difficulties that can prevent from make experiences sustainable and repeatable it is necessary to create a virtuous circle of public private partnership. Promoters and participants may have a whole knowledge of the local and socio-technical system. Furthermore is crucial to consider the active users networks. In the Web 2.0 citizens play an important role in updating and diffusing information such as i.e. Wi- Fi locations. .For this purpose a dialogue between public institutions and digital cultures has to be improved.

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Smart Citizens in Smart Cities

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Head of the Manchester Digital Development Agency (MDDA), Manchester City Council. MDDA runs the Manchester Living Lab, an innovation centre using digital technologies to support smart, inclusive and sustainable economic growth. MDDA coordinates strategic initiatives and European funded projects, including through the Future Internet enabled services in 'Smart Cities' programme.

Structured Abstract

Purpose& Scope:
To consider the concept of the 'Smart City' and the role of citizens as active agents of change within it through a case study of Manchester's experience of working to create a more inclusive, creative and sustainable city, through more imaginative uses of digital technologies with commitments to open data, open innovation and the co-production of new and innovative services.
Design/methodology/approach:
Working with user driven open innovation to drive practical examples of co-production through the use of digital technologies.

Results/findings:
Engaging citizens in the active co-production of content and services through innovative uses of digital technologies, including open data, leads to more open governance and a more inclusive and sustainable city.

Conclusions:
Social innovation is just as important as technological innovation in enabling smart, inclusive and sustainable cities.

Keywords: *smart cities, inclusion, creativity, open innovation, co-production*.

ENGAGE: High Speed Broadband for Rural Europe

Clive Peckham
Nièvre Numérique, Nevers, France

Biographical Details: *Currently European Project Officer with Nièvre Numérique, a joint public authority in Burgundy established to ensure universal High Speed Broadband access throughout this rural corner of France and provide support services to help users make the most of the internet*

Structured Abstract

Purpose & Scope:
ICT is a key factor in helping rural areas develop their economies; there is however a significant rural-urban gap in broadband coverage. ENGAGE is helping rural regions across Europe develop High Speed Broadband (HSB) networks at efficient cost.

Project methodology:
Following thematic workshops, study visits, staff exchanges, the creation of an HSB experts network and Political Forum ENGAGE will make recommendations to EC, national/regional authorities to assist them in making more focused HSB investments.

Design/methodology/approach:
To develop a network of committed European regions, HSB experts and elected representatives to give practical and political support to development of HSB networks and policies that benefit all rural Europe.

Results/findings:
Need to get fibre as close as possible to end-users.
Create observatories to provide information that can create real social and economic benefits and services to help users make the most of the internet.

Conclusions:
Joint action key to end digital divide.

Keywords: *Broadband ICT Rural Social Economic Development*

Structural Funds for eGovernment in Slovakia – driver or inhibitor?

Michal Ivantyšin
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Biographical Details: *ITAPA is the key annual Slovakian congress related to eGovernment. In the Slovak national government, Michal has being previously the Director General of Managing Authority (Operational Program for the Informatisation of Society), Deputy Government Plenipotentiary for the Informatisation of Society, Director of Strategy and Planning Department (Prime Minister's Office).*

Structured Abstract

Purpose & Scope:
Taken from today's perspective the impact of structural funds in Slovakia has mixed results. At first, the structural funds were considered the major driver for ICT development. However, goals have not been met yet and consequently the development of eGovernment services in Slovakia is much slower compared to initial implementation plan. The presentation deals with underlying causes why this happened.

Conclusions:
The presentation depicts strong recommendation for the future programming period. As such, a Slovak experience might be interesting for every country which considers utilization of structural funds for ICT development.

Keywords: *Structural Funds, ICT development, eGovernment services*

Re-thinking citizens' participation

The Made in Lambeth story

Tom Rowley - Good for Nothing
Nathan Pierce, Sophie Tarnoy - Lambeth Council

Biographical Details*: Tom Rowley is co-founder of the Good for Nothing collaborative movement - www.goodfornothing.com. He graduated from Cambridge University with an MA in Modern Languages. Tom worked for WPP in insight, innovation and design for ten years co-creating new product and service offers with user audiences around the world. He is now applying his expertise to developing hybrid on and offline platforms to catalyse co-production and co-design of local ventures and services between councils and engaged citizens. In 2012 he successfully prototyped a new hybrid on-offline coproduction programme with Lambeth Council in the UK. The programme is now being rolled out across the council and the team are in discussions to develop the approach with a series of other councils across the UK.*

Structured Abstract

Purpose & Scope:
The Made in Lambeth story -Growing strong local collaboration communities through on and offline platform creation

Design/methodology/approach:
Lambeth Council PEP and the Good for Nothing collaborative community

Results/findings:
Results have been real outcomes: a new website; design documents and options for usage of space; new ideas for green areas etc. Please see video: http://vimeo.com/54444083

Conclusions:
What makes an active engaged community of local collaborators? This paper shares insights into the drivers behind the emergence of the Made In Lambeth maker community. Over the last eight months Lambeth Council and Good for Nothing (www.Goodfornothing.com) have been developing hybrid online and offline approaches to putting local citizens at the heart of local service innovation and development.
The paper will explore the role of online challenge setting in recruiting and engaging talented local makers and doers. It will explain how the application of theories around open space and agile software development have helped to create offline spaces where collaboration between council and local citizens can produce strong tangible outputs with long term benefits for the local area.

Keywords: *Coproduction, collaboration, local commissioning, merging online and offline, boosting the local economy, engaging young people and creating a cohesive and strong local community.*

1 INTRODUCTION

Lambeth is becoming the UK's first cooperative council. This means in future the council wants to do things with local people instead of doing things to them. Lambeth council believe that when you give residents more power, together with appropriate support, services from housing to street cleaning to care for the elderly will improve and communities will become stronger.

Lambeth is putting the citizen at the heart of everything it does. A key challenge in this is how to engage local people in developing local services. The consultation and market research approaches UK council's have traditionally used to engage local audiences lack the openness and the level of interaction required for citizens to feel like cooperative partners. In addition people are not aware of the changes Lambeth is introducing and so do not know they can be more involved. Against this backdrop the council is looking for fresh approaches and tools to:

1. Help communicate the council's new approaches to more people in the borough and especially people with the skills to help shape service strategy and a prototyping in a more hands on way e.g. people with experience starting and running ventures, people with design and communication skills and people with digital and web development skills.
2. Develop co-production approaches that can harness local peoples' skills to identify issues, tackle local challenges bring new services to life.
3. Develop co-production capacity and skills within the council organisation.

Good for Nothing (GFN) www.goodfornothing.com is a global free movement which catalyses for social action across hard to reach audiences. Good for Nothing's development has been supported by NESTA the UK innovation foundation. Through 24-48 hour collaboration events focused on experiential challenges and a digital platform, GFN encourages the giving of time, skills and expertise to accelerate grassroots social and environmental causes. There is no financial incentive, hence Good for Nothing.

Good for Nothing's mission is also about promoting collaborative and open ways of working. The playful, energetic and experiential approach chimes with professionals encouraging them to give their time and skills. GFN is currently growing via 2 different audiences. First, the core community emerged from the creative services industry. Strategists, web developers, copywriters, designers and more make up the 1000+ members of the global community who have contributed to GFN events and helped over 30 social enterprises over the last 24 months. The second key audience are social enterprises and community organisations. GFN represents a revolution in creating social impact by making the process of volunteering more engaging, more productive and more socially cohesive.

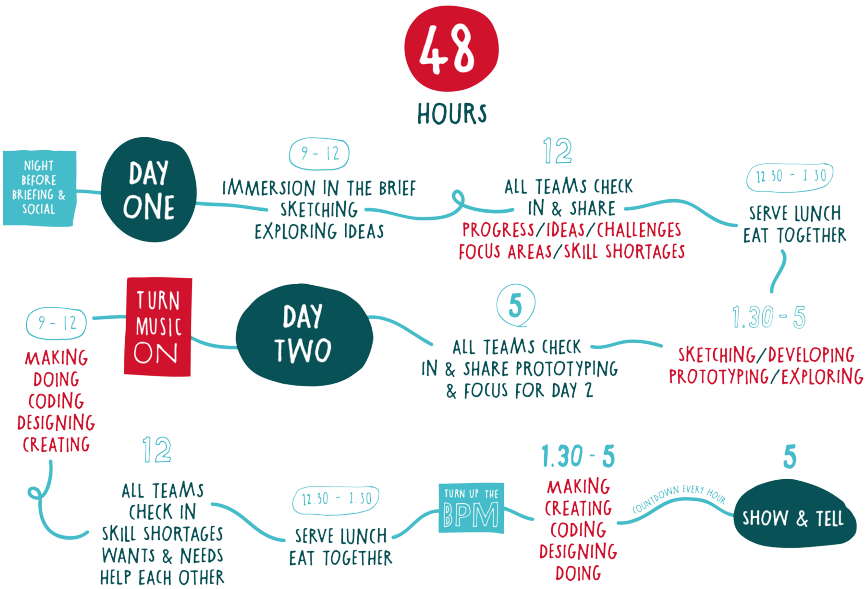
In early 2012 contact was made between Good for Nothing and the Policy and Equities and Performance (PEP) office of Lambeth Borough Council in London. The teams agreed to co-develop a programme of Lambeth Good for Nothing events designed to explore new forms of online and offline co-production and collaboration between the council and citizens. To date the programme has conducted two 48hr events recruited online through the Good for Nothing digital platform and is building a community of local citizens who are actively assisting the development of new services.

This paper tells the story of the first 12 months of the 'Made in Lambeth', highlighting the key lessons the team has learnt around connecting with citizens and engaging them in local service development through online and offline activity.

2 THE STORY OF THE EVENTS

Finding engaging challenges that can motivate local citizens to volunteer their skills is core to the Made in Lambeth and GFN approach. Each event features three challenges. The challenges are posted online in the run up to the event so citizens can gauge their interest and assess the relevance of their skills. Given the need to reach out to different facets of the community the challenges encompass online and offline elements.

Figure 1. The shape of a Made in Lambeth / Good for Nothing event:



Example challenge - developing Lambeth council's online presence to better reflect the cooperative mission: Gather together key stakeholders from across the community to rapidly develop a set of practical and tangible ideas that enable the council to engage with the local community and vice versa using digital technology.

The challenges are posted online and promoted through local networks of interest via social networking sites such as Twitter and Facebook. Applications are sorted by skill area across design, web development and strategy. Slots for the event filled quickly with more than sixty citizens signing up to attend each event.

For Made In Lambeth the challenges have attracted a wide variety of local citizens with different skills from university lecturers in health and design through government Internet experts and recent design graduates. A number of local social and sustainability community leaders have also signed up with a view to learning about the approach to take it back to their communities as a tool.

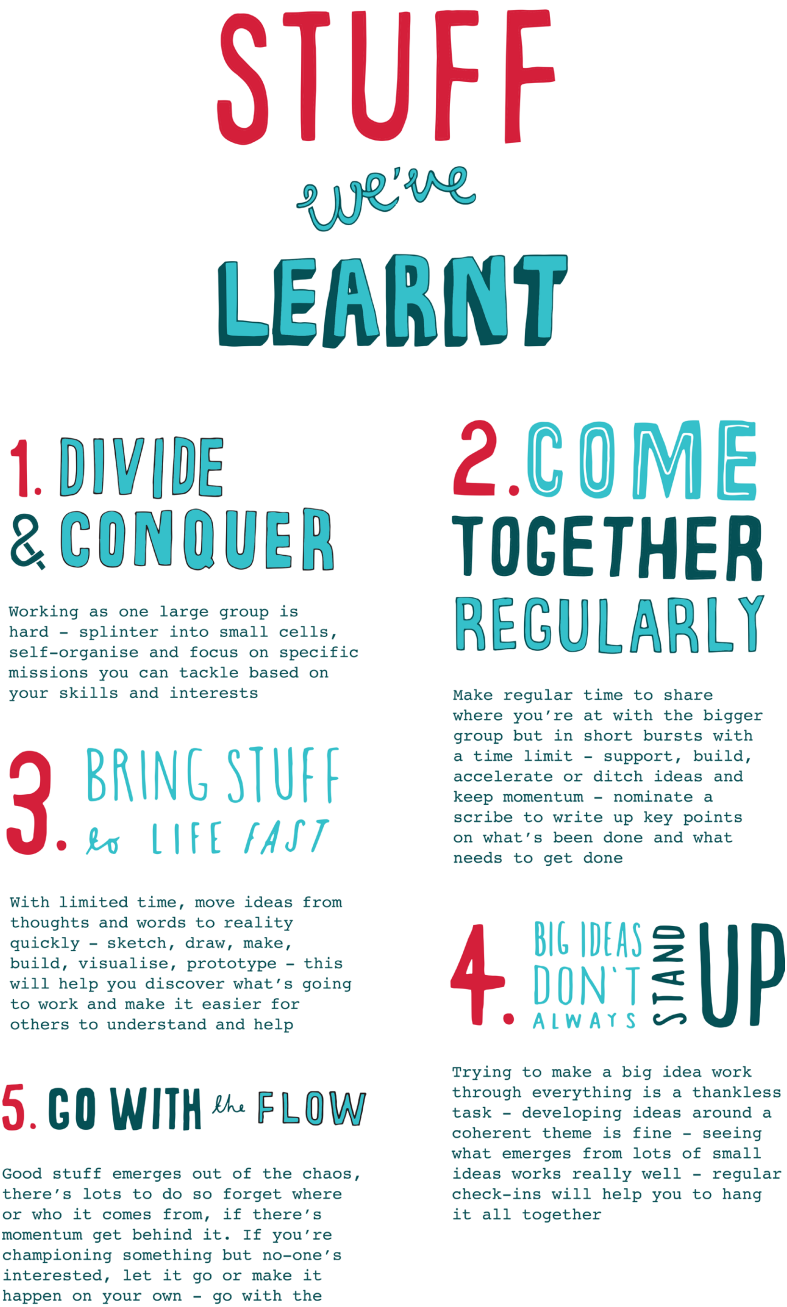
The event process is kept very open. Teams are left to form during the event following a 'coalition of the willing principle'. The Good for Enough approach encourages self-direction and learning by doing. There is very low-level facilitation only. Teams self manage and citizens create and fill their own roles as the need emerges. The role of the challenge owner is key.

Figure 2. Good for Nothing / Made in Lambeth 'rules of the game':

The Good for Nothing / Made in Lambeth communities' practice is rooted in collaboration and openness. Community members share and develop practices across events. The team has captured many of the key learning gleaned over the course of events run in the last two years.

The two Made In Lambeth events conducted across produced lots of positive and tangible results across online and offline service innovation.

Figure 3. Good for Nothing / Made in Lambeth 'Stuff we've learnt':



Example challenge number 1 – digital connection: Gather together key stakeholders from across the community to rapidly develop a set of practical and tangible ideas that enable the council to engage with the local community and vice versa using digital technology.

The results: Expert team formed around the challenge including world class wed developers. Collaborative content platform prototyped with new information architecture and identity. Massive project acceleration with core team members still developing an evolving digital presence for the council. With some volunteering and others working on a freelance basis. For more details see www.madeinlambeth.co.uk and www.lambeth.coop.

Example challenge number 2 – young Lambeth coop: Help develop an engaging brand identity and a communication plan for the borough's youth services focused cooperative.

The results: Expert team formed around the challenge including young people, communications experts and graphic. The team developed a series of potential new identities for the young lambeth coop brand and tested them with potential coop members over social media. Final branding selected and developed by the team. The team also co-produced a recruitment campaign and created a social media strategy and tools. The work contributed to Young Lambeth Coop being approved by the council cabinet for establishment as an independent legal entity www.lambeth.gov.uk/moderngov/ieDecisionDetails.aspx?Id=2900.

2.1 FEEDBACK FROM THE EVENTS

We surveyed participants following both events. The feedback is very positive against the core aims of the project:

1. Helping to communicate the council's new approaches to more people in the borough and especially people with the skills to help shape service strategy and a prototyping in a more hands on way e.g. people with experience starting and running ventures, people with design and communication skills and people with digital and web development skills.
2. Developing co-production approaches that can harness local peoples' skills to identify issues, tackle local challenges bring new services to life.
3. Developing co-production capacity and skills within the council organisation.

Participating in Made in Lambeth transforms perceptions of the cooperative council for the better. Over seventy percent of event attendees said their opinions of the council had changed following their attendance of the events.

Post event research quotes from attendees:

"*I see them as more approachable knowing they are willing to participate in activity such as Made in Lambeth*"

"*I'd heard about the coop council idea, but wasn't sure how deep the commitment ran within the council – great to see it in action!*"

"*Good to see Lambeth taking part in innovative ways of working*"

Once involved participants want to do more co-production with Lambeth council. With over 90 percent of attendees surveyed saying that they would like to contribute to the community in the future.

Post event quotes from attendees:

"*This is a great way to get stuff done*"

"*You get really involved with the ideas and the people across the two days. I want to stay in touch and see things through*"

"*I have already told lots of friends*"

The community and the events create a powerful learning environment for everyone involved from council staff to volunteers with over 70 percent of those surveyed saying that they would apply the rapid collaborative approaches to problem solving to their everyday work.

The council PEP and communication teams have been applying the Good for Nothing approach internally post event with cross-functional council teams tackling council challenges in collaborative fast paced ways drawing in external expertise and points of view as they go.

While the event feedback was largely very positive there are some elements that were markedly less successful in terms of engaging citizens and creating positive action. Some of the challenges that were put into the events lacked the level of openness needed to truly drive citizen engagement. It is clear that for the skilled volunteer audience the need to be able to 'put your stamp' on a local challenge is very important. Co-production challenges that feel too closed are rejected.

It is also clear that in order to sustain participants' momentum and involvement, they need to feel like their input and effort is being used and acted upon.

The most successful challenges either have very engaged leadership already or have strong leadership emerging from the sessions. Positive, open challenges with engaged leaders have consistently fared the best across the events in terms of attracting talented volunteers who deliver the most at the events and in follow up activity.

3 CONCLUSION

Made in Lambeth is a small experiment exploring tools to engage hard to reach, highly skilled local citizens in the co-production of local services. It has shown that this audience will volunteer considerable amounts of their time and energy if the right challenge is presented to them in the right way. It has also shown that they will stay involved and help to develop new services over time if the initiatives have the engaged leadership who ensure that volunteers feel that there input is being used and valued.

It is not designed to be for everyone. It is not approach that will appeal to all local citizens. It is demanding both in terms of time required and in terms of the skills needed for participants to feel like they are contributing positively. As such Made in Lambeth is emerging as one resource in the cooperative council's citizen engagement and co-production toolbox. Made in Lambeth is primarily a 'making community' focused on addressing local challenges through

innovation and doing. To become really powerful it will need to fit into a broader system of more innovative online and offline citizen connection tools.

Following the first twelve months of Made in Lambeth experimentation Lambeth council is continuing to develop the community with events planned for April and July 2013 and a bespoke digital platform in development to better facilitate volunteer recruitment and ongoing engagement in challenges.

The team are also exploring opportunities to link Made in Lambeth to local higher education establishments to capitalise on the format's learning potential and the community's capacity for mentoring.

The next twelve months will be busy for Made in Lambeth and will help us to establish whether the approach can embed itself fully into the local community and become a real force for local collaboration and co-production.

The new digital platform will focus on encouraging local citizens to identify and form around their own challenges tapping into Made in Lambeth to engage the council and their resources. Ultimately the goal of the platform is that it will enable more seamless incentivisation of citizen activity potentially through contribution monitoring and links to existing council systems. The combination of incentives and online spaces that encourage team formation and ongoing collaboration plus regular offline events where people meet, make and learn will hopefully see the Made in Lambeth grow in terms of its reach and its potential for positive impact.

Enabling citizens participation in regional energy concepts

Anita Beblek[1], Melanie Mechler[2], Barbara Ilg[1], Thomas Kraemer[3]

Biographical Details:

Anita Beblek is CEO of agrathaer GmbH, an interface and hub for knowledge and technology transfer from land use related research to policy and practice. She has experience in international management and strategy development with a focus on economic and legal aspects.

Melanie Mechler is economist specialised on research and innovation management with a focus on organisational models and concept development. Her current work involves the, integration of stakeholders in planning processes for regional energy concepts.

Thomas Kraemer is CEO Ontopica GmbH, a company specialised on consulting and software in the domain of communication processes with substantial participatory elements. He is developer of innovative e-participation solutions to get involved in decision making processes via the internet.

Barbara Ilg has a bachelor in environmental agronomics. She is specialised on sustainable land use management with a focus on actors analyses and concept development for regional planning processes.

Structured Abstract

Purpose & scope:
Regional energy concepts in European regions aim to bring together environmental and climate aspects with security of energy supplies and economic sustainability. Citizens' participation is one crucial factor for local acceptance of policies. Our objective was to enable the integration of local values as early as possible in the planning process.

Design/methodology/approach:
Based on an actor's analysis, a two-phased online dialogue was designed using ditto technology. The first phase comprised substantial information on regional energy supply, energy consumption and socio-economic aspects of energy use. The second phase was used to interact with participants on a daily basis.

Results/findings:
The online dialogue was successfully conducted in a rural planning region. The results were used to identify fields of action and to formulate recommendations for policy measures.

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Conclusions:
The integration of public values led to a clear understanding of knowledge gaps, missing data and local awareness of the problem.

Keywords: *e-participation, online dialogue, data management, regional planning, strategy development, policy impact*

E-democracy in Russia: only UN "e-participation" or more?

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Biographical Details: *I. Khimchenko is the director of Department for development of information democracy in Foundation of information democracy. Since 2008 Igor has been engaged in Russian state information society program as director of Department for Formation and Development of Information Society in the Ministry of telecom and mass communication of the Russian Federation.*
I. Chalin is the deputy director of Department for development of information democracy in Foundation of information democracy. Since 2010 Ivan has been engaged in Russian state program "Information society (2011 – 2020 years)" as division head at the same department and team leader in ICT research and development sphere.

Structured Abstract

Purpose & Scope:
The purpose of the research is to establish a system of indicators that reflect the objective development of digital democracy, open government, e-government infrastructure as components of the Information Society in Russian Federation.

Design/methodology/approach:
Within the research, the authors have been analyzed Russian statistic data and some international rankings, including ICT development index, "Doing business", "Measuring the Information society", E-government development index.
The result showed that each of these ratings alone cannot satisfy needs of quality monitoring of open government and digital democracy development, particularly at the regional and municipal levels.
The proposed structure of the new rating is based on an evaluation by three areas: infrastructure, access to information and civil activity. Primary data for the indicators are collected at the federal, regional and municipal levels.

Results/findings:
The main result of this research is a system of balanced indices, which reflect the objective situation in the country and allow government to make adjustments of the State policy to achieve the planned objectives. Also civil society will get a monitoring and control instrument of government activities.

Conclusions:
This research will allow not only ranking Russia in the world community, as suggested by the index of e-participation, but also to keep abreast of development in each region and the municipality of the Russian Federation. The results may be useful for the government and for a wide range of experts in the field of information society, open government and digital democracy.

Keywords: *Information society, e-Government, development, open data, digital democracy, rating monitoring methods, Open Government.*

1 INTRODUCTION

The events taking place in the Russian Federation have strong influence on the transformation process of civil society into the information society and on the establishment of the digital democracy.

Russia, like most countries in the world, is actively shifting towards active use of information and communication technologies (ICT) in public life.

Undoubtedly any controlled process requires accurate and timely assessment of current events in order to allow potential change in direction; it also requires assessment of the relevance of the indicators used. The development of the information society, and in particular digital democracy, is not an exception.

2 CURRENT EVALUATION SYSTEM OF DIGITAL DEMOCRACY DEVELOPMENT

For assessment of countries' achievements in the development of digital democracy, the United Nations regularly conducts research of electronic governments around the world. [1] E-government Index includes, in turn, electronic participation index. This index measures the level of digital democracy development.

It should be noted that the analytical review, first published in 2001, included data on 144 countries, members of the UN. In 2012, a review «E-Government Survey 2012: E-Government for the People» included information on the development of e-governments in all 193 countries, members of the UN. The methodology of calculation of some subindexes and indicators since 2002 has been adjusted, but key figures have always remained the same.

2.1 The E-government Index methodology

To evaluate the world e-government ranking UNDESA experts calculate E-Government Development Index (EGDI) for each country [2]. To date, this index is calculated as the sum of the three subindexes, each with the same weight:

– online service index;

– telecommunication infrastructure index;

– human capital index.

In 2012 for the first time report included an Environment Index, reflecting the efforts of governments in the development of online services related to environmental protection.

A special place in the research takes the UN electronic participation index (E-participation Index), which, while being essential for the analysis of the development of e-democracy institutions in the world, is not included in the overall formula of the E-government Index.

However, it is reasonable to assume that since the information society includes such institutions, equivalent in importance and scale, as e-government and digital democracy, it would be incorrect to „subordinate" one index to another.

E-participation Index is calculated based on the following three components:

- electronic government informing citizens through public web sites (e-Information) – it evaluates how governmental web sites provide information on government policy, budget, legislation, and other information of public interest. Tools for the distribution and use of public information may include web forums, mailing lists, newsgroups and chat rooms;
- electronic consultation (e-Consultation) – estimates posting of information on public web sites on mechanisms and tools aimed to gather citizens' opinions on specific political issues. Also this component evaluates the presence of socially important topics to discuss in real time and access to archived audio and video of former public discussions ;
- electronic decision making (e-Decision Making) – evaluates the participation of citizens in the discussion, development and promotion of policy proposals. Here we assess measures taken by a Government to provide feedback on the implemented solutions for certain issues.

For each component an expert answers the same question: „How often is it used by the state?"

The following answer options are available:

0 - never,
1 - sometimes,
2 - regularly,
3 - mainly,
4 - always.

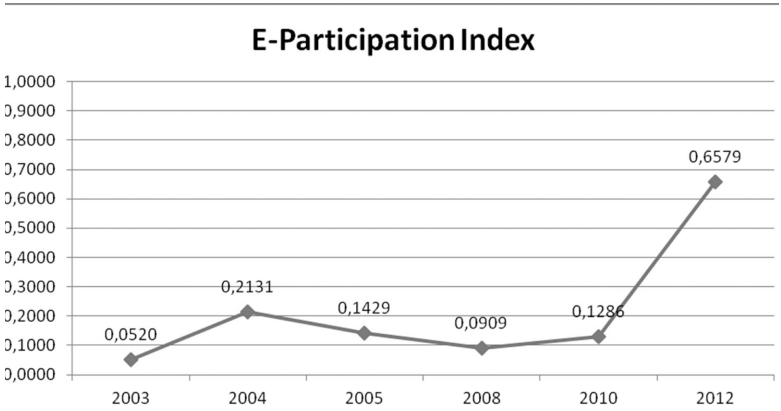
2.2 Results of E-participation Index calculation

In 2012, most states (including Russia), who showed good dynamics of index values have advanced through the introduction of Internet portals aimed to develop the institution of digital democracy.

Russia went up in the ranking due to the launch of the unified portal of public services www.gosuslugi.ru, and due to the capability of public authorities to respond to enquiries from citizens. At the same time, stage of the electronic information is achieved by 50%, e-consultation stage – by 59%, and e-decision making stage – only by 17%. On average, the implementation is at 58%.

Figure 1 shows the evolution of E-participation Index for Russia from 2003 to 2012.

Figure 1: E-participation Index for Russia



Source: UN E-government survey 2003, 2004, 2005, 2008, 2010, 2012.

3 EVALUATION OF DIGITAL DEMOCRACY IN RUSSIA

As mentioned in Chapter 2.1, the entire methodology of E-participation Index is based on the expert judgment. However, a clear methodology for collecting source data for the E-participation Index calculation, unfortunately, is not available in the public domain. In all UN reports on this topic only separate expert opinions on various measures aimed to increase the value of the index for the specific country are published.

3.1 What is needed for Russia

Of course, e-participation index indicators are very important and should not be ignored when monitoring the development of digital democracy in the regions and municipalities. Alghough there are some peculiarities.

The Russian Federation consists of 84 regions and about 25,000 municipal formations, spread in the vast territory of 17.1 million square kilometers. To better understand the development of the digital democracy in Russia it is necessary to assess the level in each of the municipalities and regions. The municipal level is the real basis of digital democracy.

The current system of E-participation Index evaluation, unfortunately, cannot be simply „transferred" to the regions and municipalities for several reasons.

First of all, a number of municipalities due to budgetary constraints might not have their own Internet resources for public discussion of important issues. However, these municipalities may use, for instance, regional Web platforms with the forums, blogs, etc. The experts may „miss" such forum when using formal criteria. As a result, assessment of the level of development of digital democracy in individual municipalities will be unfairly undervalued.

Secondly, just expert estimates are not sufficient in order to calculate a digital democracy index for the Russian regions and municipalities. For an objective expert evaluation it is

necessary to select a representative sample of specialists of different levels; and this is very difficult with limited resources. In addition, sometimes the objectivity and relevance of expert assessment depends entirely on the individual qualities of the expert and his engagement with certain stakeholders. In this case, a good „counter-balance" to the expert can, and should become, an official government statistics.

Thirdly, time of isolated evaluation of the e-government infrastructure in municipalities and regions have passed. Today we need to have complex evaluation of the development of digital democracy, looking at infrastructure, access to information and citizens' engagement in governance through ICT.

3.2 What we propose

Democracy in the information society is the democracy, based primarily on the availability of information used to build knowledge and make informed and intelligent decisions.

Based on the above, to assess the development of digital democracy at the regional level, it is proposed to use the Information democracy Index, which is calculated as the sum of the three subindexes of the same weight.

In order to monitor the availability and development of the infrastructure of digital democracy, as the first component of the index it is proposed to use the infrastructure subindex, which is calculated based on the indicators of official government statistics.

The second important component of the Information democracy Index is people's access to important social information, which affects decision making. In this subindex of information availability two groups of indicators are used: the presence of information sources and acquisition of skills needed to use this information. Also, governmental web sites must be tested for the presence of the minimum level of web content accessibility in accordance with the Web Content Accessibility Guidelines of the World Wide Web Consortium [3].

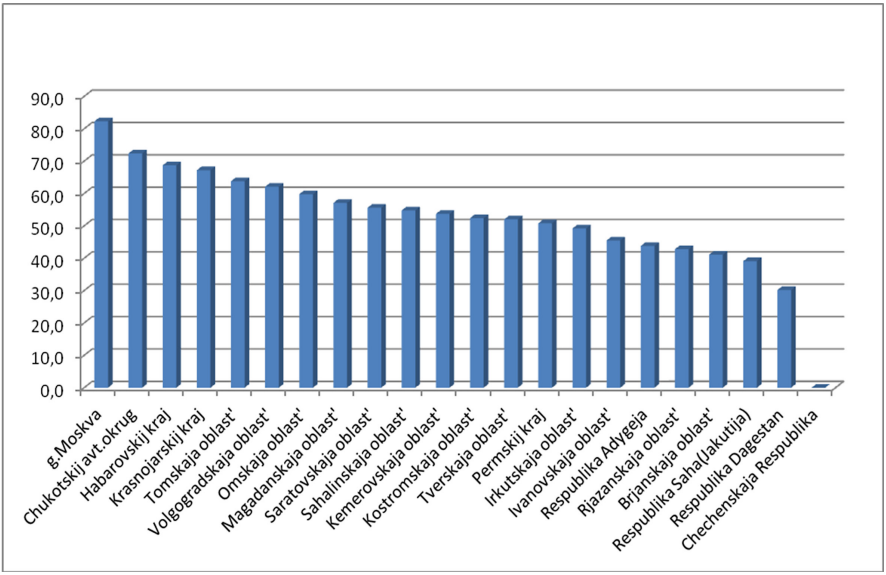
The third component of the index is a subindex of citizen's engagement. In this case a part of the subindex indicators is calculated using official government statistics, and the other part is determined by experts on the basis of monitoring of government websites; the same way as it is done for the calculation of the UN E-participation Index.

According to the authors, the use of such indicators will equally compare regions with small and large territories, sparsely and densely populated and with different levels of budget revenues.

Each of these indicators is undergoing a normalization process. The number of points scored by each region is determined by summing the normalized values of these indicators by subindexes.

For example Figure 2 shows the results of calculation of the indicator «The proportion of households with access to the Internet, in total number of households» for 2011 (since the data for the year of 2012 will be published by the Federal State Statistics Service only in April 2013).

Figure 2: Indicator «The proportion of households with access to the Internet, in total number of households»



Source: Federal State Statistics Service, 2011

A complete list of proposed indicators to be used is shown in Table 1.

Table 1 The Information democracy Index, list of indicators

Name of indicator	Infrastructure	Information accessibility		Citizens' engagement
		Availability of information sources	Acquisition of skills needed to use information	
Percentage of households with access to the Internet, in the total number of households	•			
Proportion of regular Internet users among household members	•			
Number of fixed broadband Internet subscribers per 100 inhabitants	•			
Number of mobile broadband Internet subscribers per 100 inhabitants	•			
Region population density	•			
Ratio of urban and rural population	•			
Proportion of the federal budget funds transferred to the regions for the development of ICT in the total regional budget spent on the development of ICT	•			

Subscription fee for access to the Internet, rubles per month		•		
Proportion of state and municipal services in the electronic format		•		
Number of available online museum objects uploaded into the electronic catalog with digital images, per 10,000 items of the general museums funds		•		
Proportion of libraries offering Internet access to full-text electronic library resources in the total number of libraries		•		
Proportion of open government data, converted into machine-readable format		•		
Presence of a user-friendly interactive interface on the portals of public authorities aimed to publish and discuss plans and programs and the results of monitoring of their implementation		•		
Proportion of Internet sites of regional authorities, providing information in accordance with the Federal Law № 8-FZ "On Access to information about the activities of state agencies and local governments"		•		
Creation and publishing of the E-participation program on the Internet		•		
Posting on the Internet of information about government actions in response to community initiatives as part of E-decision making		•		
Placing of E-participation events calendar on the Internet		•		
Obligation of public authorities to take into account the results of e-participation (public initiative) in governance decisions		•		
Confirmation of the fact of citizen's enquiry receipt by government agencies		•		
Public authorities ensuring response to the results of social surveys targeted to improve government services		•		
Presence of mailing lists or newsgroups on the regional web sites		•		
Proportion of elderly citizens who have received training on the program in the field of ICT			•	
Proportion of civil and municipal employees, who have been trained in the system of additional professional education in the "information-analytical" field during the last year			•	
Proportion of organizations that conducted additional training for staff in the field of ICT			•	
Proportion of educational institutions, implementing specific initiatives using distance learning technologies to facilitate basic educational programs, in the total number of independent educational institutions (secondary education)			•	
Proportion of educational institution , implementing specific initiatives using distance learning technologies to facilitate basic educational programs, in the total number of independent educational institutions (higher education)			•	
Number of personal computers used for educational purposes with access to Internet, per 100 students in educational institutions			•	
Proportion of regional population that receives public services electronically, in the total population of the region				•
Availability of regional services, providing mechanisms of ongoing and constant action, effective channels of dialogue, social control, communications and "feedback"				•
Conduction of internet polls on socially significant issues by regional authorities, including the improvement of online services				•
Active use of the feedback forms on the regional web sites				•
Active use of chats or similar instruments, using instant messaging on the regional web sites				•
Active use of online applications and petitions on the regional web sites				•
Active use of online voting on the regional web sites				•

4 CONCLUSION

Thus, careful approach to the definition of the indicators, selection of their weights in the overall index and the willingness to adjust them quickly to ensure most objective and timely results all are essential to create the most objective and high-quality monitoring of the development of information society in Russia and digital democracy as part of it.

It is critical to use not only official state statistics, but also the results of public monitoring. After all, without the citizens themselves it is impossible to build a civil society, especially information society.

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Participatory urbanism and e-participation in Italy: the project E tu cosa ci vedi? San Pio X, for the city of Vicenza

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Structured Abstract

Purpose & Scope:
The paper aims to illustrate the potentialities of innovative web tools within inclusive and participatory urban design processes, linking them to the urgent issue of a completely new approach to urban design strategies.

Design/methodology/approach:
The methodological framework includes a set of experimental tools such as a web platform (www.etucosacivedi.it), supported by a set of field-work tools (walking papers, urban derive, interactive laboratories, etc), used to experiment the concept of augmented urbanism with citizens and stakeholders in general.

Results/findings:
The goal is to demonstrate the necessary link that must be put in place between e-participation tools and first person field-work strategies, to get inclusive and sustainable urban processes.

Conclusions:
A non-technocratic approach to the topic of people participation into urban processes, focused on the agency of people and places, is the most effective and inclusive way for urban policies, to regain trust and relevance, within the contemporary European context.

Keywords: *urbanism, inclusion, e-participation, urban practices*.

1 INTRODUCTION

Participation and e-participation must be understood as a set of conditions in which, thanks to a nonlinear, open and creative process, different subjects can have and play active and relevant roles in a specific context.

This is not something that can be generalized, exported, used according to repetitive codes and strategies here and there, in the same way. Participation, urban participation, has to do with acting, doing, being part of a contest, locally and materially. Participation is a site specific process. One essential aspect about this, for the actors that are involved, is the necessity to establish a vivid set of connections with an atmosphere, with a background of rules and norms, with the constrains of a place, of a social and cultural background. In this framework the role of the web and the potentialities of innovative web tools within inclusive and participatory urban design processes is crucial.[1]

Without the acceptance of these very few elements it is not possible to talk about participation or e-participation.

Carol Pateman, a political theorist and feminist activist, wrote a seminal book in 1970 on the relation between participation and democratic theory inside a Marxist analysis on the working class conditions of that years. I would like to use a short passage from that book to help me to introduce my topics:

"*During the last few years of the 1960s the word 'participation' became part of the popular political vocabulary. (...) The widespread use of the term in the mass media has tended to mean that any precise, meaningful, content has almost disappeared; 'participation' is used to refer to a wide variety of different situations by different people. (...) the recent upsurge of demands for more participation raises a central question of political theory; the place of 'participation' in a modern, viable theory of democracy*" [1].

In this paper illustrates a general conceptual framework about the topic of participation and e-participation within the case study of the participatory urban process named *E tu cosa ci vedi? San Pio X* (*What do you see? San Pio X*), put in place in Vicenza between January and July 2012

2 URBANISM, PARTICIPATION AND E-PARTICIPATION. A POSSIBLE FRAMEWORK

Roughly it is possible to agree, forty years after Carol Pateman's positions, that participation is a *good word* [2], a sort of *trojan horse*, that has the capability to credit with a positive and reassuring atmosphere any action, concept, process, and discipline to which it is referred. This fact is not a singularity of this word. It is something that regards other terms, that in their

1 Never before this historic phase, the external pressures to the project (the urban project) to the city and its public spaces, come from diverse areas: private stakeholders, singular or corporate interests (Bianchetti, 2008), in which the public opinion, devoid of any real critical mass because of its fragmented contemporary nature (Frug, 2009), has no choice but to surrender for initiatives in which the balance of interests leads the public to give up a necessary conflict (Sassen, 2004), in exchange for less complex positions, apparently easier to justify, particularly in political short term. The public role (the role of the urban plan as a set of rules and conditions) tends to succumb, to lose its rights and meanings (including constitutional), constantly crossed by an over-production of interaction, instruments, interests, too agile and changeable, in which the correspondence between the individuals, the society and the territory is increasingly less identifiable, in which the concept of participation moves with enormous contradictions through diametrically opposed fields of knowledge, through exploitations that are very common and far from being accidental.

overuse represent in a good and meaningful way a contemporary society's tendency to abuse of widely accepted concepts (just think about sustainable, smart, eco-friendly, etc.) to talk about, and to describe, very different phenomena. In this way any social process, any political strategy, even any industrial product can become good, relevant, widely accepted, just because of its proximity to words such as sustainable, common and obviously participative. The variety of conditions that characterizes the wide palimpsest around the topic of participation and e-participation is the stage where the *claim for participation* assumes each time, in each urban context, several different characteristics and features. In this same contexts the set of rules, norms and policies, together with the urban transformation processes that support and constitute city making initiatives and actions (both if formal, informal, legalized or grew as forms of social protest, etc.), are facing a long period of conflicting evolutions, mainly since the first 90s, due to a growing process of social awareness and to a new set of bottom up instances for people engagement into urban decision making policies and strategies. This has been also pushed by parallel brand new technological revolutions related to the internet and a completely new set of tools of communication and interaction, affordable almost at any level of western society. The possibilities connected to these tools are under our eyes every day: sharing contents worldwide, implementing real time communications, reduce, as never before, space and time both at global and local scale, support of the organization of networks of any kind and level. These ones, and many other aspects, related to the so called "internet revolution" turned out to be the real "revolutionary aspects" in the civic society and in the social movements in the last twenty years. [2] This way to approach and to use internet represents the openness and the horizontal ownership of contents that characterizes the first years of internet, when this word was a synonymous openness and experimentation. Today this condition is translated into blogs, web sites, social network, and web platforms for political representativeness (meet up, LiquidFeedback, etc) that have recently show their power, for example in the political elections in Italy.

2.1 A possible set of constrains and issues that all contemporary participatory approaches have to face

For sure the tools mentioned above represent, most of the time, extraordinary experiences and opportunities to open windows of democracy and participation into old, close, bureaucratic, and even undemocratic contexts. But, at the same time, they are used by a growing set of phenomena of political, economic, and lobbying manipulation of their contents and of the expected outcomes of these "supposed to be free, participatory, and informal" processes, that use the web-tools as the main, sometimes the only, platform of engagement. If we consider these critical features together with the huge *digital divide*[3] that still characterizes large sides of the contemporary society even in the western world, it is possible to have a short idea of the risky tendency to overestimate the role and the real democratic representativeness of internet. These conditions reflect both the empowerment process of bottom up citizenship awareness and the parallel incapability of many "old actors" (public policies, professionals categories, bureaucratic structures, etc.), to follow this evolution in a proper way, trying to defend old tools, old positions and methods. In a scenario like this, in such a rapid and increasingly

2 The web is one of the forms, the first one in "historical" terms, that uses the TCP/IP protocol, since the introduction of hypertext codes from Tim Berners-Lee in the middle 90s.

3 Digital divide is the expression used to define a condition of inequality between groups and or subjects who do not have equal access to the internet and to its contents. This is due to several reasons (education, technology, culture, etc) and they can be different also according to the legal frameworks of each country about the right to free information.

complex net of actors, interest, contexts, instances, it is difficult to define, as an *a-priori*, what proposition is more relevant than another, what instance has more rights to be shared and discuss, may be supported.

Some of the fundamental issues that characterize the present debate within EU context and in Italy, according to the set of general conditions mentioned above, that affect the development and the growth of participatory urban processes and e-participation tools, can be summed up as follow, according to three main categories:

2.1.1 Legislative context not up to date

The norms and laws that regulate at a national and regional level the modification processes of cities and territories (urbanized and non-urbanized), even if with big differences from each single local and/or national context, are not ready to implement participation as a central asset, considering it as a permanent element in the process of city making. Many times there is also a misinterpretation of the norms in themselves about what participation could be and could do inside urban projects and plans. Since these practices are quite recent in the implementation inside the legal and normative frameworks of the everyday agenda of European countries, this can be understood as a learning by doing experiment-process that is facing just a preliminary working stage. Anyway it is quite evident that the usual rigid and bureaucratic approach on urban design and territorial development affects in a negative way the normative debate on topics such as participation and urban inclusion. As regard the Italian context, it also reflects as well as the lack of an appropriate regulatory framework, a relevant digital divide in the public sector, in the average use of the internet potentialities as a pro-active generator of contents, not as a "simple" place to find, store, and sometime share them.

2.1.2 Disorientation of the public sphere[4]

The public sphere is seeking a new set of tools, roles and definitions to face the social, political and economic changes that since the 90s are spreading across global and local communities. This is especially evident in western societies, where claims for participation, transparency of political systems, better social and economic conditions, after a period of general and apparently unlimited growth, are the new crucial topics of any national and international agenda. In this context of wide uncertainty and need for urgent future scenarios of inclusive and sustainable development, people, citizens, civic society, are asking to be involved into the relevant decisions that have to do with their future, with the set of conditions that deal with their life and the life of their cities.

The relationships between public and private are weaker, increasingly unconnected and deprived of long term strategies (this is one of the fields in which the proposed example of Vicenza tries to operate).

2.1.3 Technicality and specialization as key words to deal with cities and territories

Today a completely new social, cultural, and economic environment acts, invests, governs, and plays within cities and the urban areas. ICT, new devices such as smart phones and tablets, are the protagonists of a brand new collective experience of use of cities. Concepts

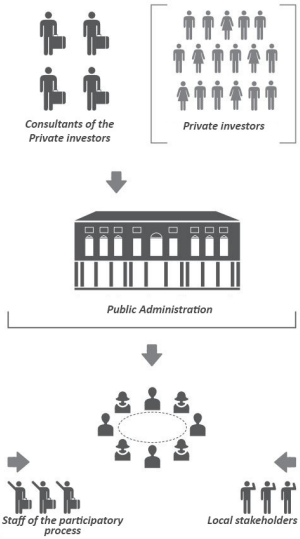
4 To have a deep look inside this topic in the contemporary European context is useful to refer to Eurosphere Consortium: "The main objective of EUROSPHERE is to create innovative perspectives on the European public spheres and to identify the conditions that enable or undermine the articulation of inclusive European Public Spheres." http://eurospheres.org. [Accessed on 15 September 2012].

such as *smart cities, sustainable cities, inclusive cities, accessible cities*, have gained as never before a predominant role in the everyday debate inside urbanism and planning, inside mass media, and political institution at a national and European level.[5] The technocratic approach that characterizes all these - and many others - definitions, stands in front of a huge *semantic revolution* (that affect also the web) that has in the middle, as the core element, the right to participate. A crucial theme in this sense is embedded in the role of technology, every kind of technology, and in particular ICT. This trend, if seen on its own without a broader complex context is just another aspect, could appear as and evidence of the lack of social and political responsibility of the usual figures in charge of the mature democratic systems (mainly politics) to oversee the management, the care and the innovation concerning urban and territorial issues. Instead this is the trace of a bigger bottom up and horizontal explosion of new potentialities and subjects, within the stage of the everyday public debate that shape our cities and territories.

2.2 The experience of the city of Vicenza

E tu cosa ci vedi? San Pio X is a project that has been driven by the Municipality of Vicenza with an agreement with a set of private land owners and investors that aim to push for a urban development of their properties. They have the legal right to do this, but the positions of the Public Administration, of the citizens, and the local stakeholders were different. This has been the starting point of the project that interested one of the biggest quarters of Vicenza, with more than 10.000 inhabitants and the 30% of non-Italian residents.

Figure 1: The visual concept of the actors involved in the participatory process



5 In the last frame work program of the European Commission, the financial support to projects connected with the topic of the smart cities is 12 bil. € from 2010 until 2020. The areas of investment are mainly: mobility, buildings energy performances and high tech control systems for urban and metropolitan areas. http://ec.europa.eu/energy/technology/initiatives/smart_cities_en.htm. [Accessed on 15 September 2012].

The operative staff of the project was made up of multidisciplinary team of experts and a set of internal technicians that work within the urban planning department of the city. The program was strongly supported by the assessor appointed for urban affairs within the municipality of Vicenza. *E tu cosa ci vedi? San Pio X* is a program, an administrative strategy associated to innovative administrative policies of the city of Vicenza, developed since 2009. The experiment of *E tu cosa ci vedi? San Pio X* represents a singularity in the Italian landscape of contemporary experiences of participatory urban processes. It is in fact a good example of public policy that embraces an active partnership with private investors since the very beginning of a urban process, also with a formal agreement that stated the common decision to accept the results of the participatory phase, without interfering in its evolution. In this process the use of web based technologies has taken a leading role, in particular through initiatives that have progressively become a trademark of the process across the six months of activity. This program is one of the first in Italy to combine the use of web tools as method of dissemination and communication through the internet and at the same time operative workshops, focus groups and meetings that put at the centre the use of social networks also in a process of sharing of local knowledge. The use of field-work tools such as walking papers, urban derive, interactive laboratories, etc., used to experiment the concept of augmented urbanism with citizens and stakeholders in general. Everything was linked to a specific web site (www.etucosacivedi.it/quartieresanpiox) and a facebook profile.

Figure 2: Urban workshops and laboratories as the parallel activity connected to web tools

As regards the specific use of web tools, within the project *E tu cosa ci vedi? San Pio X* the main goal has been to maximize transparency during all the phases of the process, not only in the publication of the interim and the final results, but also including the materials produced step by step along the process. This was often a raw material sometimes not even coherent with the aims and the principles of the project itself, but this approach testified towards the participants involved (citizens and groups of stakeholders) the openness and the richness of all the operational phases, and allowed a complete reconstruction of the work evolution in the end without any missing step in the middle. The price to accept to work with uncertainty and complexity has been a greater articulation of the network of local actor and a permanent possibility for them to interact with the contents of the project. This has been a factor of conflict and sometimes confusion, but the result was a real trust in all the process from all the participants involved.

Figure 3: From site specific social and spatial data to the definition of a web context (Phase 1)

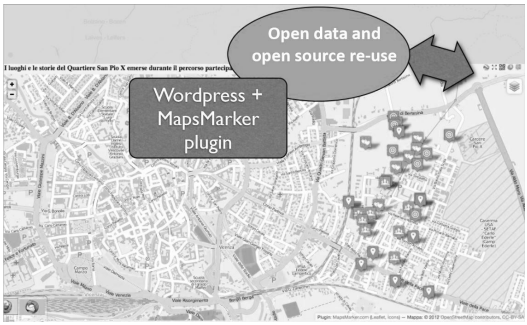
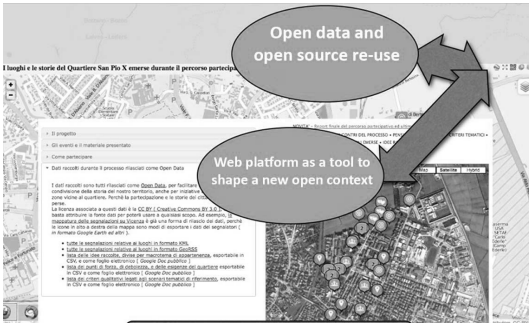


Figure 4: From site specific social and spatial data to the definition of a web context (Phase 2)



It is not obvious for a person involved in a participatory process to see how the data that he contributes to produce, create and modify, can become an active part of the decision-making process, this experience transforms the participants in direct operators, owners of the materials produced step by step, and co-creators of the final decisions.

The objective of having a shared and open data base, therefore becomes an essential theme in the project itself, which enables the practice of the *Open Data* as a tool and as an intrinsic value, in which the infinite reuse of data that are created and that are given back to the community for purposes not originally anticipated, is an end in itself not so granted. This becomes a sort of project within the project.

All this enables a sort of augmented approach to urbanism, both for the professionals involved in the team that drives the phases of the project and also for the participants. Here the stakeholders involved and the citizens in general participate and create, together with the Public Administration that support the project and ask for results, an active and open code of urban investigation, that operates towards a view of Open Government (urban context-partic-

ipation-transparency of the process-open source data-web based context).

According to this approach the experience of *E tu cosa ci vedi? San Pio X* has been a project where the daily life of citizens and stakeholders is the result of a process of collective intelligence developed by the network involved within all the events, the initiatives and the laboratories of urban participation that have been put in place during six months. Even more, this allows to share all the contents that have been created beyond the end of the single design process: the knowledge that has been produced is part of an increased collective awareness.

The involvement of the citizen also took place through the sharing of data, comments, opinions and proposal, thanks to the use of a specific web site that became in this sense not just a platform to network and to share data, but was used as a virtual desk on which to place, through different tools and channels of interaction, all the materials, the preliminary results, the critical positions and opinions of the people involved in the process.

Internet and the power of social networks (facebook in this case) have supported in the end a set of "analogical tools" (related to the direct and concrete experiences in the project area) and a set of "digital tools" (documents, photos, videos, maps, posts) that all together constitute the parallel history of the project *E tu cosa ci vedi? San Pio X*, a sort of open and dynamic archive of the experience, ready to host any content, and able to produce itself contents, in an open and accessible way to any user.

3 THE "REAL WORLD" OF PARTICIPATION WITHIN THE DISCIPLINE OF URBANISM: SOME NOTES FROM THE CASE STUDY OF VICENZA

The experiment of *E tu cosa ci vedi? San Pio X* in Vicenza shows how the openness and the potential transparency of the web in the e-participation practices, connected with first person field-work strategies, have the possibility to win the static and rigid schemes of Public Administrations and the private interests of singular and not organic urban planning strategies developed by investors.

One of the essential conditions to get similar results is the fact that institutional and professional actors have to accept to act within the processes not as external factors. They have to accept the risk of uncertainty and focus their knowledge not to try to solve problems but to put in place the best conditions for a process that could try to deal in an inclusive and open way with problems. A non-technocratic approach to the topic of people participation into urban processes, focused on the agency of people and places, together with a direct involvement of the professional staff that supports and often rules the processes, is the most effective and inclusive way for urban policies, to regain trust and relevance, within the contemporary Italian and European context.

The point, in the end, is not to look just for suitable methodological approaches or possible theoretical and technological frameworks to deal with these set of topics. If we spend time to try to find some proper answers, to imagine a new possible profile for the legitimacy of urbanism within the field of what I have tried to describe as a real and effective participatory experience, we will lose precious time to start to question each field, each context, each local and site specific process in which we are involved.

As for the connection with e-participation tools, it is necessary to learn to deal with web tools, digital devices, and internet practices in general, not as a set of issues that own a value in themselves, but able to support and in some case produce values and contents. Should be

more useful to look at them as the chances to find other traces, other hints, other unexpected ways, in the real world, from which to start to act, within the contemporary and fragmented public sphere, accepting the role of the actors involved in the urban processed as a new kind of active social factor, accepting the necessity of being agents rather than experts, as the only possible role to push for open, participative and inclusive processes.

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SEED – Bringing eGovernment Services Closer to Citizens

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Structured Abstract

Purpose & Scope:
The current economic crisis and demographic changes are forcing governments in Europe to rethink how they operate. These pressures make smarter and more efficient use of inclusive ICT inevitable. At the same time governments on all levels possess great amounts of public sector information (PSI), which though representing a huge stock of assets, reaches too few or the wrong groups of citizens. Throughout Europe governments have invested in eGovernment back offices, platforms and services, often, however, efforts are duplicated due to the lack of eGovernment data and information reuse. And at the end, citizens are using these services neither widely nor productively. While eGovernment services should reduce the complexity of citizens' and businesses' dealing with government and its intermediaries, there is a danger that people without easy access to ICTs could find it even harder to deal with government. The challenge for governments therefore is to find ways to share the information they possess with citizens in an accessible and inclusive manner.

Design/methodology/approach:
One way towards smarter spending on services for citizens and on their sharing with all citizens is to expand, through the "cloud computing" approach and a very cheap network of interactive public service advertising (i-PSA) nodes, the positive results of European inclusive eGovernance initiatives to boost "citizen-centric" eGovernment services, to reuse the European, national, regional and local stocks of PSI as much as possible, and to leverage saving costs of eGovernment and eGovernance deployments. Project SEED re-uses PSI making mash-ups of eGovernment contents for raising awareness of citizens about eGovernment services available, thus reaching also those groups of citizens, which would normally be in danger of eExclusion.

Conclusions:
The presentation will recount the advantages of this project for governments and for citizens and give specific examples of instances where this approach is currently being used.

Keywords: *Public Sector Information (PSI), interactive Public Sector Advertising (iPSA), eInclusion, eGovernment services, cloud computing*

Indicators and tools for innovation

A survey about user-centricity adoption in Europe

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Laura SCHINA is consultant at the CCII University of Salento providing functional support for the development of studies focused on the implementation of the user centric approach in Public Administrations. As consultant at Innova S.p.a. she has been involved in activities related to the thematic networks in the eGovernment domain

Structured Abstract

Purpose & Scope: The main scope of the analysis is to provide the Community at large insights and recommendations for enhancing the adoption of user-centricity paradigm as source of added value for public services in Europe.

Design/methodology/approach: We introduced a global competitiveness 4-level mask able to provide also a graphic positioning on the "competitiveness reference system" for 40 "best out of the best" examples of public services gathered from a basket of over 450 cases.

Results/findings: The analysis reveals that the Europe and the International area share the same level of implementation of user-centric services and a wider campaign of analysis would be need to point out the technological level and the actual implementation by central and local governments.

Conclusions: We propose some recommendation in the domains of users, technology and business, fostering the adoption of public services that actively involve the people in design, development and usability, actual use.

Keywords: *user-centricity, service, evaluation, transferability, citizens, benchmark, business*

1 INTRODUCTION

The new communication tools and the innovative applications based on the Web 2.0 are more and more enabling the participation of different stakeholders in the decision making processes, thus exploiting the user-centricity potentialities in different contexts [1,2]. Among all, the brightest examples being are represented by websites as Wikipedia, Flicker, YouTube as well as others similar, showing how the end user assumes the content creator role [3,4].

The user-centricity is defined as a multi-layered process of user involvement in all the phases that represent a whatever service.

The aim of this work is to outline the analytical figures that represent the "best out of the best" within a set of examples of running services that are characterised by the application of some aspects of the user-centricity methodology. This step represents a check of examples of services that might be really of interest and effective for carrying out the "enhancement" of the user-centricity, the main scope of the NET-EUCEN network [5].

The essay provides some recommendations for an actual enhancement of the adoption in a wider European vision.

2 THE SCOPE OF THE STUDY

The NET-EUCEN network has collected various examples of running services that are characterised by the application of some aspects of the user-centricity methodology and, following the main scope of the project "to enhance the (application of) user centricity in eGovernance", it's of utmost importance to provide the European central and local administrations with good examples that can be used in the short term.

The analysis described in this document represents the second step of best practice scouting, started at the beginning of the project and consolidated in a collective document [6] that already provided a selection of existing services in Europe as well as in the extra-European Countries.

The final scope is to excerpt the best elements that lead to the application of a user-centric service, aggregated them and outline a list of recommendations supporting the local and central administrations.

2.1 The user-centricity paradigm in NET-EUCEN

The Network has defined the user-centricity paradigm [5] following the policy requirements as stated in the major Communications and Declarations released by the European Community and by the eGovernment International Communities. We list here the high-level approach of policies:

- The Digital Agenda for Europe [7] targets at *empowering users and improving the efficiency, effectiveness and transparency of the Commission and suggests that* (…) *eGovernment is about using the tools and systems made possible by Information and Communication Technologies (ICTs) to provide better public services to citizens and businesses* (…);

  moreover the policy pushes the European governments are committed to making user-centric, personalised, multiplatform eGovernment services a widespread reality by 2015;

- The Ministerial eGovernment Conference in Malmö (2009) [8] is based on the concept that *Citizens and businesses are empowered by eGovernment services designed around users needs and developed in collaboration with third parties, as well as by increased access to public information, strengthened transparency and effective means for involvement of stakeholders in the policy process*.

The users in NET-EUCEN are meant as persons, citizens and the whole concept of user-centric services is based on "putting the user at the centre of innovative services" starting from enabling of a specific procedure: users shall be involved in the user-centric services development driven by what users want and operate on a scale that is relevant to them.

NET-EUCEN establishes three conditions for the full achievement of the user-centricity in the provision of a service:

- User Involvement in a Co-design stage: this means the engagement and involvement of users in the stage of the development of new ideas and concepts, i.e. the definition of the service shall be made with users by starting from the users' needs, wishes and requirements without any technological constraint.
- User Involvement in Development and implementation stages: this means the engagement of a sample/group of users in the first implementation of the services in order to evaluate its features and continuously discuss with developers how to optimise the outcomes and suggest improvements and/or changes before the final running of the service;
- User involvement in deployment and running stages: this refers to the possibility to validate the service through an, even wider, user-test campaign. This test shall imply a check of the flexibility of the service from the technological perspective and the interoperability of the applications, thus to give the possibility to customise it following the changes in the political, economic or social environment.

3 THE SAMPLE

The 40 cases selected belong to the repository [6] of more than 70 experiences developed by the NET-EUCEN network, specifically:

- 25 cases gathered from the knowledge of partners that already entail the aspects of the user centricity. Some of them have been developed by the partners, and others have been scouted through an on-line survey.
- 49 cases selected in the www.ePractice.eu portal. These cases were retained as actually interesting for NET-EUCEN among more than 450 cases filtered in the portal, as they are characterised by – at least – two out three of the user-centricity criteria described in section 2.1

The overall analysis has been enriched by the comparison in the International Arena against the web scouted best practices of Bahrain, Canada, Dubai, Singapore and the U.S., to so to build a global positioning for European scenarios. The selection of 40 out 74 cases has been conducted following the criteria:

- Agreement of the owner of cases gathered in ePractice and answering to a network survey
- Selection of the 40 best user-centric examples

The complete list of cases is available at the free [9]

4 THE METHODOLOGIES

The analysis had been focused in three areas: technology, user-centricity, socio-political; each mapped best practice has been preliminary evaluated using a light version of the PEST (Political, Economic, Social and Technological) analysis to which we added a SWOT analysis of user-centric and technology aspects.

These steps have been carried out by the researchers and the experts in the field through analysis masks that have been developed as ad-hoc instruments.

The metrics adopted are the simplest possible, they take into account only 3 levels of appreciation (low, medium, high) and score (0, 0.5, 1), they are used to give a scalable weight to a free evaluation.

Each of the four involved factors has been analysed and assigned of a qualitative weight, then, each weight will be assigned to a score (table 2). For the analysis we summed all the four factors to arrive at a score in the window (0-4). This metric is defined by 3 degrees of potentialities of the cases basing it on the overall score achieved in either one or the other measuring.

This methodology can be easily adopted in other analysis for the network studies and can be even standardised to identify the main bottlenecks, technical challenges, acceptance problematic and mass-user needs.

4.1 The analysis of cases

- User-centric check. An analysis of the key-points that characterise the service as user-centric example. The user target factor has been taken into account as well for defining the easiness of use, the satisfaction, the participation / inclusion of such categories in the whole process of service delivery. The analysis is carried out by giving an answer to the strength and the weak points of two different stages of the users' involvement: 1. I*nvolvement of user-citizen in the service definition* and 2. *Involvement of user-citizen in the improvement of the service*.
- Technological check. An analysis of the usability of the service, its long-term lasting and viability of the provision interfaces for the user target, aiming at pointing out and categorise the significant factors that can be actually used for describing the added value of the service in the eGovernment domain. It has been carried out by giving an answer to the strength and the weak points of two different stages of the technological level of the service development: 1. *Adaptability of the technology to the user target requirements* and 2. *Capability of the technology to be re-adapted for improving the service or transfer to other domain*.
- The PEST analysis including transferability. The (Political, Economic, Social and Technological) analysis has been introduced for better understanding the market positioning, potential and direction for the business and application of selected services

since it takes into account essentially external factors. It is dedicated to address what are the variables that actually impact on the macro-environment especially under a strategic perspective so to evaluate also the transferability of the case. According to this purpose, our PEST analysis addresses the following issues: 1) *Understand which are the variables that could impact on the future applicability of the service in the medium-long term*; 2) *Identify potential opportunities and threats in the service provision*.

4.2 The metrics used

- The user-centric metric. Its paradigm has been defined in [5] and its methodologies for measuring it in each of the steps have been exploited in [10]. We define 3 degrees of user-centricity in the cases, depending on the overall judgment or score of their indicators: Low, Medium and High. We consider 4 parameters belonging to 2 different domains as follow: user-centricity (P1 *Share ideas and co-create content*, P2 *Provide information to improve the service*), Best Practice (P3. *User satisfaction*, P4. *Participation in decisions*)
- The transferability metric. It measures the actual potential of a service to be provided in other socio-economic environments and it's evaluated through the PEST analysis: P5 *Specific link to a local constraint or need*, P6 *Self-sustainability and/or raise to a business for providers*, P7 *Transferability to other user targets and under which conditions*, P8 *Transferability to other domains and under which conditions*.

Table 1: Weights and scores of the analysis

User Centred Approach	Best Practice Evaluation	Replicability	Evaluation	Score
P1, P2	P3, P4	P5, P6, P7, P8		
This is easily possible with no limitation			HIGH	1
This is possible with limitation			MEDIUM	0.5
This is clearly not possible or very difficult			LOW	0
No indication: the default option in case there is no information			MEDIUM	0.5

4.2.1 Assignment of score in the overall positioning matrix

An overall bi-dimensional matrix [USER CENTRICITY: TRANSFERABILITY] (Figure 2) is used as a tool to describe, at a glance, the potential of services scouted in the campaign of enhancement of user centricity. All the 40 cases have been scored and positioned in this matrix for a better vision of which of them could be actually used for proposing them to Public Administrations and Policy makers. The quantitative evaluation followed a procedure that gave the results in a bi-dimensional, 3-degree environment that, as the Figure 2 suggests, help us to actually differentiate the cases of interest in four different categories: [no, low, medium, high] interest.

Table 2 Overall degree of interest assigned to cases

User centricity	Transferability	Evaluation
Low	low	No Interest
Medium	low	No Interest
High	low	Low Interest
Low	medium	No Interest
Medium	medium	Medium Interest
High	medium	High Interest
Low	high	Low Interest
Medium	high	High Interest
High	high	High Interest

5 THE RESULTS

From our technology analysis we've seen that several running services are still in the only-web information delivery that actually represents the trend of the mid 2000, while the emerging 2.0 tools are still in development phase for this specific sector.

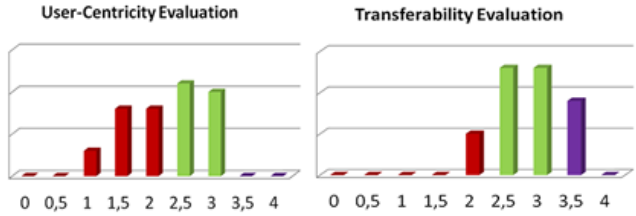
Additionally, quite all the surveyed services are the result of the application of a policy (at whatever level, central – local) and co-funded by the public administrations; this is an important issue since it reveals that few running service can be actually used for a business in the short-medium period. The sustainability of these services lies in the reduction of the running costs and in the improvement of the welfare.

5.1 Preliminary statistics about analysed cases

This paragraph answers to the request of understanding how much the analysis mask we adopted has a filtering impact in the evaluation. The first output (figure 1) is the following:

- There is an equal distribution of low and medium application of user-centricity;
- The transferability scores a visibly higher level and this means that it has been paid more attention to the ICTs technology – that is mature - rather than to the users;
- It's worth to mentioning that no one case has been found as characterised by an high-level of application of the user-centricity paradigm as it has been defined by the NET-EUCEN network.

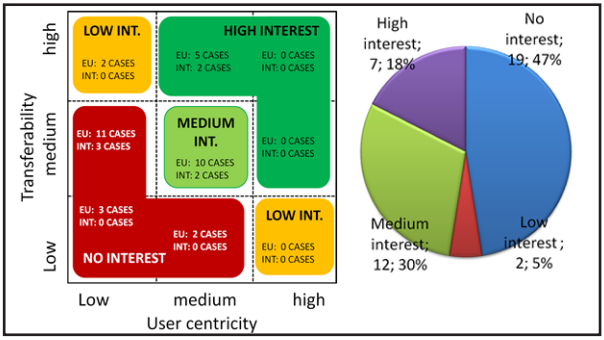
Figure 1: Case analysis: distribution of scores. a) user-centric, b) transferability



5.2 Overall positioning

A bi-dimensional matrix helps us to individuate the cross-related areas of interest and evaluate the relative weight of each service against the current status of the facts in the application of user-centricity.

Figure 2: Case analysis: distribution of degree of interest. a) matrix b) aggregated

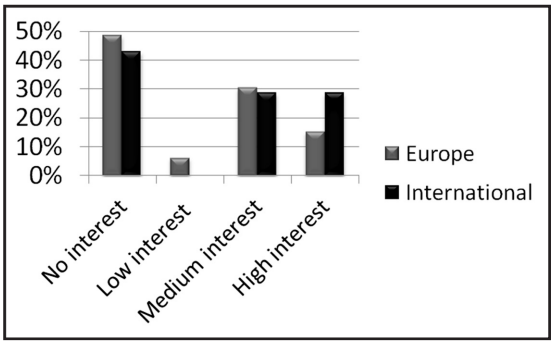


Each cross-related area is defined in the section 4.2; the outcomes might be summarised as follows:

- We only have 7 cases lying on the area of high interest;
- Other 12 cases can be considered of medium interest and have been – hence – included into an awareness campaign.
- There is an equal distribution between the not interesting (No, Low interest) and interesting (Medium, High interest) categories.

It's even possible appreciate a preliminary "International Comparative Analysis" (ICA) between the European and the International areas; this is meant to provide a sectoral answers to our main question: is the Europe aligned with the rest of user-centric offers worldwide?

Figure 3: Case analysis: distribution of degree of interest. a) matrix b) general



The figure 3 helps us to easily say YES, even if the starting data represent a small sample of the global offer of service to citizens and users; indeed the various distributions between Europe and International area differ only for some percentage-points.

6 CONCLUSION

The "key" used in this analysis is the "citizens engagement" in the various phases of the service definition, development and refining, that can be actualised through very different ways and using very different tools, often not only ICT-based; public workshops and consultation are still a powerful instrument to create a co-operative debate.

The document reveals that there exist very few examples of running application of the user-centricity paradigm as defined by the NET-EUCEN network: 20 out an initial sample of more than 450 cases - and notably 7 of high interest since they embed both user-centricity aspects - are easy to be transferred. This survey, indeed, represents the second step of the Best Practice [6, 9] that started by looking at a more that 1.500 cases in the www.epractice.eu repository.

The analysis reveals that the Europe and the International area share the same level of implementation of user-centric services and a wider campaign of analysis would be need to point out the technological level and the actual implementation by central and local governments.

We underline that the following results have only a partial validity since they refer only to a small percentage of the total services that are offered to citizens at a global level.

Following this preliminary analysis, we can list some initial recommendation targeted to the Community at large, the rationale follows the analysis of those cases that have scored the highest level in our evaluation, focused on understanding the aspects and reasons why a case is more interesting when compared to another:

- It's important to assess methodologies for users and citizens' engagement that imply the active participation of users especially in the phase of the service definition.
- The use of new technologies and the 2.0 tools through mobile devices empowers the co-participation of users, being these the interface that almost all citizens and users are going to use for the management of all the information of his/her daily life.
- The use of open technologies increases the possibility to engage free-lance programmers, thus increasing the low-cost / high-quality bug detection and service improvements, even through the implementation of new features.
- The business perspective for the service' sustainability is a boundary requirement when thinking about the need of provision of added-value content information.

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Lodz Region's potential for the IS creation - findings

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Structured Abstract

Purpose & Scope:
IS development in the Lodz Region is going to be one of the key objectives in the next financial perspective. It is indispensable to make a detailed analysis of its current state. The research enables an analysis of different indicators describing e-development potential and its changes.

Design/methodology/approach:
Qualitative and quantitative analysis of IS development indicators in the public sector, between the citizens and entrepreneurs is crucially important. Statistical data from GUS, EUROSTAT, Social Diagnosis 2011, as well as own research findings, were used. It is essential to reach a detailed spatial layout of each indicator (on a district level, if possible).

Results/findings:
A spatial model of the e-development potential of the Lodz Region has been elaborated.

Conclusions:
Conducted research indicates a diverse e-development potential level, strongly correlated with the spatial system of the region – taking into account e.g. e-accessibility. IS activities undertaken by the Lodz Region enforces the results of this analysis.

Keywords: *IS creation, indication analysis, IS development potential*

1. INTRODUCTION

Every analysis of information society begins with a basic challenge: answering a question on what the term "information society (IS)" really means. Everyone agrees that "creation of first computers and their more and more widespread use in different areas gave grounds for information technology revolution, which resulted in increased labour efficiency and opened the door to ideas that used to be regarded as impossible to materialize (like flying to the moon). Using the computing powers of computers eliminated some of the limits of human mind or, at least, led to significant widening of its possibilities".[1] However, "questions often arise whether information technology becomes a universal measurement of development, whether it is a natural stage of civilisation evolution or a project that is possible to realise only in the civilisation centre countries; whether we are facing a new stage of science and technology revolution which is, as some claim, a continuation of its previous stages, or it is a completely new quality, mutation of civilisation."[2] Leaving aside the theories, we can assume that in a modern economy of 21st century "a real resource-controlling and decisive factor of production is not capital, land ownership or labour force. It is knowledge".[3] If we assume that information is a basis of knowledge, we can adopt the definition of the term IS after Kazimierz Krzysztofek and Marek Szczepański for the purposes of this paper. They claim that information society is "a society in which information is widely used in economic, social, cultural and political life; a society with numerous means of communication and information processing that are the main driver of creating GDP and provide source of income for the majority of population."[4] Defining IS leads to another important question: what should be the scope of its analysis. "The statistics of information society is an area that is still being created. The source data, indicators, methods of research and the interpretation of the results are still under discussions. For almost two decades there have been attempts to define nearly all its aspects. However, by now even the scope of IS statistics is not fully defined. Firm guidelines for the research's scope will probably never be defined due to huge dynamics of the phenomena under research, which result from the quick technological changes that are typical for ICT sector."[5]

For the purposes of this paper the starting point is the analysis of quantity and quality indicators of IS development in public sector, individual sector (inhabitants) and in business. Commonly available statistical data (GUS, EUROSTAT, Diagnoza Społeczna 2011 (Social Diagnosis 2011)) as well as own research results are used. An important goal of the analysis is arriving at a detailed spatial distribution of individual indicators.

Part one contains presentation the indicators adopted in the analysis of e-development potential of the Lodzkie Region as well as rationale for such indicators' choice. Part two presents the analysis of indicators of the Lodzkie Region e-development. Part three contains comparison of e-development potential of the Lodzkie Region's poviats measured with COI Association[6] methodology (2006) with own research results (2012). Part four provides summary and conclusions as well as recommendations for the local government interventions in the future financial perspective with respect to creating information society in the Lodzkie Region.

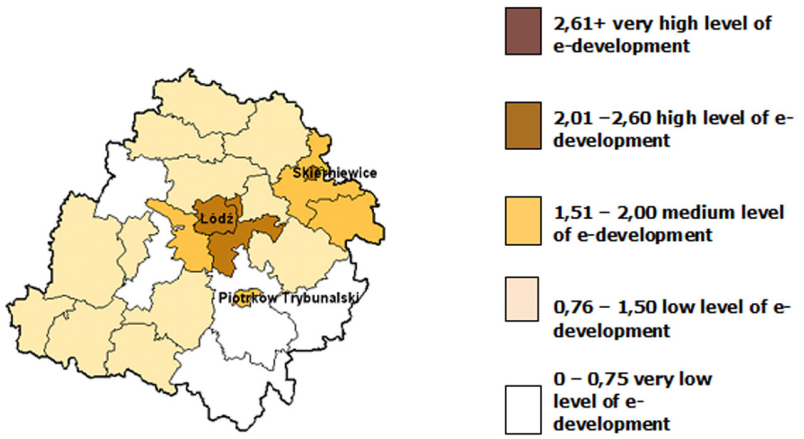
2. THE LODZKIE REGION E-DEVELOPMENT POTENTIAL INDICATORS

One of the major challenges in the analysis of IS indicators at the level of local government units is the lack of a single, commonly used methodology and research scope that could lead

to an unbiased assessment and comparison between different units. EUROSTAT methodology seems a natural choice here. Unfortunately, such choice is not possible due to data collection methods of the research agent (GUS). When attempting to research IS development potential of gminas within one region (voivodeship), the entire conceptual work needs to be done by the Marshal's Office. From the point of view of local government unit it is important because due to lacking methodological and research abilities of the Office, the service provider is usually obliged to define the research assumptions. Such practice will always be raising doubts as to the objectivity and efficiency of research. Additionally, due to legal constrains (for example the copyrights for the research concept), it would be difficult to share such methodology with other local government units and, consequently, to rate and compare them.

The basic assumption adopted when creating the research methodology of the research described in this paper is that the indicators should be based on the most commonly available data. For that purpose, Statystyczne Vademecum Samorządowca 2011[7] (Local Government Statistical Handbook 2011), a yearly report published by the Statistical Office in Łódź, proved indispensable together with the results of own research by the IS Section of Infrastructure Department of the Marshal's Office.

Figure 1: Map of the Lodzkie Region's e-development potential – methodology by Cities on Internet Association – December 2006



Source: iŁódzkie 2013. Program rozwoju społeczeństwa informacyjnego w województwie łódzkim na lata 2007-2013, http://www.si.lodzkie.pl/images/dokumenty/i-lodzkie_2013.pdf, Łódź 2007

When choosing the indicators for the research, we needed to define which components of social and economic life show the potential of a given gmina with respect to creating information society. Four following groups of indicators were selected.

1. Administrative potential – a group of simple indicators that show the local government readiness to act in information society and provide public e-services. It answers such questions as: what capacities the local administration has with respect to creating information society, whether the local administration verbalized the need for creating such society, whether it took actions to create e-administration and made public e-services available to the inhabitants. The administrative potential consists of the following indicators:

- number of higher education graduates/total number of the employed in the local administration unit
- number of people dedicated to raise EU founds/total number of the employed in the local administration unit
- number of computer units/total number of employees
- computer units with internet access/total number of computer units
- Electronic Document Management System (SEOD)
- Electronic Inbox (ESP)
- providing public e-services
- own IT department in the local administration unit
- IT projects realised (development strategy, GIS, innovations, office computerization projects)

2. Social potential – a group of indicators that show the potential of local community (gmina's community) to build information society. It answers questions on internal conditions of local society development for creating information society. Social potential consists of the following simple indicators:

- number of people in productive age/total number of inhabitants
- public internet access in the gmina's territory
- gmina's expenditure per inhabitant/region's average
- EU financial resources/total number of inhabitants
- public libraries and its branches in the gmina
- number of readers/total of inhabitants
- population growth in the gmina
- migration balance in the gmina

3. Educational potential – a group of indicators that describe the development chances of children and youths living in the gmina with respect to modern education accessibility. The educational potential consists of the following simple indicators:

- number of people in pre-productive age/total number of inhabitants
- number of pupils in second level of education/number of primary schools
- number of primary school pupils per computer with internet access
- number of pupils in third level of education/number of grammar schools
- number of grammar school pupils per computer with internet access
- participation of schools in educational project (services, equipment, trainings).

4. Economic potential – a groups of indicators that describe the economic activity of companies and inhabitants of gmina, possibility of growing e-business and efficiency of undertaken economic activities. The economic potential indicator consists of the following simple indicators:

- national economy units per 10000 inhabitants
- number of self-employed per 10000 inhabitants
- enterprises registered in REGON register by sector (industrial, construction, services)
- internet access with bandwidth over 512 kbps
- internet access with bandwidth over 2Mbps
- access to wholesale services of broadband internet
- unemployment rate in gmina
- personal and corporate income/gmina's income

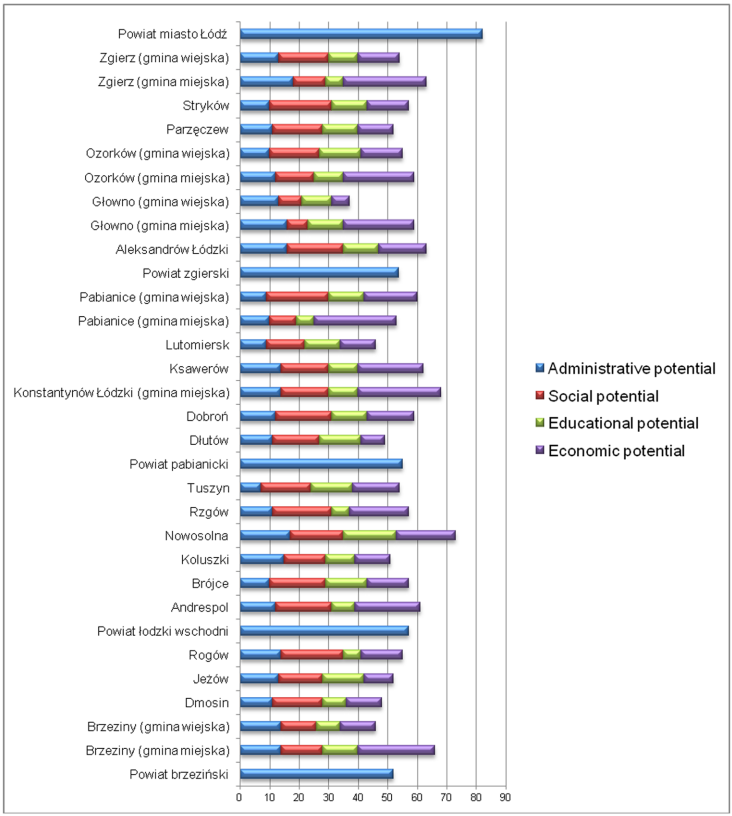
Simple indicators of administrative potential come from own research carried out in October 2012. The efficiency of survey was 90%. For gminas which did not participate in the survey, their poviat's average was used.

3. E-DEVELOPMENT POTENTIAL OF THE LODZKIE REGION

All 177 gminas of the Lodzkie Region fell within the scope of the research, which lead to problems with the presentation of aggregated results. Therefore, the research results are presented in division into sub-regions as per GUS (Central Statistical Office) division:

1. sub-region of Łódź, including poviats of: Zgierz, Pabianice, Brzeziny, Łódź East, presented together with sub-region of the city of Łódź, which is presented graphically in Chart 1 for illustration.
2. sub-region of Piotrków, including poviats of: Bełchatów, Opoczno, Radomsko, Tomaszów, Piotrków rural nd Piotrków urban,
3. sub-region of Sieradz including poviats of: Sieradz, Zduńska Wola, Łask, Wieluń, Wieruszków, Poddębice,
4. sub-region of Skierniewice, including poviats of: Skierniwice rural, Skierniewice urban, Rawa, Kutno and Łęczyca.

Chart 1 – total level of IS development potential indicators in gminas of the Lodzkie Region – sub-region of Łódź + sub-region of the city of Łódź



The above charts present the summary level of IS development potential indicators in gminas of the Lodzkie Region – sub-region of Łódź. The indicator of IS development potential for gminas was calculated based on the following formula:

Wp = ((Wa+Ws+We+Wg) / (Wa_max+Ws_max +We_max +Wg_max))x100%

where:

Wp – means the value of IS development potential indicator in percent,

Wa – means the value of administrative potential indicator,

Ws – means the value of social potential indicator,

We – means the value of educational potential indicator,

Wg – means the value of economic potential indicator,

Wa_max – means the maximum value of administrative potential indicator,

Ws_max – means the maximum value of social potential indicator,

We_max – means the maximum value of educational potential indicator,

Wg_max – means the maximum value of economic potential indicator.

Due to the fact that the maximum value of indicator calculated with this formula is 100%, it assumed that:

- very low level of indicator ≤ 35%,

- low level of indicator ≤ 45%,

- medium level of indicator ≤ 60%,

- high level of indicator ≤ 80%,

- very high level of indicator › 80%).

Based on the above assumptions, very low level of IS development potential is identified in gminas: Oporów, Bielawy, Łyszkowcie, Mniszków, Nowa Brzeźnica, Siemkowice, Masłowice, Wielgomłyny, Żytno.

Low level of IS development potential is identified in gminas: Brzeziny (rural gmina), Bedlno, Krzyżanów, Łanięta, Nowe Ostrowy, Strzelce, Daszyna, Góra Świętej Małgorzaty, Grabów, Łęczyca (rural gmina), Witonia, Chąśno, Kocierzew Południowy, Łowicz (rural gmina), Zduny, Białaczów, Drzewica, Paradyż, Poświętne, Żarnów, Dłutów, Dobroń, Lutomiersk, Pabianice (urban gmina), Pabianice (rural gmina), Kieczygłów, Aleksandrów, Gorzkowice, Łęki Szlacheckie, Rozprza, Wolbórz, Uniejów, Wartkowice, Zadzim, Dobryszyce, Gidle, Lgota Wielka, Przedbórz, Radomsko (urban gmina), Radomsko (rural gmina), Cielądz, Rawa Mazowiecka (rural gmina), Sadkowice, Goszczanów, Klonowa, Wróblew, Głuchów, Nowy Kawęczyn, Będków, Czerniewice, Inowłódz, Rzeczyca, Osjaków, Ostrówek, Głowno (rural gmina).

Medium level of IS development potential is identified in gminas: Bełchatów (rural gmina), Drużbice, Kluki, Rusiec, Szczerców, Zelów, Brzeziny (urban gmina), Dmosin, Jeżów, Rogów, Dąbrowice, Krośniewice, Kutno (rural gmina), Żychlin, Buczek, Łask, Sędziejowice, Widawa, Wodzierady, Łęczyca (urban gmina), Piątek, Świnice Warckie, Domaniewice, Kiernozia, Nieborów, Andrespol, Brójce, Koluszki, Rzgów, Tuszyn, Opoczno, Sławno, Pajęczno, Rząśnia, Strzelce Wielkie, Sulmierzyce, Czarnocin, Grabica, Moszczenica, Ręczno, Sulejów, Wola Krzysztoporska, Dalików, Pęczniew, Poddębice, Kamieńsk, Kobiele Wielkie, Kodrąb, Ładzice, Biała Rawska, Regnów, Błaszki, Brąszewice, Brzeźnio, Burzenin, Sieradz (rural gmina), Warta, Złoczew, Bolimów, Godzianów, Kowiesy, Lipce Reymontowskie, Maków, Skierniewice, Słupia, Budziszewice, Lubochnia, Rokiciny, Tomaszów Mazowiecki (urban gmina), Tomaszów Mazowiecki (rural gmina), Ujazd, Żelechlinek, Biała, Czarnożyły, Konopnica, Mokrsko, Pątnów, Skomlin, Wieluń, Wierzchlas, Bolesławiec, Czastary, Galewice, Lututów, Łubnice, Sokolniki, Wieruszów, Szadek, Zapolice, Zduńska Wola (urban gmina), Zduńska Wola (rural gmina), Aleksandrów Łódzki, Głowno (urban gmina), Ozorków (urban gmina), Ozorków (rural gmina), Parzęczew, Stryków, Zgierz (rural gmina).

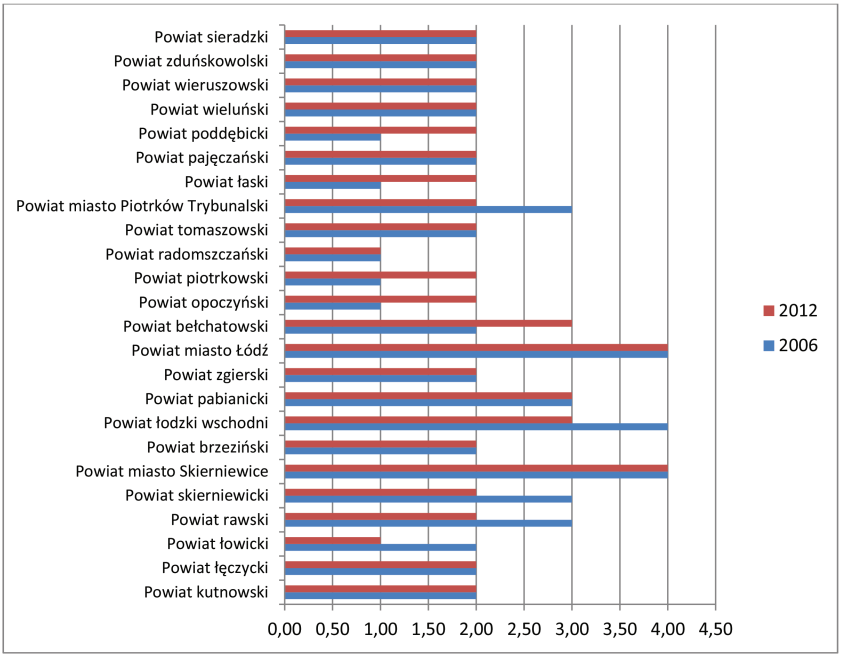
High level of IS development potential is identified in gminas: Kleszczów, Kutno (urban gmina), Łowicz (urban gmina), Nowosolna, Konstantynów Łódzki (urban gmina), Ksawerów, Działoszyn, Gomunice, Rawa Mazowiecka (urban gmina), Sieradz (urban gmina), Zgierz (ur-

ban gmina), Bełchatów (urban gmina) and cities with poviat status: Łódź, Skierniewice and Piotrków Trybunalski.

4. E-DEVELOPMENT POTENTIAL OF POVIATS OF THE LODZKIE REGION

The last research on information society development potential for the entire Lodzkie Region was carried out in 2006 by „Cities on the Internet" Association (Stowarzyszenie Miasta w Internecie) when creating sector strategy iŁódzkie 2013[8] (the research results can be fund in figure1). Therefore, it is worthwhile to compare these results with the outcomes of the current research, calculated as an average potential of gminas of a given poviat. It should be understood that e-development potential and information society development potential denote the same potential. In the own research (from 2012) the following thresholds were adopted: very low potential (up to 45%), low potential (up to 55%), medium potential (up to 65%), high potential (up to 85%), very high potential (above 85%). The chart below presents the results.

Chart 2 – comparison of e-development potential in 2006 and 2012 for The Lodzkie Region's poviats



5. CONCLUSIONS AND RECOMMENDATIONS

The objective of the present paper was to create a measurement methodology and measure the IS development potential of the Lodzkie Region's gminas. Due to lacking resources for commissioning the research, the methodology created uses to the largest possible extent data that are commonly available. By means of using GUS research results coupled with own survey (especially with respect to data on the administrative potential of gminas), cross-sectional picture of e-development potential of the Lodzkie Region's gminas was created. The lowest results were achieved in gminas with strong influence of farming industry (sub-regions of Skierniewice and Piotrków). Relatively low economic and administrative potential of these gminas had the greatest impact on their total result. Urban gminas (most of them located in sub-regions of Łódź and Sieradz) achieved much better results. Social and economic potential had the biggest influence on the total results of these gminas. What is interesting, the high level of educational potential in rural and urban-rural gminas is observed. The analysis shows that the level of e-development potential is strongly related to the spatial layout of the region, namely the distance from big cities, public transport accessibility and telecommunication infrastructure accessibility. That being said, the following recommendations can be suggested for the local government interventions.

5.1 Recommendation 1

Increase administrative potential of rural gminas (development and further implementation of an integrated system of public e-services in the Lodzkie Region (Gateway to the Lodzkie Region) and use the potential of the regional GIS project.

5.2 Recommendation 2

Use educational potential of rural and urban-rural gminas to increase the social and economic potential in these gminas by granting wider access to modern, general education using TIK (project under preparation - Educational Gateway to Lodzkie Region).

5.3 Recommendation 3

Decrease the asymmetry in the access to telecommunications infrastructure, including broadband internet (develop the ongoing projects of Teleinformatic Network of the Lodzkie Region I and II with an additional project on regional skeleton infrastructure and a project on providing distribution and access infrastructure).

The results of the research prove that the methodology adopted fulfils the research objectives. It is confirmed by the high co-relation of the results with the results achieved in the COI Association research from 2006. However, this methodology should be constantly monitored with respect to its quality and sensitivity to the random deviations of the adopted simple indicators. Therefore, the fourth recommendation becomes of crucial importance.

5.4 Recommendation 4

Introduce yearly cycle of research and detailed analysis of its results as a routine task of one of the units of the Marshal's Office of the Lodzkie Region.

The proposed research methodology was created by the author of this paper. It requires evaluation in the coming years and in other regions. However, it makes it possible to create a simple, and, what is more important, efficient tool to research the information society development potential at a level of gminas in Polish regions.

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Development of an e-participation platform for invention assessment

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Katharina Diehl is a landscape ecologist with a focus on sustainable land use. She is a coordinator of projects in an international, multilevel and cross-sectoral research environment. Her research involves the development of methods and tools for ex ante impact assessment and technology development.

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Christoph Okpue is CEO Ontopica GmbH, a company specialised on consulting and software in the domain of communication processes with substantial participatory elements. He is developer of innovative e-participation solutions to get involved in decision making processes via the internet.

Bettina König is horticultural scientist with a PhD in agricultural economics from the Humboldt University of Berlin. Her research focuses criteria for knowledge and technology transfer that support individual land users, planners and politicians in decision making processes.

Structured Abstract

Purpose & scope:
Technology development for sustainable land use is key for planning the future of European regions. Our objective was to provide planners with a tool for invention assessment that can be applied to find the best development options and to allocate resources efficiently and effectively.

Design/methodology/approach:
Based on traditional stage gate processes linked with a systems approach we designed a roadmap for technology development that combines assessment and foresight methods for a 5 year planning frame. The roadmap was applied to two cases and was then translated into an e-participation platform based on dito technology.

Results/findings:
We developed a software tool that allows a structured communication process. By identifying the functions of each invention for potential use in different target sectors we were able to set indicators to measure progress and success.

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Conclusions:
Since technology development is a strategic activity, it requires a sheltered room for cross-sector communication.

Keywords: *technology development, foresight, land use, e-participation, software development, communication*

1 INTRODUCTION

Promising research results tend to not find their way into practice in the face of daily routine in the research sector on the one hand and constant requirements in the business sector on the other. The development of the e-participation platform for invention assessment began by exploring and analysing two cases of innovation development based on an invention from agricultural and land use research: a biological treatment to control wilt symptoms caused by *Verticillium dahliae Kleb*. populations in strawberry plants [1], and an innovative model of an aquaponic system for improving greenhouse production of vegetable and fish production in a closed water circular system [2]. In both cases the research institutes had a patent filed. The authors set out with the task to bring the inventions to the market for the benefit of the research institutes.

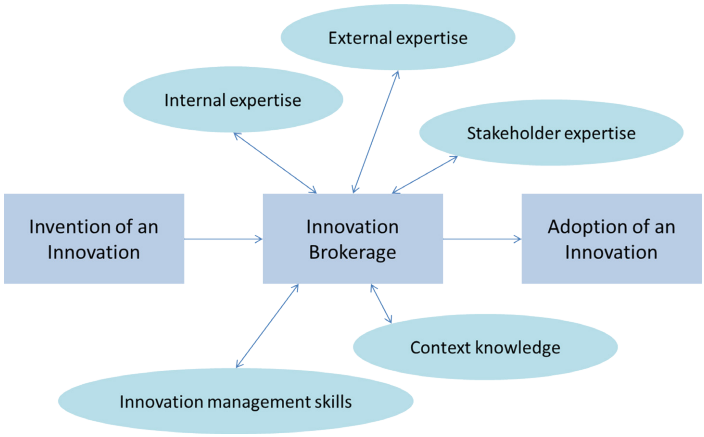
Technology strategies address this gap in providing a roadmap for technology development by considering the product as well as the production cycle of the sector involved [3]. Based on the traditional stage gate process described by Cooper [4] and linked with the concept of sectoral innovation systems by Malerba [5], we designed a roadmap for technology development that combines assessment and foresight methods for a 5 year planning frame. A set of methods was identified in the design of the process that included expert interviews, network analysis and real-world workshops. The roadmap was developed with information from literature, research and expert interviews and was revised upon our own findings during the implementation of the process for both cases.

Judgement based on experience and literature showed that the roadmap provided a useful tool to effectively collect data and to ensure transparency and trust in between the actors involved in the process. The methods we used to assess the invention in order to explore further application in practice were following a reproducible structure. The overall objective of this study was therefore to translate the roadmap we had explored into a management and assessment tool that would facilitate future innovation processes by an online based platform.

2 PARTICIPATION IN INNOVATION PROCESSES

One increasingly common attempt to bridge the gap between science and practice in the agriculture and land use sectors is the implementation of innovation brokers. The term is defined by Klerkx & Leeuwis [6] *a type of systemic intermediary that is fully dedicated to the facilitation of the formation and maintenance of innovation networks and innovation systems from an independent third-party position*. Summarised by the authors, innovation brokerage involves at least three basic functions: 1) articulation of innovation demands in terms of technology, knowledge, funding and policy, 2) formation of innovation networks by scanning, scoping, filtering and matchmaking of possible cooperation partners, and 3) innovation process management by enhancing alignment and learning within the multi-actor network.

Figure 1: The innovation broker brings together in-house expertise, external experts and stakeholders as well as knowledge and skills.



Source: authors' compilation.

Common problems generally confronted in an innovation process include 1) the non-linearity of the process, 2) the multiple sets of actors involved, and 3) the highly interdisciplinary set of skills and expertise needed in the management of an innovation process (e.g. [7]). In Fig. 1, we have illustrated the innovation broker at a central position between the demand side (adoption of the innovation) and the supply side (invention of the innovation). Based on our own experience, the role of the innovation broker is to be the hub for exchanging knowledge from internal and external experts as well as from stakeholders regarding the development of the invention towards a market. The innovation broker also brings together knowledge from the societal and political context as well as the skills needed for adequate innovation management.

The formation and functioning of an innovation network can provide ineffective when the process faces gaps that the innovation broker has no means to overcome. Klerkx & Leeuwis [6] mention cognitive gaps, information gaps, managerial gaps and system gaps. Further gaps can be semantic or related to trust, availability of resources or intellectual property [8]. There are various examples of using a structured management approach to organise collaborative networks in order to facilitate the innovation process and to address the above mentioned specifications. E. g. Bouma et al. [9] describe their approach of *connected value development* to create a successful link between knowledge creation and social appreciation. While the development process itself can be structured into different phases, the adaptation of research planning, management and judgement procedures is unique for each process. Chiva-Gomez [10] exemplifies the value of *design management* to foster relationships between firm and non-firm members in a product design process, to increase the information flow and to promote a balanced heterogeneous participation of the partaking actors. Sarin [11] highlights the formation and management of *new product development teams* as a means to address a wide variety of issues in product development activities, such as shortening the time for getting new products to the market or to improve knowledge sharing between cross-functional teams.

3 CONSTRUCTION OF AN E-PARTICIPATION PLATFORM

The implementation of our roadmap confirmed the impression gained from literature that bringing all stakeholders together in an early phase of the innovation process is very effective in overcoming some of the general challenges in team interoperability. The aim was therefore to construct a web-based solution for bringing together an innovation network and to manage the innovation process. The tool was to be compatible to multiple clients and for a random number of innovation projects. The number of participants to each project was to be scalable to allow a user-defined group size in an innovation process.

The prototype was developed by using **dito** software provided by ontopica GmbH. **dito** comprises technology that first of all visualises processes, and additionally brings in expertise from online participation processes for example from urban planning or resources allocation in municipal environments. The software is set up in a modular way and can be adapted to different types of dialogue-oriented, participative communication and decision processes. The possibilities in configuration range from simple survey to complex deliberative processes. A typical process involves several phases, each one of which addresses a different concern.

A configuration of phases and steps was developed by translating the set of methods from the workflow used in our roadmap to the technical functionalities of the software. The configuration was subsequently refined in a series of iterations between June 2011 and December 2012. A prototype of the e-participation platform was developed and further revised.

4 TRANSLATING THE INNOVATION PROCESS

The function of the innovation broker was divided into three basic roles: 1) mediator of the process, 2) expert participant to the process, and 3) technical support. The mediating role was considered as partly technical (organising and driving the online process) and partly professional (identifying and receiving participants, applying the methodological steps and managing the process). Technical support was included to guarantee efficient workflows and flexible adaptations in the setting where needed. While 1) and 3) were still to be overseen by the initial intermediary, the role of the expert participant was understood as a first among equals and therefore appropriate to bring all actors at eye level.

Each method used in the roadmap was considered a separate phase in a chronological order that could be set or changed by the mediator before starting an online dialogue for invention assessment. Depending on the estimated computer affinity of the anticipated participants we designed the platform in such a way that the online dialogue can be set up accordingly by the mediator. Thus, the platform can provide templates either for active content maintenance by the participants or by the mediator. The configuration may also depend on the aim of the innovation broker to either support intensive interaction between the participants or to focus on the documentation aspect of the platform.

Three key procedures form the backbone of the roadmap:

- **expert interviews** were used to scope the relevance of the invention as seen from the individual experts' perspective and to screen potential development options. The expert interviews were translated into a standardised questionnaire. The questionnaire was generalised to fit any invention at different stages of development, but can be specified by the mediator before starting the innovation process.

- **network analysis** was used to assess the perspective of the participants regarding the invention and its development, to scan available resources, potential barriers or upcoming synergies. The outline of the analysis was translated into a guideline for the mediator to be followed by communicating with the participants and resulting in a table to be filled at the end of the dialogue.
- **real-world** workshops were undertaken to jointly outline a potential scenario for the development of the invention by integrating the expert participants knowledge and their perception of economic and social benefits related to a possible development of the invention in the future. The e-participation platform can be used to conduct the whole workshop by online dialogue using forum software or alternatively to document the proceedings and outcome of a face-to-face-meeting.

Each of the three phases within the online dialogue comprised the following steps:

a) **Identification of participants**: After having identified relevant experts the mediator can invite them as participants by using the online platform. The range of participants can vary between phases.

b) **Implementation of the method**: The mediator can organise and conduct each phase by using the technological functionalities of the software. The mediator can invite a different set of participants to join the current phase in the online dialogue.

c) **Documentation of results**: The mediator can make any part of the communication in the dialogue visible to all participants. Results can be structured and arranged to the needs of the innovation process.

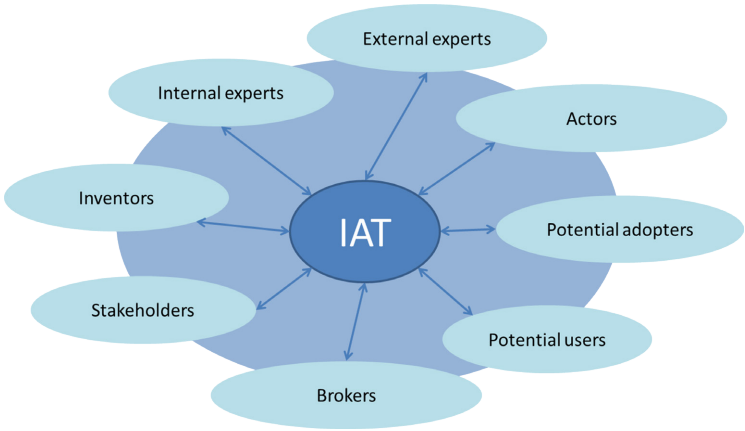
d) **Annotation of results**: All participants are invited to comment on the results. The range of participants can be varied by the mediator and if wished, this step can be open to public.

e) **Evaluation of results**: The mediator can evaluate the results by using a generalised set of indicators provided for by the software tool. The decision for "stop" or "go" to the next phase of the online dialogue can be documented and communicated to the participants or opened to public if wished.

5 MAIN RESULTS

The e-participation platform in its current form allows a structured communication process at eye-level for all participants during the dialogue phases as illustrated in Fig. 2. Knowledge and skills are brought into the innovation network by individual expert actors that commit themselves to the innovation process and thus take on the responsibility for assessing and furthering the invention. All activities and results are documented during the online dialogue carried out on the e-participation platform. In Fig. 2 we differ between adopters (potential users of the invention) and users (potential benefiters or end-users of an improved product or service). The term stakeholder here refers to those actors that have some kind of ownership right towards the invention either financially or regarding intellectual property, thus contrasting with the also listed actors who have a distinct function in furthering the invention towards market. The e-participation platform can enable the innovation broker – that is assumed to have limited resources – to involve experts, stakeholders and potential users with various functions towards an invention in a cost-efficient and effective way.

Figure 2: Experts involve in the innovation process – the innovation broker takes up the role of a first among equals.



Source: authors' compilation.

The e-participation platform allows an integration of expert knowledge where an expert based assessment is wished and can additionally be opened to public opinion in case a broad assessment is needed to further the invention towards market. One main distinction in the application of e-participation for invention assessment as compared to other participatory online dialogues is the variable handling of openness toward the public.

The e-participation platform may be applied to inventions in various stages of development and it is thus applicable in the non-linear processes typical for innovation. Although the initial intention was to provide a tool that can be applied in very early stages of an innovation process, the software modules of the e-participation platform can be adapted for the online dialogue to match later stages effectively.

Even though participation of experts (and public) can be varied by the mediator in the course of an online dialogue, we argue that the level of transparency is still higher compared to other participatory processes not supported by an e-platform due to the thorough documentation of the process. By means of the tool, the results can be published internally or externally at any given point in time.

We see a general advantage of expert participation in the development of an invention in the integration of sustainability aspects of a future product in the early stage of invention assessment. The e-participation platform has the virtue that by using the technical functionalities to document, cluster and comment the outcomes of the online dialogue, criteria of environmental safe-guarding and social well-being can be rated and prioritised against economic benefits in the documentation of results. We see this feature as an important aspect for future research related to the application of the e-participation platform.

Further research is planned also regarding the functions of innovation brokerage and to what extent they can be supported by the e-participation platform by applying the online dialogue to a number of test cases. Although we expect the e-participation platform to be useful in supporting the functions of innovation (articulation of innovation demand, formation of innovation networks and innovation process management), we had anticipated an interest

in support for the last two functions rather than the first. However, the interest we currently meet is strongly motivated by the search for tools that support identification and formulation of innovation demand.

6 CONCLUSION

Current policy development in the EU has shifted towards a strong focus on research, development and innovation. The European Commission underlines the crucial role of research. The aim is to make Europe more resilient in the face of transformation due to global pressures and long-term challenges such as pressure on resources, ageing and globalisation. Technology development for complex issues such as required for a sustainable development is crucial for planning the future of European regions.

Our objective was to provide planners with a tool for invention assessment that can be applied support innovation brokers to find applicable development options and to allocate resources efficiently and effectively. We set out to explore the value of online based e-participation platform to structure the process of innovation development and to improve the collaborative process by making it more transparent and comprehensible to the actors involved. We conclude that the e-participation platform we developed can in its current form be set up to suit an innovation process by providing a sheltered room for cross-sector communication. The main advantages are seen in the platform as a tool to ensure interoperability between all actors involved. We believe that the application of the e-participation platform can contribute to the understanding of innovation processes and thus to help close the innovation gap between research and practice.

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Zadar archipelago integration in regional development through ICT

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Structured Abstract

Purpose & Scope:
Paradigm shift in regional development - ICT tools and e-infrastructures setting off dynamics for growth in economic integration processes of the archipelago with its mainland.

Design/methodology/approach:
Project „e-Islander“ will ignite the project stages of "e-Citizen for e-collaboration in EU" from local e-islander clubs using cloud-based software while acquiring networking skills.

Results/findings:
First phase conducted between two main islands served to implement a two level-methodology for participants: (1) for initial level – team work development in a single location (2) for e-collaboration – activity between locations on separate islands. Individuals selected from the single location are moving on e-collaboration activities. Two islands are linked with a physical bridge thereby enabling the mobility of participants between their 20 localities. The next phase will function via "virtual bridges" between 15 islands and 3 mainland locations.

Conclusions:
Zadar County intends to act as model observatory of EU information society project practice in the centre of Adriatic region.

Keywords: *e-collaboration, archipelago, regional development, new member state*.

1 INTRODUCTION

The Republic of Croatia will accede to the European Union as its new member state on 1st July 2013, which will be 9 years and 2 months after the Czech Republic joined it in a group of 10 countries including Slovenia, Croatia‘s immediate western neighbour. Slovenia and Croatia seceded from former Yugoslavia at the same time with their respective proclamations of independence from this federation on 25th June 1991. This is important to recall because in terms of accessing EU networks for building knowledge economy this delayed admission caused a huge development gap for Croatia. That is if one accepts the assertion that the total inventory of world knowledge is being entirely replaced every 5 to 7 years. Furthermore, Croatia is the only new member acceding EU at this time and is facing the challenge of having to discover as soon as possible the best possible use of structural funding by recognising the record of good practice in regional implementation of EU‘s growth & jobs agendas.

Zadar County is geographically situated in the very centre of Adriatic Croatia region, set up as such for the purpose of NUTS II classification [8]. This position is further enhanced by the proximity of Zagreb, the capital city, within 2,5 hours of driving distance via a brand new highway. This is facilitating this county‘s interaction with the capital‘s resources for technological partnerships and with government ministries, such as the one in charge of regional development and EU funding. Zadar County is, therefore, offering to potential partners in EU its privileged position by its capacity to act as a kind of gate for „importing“ good EU regional development practice based on ICT platforms.

The Partnership Agreement between Croatia and the EU about the use of European Structural and Investment funds (ESI funds) is presently in preparation. However, its prerequisite, a 38-page EU document entitled „*Position of the Commission Services on the development of Partnership Agreement and programmes in the Republic of Croatia for the period 2014 – 2020*“ [12] was presented to the public on a formal launch event in Zagreb on 31st January 2013. This document is highlighting to a large extent the Croatia’s need to adhere to the EU’s Digital Agenda [9] to support the country‘s growth & jobs objectives. Corresponding efforts in the past were sparse, possibly caused by misperception of the political class that the investments in traditional infrastructure were more needed at the time. Advocating the future use of ESI funds for advancing the advent of information society in Croatia as a condition for the country‘s adhesion to the common mainstream competitiveness agenda of EU is thus to be highlighted as an absolute economic priority

In this context Zadar County is now launching a forward-looking strategic concept whereby its archipelago will be increasingly integrated into the regional development with the coastal territory. For this course of development the County chose as partner the Croatian Information Technology Association, acting as national ICT observatory with experience in networking within EU research & development projects, promoting the Digital Agenda and in practical management of European Computer Driving License (ECDL) testing centres. The first operating project is devoted to the Zadar archipelago and its recent operational launching from two main islands was met with good support from the local population. This e-participation by islanders is now set to a very promising development perspective.

2 NEW MEMBER STATE

2.1 Zadar County

In this new member country of the European Union Zadar is situated in the best possible location at the very centre of the Adriatic Croatia region, one of only two Croatia's NUTS II regions (other one being Continental Croatia). Zadar County is comprised of 34 administrative units (6 towns and 28 municipalities) and has 170.017 inhabitants [6]. The biggest town and the County's seat is the City of Zadar, a city that is 3.000 years old and the 5th most populous in Croatia. Zadar is also an educational and economic centre of the region, which is additionally reaffirmed by the University of Zadar being created on the foundations of the Dominican monastery's university Studium generale from 1396.

Zadar County's area of 7.276,23 km2 is almost evenly divided between the mainland (3.643,33 km2) and maritime areas (3.632,90 km2) [15]. This clearly indicates the naval orientation of the entire region, primarily in the economic sense. Zadar is also the seat of the biggest shipping company in Croatia, while Zadar County is a leader in fishery and mariculture, economic sectors with biggest shares in the regional export.

Zadar County is one of seven coastal counties in Croatia, but it also encompasses high mountainous areas thus connecting important parts of Central and Coastal Croatia. Its geostrategic position, together with its modern transport infrastructure, has great significance in connecting not only regional centres of north and south parts of Croatia, but also in connecting Croatia with various European centres. Additional quality to the transport connectivity, as well as an exceptional effect on the economic development, is brought about by Zadar International Airport connecting Zadar with the whole of Europe and the future passenger and cargo Port of Gaženica, currently in construction.

Owing to the beauty of surrounding nature and to the richness of cultural-historical monuments, the fundamental development sector in Zadar County is tourism and its complementary trades. Zadar County's pearl is the archipelago of Zadar, with its 116 islands. From the most northern ones forested Silba and small sparsely populated Olib, via the island of Pag – the island of lace and salt, followed by Ugljan and Pašman, interconnected by bridge, to the biggest island – Long Island, hosting a string of features such as a salt lake, one of 39 most beautiful bays in the world called Sakarun[1], Nature park "Telašćica", one of the oldest lighthouses in the Adriatic from 1849 and many others. 19 islands in Zadar County are inhabited [15].

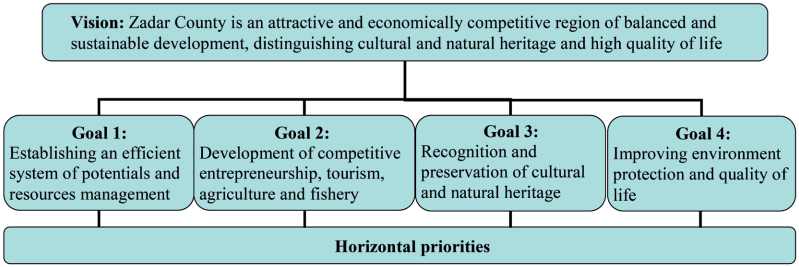
2.2 Development programming

When deliberating development, Zadar County was among the first in Croatia to apply European methodologies in elaborating the programme documents. As early as when drafting the first Regional Operational Programme of Zadar County in 2003, the principle of partnership approach was implemented, alongside the principle of achieving consensus among all relevant stakeholders of development. After the first ROP, its updating in 2006 [14] and the drafting of County Development Strategy of Zadar County in 2010 [15], Zadar County is now in the beginning stages of the process of drafting its first development strategy that will cover the EU programming period 2014 - 2020.

1 http://www.world-bays.com/

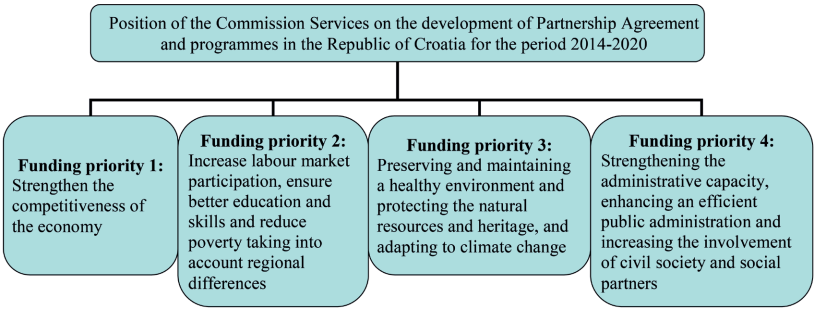
Already in the pre-accession period, Zadar County took into account all relevant European policies when drafting its programming documents for development. Consequently, the County Development Strategy of Zadar County 2011 - 2013 [15] was aligned with the ratified Treaty of Lisbon [10] and Europe 2020 Strategy [11], as well as with the strategic goals of National strategic reference framework 2012 - 2013 of the Republic of Croatia [4] and the strategic goals of Strategy of regional development of the Republic of Croatia 2011 - 2013 [5].

Figure 1: Layout of Strategic Goals according to the County Development Strategy of Zadar County 2011 - 2013[2]



In its Position Paper [12] in preparation of the Partnership Agreement with the Croatian government, European Commission spelled out the areas in which ESI funds should be best used to adress the issues of country‘s economic development.

Figure 2: Layout of Funding Priorities according to the Position Paper



When contemplating development perspectives, we must emphasize that we consider them only within the boundaries of sustainable development. This especially holds true for the sensitive, isolated island areas of the archipelago of Zadar which possess an exceptional de-

2 Developing information society is only a Horizontal priority of Zadar County’s CDS (1 of 5)

velopment potential. According to the 2011 census of the Republic of Croatia [6], 20.952 people inhabit the islands in Zadar County, representing 12,32% of total population of the County. Should we compare that ratio with the fact that 1.328 economic operators are registered on the same islands [7,13], representing 17,09% of all economic operators in the County, we can conclude that the islanders are more inclined towards entrepreneurship than the County's average. At the same time, this is not accompanied by the development of business infrastructure, especially communication infrastructure. The Position Paper responds exactly in this context, by opening the possibilities of financing ICT projects on islands, with the purpose of strengthening competitiveness and developing entrepreneurship.

3 ICT AS KEY TO DEVELOPMENT

3.1 Next generation access (NGA)

Europe 2020 strategy defines 14 goals of Digital Agenda, 2 of which are dedicated to developing very fast internet access. The first goal states that by 2020 every EU citizen must have possibility to access internet at 30 Mbit/s, while the second states that by the same time 50% of EU citizens have possibility to access internet at 100 Mbit/s. According to the latest results published in mid-2012, these goals were below target (50% for the first and 1% for the second goal), prompting the decision to increase the amount earmarked for this purpose in ESI funds by 9,2 billion Euros, 7 billion of which for building infrastructure [1].

Investments in electronic communication infrastructure, i.e. faster penetration of broadband access, directly influence an increase in GDP. Ericsson's meta-analysis from 2010 shows that by doubling the connection speed, GDP of a country rises by 0,3% and that the increase in users of broadband by 1.000 generated 80 new jobs. Organisation for Economic Co-operation and Development (OECD) found in 2009 that the countries with the highest percentage of broadband users have 2% larger GDP growth than the countries towards the bottom of the list [1].

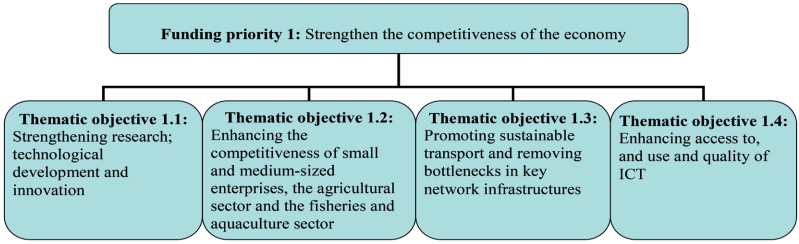
Only 3% of European households are fully optically connected to the internet, while in Croatia the situation is immensely worse with its 0,01% of such households. [1] To create conditions for improvement of this statistic, the Republic of Croatia promulgated the Bylaw concerning technical and usage conditions for optical distribution network [3]. Bylaw on ODN focuses the development of optical networks as equal access networks. Equal access network is a network that is at every operator's disposal under the same conditions, without discrimination. Such is a network of roads, equally available to all users driving cars, regardless of the car's manufacturer. It is important to note that the car manufacturer is not responsible to build roads. The same situation is preferred also in the telecommunication networks.

Unlike operators who do not include in their cost-benefit calculations of an investment the investment's external effects on the economic development of the region, local and regional administrations are required to do so. It is in their interest to ensure quality communication infrastructure to their businesses and population, while being in the position to consider much longer periods of return on investment as well as external effects of the development.

3.2 Financing framework

Among the main challenges for Croatia, the Position Paper [12] emphasizes the problem of ICT infrastructure, especially in rural areas, which includes islands: "*There is insufficient coverage, accessibility, and use of information and communication technologies (ICT) in rural areas in particular*." (p. 6) Also in the part devoted to investment priorities, the problem of islands and ICT is being highlighted: "*The access to, and use of high quality ICT networks and services need to be promoted in particular in remote and isolated island/rural areas while observing the rules of competition policy*." (p. 10) and further developed through foreseen and suggested measures such as: "*Promote the development of ICT applications and services in support of the sustainability and competitiveness of targeted areas. This could include the rural areas (for example e-content relevant for the development of rural tourism) and island areas.*" (p. 25)

Figure 3: Layout of Thematic objectives under the Position Paper's Funding priority 1



Since the deregulation of the telecommunication market and after the former state-owned operators became private companies, telecommunication operators invest in the development of the network only in profitable areas and with short return on investment periods, thus rendering chances that they would build optical network infrastructure slim to none. Electronic communication infrastructure and other related equipment, as well as electronic communication network, i.e. optical distribution network, can be built as integrated communal infrastructure. What local and regional administrations need to build is passive network infrastructure, which represents 70-80% [2] of all costs and has all of the characteristics (need for large investments, long period of usage) of communal infrastructure.

3.3 "e-islander" and its role in setting off a project pipeline for connecting islands

Among the key problems that are discouraging the potential investors in the telecommunication infrastructure (be they public or private) is a low level of local/regional perception about the key role of ICT in supporting growth & jobs objectives. The project e-islander was inspired by the slogan „New methods of work". This was the name of one program activity launched by the EU Commission within its strategic agenda „e-Europe" at the turn of the millenium. It is indeed crucially important for us to highlight our new strategic profile as-up-to-date „new methods of work" to underline the processes which is working towards the integration of islands into economic development with the mainland of our county. Otherwise, some initial activities might risk to be perceived in media as merely educational, such as teaching our islanders the basic computing.

The "e-islander" project matured from a methodology developed within the project entitled "e-Citizen for e-collaboration in EU", presented in Zagreb on the premises of EU Delegation in May 2010. In view of their isolated character and their dependence on jobs almost exclusively available in the coastal area, the requirement for *e-collaboration as new method of work*, is best perceived by the Zadar island's active working population. The first phase conducted between two main islands Ugljan and Pašman served to implement a two level-methodology for participants: (1) for initial level - team work development in a single location (2) for e-collaboration level - activity between locations on separate islands. Individuals selected from the single location are moving on to e-collaboration activities. The two islands are linked with a physical bridge thereby enabling the mobility of participants between their 20 localities. For the communication purposes this phase is highlighted as the first project stage being organized around a physical bridge. The next phase will be prepared to communicate the building up of islanders' networking capacities by e-collaborations organized via „virtual bridges" between 15 islands and 3 mainland locations.

The formula of club was chosen to put an emphasis on informal development of islanders' networking skills. The club members are meeting in a multimedia centre of Ugljan Island in Kukljica, which is presently acting as operational lab for applying a specific methodology of self-learning and small group formations. The methodology in this phase of project is type of blended learning in which members learn computer basics from e-learning courses that enable person to have a self-paced learning, combined with in-person/in-group work with other members of the club where collaborative way of acquiring skills is facilitated by the mentor of the club's workshop. Mentor acts as moderator for the group that is learning to work in idea and knowledge sharing environment. Mentors also adjust practical examples and tasks to the needs of the club members to make whole experience personal and therefore easy to absorb. This collaborative way of working is a preparation for the second level of the methodology (e-collaboration level), which moves from physical to virtual collaborative space. The standards of the curriculum set by the ECDL foundation are being observed although no formal certificates are being issued to e-islander club membership.

These ongoing activities will provide a living platform for designing a pipeline of other projects, especially for supporting entrepreneurship and virtual connections with companies, business and technology parks in an integrated regional development concept with coastal cities of Zadar and Biograd, e.g. a co-working island's space can be tested by e-islander club membership and, for digital collaboration, such tools as have been developed through EU-project DE-LAN[3].

The growth of such activities by the e-islander club will especially help Zadar County authorities to develop a strong case for the project application to EU Commission for financing of NGA broadband deployment in its archipelago. The engendered momentum will in turn spill over to the coastal territory thus resulting in a paradigm shift from the present model of regional development.

The project is using cloud-based open source software tools the use of which is very much supported by the latest policies of the EU's Digital Agenda [9]. Indeed, according to the European Commission, the economic benefits of cloud computing amount to €160 billion per year, or around €300 per person per year.

3 http://www.delanproject.eu/

4 CONCLUSION

The foregoing Zadar County‘s strategic project profile is currently being developed in advance of Croatia‘s accession to the EU, to its regional program policies and to corresponding structural financing opportunities. In view of Croatia’s much delayed admission to the EU, there is now a strong case for setting up an observatory of good EU project practice for which Zadar county is offering a platform for partnerships with this attractive concept of building up a pipeline of projects serving the regional development as well as Croatia‘s drive to become a successful member of the European Union.

The Partnership Agreement with the EU Commission will be followed up by Operating programs for Croatia‘s use of ESI during EU 2014 - 2020 budget period. With both its strategic positioning and its advanced regional development concept for the inclusion of its archipelago based on ICT tools & e-infrastructure, Zadar county is now in an historic position to act as an interface for applying the best suitable EU projects implementation practices.

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Observatory Network
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www.oneproject.eu

About the ONE project

The ONE project aims at improving regional capacity for planning investments in ICT through setting up of a network of regional 'observatories' in Poland, Germany, Italy, the Czech Republic, UK, France and Cyprus. Thanks to the creation of these ICT observatories, partner regions seek to enhance the conditions within their innovation frameworks by documenting ICT penetration processes, making data available to relevant public and private stakeholders, and helping with evaluation of ICT initiatives. Project partners tackle the framework conditions for the generation of knowledge and the development of new ICT products and services. This requires taking into consideration varying framework factors, i.e. institutional, organisational, technical, and relational. Thanks to the activity of ICT observatories, ONE takes action to enable decision-makers to make informed choices about ICT investments based on ex-ante and ex-post analyses of their territories.

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